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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Defense-Wide

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Defense-Wide • Budget Estimates FY 2022 • RDT&E Program

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

28 May 2021

Appropriation	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	26,679,581	26,013,489	25,857,875
Operational Test & Eval, Defense	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	26,907,281	26,270,609	26,074,466
Other RDT&E Budget Activities Not Included in the Research, Development, Test and Evaluation Title			
Office of the Inspector General	2,371	1,098	2,365
Defense Health Program	3,657,995	2,392,579	630,680
Chem Agents & Munitions Destruction	890,830	942,493	1,001,231
Total Not in Research, Development, Test & Evaluation Title	4,551,196	3,336,170	1,634,276

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 28, 2021 at 13:36:35

*Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

** Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
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 Total Obligational Authority
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28 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Basic Research	813,468	886,781	716,884
Applied Research	2,013,141	1,960,797	2,130,395
Advanced Technology Development	4,043,509	3,978,333	4,007,596
Advanced Component Development & Prototypes	10,437,469	10,095,547	9,854,341
System Development & Demonstration	921,720	726,330	548,687
Management Support	2,219,524	1,657,983	1,600,436
Operational Systems Development	6,458,450	6,532,631	6,607,385
Software And Digital Technology Pilot Programs		432,207	608,742
Total Research, Development, Test & Evaluation	26,907,281	26,270,609	26,074,466
 Summary Recap of FYDP Programs -----			
General Purpose Forces	88,656	69,009	61,586
Intelligence and Communications	1,098,297	1,006,282	1,007,115
Research and Development	19,852,827	18,975,442	17,886,918
Central Supply and Maintenance	6,611	10,740	9,879
Training Medical and Other	40,173	31,225	30,219
Administration and Associated Activities	34,121	30,040	26,747
Special Operations Forces	845,439	806,596	689,649
Space	276,115	466,567	1,116,804
Classified Programs	4,665,042	4,874,708	5,245,549
Total Research, Development, Test & Evaluation	26,907,281	26,270,609	26,074,466

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	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
<u>Summary Recap of Non-RDT&E Title FYDP Programs</u>			
Research and Development	3,657,995	2,392,579	630,680
Central Supply and Maintenance	890,830	942,493	1,001,231
Administration and Associated Activities	2,371	1,098	2,365
Total Research, Development, Test & Evaluation	4,551,196	3,336,170	1,634,276

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Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Basic Research	813,468	886,781	716,884
Applied Research	2,013,141	1,960,797	2,130,395
Advanced Technology Development	4,043,509	3,978,333	4,007,596
Advanced Component Development & Prototypes	10,437,469	10,095,547	9,854,341
System Development & Demonstration	921,720	726,330	548,687
Management Support	1,991,824	1,400,863	1,383,845
Operational Systems Development	6,458,450	6,532,631	6,607,385
Software And Digital Technology Pilot Programs		432,207	608,742
Total Research, Development, Test & Evaluation	26,679,581	26,013,489	25,857,875
Summary Recap of FYDP Programs -----			
General Purpose Forces	88,656	69,009	61,586
Intelligence and Communications	1,098,297	1,006,282	1,007,115
Research and Development	19,625,127	18,718,322	17,670,327
Central Supply and Maintenance	6,611	10,740	9,879
Training Medical and Other	40,173	31,225	30,219
Administration and Associated Activities	34,121	30,040	26,747
Special Operations Forces	845,439	806,596	689,649
Space	276,115	466,567	1,116,804
Classified Programs	4,665,042	4,874,708	5,245,549
Total Research, Development, Test & Evaluation	26,679,581	26,013,489	25,857,875

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<u>Appropriation</u>	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Chemical and Biological Defense Program	1,163,287	1,043,228	1,037,545
Defense Advanced Research Projects Agency	3,571,321	3,500,048	3,528,729
Defense Contract Audit Agency	1,600	2,198	2,568
Defense Contract Management Agency	3,495	1,441	4,265
Defense Counterintelligence & Security Agency			
Defense-Wide	3,000		
Defense Human Resources Activity	36,843	37,919	27,509
Defense Intelligence Agency			
Defense Information Systems Agency	510,009	390,750	377,812
Defense Logistics Agency	316,218	247,947	251,904
Defense Security Cooperative Agency	14,257	6,294	7,398
Defense Technical Information Center	63,423	60,553	65,002
Defense Threat Reduction Agency	708,056	594,138	634,930
Missile Defense Agency	8,142,356	7,855,485	7,161,181
National Geospatial Intelligence Agency			
National Security Agency			
Office of Secretary of Defense	5,966,762	5,598,733	5,234,677
Space Development Agency	95,217	267,116	808,817
U.S., Special Operations Command	851,798	812,658	695,643
The Joint Staff	150,246	118,451	109,061

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<u>Appropriation</u>	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Washington Headquarters Services	10,920	999	918
Total Research, Development, Test & Evaluation	26,679,581	26,013,489	25,857,875

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Sec
1	0601000BR	DTRA Basic Research	01	25,359	14,617	11,828	U
2	0601101E	Defense Research Sciences	01	427,837	474,158	395,781	U
3	0601108D8Z	High Energy Laser Research Initiatives	01			15,390	U
4	0601110D8Z	Basic Research Initiatives	01	68,534	75,542	39,828	U
5	0601117E	Basic Operational Medical Research Science	01	57,721	53,730	76,018	U
6	0601120D8Z	National Defense Education Program	01	139,002	137,154	112,195	U
7	0601228D8Z	Historically Black Colleges and Universities/Minority Institutions	01	50,775	81,280	31,136	U
8	0601384BP	Chemical and Biological Defense Program	01	44,240	50,300	34,708	U
		Basic Research		813,468	886,781	716,884	
9	0602000D8Z	Joint Munitions Technology	02	19,092	24,397	19,591	U
10	0602115E	Biomedical Technology	02	131,017	107,568	108,698	U
11	0602134BR	Improvised Threat Reduction Applied Research	02	1,677	3,699		U
12	0602230D8Z	Defense Technology Innovation	02		17,476	22,918	U
13	0602234D8Z	Lincoln Laboratory Research Program	02	50,685	41,053	55,692	U
14	0602251D8Z	Applied Research for the Advancement of S&T Priorities	02	58,450	53,359	65,015	U
15	0602303E	Information & Communications Technology	02	416,935	420,920	430,363	U
16	0602383E	Biological Warfare Defense	02	30,011	26,950	31,421	U
17	0602384BP	Chemical and Biological Defense Program	02	201,105	201,807	206,956	U
18	0602668D8Z	Cyber Security Research	02	24,454	25,245	15,380	U
19	0602702E	Tactical Technology	02	300,010	237,271	202,515	U

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20	0602715E	Materials and Biological Technology	02	260,831	245,107	317,024	U
21	0602716E	Electronics Technology	02	309,811	322,693	357,384	U
22	0602718BR	Counter Weapons of Mass Destruction Applied Research	02	163,601	174,221	197,011	U
23	0602751D8Z	Software Engineering Institute (SEI) Applied Research	02	9,232	9,567	9,601	U
24	0602890D8Z	High Energy Laser Research	02			45,997	U
25	1160401BB	SOF Technology Development	02	36,230	49,464	44,829	U
		Applied Research		2,013,141	1,960,797	2,130,395	
26	0603000D8Z	Joint Munitions Advanced Technology	03	25,399	22,905	23,213	U
27	0603121D8Z	SO/LIC Advanced Development	03	4,847	4,904	4,665	U
28	0603122D8Z	Combating Terrorism Technology Support	03	113,445	144,847	69,376	U
29	0603133D8Z	Foreign Comparative Testing	03	24,510	25,115	25,432	U
30	0603134BR	Counter Improvised-Threat Simulation	03	49,528	3,861		U
31	0603160BR	Counter Weapons of Mass Destruction Advanced Technology Development	03	325,640	356,659	399,362	U
32	0603176C	Advanced Concepts and Performance Assessment	03	45,852	49,410	15,800	U
33	0603180C	Advanced Research	03	27,166	35,024	21,466	U
34	0603183D8Z	Joint Hypersonic Technology Development & Transition	03			51,340	U
35	0603225D8Z	Joint DoD-DoE Munitions Technology Development	03	18,681	18,861	19,063	U
36	0603286E	Advanced Aerospace Systems	03	266,646	223,478	174,043	U
37	0603287E	Space Programs and Technology	03	173,839	151,439	101,524	U
38	0603288D8Z	Analytic Assessments	03	17,807	19,775	24,012	U

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Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se c
39	0603289D8Z	Advanced Innovative Analysis and Concepts	03	36,801	28,524	51,513	U
40	0603291D8Z	Advanced Innovative Analysis and Concepts - MHA	03	14,339	14,703		U
41	0603294C	Common Kill Vehicle Technology	03	13,319	11,058		U
42	0603338D8Z	Defense Modernization and Prototyping	03		155,505	115,443	U
43	0603342D8Z	Defense Innovation Unit (DIU)	03	29,268	35,617	31,873	U
44	0603375D8Z	Technology Innovation	03	29,009	27,693	54,433	U
45	0603384BP	Chemical and Biological Defense Program - Advanced Development	03	209,552	191,001	197,824	U
46	0603527D8Z	RETRACT LARCH	03	154,415	130,220	99,175	U
47	0603618D8Z	Joint Electronic Advanced Technology	03	11,762	15,152	18,221	U
48	0603648D8Z	Joint Capability Technology Demonstrations	03	87,384	71,452	102,669	U
49	0603662D8Z	Networked Communications Capabilities	03	2,767	5,882	2,984	U
50	0603680D8Z	Defense-Wide Manufacturing Science and Technology Program	03	251,516	245,757	134,022	U
51	0603680S	Manufacturing Technology Program	03	50,184	69,025	37,543	U
52	0603699D8Z	Emerging Capabilities Technology Development	03	105,998			U
53	0603712S	Generic Logistics R&D Technology Demonstrations	03	17,402	10,235	12,418	U
54	0603716D8Z	Strategic Environmental Research Program	03	69,914	85,429	51,863	U
55	0603720S	Microelectronics Technology Development and Support	03	201,544	136,049	160,821	U
56	0603727D8Z	Joint Warfighting Program	03	4,532	3,869	2,169	U
57	0603739E	Advanced Electronics Technologies	03	107,259	95,864	116,716	U
58	0603760E	Command, Control and Communications Systems	03	225,917	221,724	251,794	U

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59	0603766E	Network-Centric Warfare Technology	03	515,879	641,158	584,771	U
60	0603767E	Sensor Technology	03	158,040	190,220	294,792	U
61	0603769D8Z	Distributed Learning Advanced Technology Development	03	21,991	6,765	6,398	U
62	0603781D8Z	Software Engineering Institute	03	14,556	12,590	14,677	U
63	0603826D8Z	Quick Reaction Special Projects	03	34,457			U
64	0603833D8Z	Engineering Science & Technology	03	18,900			U
65	0603924D8Z	High Energy Laser Advanced Technology Program	03	78,057	112,842	107,397	U
66	0603941D8Z	Test & Evaluation Science & Technology	03	186,017	178,438	267,161	U
67	0603950D8Z	National Security Innovation Network	03	37,658	40,000	21,270	U
68	0604055D8Z	Operational Energy Capability Improvement	03	62,686	16,000	74,300	U
70	0303310D8Z	CWMD Systems	03	27,878			U
71	0303367D8Z	Spectrum Access Research and Development	03	53,247			U
74	1160402BB	SOF Advanced Technology Development	03	95,862	96,861	93,415	U
75	1206310SDA	Space Science and Technology Research and Development	03	20,001	72,422	172,638	U
9999	9999999999	Classified Programs		2,038			U
		Advanced Technology Development		4,043,509	3,978,333	4,007,596	
76	0603161D8Z	Nuclear and Conventional Physical Security Equipment RDT&E ADC&P	04	41,768	32,616	28,687	U
77	0603600D8Z	WALKOFF	04	90,404	101,529	108,652	U
78	0603821D8Z	Acquisition Enterprise Data & Information Services	04	5,293			U
79	0603851D8Z	Environmental Security Technical Certification Program	04	65,016	73,307	71,429	U

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80	0603881C	Ballistic Missile Defense Terminal Defense Segment	04	295,312	312,317	277,949	U
81	0603882C	Ballistic Missile Defense Midcourse Defense Segment	04	1,275,414	1,219,261	745,144	U
82	0603884BP	Chemical and Biological Defense Program - Dem/Val	04	104,580	76,167	129,445	U
83	0603884C	Ballistic Missile Defense Sensors	04	348,356	265,803	224,750	U
84	0603890C	BMD Enabling Programs	04	630,196	616,455	595,301	U
85	0603891C	Special Programs - MDA	04	504,031	390,216	413,374	U
86	0603892C	AEGIS BMD	04	722,582	877,336	732,512	U
87	0603896C	Ballistic Missile Defense Command and Control, Battle Management and Communicati	04	550,513	645,741	603,448	U
88	0603898C	Ballistic Missile Defense Joint Warfighter Support	04	51,095	49,560	50,594	U
89	0603904C	Missile Defense Integration & Operations Center (MDIOC)	04	54,783	55,356	52,403	U
90	0603906C	Regarding Trench	04	22,550	11,863	11,952	U
91	0603907C	Sea Based X-Band Radar (SBX)	04	137,604	118,318	147,241	U
92	0603913C	Israeli Cooperative Programs	04	300,000	300,000	300,000	U
93	0603914C	Ballistic Missile Defense Test	04	398,939	365,208	362,906	U
94	0603915C	Ballistic Missile Defense Targets	04	545,764	536,133	553,334	U
95	0603920D8Z	Humanitarian Demining	04	14,294			U
96	0603923D8Z	Coalition Warfare	04	11,159	10,123	5,103	U
97	0604011D8Z	Next Generation Information Communications Technology (5G)	04	199,965	439,769	374,665	U
98	0604016D8Z	Department of Defense Corrosion Program	04	13,032	5,323	3,259	U

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99	0604102C	Guam Defense Development	04			78,300	U
100	0604115C	Technology Maturation Initiatives	04	259,465	107,389		U
101	0604132D8Z	Missile Defeat Project	04	14,288			U
102	0604134BR	Counter Improvised-Threat Demonstration, Prototype Development, and Testing	04	105,480	19,931		U
103	0604181C	Hypersonic Defense	04	386,528	272,632	247,931	U
104	0604250D8Z	Advanced Innovative Technologies	04	1,106,137	749,030	716,456	U
105	0604294D8Z	Trusted & Assured Microelectronics	04	534,340	503,750	509,195	U
106	0604331D8Z	Rapid Prototyping Program	04	70,227	92,023	103,575	U
107	0604341D8Z	Defense Innovation Unit (DIU) Prototyping	04	22,000	31,255	11,213	U
108	0604400D8Z	Department of Defense (DoD) Unmanned System Common Development	04	6,565	7,085	2,778	U
109	0604551BR	Catapult	04	8,110		7,166	U
110	0604555D8Z	Operational Energy Capability Improvement - Non S&T	04			23,200	U
111	0604672C	Homeland Defense Radar - Hawaii (HDR-H)	04	181,569	133,000		U
112	0604673C	Pacific Discriminating Radar	04	2,921			U
113	0604682D8Z	Wargaming and Support for Strategic Analysis (SSA)	04	3,613	3,469	3,519	U
114	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	20,062	19,190	17,439	U
115	0604873C	Long Range Discrimination Radar (LRDR)	04	131,135	138,317	133,335	U
116	0604874C	Improved Homeland Defense Interceptors	04	514,062	860,384	926,125	U
117	0604876C	Ballistic Missile Defense Terminal Defense Segment Test	04	24,771	1,000	32,697	U

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Defense-Wide
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 (Dollars in Thousands)

28 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
118	0604878C	Aegis BMD Test	04	167,364	71,498	117,055	U
119	0604879C	Ballistic Missile Defense Sensor Test	04	96,082	64,245	77,428	U
120	0604880C	Land-Based SM-3 (LBSM3)	04	36,918	56,628	43,158	U
121	0604887C	Ballistic Missile Defense Midcourse Segment Test	04	96,711	67,071	61,424	U
122	0202057C	Safety Program Management	04			2,323	U
123	0300206R	Enterprise Information Technology Systems	04	1,600	2,198	2,568	U
124	0303191D8Z	Joint Electromagnetic Technology (JET) Program	04	3,190	997		U
125	0305103C	Cyber Security Initiative	04	11,109	1,148	1,142	U
126	1206410SDA	Space Technology Development and Prototyping	04	75,216	194,694	636,179	U
127	1206893C	Space Tracking & Surveillance System	04	35,469	34,144	15,176	U
128	1206895C	Ballistic Missile Defense System Space Programs	04	139,887	162,068	292,811	U
		Advanced Component Development & Prototypes		10,437,469	10,095,547	9,854,341	
129	0604161D8Z	Nuclear and Conventional Physical Security Equipment RDT&E SDD	05	7,810	7,169	5,682	U
130	0604165D8Z	Prompt Global Strike Capability Development	05	152,782	89,863		U
131	0604384BP	Chemical and Biological Defense Program - EMD	05	417,723	356,472	299,848	U
132	0604771D8Z	Joint Tactical Information Distribution System (JTIDS)	05	52,059	51,284	9,345	U
133	0605000BR	Counter Weapons of Mass Destruction Systems Development	05	15,332	15,650	14,063	U
134	0605013BL	Information Technology Development	05	3,070	1,441	4,265	U
135	0605021SE	Homeland Personnel Security Initiative	05	7,295	7,287	7,205	U
136	0605022D8Z	Defense Exportability Program	05	11,864	12,920	5,447	U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
137	0605027D8Z	OUSD(C) IT Development Initiatives	05	9,238	10,259	16,892	U
138	0605070S	DOD Enterprise Systems Development and Demonstration	05	2,291	1,377	679	U
139	0605075D8Z	CMO Policy and Integration	05	1,618	1,618		U
140	0605080S	Defense Agency Initiatives (DAI) - Financial System	05	23,114	20,537	32,254	U
141	0605090S	Defense Retired and Annuitant Pay System (DRAS)	05	6,368	1,638		U
142	0605141BR	Mission Assurance Risk Management System (MARMS)	05		5,500	5,500	U
143	0605210D8Z	Defense-Wide Electronic Procurement Capabilities	05	8,995	8,274	7,148	U
144	0605294D8Z	Trusted & Assured Microelectronics	05	170,849	107,513	113,895	U
145	0605502BR	Small Business Innovation Research	05	13,329			U
146	0605772D8Z	Nuclear Command, Control, & Communications	05		3,683	3,991	U
147	0303140BL	Information Systems Security Program	05	425			U
148	0303141K	Global Combat Support System	05	1,262			U
149	0305304D8Z	DoD Enterprise Energy Information Management (EEIM)	05	4,537	3,273	2,227	U
150	0305310D8Z	CWMD Systems: System Development and Demonstration	05	11,759	20,572	20,246	U
		System Development & Demonstration		921,720	726,330	548,687	
151	0603829J	Joint Capability Experimentation	06	10,971	11,239	8,444	U
152	0604774D8Z	Defense Readiness Reporting System (DRRS)	06	9,722	9,793	7,508	U
153	0604875D8Z	Joint Systems Architecture Development	06	8,971	8,492	7,859	U
154	0604940D8Z	Central Test and Evaluation Investment Development (CTEIP)	06	381,356	423,206	550,140	U
155	0604942D8Z	Assessments and Evaluations	06	30,064	18,368	17,980	U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Sec
156	0605001E	Mission Support	06	68,983	74,334	73,145	U
157	0605100D8Z	Joint Mission Environment Test Capability (JMETC)	06	87,776	79,046	71,410	U
158	0605104D8Z	Technical Studies, Support and Analysis	06	17,088			U
159	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	64,834	50,255	52,671	U
160	0605128D8Z	Classified Program USD(P)	06	104,000	110,000		U
161	0605142D8Z	Systems Engineering	06	35,860	45,626	40,030	U
162	0605151D8Z	Studies and Analysis Support - OSD	06	4,611	5,777	4,612	U
163	0605161D8Z	Nuclear Matters-Physical Security	06	7,803	16,542	14,429	U
164	0605170D8Z	Support to Networks and Information Integration	06	7,295	9,582	4,759	U
165	0605200D8Z	General Support to USD (Intelligence)	06	20,196	7,904	1,952	U
166	0605384BP	Chemical and Biological Defense Program	06	113,307	127,951	110,503	U
167	0605502BP	Small Business Innovative Research - Chemical Biological Def	06	22,072			U
168	0605502C	Small Business Innovation Research - MDA	06	107,824			U
169	0605502D8Z	Small Business Innovative Research	06	133,393			U
170	0605502E	Small Business Innovative Research	06	107,294			U
171	0605502S	Small Business Innovative Research	06	10,065			U
172	0605790D8Z	Small Business Innovation Research (SBIR)/ Small Business Technology Transfer	06	3,567	3,582	3,639	U
173	0605797D8Z	Maintaining Technology Advantage	06	20,244	25,561	25,889	U
174	0605798D8Z	Defense Technology Analysis	06	15,334	23,341	39,774	U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
175	0605801KA	Defense Technical Information Center (DTIC)	06	60,396	57,716	61,453	U
176	0605803SE	R&D in Support of DoD Enlistment, Testing and Evaluation	06	29,448	29,420	18,762	U
177	0605804D8Z	Development Test and Evaluation	06	21,422	27,198	27,366	U
178	0605898E	Management HQ - R&D	06	13,291	13,434	12,740	U
179	0605998KA	Management HQ - Defense Technical Information Center (DTIC)	06	3,027	2,837	3,549	U
180	0606100D8Z	Budget and Program Assessments	06	8,723	10,099	15,438	U
181	0606225D8Z	ODNA Technology and Resource Analysis	06	3,193	3,200	2,897	U
182	0606589D8W	Defense Digital Service (DDS) Development Support	06	10,920	999	918	U
183	0606771D8Z	Cyber Resiliency and Cybersecurity Policy	06			31,638	U
184	0203345D8Z	Defense Operations Security Initiative (DOSI)	06	7,775	3,099	2,925	U
185	0204571J	Joint Staff Analytical Support	06	9,216	3,058	977	U
186	0208045K	C4I Interoperability	06		59,813	55,361	U
189	0303140SE	Information Systems Security Program	06		1,112	853	U
190	0303166J	Support to Information Operations (IO) Capabilities	06	553	545		U
191	0303260D8Z	Defense Military Deception Program Office (DMDPO)	06	984	1,014	969	U
192	0305172K	Combined Advanced Applications	06	58,667	30,824	15,696	U
194	0305208K	Distributed Common Ground/Surface Systems	06		3,048	3,073	U
195	0305245D8Z	Intelligence Capabilities and Innovation Investments	06	15,868			U
196	0307588D8Z	Algorithmic Warfare Cross Functional Teams	06	232,946			U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
197	0804768J	COCOM Exercise Engagement and Training Transformation (CE2T2) non-MHA	06	40,073	31,125	29,530	U
198	0808709SE	Defense Equal Opportunity Management Institute (DEOMI)	06	100	100	689	U
199	0901598C	Management HQ - MDA	06	27,065	26,902	24,102	U
200	0903235K	Joint Service Provider (JSP)	06	3,090	3,138	2,645	U
201	0909999D8Z	Financing for Cancelled Account Adjustments	06	966			U
9999	9999999999	Classified Programs		51,471	41,583	37,520	U
		Management Support		1,991,824	1,400,863	1,383,845	
202	0604130V	Enterprise Security System (ESS)	07	9,653	14,378	5,355	U
203	0604532K	Joint Artificial Intelligence	07	183,834	137,058	10,033	U
204	0605127T	Regional International Outreach (RIO) and Partnership for Peace Information Mana	07	1,947	1,986		U
205	0605147T	Overseas Humanitarian Assistance Shared Information System (OHASIS)	07	310	316		U
206	0607210D8Z	Industrial Base Analysis and Sustainment Support	07	101,760	172,145	58,189	U
207	0607310D8Z	CWMD Systems: Operational Systems Development	07	12,268	16,954	18,721	U
208	0607327T	Global Theater Security Cooperation Management Information Systems (G-TSCMIS)	07	12,000	3,992	7,398	U
209	0607384BP	Chemical and Biological Defense (Operational Systems Development)	07	50,708	39,530	58,261	U
210	0208043J	Planning and Decision Aid System (PDAS)	07	4,537	3,039		U
211	0208045K	C4I Interoperability	07	67,128			U
215	0302019K	Defense Info Infrastructure Engineering and Integration	07	10,798	16,324	16,233	U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Sec
216	0303126K	Long-Haul Communications - DCS	07	11,749	11,884	10,275	U
217	0303131K	Minimum Essential Emergency Communications Network (MEECN)	07	17,699	5,560	4,892	U
218	0303136G	Key Management Infrastructure (KMI)	07	54,516	73,356	83,751	U
219	0303140D8Z	Information Systems Security Program	07	51,876	46,529	49,191	U
220	0303140G	Information Systems Security Program	07	337,198	394,713	423,745	U
221	0303140K	Information Systems Security Program	07	39,798	8,922	5,707	U
222	0303150K	Global Command and Control System	07	14,534	3,695	4,150	U
223	0303153K	Defense Spectrum Organization	07	19,212	20,113	19,302	U
224	0303228K	Joint Regional Security Stacks (JRSS)	07	16,869	9,728	9,342	U
225	0303430K	Federal Investigative Services Information Technology	07	44,001			U
226	0303430V	Federal Investigative Services Information Technology	07			15,326	U
227	0303467K	SENSR Spectrum Pipeline SRF	07	11,484			U
232	0305128V	Security and Investigative Activities	07	2,400	5,700	8,800	U
235	0305146V	Defense Joint Counterintelligence Activities	07			3,820	U
237	0305186D8Z	Policy R&D Programs	07	6,231	6,291	4,843	U
238	0305199D8Z	Net Centricity	07	22,400	21,793	13,471	U
240	0305208BB	Distributed Common Ground/Surface Systems	07	6,359	6,062	5,994	U
243	0305208K	Distributed Common Ground/Surface Systems	07	2,981			U
246	0305327V	Insider Threat	07	1,964	3,000		U
247	0305387D8Z	Homeland Defense Technology Transfer Program	07	2,203	2,188	1,273	U

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
255	0708012K	Logistics Support Activities	07	1,361	1,654	1,690	U
256	0708012S	Pacific Disaster Centers	07	1,705	1,785	1,799	U
257	0708047S	Defense Property Accountability System	07	3,545	7,301	6,390	U
258	0904903D	Defense-Wide Resources	07	3,000			U
259	1105219BB	MQ-9 UAV	07	19,960	21,265	19,065	U
260	1160279BB	Small Business Innovative Research/Small Bus Tech Transfer Pilot Prog	07	27,278			U
261	1160403BB	Aviation Systems	07	256,658	250,623	173,537	U
262	1160405BB	Intelligence Systems Development	07	15,349	26,519	32,766	U
263	1160408BB	Operational Enhancements	07	158,493	174,122	145,830	U
264	1160431BB	Warrior Systems	07	76,628	64,095	78,592	U
265	1160432BB	Special Programs	07	19,357	7,494	6,486	U
266	1160434BB	Unmanned ISR	07	42,457	17,154	18,006	U
267	1160480BB	SOF Tactical Vehicles	07	11,104	14,256	7,703	U
268	1160483BB	Maritime Systems	07	70,738	68,538	58,430	U
269	1160489BB	Global Video Surveillance Activities	07	5,363	4,602		U
270	1160490BB	Operational Enhancements Intelligence	07	9,962	11,603	10,990	U
271	1203610K	Teleport Program	07	5,542	3,239		U
9999	9999999999	Classified Programs		4,611,533	4,833,125	5,208,029	U
		Operational Systems Development		6,458,450	6,532,631	6,607,385	

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27,491

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Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
272	0604532K	Joint Artificial Intelligence	08			186,639	U
273	0608197V	National Background Investigation Services - Software Pilot Program	08		109,676	123,570	U
274	0608648D8Z	Acquisition Visibility - Software Pilot Program	08		16,838	18,307	U
275	0303150K	Global Command and Control System	08		75,750	32,774	U
276	0308588D8Z	Algorithmic Warfare Cross Functional Teams - Software Pilot Program	08		229,943	247,452	U
		Software And Digital Technology Pilot Programs			432,207	608,742	
Total Research, Development, Test & Eval, DW				26,679,581	26,013,489	25,857,875	

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Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Management Support	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	227,700	257,120	216,591
 Summary Recap of FYDP Programs -----			
Research and Development	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	227,700	257,120	216,591

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Appropriation: 0460D Operational Test & Eval, Defense

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
1	0605118	OTE Operational Test and Evaluation	06	93,291	100,021	105,394	U
2	0605131	OTE Live Fire Test and Evaluation	06	69,172	70,933	68,549	U
3	0605814	OTE Operational Test Activities and Analyses	06	65,237	86,166	42,648	U
		Management Support		227,700	257,120	216,591	
Total Operational Test & Eval, Defense				227,700	257,120	216,591	

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 Non RDT&E Title
 (Dollars in Thousands)

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Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
RDT&E	2,371	1,098	2,365
Total Research, Development, Test & Evaluation	2,371	1,098	2,365
Summary Recap of Non-RDT&E Title FYDP Programs			
Administration and Associated Activities	2,371	1,098	2,365
Total Research, Development, Test & Evaluation	2,371	1,098	2,365

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Inspector General
 FY 2022 President's Budget
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 Non RDT&E Title
 (Dollars in Thousands)

28 May 2021

Appropriation: 0107D Office of the Inspector General

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se c
1	0901517X	Inspector General, DoD, Audit, Intelligence and Non-Criminal Investigative Activ	02	2,304	966	2,365	U
2	0902498X	Office of the DoD Inspector General - MHA	02	67	132		U
	RDT&E			2,371	1,098	2,365	
Total Office of the Inspector General				2,371	1,098	2,365	

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 28, 2021 at 13:36:35

*Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

** Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Defense Health Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Non RDT&E Title
 (Dollars in Thousands)

28 May 2021

Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
RDT&E	3,657,995	2,392,579	630,680
Total Research, Development, Test & Evaluation	3,657,995	2,392,579	630,680
Summary Recap of Non-RDT&E Title FYDP Programs			
Research and Development	3,657,995	2,392,579	630,680
Total Research, Development, Test & Evaluation	3,657,995	2,392,579	630,680

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 28, 2021 at 13:36:35

*Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

** Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Defense Health Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Non RDT&E Title
 (Dollars in Thousands)

28 May 2021

Appropriation: 0130D Defense Health Program

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Sec
1	0601101DHA	In-House Laboratory Independent Research	02	4,013			U
2	0601117DHA	Basic Operational Medical Research Science	02	17,408	8,913	9,091	U
3	0602115DHA	Applied Biomedical Technology	02	175,032	72,573	74,024	U
4	0602787DHA	Medical Technology	02	1,383	1,411	1,439	U
5	0603002DHA	Medical Advanced Technology	02	345	352	359	U
6	0603115DHA	Medical Development	02	2,097,072	1,994,150	235,197	U
7	0604110DHA	Medical Products Support and Advanced Concept Development	02	1,174,955	147,331	142,252	U
8	0605013DHA	Information Technology Development	02	23,780	16,344	10,866	U
9	0605026DHA	Information Technology Development- DoD Healthcare Management System Modernizati	02	14,478	18,336	15,751	U
10	0605045DHA	Joint Operational Medicine Information System	02	41,902	46,214	52,948	U
11	0605145DHA	Medical Products and Support Systems Development	02	21,589	21,068	21,489	U
12	0606105DHA	Medical Program-Wide Activities	02	69,219	48,672	49,645	U
13	0607100DHA	Medical Products and Capabilities Enhancement Activities	02	16,819	17,215	17,619	U
RDT&E				3,657,995	2,392,579	630,680	
Total Defense Health Program				3,657,995	2,392,579	630,680	

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 28, 2021 at 13:36:35

*Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

** Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of the Army
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Non RDT&E Title
 (Dollars in Thousands)

28 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test, And Evaluation	890,830	942,493	1,001,231
Total Research, Development, Test & Evaluation	890,830	942,493	1,001,231
Summary Recap of Non-RDT&E Title FYDP Programs -----			
Central Supply and Maintenance	890,830	942,493	1,001,231
Total Research, Development, Test & Evaluation	890,830	942,493	1,001,231

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 28, 2021 at 13:36:35

*Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

** Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of the Army
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Non RDT&E Title
 (Dollars in Thousands)

28 May 2021

Appropriation: 0390D Chem Agents & Munitions Destruction

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se c
1	0708081D	Chemical Materials Agency	02	6,500	6,494	6,220	U
2	0708083D	Assembled Chemical Weapons Alternatives	02	884,330	935,999	995,011	U
		Research, Development, Test, And Evaluation		890,830	942,493	1,001,231	
Total Chem Agents & Munitions Destruction				890,830	942,493	1,001,231	

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 28, 2021 at 13:36:35

*Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

** Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

28 May 2021

Appropriation -----	FY 2021 OCO Enacted*	FY 2022 Direct War and Enduring Costs
	-----	-----
Research, Development, Test & Eval, DW	80,818	63,255
Total Research, Development, Test & Evaluation	80,818	63,255

R-122DWE: FY 2022 President's Budget (Direct War and Enduring Published Version), as of May 28, 2021 at 13:37:30
 *Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

28 May 2021

	FY 2021 OCO Enacted*	FY 2022 Direct War and Enduring Costs
<u>Summary Recap of Budget Activities</u>		
Applied Research	3,699	
Advanced Technology Development	23,149	
Advanced Component Development & Prototypes	19,931	
Operational Systems Development	34,039	63,255
Total Research, Development, Test & Evaluation	80,818	63,255
<u>Summary Recap of FYDP Programs</u>		
Research and Development	46,779	
Special Operations Forces	9,982	35,462
Classified Programs	24,057	27,793
Total Research, Development, Test & Evaluation	80,818	63,255

R-122DWE: FY 2022 President's Budget (Direct War and Enduring Published Version), as of May 28, 2021 at 13:37:30
 *Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

28 May 2021

	FY 2021 OCO Enacted*	FY 2022 Direct War and Enduring Costs
<u>Summary Recap of Budget Activities</u>		
Applied Research	3,699	
Advanced Technology Development	23,149	
Advanced Component Development & Prototypes	19,931	
Operational Systems Development	34,039	63,255
Total Research, Development, Test & Evaluation	80,818	63,255
<u>Summary Recap of FYDP Programs</u>		
Research and Development	46,779	
Special Operations Forces	9,982	35,462
Classified Programs	24,057	27,793
Total Research, Development, Test & Evaluation	80,818	63,255

R-122DWE: FY 2022 President's Budget (Direct War and Enduring Published Version), as of May 28, 2021 at 13:37:30
*Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

28 May 2021

<u>Appropriation</u>	<u>FY 2021 OCO Enacted*</u>	<u>FY 2022 Direct War and Enduring Costs</u>
Defense Intelligence Agency		
Defense Threat Reduction Agency	27,491	
National Security Agency		
Office of Secretary of Defense	19,288	
U.S., Special Operations Command	9,982	35,462
Total Research, Development, Test & Evaluation	80,818	63,255

R-122DWE: FY 2022 President's Budget (Direct War and Enduring Published Version), as of May 28, 2021 at 13:37:30
 *Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

28 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2021 OCO Enacted*	FY 2022 Direct War and Enduring Costs	Sequestration
11	0602134BR	Improvised Threat Reduction Applied Research	02	3,699		U
		Applied Research		3,699		
28	0603122D8Z	Combating Terrorism Technology Support	03	19,288		U
30	0603134BR	Counter Improvised-Threat Simulation	03	3,861		U
		Advanced Technology Development		23,149		
102	0604134BR	Counter Improvised-Threat Demonstration, Prototype Development, and Testing	04	19,931		U
		Advanced Component Development & Prototypes		19,931		
263	1160408BB	Operational Enhancements	07	1,186	25,267	U
264	1160431BB	Warrior Systems	07	5,796	5,195	U
266	1160434BB	Unmanned ISR	07	3,000	5,000	U
9999	9999999999	Classified Programs		24,057	27,793	U
		Operational Systems Development		34,039	63,255	
Total Research, Development, Test & Eval, DW				80,818	63,255	

R-122DWE: FY 2022 President's Budget (Direct War and Enduring Published Version), as of May 28, 2021 at 13:37:30
 *Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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55	03	0603720S	Microelectronics Technology Development and Support (DMEA).....	Volume 5 - 389
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121	04	0300206R	Enterprise Information Technology System.....	Volume 5 - 17
124	04	1206410SDA	Space Technology Development and Prototyping.....	Volume 5 - 787

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Fiscal Year (FY) 2022 Budget Estimates**

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Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

27 Apr 2021

Appropriation -----	FY 2020 Total	FY 2021 Total	FY 2022 Total
Research, Development, Test & Eval; DW	1,600	2,198	2,568
Total Research, Development, Test & Evaluation	1,600	2,198	2,568

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

27 Apr 2021

Summary Recap of Budget Activities	FY 2020 Total	FY 2021 Total	FY 2022 Total
Advanced Component Development & Prototypes	1,600	2,198	2,568
Total Research, Development, Test & Evaluation	1,600	2,198	2,568
Summary Recap of FYDP Programs			
Intelligence and Communications	1,600	2,198	2,568
Total Research, Development, Test & Evaluation	1,600	2,198	2,568

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Defense-Wide
FY 2022 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

27 Apr 2021

<u>Summary Recap of Budget Activities</u>	<u>FY 2020 Total</u>	<u>FY 2021 Total</u>	<u>FY 2022 Total</u>
Advanced Component Development & Prototypes	1,600	2,198	2,568
Total Research, Development, Test & Evaluation	1,600	2,198	2,568
 <u>Summary Recap of FYDP Programs</u>			
Intelligence and Communications	1,600	2,198	2,568
Total Research, Development, Test & Evaluation	1,600	2,198	2,568

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

27 Apr 2021

Appropriation	FY 2020 Total	FY 2021 Total	FY 2022 Total
-----	-----	-----	-----
Defense Contract Audit Agency	1,600	2,198	2,568
Total Research, Development, Test & Evaluation	1,600	2,198	2,568

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

27 Apr 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Total	FY 2021 Total	FY 2022 Total	Sec
116	0300206R	Enterprise Information Technology Systems	04	1,600	2,198	2,568	U
		Advanced Component Development & Prototypes		1,600	2,198	2,568	
Total Research, Development, Test & Eval, DW				1,600	2,198	2,568	

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Defense Contract Audit Agency
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 Total Obligational Authority
 (Dollars in Thousands)

27 Apr 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Total	FY 2021 Total	FY 2022 Total	Se
116	0300206R	Enterprise Information Technology Systems	04	1,600	2,198	2,568	U
		Advanced Component Development & Prototypes		1,600	2,198	2,568	
Total Defense Contract Audit Agency				1,600	2,198	2,568	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Contract Audit Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0300206R / <i>Enterprise Information Technology System</i>
---	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	2.600	1.600	2.198	2.568	-	2.568	-	-	-	-	Continuing	Continuing
000001: <i>Enterprise Information Technology System</i>	2.600	1.600	2.198	2.568	-	2.568	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Funding is required for the software development of a prototype capability to streamline the assembly, transmission, routing, processing, and tracking of the large volume of contractor submissions received annually by the federal government which will become CSP (Contractor Submission Portal) as well as DCAA Management Information System (DMIS) replacement analysis and the System of Systems redesign.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	1.600	2.198	1.698	-	1.698
Current President's Budget	1.600	2.198	2.568	-	2.568
Total Adjustments	0.000	0.000	0.870	-	0.870
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Technical Adjustment	-	-	0.870	-	0.870

Change Summary Explanation

This additional funding permits enhanced capability development for the Defense Contract Audit Agency's legacy auditor information systems replacement effort. Funding was originally requested as O&M funds; however, upon further review, it was determined this requirement should be funded with RDT&E funds.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Contract Audit Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0300206R / <i>Enterprise Information Technology System</i>				Project (Number/Name) 000001 / <i>Enterprise Information Technology System</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000001: <i>Enterprise Information Technology System</i>	2.600	1.600	2.198	2.568	-	2.568	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding is required for the software development of a prototype capability to streamline the assembly, transmission, routing, processing, and tracking of the large volume of contractor submissions received annually by the federal government which will become CSP as well as DMIS replacement analysis and the System of Systems redesign.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enterprise Information Technology System	1.600	2.198	2.568
<p>Description: - Develop CSP requirements and design the technical architecture that will support the CSP business and technical requirements</p> <ul style="list-style-type: none"> - Lead the software development and testing of an initial CSP prototype - Deploy the initial CSP prototype in a web environment accessible to the public - Develop the SoS (System of System) design requirements and translate business requirements into technical requirements - Collaborate with the Government in the development of mock-ups and demonstrations - Develop and test the refined SoS prototype - Conduct unit testing, system testing, user acceptance testing, and other software testing in order to ensure functionality meets all requirements - Produce SoS Planning module and the assignment module Intranet Functional and Technical Design <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> - Migrate CSP to DCAA Mission Cloud - Continue to refine capabilities and requirements for SoS design - Continue development and testing of SoS prototype - Migrate SoS components to DCAA Mission Cloud <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Continue to refine capabilities and requirements for SoS design - Continue development and testing of SoS prototype - Migrate SoS components to DCAA Mission Cloud <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Contract Audit Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0300206R / <i>Enterprise Information Technology System</i>	Project (Number/Name) 000001 / <i>Enterprise Information Technology System</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
This additional funding permits enhanced capability development for the Defense Contract Audit Agency's legacy auditor information systems replacement effort. Funding was originally requested as O&M funds; however, upon further review, it was determined this requirement should be funded with RDT&E funds.			
Accomplishments/Planned Programs Subtotals	1.600	2.198	2.568

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Audit Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0300206R / <i>Enterprise Information Technology System</i>	Project (Number/Name) 000001 / <i>Enterprise Information Technology System</i>

FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Software Development	
Software Development	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Software Development	
Software Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Audit Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0300206R / <i>Enterprise Information Technology System</i>	Project (Number/Name) 000001 / <i>Enterprise Information Technology System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Software Development				
Software Development	1	2019	4	2026

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



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FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

Appropriation	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	3,495	1,441	4,265
Total Research, Development, Test & Evaluation	3,495	1,441	4,265

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
System Development & Demonstration	3,495	1,441	4,265
Total Research, Development, Test & Evaluation	3,495	1,441	4,265
Summary Recap of FYDP Programs			
Intelligence and Communications	425		
Research and Development	3,070	1,441	4,265
Total Research, Development, Test & Evaluation	3,495	1,441	4,265

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
System Development & Demonstration	3,495	1,441	4,265
Total Research, Development, Test & Evaluation	3,495	1,441	4,265
Summary Recap of FYDP Programs			
Intelligence and Communications	425		
Research and Development	3,070	1,441	4,265
Total Research, Development, Test & Evaluation	3,495	1,441	4,265

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

<u>Appropriation</u>	<u>FY 2020 Actual*</u>	<u>FY 2021 Enacted**</u>	<u>FY 2022 Request</u>
Defense Contract Management Agency	3,495	1,441	4,265
Total Research, Development, Test & Evaluation	3,495	1,441	4,265

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se c
132	0605013BL	Information Technology Development	05	3,070	1,441	4,265	U
145	0303140EL	Information Systems Security Program	05	425			U
		System Development & Demonstration		3,495	1,441	4,265	
Total Research, Development, Test & Eval, DW				3,495	1,441	4,265	

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Defense Contract Management Agency
 FY 2022 President's Budget
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 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se c
132	0605013BL	Information Technology Development	05	3,070	1,441	4,265	U
145	0303140BL	Information Systems Security Program	05	425			U
		System Development & Demonstration		3,495	1,441	4,265	
Total Defense Contract Management Agency				3,495	1,441	4,265	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>							
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	190.783	3.070	1.441	4.265	-	4.265	-	-	-	-	-	-
01: <i>Systems Modifications and Development</i>	190.783	3.070	1.441	4.265	0.000	4.265	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

DCMA is currently engaged in several major initiatives to improve our information technology environment. Information technology is the primary enabling capability our acquisition workforce is reliant upon to communicate with contractors, the DoD acquisition community and our customers. These initiatives are driven by the National Defense Strategy business reform line of effort. On December 21, 2017, the Reform Management Group directed the Information Technology (IT) and Business Systems Reform Lead to review Fourth Estate IT networks, policies, business processes, functions, costs and Chief Information Officer (CIO) organizational structures and manpower requirements. In support of this directive, DCMA is structuring its information technology investments to be in synchronization with the vision of the DoD guidance. One early result of this review is the decision to transfer commodity information technology administrative control to Defense Information Systems Agency (DISA) in FY 2022.

DCMA's IT investment strategy is being driven by the Director's initiatives to: 1) Develop Mission Business Systems; 2) Leverage Commodity IT Buying Power Through DISA; and 3) Focus On The Last Tactical Mile. These initiatives directly align and support the Optimization and Modernization efforts of the DoD CIO, which include: 1) Network Optimization; 2) Data Center Optimization; 3) Mission Partner Engagement; 4) Defense Travel Modernization ; 5) Enterprise Collaboration; 6) Consolidation of Cyber and IT Responsibilities; 7) Rationalize Business Systems; 8) Streamline IT Commodity Purchasing.

Development and research initiatives are a core component in DCMA's ability to align efforts appropriately to the DoD CIO IT Reform Initiative. In order to meet the needs of the DoD community, DCMA's current efforts are focused on the development of investments in two core areas: 1) Modernization and Analytics Initiative (formerly called DCMA App Store) and 2) Procurement Integrated Enterprise Environment (PIEE) (hosts Wide Area WorkFlow (WAWF)).

These initiatives will empower mobile and fixed users' ability to utilize DoD enterprise capabilities with the same level or better efficiency and effectiveness. DCMA also has a mandate to align with DoD strategy for digital modernization of enterprise capabilities. This involves migrating DCMA application infrastructure to enterprise hosting environments and modern technology platforms, rationalizing existing applications to ensure capabilities align with mission requirements, and adopting new DoD strategies for modern software development methodologies. These solutions will improve process gaps in order to streamline/simplify automated contract administration, provide real-time data visibility, eliminate manual intervention and provide effective, regulatory based tools for use across the Department.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Contract Management Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	3.070	1.441	0.000	-	0.000
Current President's Budget	3.070	1.441	4.265	-	4.265
Total Adjustments	0.000	0.000	4.265	-	4.265
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Program Adjustment: MAI and PIEE solutions	-	-	4.265	-	4.265

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>				Project (Number/Name) 01 / <i>Systems Modifications and Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
01: <i>Systems Modifications and Development</i>	190.783	3.070	1.441	4.265	0.000	4.265	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Development and research initiatives are a core component in DCMA's ability to align efforts appropriately to the DoD CIO IT Reform Initiative. DCMA has a mandate to align with DoD strategy for digital modernization of enterprise capabilities. This involves migrating DCMA application infrastructure to enterprise hosting environments and modern technology platforms, rationalizing existing applications to ensure capabilities align with mission requirements, and adopting new DoD strategies for modern software development methodologies. This will ensure delivery of secure, interoperable, and optimized solutions. In order to meet the needs of the DoD community, DCMA's current effort is to develop the DCMA App Store.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: System Modifications and Development	3.070	1.441	4.265
<p>Description: The DCMA will use the system and modifications program to focus on two main efforts: 1) DCMA's Modernization and Analytics Initiatives (MAI) (formerly DCMA App Store) and Procurement Integrated Enterprise Environment (PIEE) (hosts Wide Area WorkFlow (WAWF)).</p> <p>MAI intends to utilize commercial innovations such as Platform as a Service (PaaS), Software as a Service (SaaS), artificial Intelligence (AI) and Machine Learning (ML) with cost-effective solutions. Implementation is paramount to ensuring future Contract Management oversight to the DoD base by: (i) aligning DCMA's modernization strategy to the DoD Digital Moderation Strategy (2019), DoD Cloud Strategy (2018) and IT Reform Initiatives (2017) (ii) and implementing a robust environment that enables development of enterprise solutions and environment to enhance DCMA's Contract Administration Support mission. This approach promotes the tenets of reusable code, pre-built applications, a no code/low code environment, and industry built solutions that can ride on the same platform. This enterprise environment will encompass data analytics across multiple sources and enable business-process driven citizen development of low code applications to provide DoD instantaneous and dynamic business insight of Contract Management data.</p> <p>PIEE is an existing Defense Business System that provides an information technology platform of enterprise services, capabilities, and systems grouped into modules with the objective of seamlessly supporting the end-to-end Procure-to-Pay (P2P) business processes for the Department of Defense (DoD). Leveraging role-based access, PIEE provides users with the access to many of the critical enterprise capabilities used every day by hundreds of thousands of users spanning all Services, Defense Agencies, and Industry such as the Department's e-Invoicing, contracts repository, and contract surveillance tools. It is DCMA's intent to</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Contract Management Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>	Project (Number/Name) 01 / <i>Systems Modifications and Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>partner with DLA in order to modernize unsustainable capabilities within the PIEE environment making DCMA’s capabilities available to the Department user base.</p> <p>FY 2021 Plans: MAI (formerly DCMA App Store) FY 2021 RDT&E will be used for activities in the material solution analysis and technology maturation and risk reduction phases of the acquisition life cycle, including Analysis of Alternatives, initial lifecycle sustainment plan, and initial concept of operations, system engineering plan, high level system design, prototyping, test and evaluation master plan.</p> <p>FY 2022 Plans: MAI FY 2022 RDT&E will support the following capabilities for development and implementation: 1) Department of Defense Activity Address Code (DoDAAC) Insight/Enhanced Contract View (MAI): DoDAAC Insight which provides the ability to view all contracts administered by DCMA and the ability to view contract information collected by DCMA to include contract metadata, tasks generated, requirements identified during contract review, records, contract Management Team, and comments.</p> <p>2) Industrial Base Integrated Data System (IBIDS) (MAI): This is a repository of defense industry data used to manage data pertaining to suppliers, products, capabilities, and their associated relationships throughout the Defense Industrial Base.</p> <p>3) Program Support Collaboration & Reporting Tool (PSCRT): This tool provides the Program Support Community with one location to navigate all program support resources.</p> <p>PIEE FY 2022 RDT&E will support the following capabilities for development and implementation: 1) Modifications and Delivery Orders (MDO) (PIEE) which allows users to modify existing contracts and issue delivery orders.</p> <p>2) Combined Audit Tracking and Action Tool (CA-TAT) (PIEE): This tool combines legacy capabilities CAFU, AIT, Form 1, OH Negotiations, and Forward Pricing Rate Agreement (FPRA) into one effort. CAFU allows the Military Services and Defense Agencies to Track Follow-up Actions on DCAA Audit Findings. AIT which is the Audit Issue Tracking tool provides capability to track cost recovery data for CAS Audits. Form 1 provides tracking of notices of costs suspended and/or disapproved incidents to the audit of contractor costs incurred under a contract. Overhead Negotiating Rate (OVR) which tracks the status of contractor's final overhead settlements and FPRA provides forward pricing support to customers.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Contract Management Agency		Date: May 2021
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>3) Contract Property Administration System (CPAS) (PIEE) is a web-based, user friendly tool for the DCMA Property Administrators to receive and review contracts with property, schedule property audits, record results of audits, closeout the property administration portion of contracts in MOCAS and allow reopening of the property administration portion of contracts in MOCAS.</p> <p>4) Contract Administration DoDAAC Selection (PCM CAO-PAY) (PIEE) which allows the DoD contracting community to look up the appropriate CAO and associate DoD Activity Code (DoDAAC) by the proposed contractor's Commercial and Government Entity(CAGE) Code, ZIP Code, or country.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Explanation of change from FY 2021 to FY 2022 support increases resulting from anticipated development of MAI And PIEE capabilities identified to modernize and re-platform DCMA's aging mission applications and technology infrastructure by implementing Business Process Improvements and Data Analytics Tools to generate Contractor cost savings, pricing fraud recovery, and increased productivity.</p>			
Accomplishments/Planned Programs Subtotals	3.070	1.441	4.265

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DoD CIO's strategy addresses Cloud, Cyber and Artificial Intelligence Initiatives and their implementation via the DoD IT Reform Initiative. The DCMA Director has identified three DCMA initiatives in alignment with the DoD CIO's initiatives to include: 1) Off-Ramping IT Services 2) Mission System Development and 3) The Last Tactical Mile.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Contract Management Agency **Date:** May 2021

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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DCMA Modernization and Analytics Initiatives (MAI) (formerly DCMA App Store)	C/FFP	Various : Various	-	2.270	Jan 2020	1.441	Sep 2021	-		-		-	-	-	3.712
WAWF	C/FFP	Various : Various	-	0.800	Jan 2020	-		-		-		-	-	-	0.800
Other Programs	C/FFP	Various : Various	190.783	-		-		-		-		-	-	-	-
DoDAAC Insight/Enhanced Contract View: DoDAAC Insight (MAI)	C/FFP	Various : Various	-	-		-		0.951	Jun 2022	-		0.951	-	-	0.951
Industrial Base Integrated Data System (IBIDS) (MAI)	C/FFP	Various : Various	-	-		-		0.951	Jun 2022	-		0.951	-	-	0.951
Program Support Collaboration & Reporting Tool (PSCRT) (MAI)	C/FFP	Various : Various	-	-		-		1.163	Jun 2022	-		1.163	-	-	1.163
Modifications and Delivery Orders (MDO) (PIEE)	C/FFP	Various : Various	-	-		-		0.500	Dec 2021	-		0.500	-	-	0.500
Combined Audit Tracking and Action Tool (CA-TAT) (PIEE)	C/FFP	Various : Various	-	-		-		0.200	Dec 2021	-		0.200	-	-	0.200
Contract Property Administration System (CPAS) (PIEE)	C/FFP	Various : Various	-	-		-		0.475	Dec 2021	-		0.475	-	-	0.475
Contract Administration DoDAAC Selection (PCM CAO-PAY) (PIEE)	C/FFP	Various : Various	-	-		-		0.025	Dec 2021	-		0.025	-	-	0.025
Subtotal			190.783	3.070		1.441		4.265		-		4.265	-	-	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	190.783	3.070	1.441	4.265	-	4.265	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Contract Management Agency							Date: May 2021			
Appropriation/Budget Activity 0400 / 5			R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>			Project (Number/Name) 01 / <i>Systems Modifications and Development</i>				
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks
 The DCMA Information Technology supports the Agency's CAS mission by capitalizing on IT investment innovations that leverage technology to achieve an agile enterprise architecture that improves its contract management workforce's productivity, efficiency, and effectiveness.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Management Agency			Date: May 2021
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
WAWF																												
Requirement		■																										
Development		■	■	■																								
MAI (formerly DCMA App Store)																												
Design			■	■	■																							
Development				■	■	■	■																					
Testing							■	■																				
Deployment										■	■	■	■															
DoDAAC Insight/Enhanced Contract View: DoDAAC Insight (MAI)																												
Design											■	■	■															
Development											■	■	■	■														
Testing											■	■	■	■														
Deployment											■	■	■	■														
Industrial Base Integrated Data System (IBIDS) (MAI)																												
Design											■	■	■															
Development											■	■	■	■														
Testing											■	■	■	■														
Deployment											■	■	■	■														
Program Support Collaboration & Reporting Tool (PSCRT) (MAI)																												
Design											■	■	■															
Development											■	■	■	■														
Testing											■	■	■	■														

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>	Project (Number/Name) 01 / <i>Systems Modifications and Development</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Deployment																												
<i>Modifications and Delivery Orders (MDO) (PIEE)</i>																												
Design																												
Development																												
Testing																												
Deployment																												
<i>Combined Audit Tracking and Action Tool (CA-TAT) (PIEE)</i>																												
Design																												
Development																												
Testing																												
Deployment																												
<i>Contract Property Administration System (CPAS) (PIEE)</i>																												
Design																												
Development																												
Testing																												
Deployment																												
<i>Contract Administration DoDAAC Selection (PCM CAO-PAY) (PIEE)</i>																												
Design																												
Development																												
Testing																												
Deployment																												
<i>Customer Satisfaction Survey Tool (CSST) (MAI)</i>																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / Information Technology Development	Project (Number/Name) 01 / Systems Modifications and Development
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Design																												
Development																												
Testing																												
Deployment																												
First Level Supervisor Review (MAI)																												
Design																												
Development																												
Testing																												
Deployment																												
Contract Inquires/Pricing & Negotiations (MAI)																												
Design																												
Development																												
Testing																												
Deployment																												
Program Integration (MAI)																												
Design																												
Development																												
Testing																												
Deployment																												
Termination Cases																												
Design																												
Development																												
Testing																												
Deployment																												
General Council Enablers (MAI)																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>	Project (Number/Name) 01 / <i>Systems Modifications and Development</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Design																												
Development																												
Testing																												
Deployment																												
Information Technology Enablers/Information Technology Enablers (MAI)																												
Design																												
Development																												
Testing																												
Deployment																												
Inspector General Enablers																												
Design																												
Development																												
Testing																												
Deployment																												
Talent Managers Enablers/Total Force Enablers (MAI)																												
Design																												
Development																												
Testing																												
Deployment																												
Contract Property Administration System (CPAS) (PIEE) Part 2																												
Design and Development																												
Testing																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / Information Technology Development	Project (Number/Name) 01 / Systems Modifications and Development
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Design																												
Development																												
Testing																												
Deployment																												
Pricing Management Capability (PMC) (PIEE)																												
Design																												
Development																												
Testing																												
Deployment																												
Commercial Item Determination (PIEE)																												
Design and Development																												
Testing																												
Deployment																												
Property Loss Property Loss (PIEE)																												
Design and Development																												
Testing																												
Deployment																												
Modifications and Delivery Orders (MDO) (PIEE) Part 3																												
Design and Development																												
Testing																												
Deployment																												
Pre-Award Survey System (PASS) (PIEE) Part 2																												
Design and Development																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Management Agency																Date: May 2021																					
Appropriation/Budget Activity 0400 / 5										R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>						Project (Number/Name) 01 / <i>Systems Modifications and Development</i>																					
										FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
										1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Testing																																					
Deployment																																					
Pricing Management Capability (PMC) (PIEE) Part 2																																					
Design and Development																																					
Testing																																					
Deployment																																					
Shipping Instructions Request (SIR) (PIEE)																																					
Design																																					
Development																																					
Testing																																					
Deployment																																					
Contract Administration DoDAAC Selection (PCM CAO-PAY) (PIEE) Part 2																																					
Design and Development																																					
Testing																																					
Deployment																																					
Delivery Schedule Manager (DSM) (PIEE) Part 3																																					
Design and Development																																					
Testing																																					
Deployment																																					
Pricing Management Capability (PMC) (PIEE) Part 3																																					
Design and Development																																					
Testing																																					

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Contract Management Agency **Date:** May 2021

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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Deployment																												
<i>Shipping Instructions Request (SIR) (PIEE) Part 2</i>																												
Design and Development																												
Testing																												
Deployment																												
<i>Duty Free Entry (DFE) (PIEE)</i>																												
Design																												
Development																												
Testing																												
Deployment																												
<i>Commercial Item Market Research</i>																												
Design																												
Development																												
Testing																												
Deployment																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency		Date: May 2021
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
WAWF				
Requirement	2	2020	2	2020
Development	2	2020	4	2020
MAI (formerly DCMA App Store)				
Design	3	2020	1	2021
Development	1	2021	3	2021
Testing	3	2021	3	2021
Deployment	2	2022	4	2022
DoDAAC Insight/Enhanced Contract View: DoDAAC Insight (MAI)				
Design	3	2022	1	2023
Development	3	2022	1	2023
Testing	3	2022	1	2023
Deployment	3	2022	2	2023
Industrial Base Integrated Data System (IBIDS) (MAI)				
Design	3	2022	1	2023
Development	3	2022	1	2023
Testing	3	2022	1	2023
Deployment	3	2022	2	2023
Program Support Collaboration & Reporting Tool (PSCRT) (MAI)				
Design	3	2022	1	2023
Development	3	2022	1	2023
Testing	3	2022	1	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency **Date:** May 2021

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deployment	3	2022	2	2023
<i>Modifications and Delivery Orders (MDO) (PIEE)</i>				
Design	1	2022	3	2022
Development	1	2022	3	2023
Testing	1	2023	3	2023
Deployment	1	2023	3	2023
<i>Combined Audit Tracking and Action Tool (CA-TAT) (PIEE)</i>				
Design	1	2022	3	2022
Development	1	2022	3	2023
Testing	1	2023	3	2023
Deployment	1	2023	3	2023
<i>Contract Property Administration System (CPAS) (PIEE)</i>				
Design	1	2022	3	2022
Development	1	2022	3	2023
Testing	1	2023	3	2023
Deployment	1	2023	3	2023
<i>Contract Administration DoDAAC Selection (PCM CAO-PAY) (PIEE)</i>				
Design	1	2022	3	2022
Development	1	2022	3	2023
Testing	1	2023	3	2023
Deployment	1	2023	3	2023
<i>Customer Satisfaction Survey Tool (CSST) (MAI)</i>				
Design	3	2023	1	2024
Development	3	2023	1	2024
Testing	3	2023	1	2024

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency **Date:** May 2021

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deployment	3	2023	2	2024
<i>First Level Supervisor Review (MAI)</i>				
Design	3	2023	1	2024
Development	3	2023	1	2024
Testing	3	2023	1	2024
Deployment	3	2023	2	2024
<i>Contract Inquires/Pricing & Negotiations (MAI)</i>				
Design	3	2023	1	2024
Development	3	2023	1	2024
Testing	3	2023	1	2024
Deployment	3	2023	2	2024
<i>Program Integration (MAI)</i>				
Design	3	2024	1	2025
Development	3	2024	1	2025
Testing	3	2024	1	2025
Deployment	3	2024	2	2025
<i>Termination Cases</i>				
Design	3	2024	1	2025
Development	3	2024	1	2025
Testing	3	2024	1	2025
Deployment	3	2024	2	2025
<i>General Council Enablers (MAI)</i>				
Design	3	2024	1	2025
Development	3	2024	1	2025
Testing	3	2024	1	2025

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency **Date:** May 2021

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deployment	3	2024	2	2025
<i>Information Technology Enablers/Information Technology Enablers (MAI)</i>				
Design	3	2025	1	2026
Development	3	2025	1	2026
Testing	3	2025	1	2026
Deployment	3	2025	2	2026
<i>Inspector General Enablers</i>				
Design	3	2025	1	2026
Development	3	2025	1	2026
Testing	3	2025	1	2026
Deployment	3	2025	2	2026
<i>Talent Managers Enablers/Total Force Enablers (MAI)</i>				
Design	3	2025	1	2026
Development	3	2025	1	2026
Testing	3	2025	1	2026
Deployment	3	2025	2	2026
<i>Contract Property Administration System (CPAS) (PIEE) Part 2</i>				
Design and Development	1	2023	3	2023
Testing	1	2023	3	2024
Deployment	1	2023	3	2024
<i>Delivery Schedule Manager (DSM) (PIEE)</i>				
Design	1	2023	3	2023
Development	1	2023	3	2023
Testing	1	2023	3	2024
Deployment	1	2023	3	2024

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>	Project (Number/Name) 01 / <i>Systems Modifications and Development</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Canceling Funds (PIEE)</i>				
Design	1	2023	3	2023
Development	1	2023	3	2024
Testing	1	2023	3	2024
Deployment	1	2023	3	2024
<i>Modifications and Delivery Orders (MDO) (PIEE) Part 2</i>				
Design and Development	1	2024	3	2024
Testing	1	2024	3	2025
Deployment	1	2024	3	2025
<i>Delivery Schedule Manager (DSM) (PIEE) Part 2</i>				
Design and Development	1	2024	3	2024
Testing	1	2024	3	2025
Deployment	1	2024	3	2025
<i>Canceling Funds (PIEE) Part 2</i>				
Design and Development	1	2024	3	2024
Testing	1	2024	3	2025
Deployment	1	2024	3	2025
<i>Pre-Award Survey System (PASS) (PIEE)</i>				
Design	1	2024	3	2024
Development	1	2024	3	2025
Testing	1	2024	3	2025
Deployment	1	2024	3	2025
<i>Pricing Management Capability (PMC) (PIEE)</i>				
Design	1	2024	3	2024
Development	1	2024	3	2025

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency **Date:** May 2021

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Testing	1	2024	3	2025
Deployment	1	2024	3	2025
Commercial Item Determination (PIEE)				
Design and Development	1	2024	3	2024
Testing	1	2024	3	2025
Deployment	1	2024	3	2025
Property LossProperty Loss (PIEE)				
Design and Development	1	2024	3	2024
Testing	1	2024	3	2025
Deployment	1	2024	3	2025
Modifications and Delivery Orders (MDO) (PIEE) Part 3				
Design and Development	1	2025	3	2025
Testing	1	2025	3	2026
Deployment	1	2025	3	2026
Pre-Award Survey System (PASS) (PIEE) Part 2				
Design and Development	1	2025	3	2025
Testing	1	2025	3	2026
Deployment	1	2025	3	2026
Pricing Management Capability (PMC) (PIEE) Part 2				
Design and Development	1	2025	3	2025
Testing	1	2025	3	2026
Deployment	1	2025	3	2026
Shipping Instructions Request (SIR) (PIEE)				
Design	1	2025	3	2025
Development	1	2025	3	2026

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>	Project (Number/Name) 01 / <i>Systems Modifications and Development</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Testing	1	2025	3	2026
Deployment	1	2025	3	2026
Contract Administration DoDAAC Selection (PCM CAO-PAY) (PIEE) Part 2				
Design and Development	1	2025	3	2025
Testing	1	2025	3	2026
Deployment	1	2025	3	2026
Delivery Schedule Manager (DSM) (PIEE) Part 3				
Design and Development	1	2026	3	2026
Testing	1	2026	4	2026
Deployment	1	2026	4	2026
Pricing Management Capability (PMC) (PIEE) Part 3				
Design and Development	1	2026	3	2026
Testing	1	2026	4	2026
Deployment	1	2026	4	2026
Shipping Instructions Request (SIR) (PIEE) Part 2				
Design and Development	1	2026	3	2026
Testing	1	2026	4	2026
Deployment	1	2026	4	2026
Duty Free Entry (DFE) (PIEE)				
Design	1	2026	3	2026
Development	1	2026	3	2026
Testing	1	2026	4	2026
Deployment	1	2026	4	2026
Commercial Item Market Research				
Design	1	2026	3	2026

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Contract Management Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605013BL / <i>Information Technology Development</i>	Project (Number/Name) 01 / <i>Systems Modifications and Development</i>
--	--	---

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Development	1	2026	3	2026
Testing	1	2026	4	2026
Deployment	1	2026	4	2026

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Defense Counterintelligence and Security Agency

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Defense Counterintelligence and Security Agency • Budget Estimates FY 2022 • RDT&E Program

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Program Element Table of Contents (by Budget Activity then Line Item Number).....Volume 5 - 73
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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request -----
Research, Development, Test & Eval, DW	14,431	133,167	158,595
Total Research, Development, Test & Evaluation	14,431	133,167	158,595

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Operational Systems Development	14,431	23,491	35,025
Software And Digital Technology Pilot Programs		109,676	123,570
Total Research, Development, Test & Evaluation	14,431	133,167	158,595
Summary Recap of FYDP Programs -----			
Intelligence and Communications	4,364	8,700	27,946
Research and Development	9,653	124,054	128,925
Classified Programs	414	413	1,724
Total Research, Development, Test & Evaluation	14,431	133,167	158,595

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request -----
Operational Systems Development	14,431	23,491	35,025
Software And Digital Technology Pilot Programs		109,676	123,570
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Intelligence and Communications	4,364	8,700	27,946
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Total Research, Development, Test & Evaluation	14,431	133,167	158,595

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request -----
Defense Counterintelligence & Security Agency			
Total Research, Development, Test & Evaluation			

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
200	0604130V	Enterprise Security System (ESS)	07	9,653	14,378	5,355	U
224	0303430V	Federal Investigative Services Information Technology	07			15,326	U
230	0305128V	Security and Investigative Activities	07	2,400	5,700	8,800	U
233	0305146V	Defense Joint Counterintelligence Activities	07			3,820	U
244	0305327V	Insider Threat	07	1,964	3,000		U
9999	9999999999	Classified Programs		414	413	1,724	U
		Operational Systems Development		14,431	23,491	35,025	
271	0608197V	National Background Investigation Services - Software Pilot Program 08			109,676	123,570	U
		Software And Digital Technology Pilot Programs			109,676	123,570	
Total Research, Development, Test & Eval, DW				14,431	133,167	158,595	

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Defense Counterintelligence & Security Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
---	-----	-----	---	-----	-----	-----	---
200	0604130V	Enterprise Security System (ESS)	07	9,653	14,378	5,355	U
224	0303430V	Federal Investigative Services Information Technology	07			15,326	U
230	0305128V	Security and Investigative Activities	07	2,400	5,700	8,800	U
233	0305146V	Defense Joint Counterintelligence Activities	07			3,820	U
244	0305327V	Insider Threat	07	1,964	3,000		U
	Operational Systems Development			14,017	23,078	33,301	
271	0608197V	National Background Investigation Services - Software Pilot Program 08			109,676	123,570	U
	Software And Digital Technology Pilot Programs				109,676	123,570	
Total Defense Counterintelligence & Security Agency				14,017	132,754	156,871	

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Defense Counterintelligence and Security Agency • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
200	07	0604130V	Enterprise Security System (ESS).....	Volume 5 - 77
224	07	0303430V	Federal Investigative Services Information Technology.....	Volume 5 - 85
230	07	0305128V	Security and Investigative Activities.....	Volume 5 - 91
233	07	0305146V	Defense Joint Counterintelligence Activities.....	Volume 5 - 97
244	07	0305327V	Insider Threat.....	Volume 5 - 103

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
271	08	0608197V	National Background Investigation Services - Software Pilot Program.....	Volume 5 - 109

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Defense Counterintelligence and Security Agency • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
Defense Joint Counterintelligence Activities	0305146V	233	07.....	Volume 5 - 97
Enterprise Security System (ESS)	0604130V	200	07.....	Volume 5 - 77
Federal Investigative Services Information Technology	0303430V	224	07.....	Volume 5 - 85
Insider Threat	0305327V	244	07.....	Volume 5 - 103
National Background Investigation Services - Software Pilot Program	0608197V	271	08.....	Volume 5 - 109
Security and Investigative Activities	0305128V	230	07.....	Volume 5 - 91

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604130V / <i>Enterprise Security System (ESS)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	132.595	9.653	14.378	5.355	-	5.355	-	-	-	-	Continuing	Continuing
000: <i>Enterprise Security System (ESS)</i>	132.595	9.653	14.378	5.355	-	5.355	-	-	-	-	Continuing	Continuing

Note

The decrease is a realignment of funding for the DISS to PE 0303430V and ADX funding to PE 0305146V.

A. Mission Description and Budget Item Justification

The Defense Counterintelligence Security Agency (DCSA) is a strategic asset to the nation and our allies – continuously ensuring a trusted federal, industrial, and affiliated workforce, and enabling industry’s delivery of uncompromised capabilities by leveraging advanced technologies and innovation. DCSA uniquely blends critical technology protection, trusted personnel vetting, counterintelligence, and professional education and certification to advance and preserve America’s strategic edge.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	7.945	14.378	14.632	-	14.632
Current President's Budget	9.653	14.378	5.355	-	5.355
Total Adjustments	1.708	0.000	-9.277	-	-9.277
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	0.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Element Realignment	1.708	-	-9.277	-	-9.277

Change Summary Explanation

National Industrial Security System (NISS) development effort consists of continued enhancements in response to user community requirements. These requirements include enhancements to Key Management Personnel (KMP) monitoring, NATO Control Point Inspection Triage Outreach Program, NISP Oversight Report, Outgoing Foreign Visits and enabling Industry to initiate Facility Profile updates. A separate, parallel development effort will facilitate a SIPR NISS baseline to allow alternative Single Sign-On (SSO) capability to National Industrial Security Program (NISP) Central Access Information Security System (NCAISS), as well as Cross Domain Solution (CDS) for movement of NIPR-based data to SIPR for subsequent reporting and data aggregation. Development activities will include interface work between NISS and the Defense Information System for Security (DISS), NISP Contracts Classification System (NCCS)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity
0400: *Research, Development, Test & Evaluation, Defense-Wide I BA 7:*
Operational Systems Development

R-1 Program Element (Number/Name)
PE 0604130V / *Enterprise Security System (ESS)*

and Enterprise Mission Assurance Support Service (eMASS) systems as well as initial planning for refactoring of NISS functionality into National Background Investigative Services (NBIS).

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0604130V / <i>Enterprise Security System (ESS)</i>				Project (Number/Name) 000 / <i>Enterprise Security System (ESS)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000: <i>Enterprise Security System (ESS)</i>	132.595	9.653	14.378	5.355	-	5.355	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Defense Counterintelligence Security Agency (DCSA) manages the Enterprise Security System (ESS) to provide effective, real-time, security support capabilities for Military Departments, DoD Agencies, the NISP, and other Federal Agencies. In compliance with the Expanded Electronic Government, President’s Management Agenda, and the DoD Enterprise Architecture Framework, Enterprise Security System (ESS) is the unified offering of security mission systems to facilitate and automate improved national investigative standards, streamline security processes, and increase DoD community collaboration.

DCSA Mission Information Technology (IT) systems provide critical service to the major DCSA mission areas for Industrial Security Oversight and Security Education. DCSA performs this function through the operation of its mission production systems to include the National Industrial Security System (NISS) and the DCSA Gateway. RDT&E for DCSA mission systems primarily include pre-planned product enhancements and improvements to the applications, research and improvements to assure information sharing to better posture systems and networks against vulnerabilities, ensure self-defense of systems and networks, and safeguarding data at all stages to increase efficiencies through web-based systems to manage certification and accreditation activities. These IT systems are as follows:

National Industrial Security System (NISS, formerly known as Field Operations System (FOS). NISS is the next generation functional replacement for the Industrial Security Facility Database system (ISFD) and supports end to end facility identification and registration processing, Foreign Ownership Control or Influence (FOCI) mitigation, and supports Personnel Vetting business processes. NISS provides a centralized web-based platform for National Industrial Security Program (NISP) personnel to manage the industrial security facility clearance process; from request initiation to approval (or rejection) storage of all associated data, and provides a centralized process for users to submit, update, search, and view facility verification requests.

National Contract Classification System (NCCS). NCCS is a web-based system that automates the DD Form 254 for contract security classification specification submission; provides submitter with intuitive form of instructions, drop-down selections, and linkage to relevant contract information for completing the form; and provides user access control, query/search, notification, tracking, and reporting capabilities for accountability of all contract security classification specifications. The Federal Acquisition Regulation (FAR) requires a DD Form 254 for each classified contract, and the National Industrial Security Operating Manual (NISPOM)(4-103a) requires a DD 254 be issued by the government with each Invitation for Bid, Request for Proposal, or Request for Quote. The DD Form 254 provides a contractor (or a subcontractor) the security requirements and classification guidance necessary to perform on a classified contract. The purpose of the Contract Security Classification Specification required by DoD 5220.22-4, Industrial Security Regulation and the National Industrial Security Program Operating Manual (NISPOM) is to develop a federated system for the oversight and management of classified information access and guidance to perform on classified contracts. The DD 254, an underlying business process, is critical to ensure access to our Nation’s classified information is safeguarded.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604130V / <i>Enterprise Security System (ESS)</i>	Project (Number/Name) 000 / <i>Enterprise Security System (ESS)</i>
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National Industrial Security Program (NISP) DCSA NISP Central Access and Information Security System (NCAISS) a web-based Identity Management (IdM) enterprise portal, PKI compliant point-of-entry to the suite of services offered by DCSA, which controls user service accessibility through single sign-on authentication. User service-level permissions are verified, and authorized services are offered accordingly. Control Access and Information Security System (NCAISS) formerly known as Identity Management (IdM). NCAISS is mandatory for compliance with Department of Defense (DoD) Public Key Infrastructure (PKI) Program Management Office and Office of the Assistant Secretary of Defense for Networks and Information Integration (ASD-NII), Joint Task Force for Global Networks Operations (JTF-GNO) Communications Tasking Order (CTO) 06-02, CTO 07-015, and Office of Management and Budget (OMB) Memo 11-11 (M-11-11), which directed accelerated use of PKI access across the enterprise. This initiative is designed to enable multiple DCSA business systems to have service-accessibility that is controlled through PKI-compliant single sign-on authentication. Potential expanded use of the NCAISS across the DCSA enterprise to provide CAC-based authentication for business support applications on the SIPRNet and JWICS domains, provide enhanced identity and access control analytics. It incorporates any remaining DCSA operated application into the DcSA NCAISS solution.

DCSA is establishing a Controlled Unclassified Information (CUI) program for industry that requires development and implementation of tools that support integration with cybersecurity monitoring, threat indications and warning, and supply chain illumination to protect critical technology. The development of a Security Rating Score (SRS) and its integration with the Contract Performance Assessment System will inform defense acquisition decisions and prioritize DCSA Industrial Security with active monitoring of companies in a single system of record. Funding will purchase data licenses for supply chain illumination tools that can be integrated into CUI cybersecurity assessments and will include business process tools to integrate data and manage DCSA business unit inputs from industrial and personnel security inputs. Funds will also support use of Artificial Intelligence / Machine Learning to accelerate and enhance cyber I&W via predictive analytics.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Systems Enhancement</p> <p>Description: 1. Deployed NISS Increment 2 IOC. Initiate development of NISS Increment 3. Increment 3 will include enhancements to KMP monitoring, NATO CPI, Triage Outreach Program, NISP Oversight Report, and Outgoing Foreign Visits. Initiate Independent Verification and Validation (IV&V) and Government Acceptance Testing (GAT) of Increment 2. IV&V and GAT findings will be addressed.</p> <p>2. NCCS. Continue scheduled enhancements through version releases and sustainment. Agile development approach will continue with two release cycles per year. Address any findings/bugs/issues encountered from Independent Verification and Validation (IV&V) and Government Acceptance Testing (GAT).</p> <p>3. NCAISS. Continue integration and application sustainment costs under the sustainment contract, with some software upgrades.3. NCAISS. Continue integration and application sustainment activities.</p> <p>FY 2021 Plans:</p> <p>1.) NISS. Continue development of NISS NIPR enhancements. Development of NISS SIPR Increment, IOC projected by Q4 FY20.</p> <p>2.)Initiate development of NISS Cross Domain Solution (CDS)</p>	9.653	14.378	5.355

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604130V / <i>Enterprise Security System (ESS)</i>	Project (Number/Name) 000 / <i>Enterprise Security System (ESS)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>3.) NIPR NISS Enhancements to Key Management Personnel (KMP) monitoring, NATO CPI, Triage Outreach Program, NISP Oversight Report, Outgoing Foreign Visits and Facility Profile.</p> <p>4.) Refine Processes and Requirements for Critical Threat Protection (CTP).</p> <p>5.) Initiate Independent Verification and Validation (IV&V) and Government Acceptance Testing (GAT) of NIPR and SIPR NISS IV&V and GAT findings will be addressed.</p> <p>FY 2022 Plans: The application will require both MilCloud and alternative cloud instances for National Background Investigative Services (NBIS) refactoring related activities.</p> <p>Hardware and software required for the SIPR NISS instance will double overall development ramp-up costs. NISS interfaces with DISS, NCCS and eMASS will drive additional developer expense, with only initial requirements or Technical Interchanges having been conducted to-date.</p> <p>Development efforts for enhancements (Key Management Personnel (KMP) monitoring, NATO CPI, Triage Outreach Program, NISP Oversight Report, and Outgoing Foreign Visits) were delayed due to a late FOC for NISS NIPR baseline.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY21 to FY22 is attributed to the realignment of funding for programs DISS to PE (0303430V) and ADX to PE (0305146V).</p>			
Accomplishments/Planned Programs Subtotals	9.653	14.378	5.355

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

DCSA will use a variety of acquisition strategies such as Indefinite Delivery, Indefinite Quantity (IDIQ), Blanket Purchase Agreements (BPA), and multiple or single award contracts for the development of new applications, enhancement of other applications, and perform system integration with COTS and GOTS solutions and technology. These efforts will reduce the contract award process lead time and contract overhead, improve technical solutions, deployments, and deliver more effective and efficient automation projects for DCSA and the NISP community.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604130V / Enterprise Security System (ESS)	Project (Number/Name) 000 / Enterprise Security System (ESS)
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NISS Development	C/TBD	TBD : TBD	122.245	8.311	May 2020	5.784		4.615		-		4.615	Continuing	Continuing	-
NISS Development/ MilCloud	MIPR	DISA : Pensacola, FL	1.100	0.500	May 2020	0.000		0.500		-		0.500	Continuing	Continuing	-
NCAISS Development	Option/ BPA	Deloitt : Arlington VA	3.740	0.000		0.000		-		-		-	Continuing	Continuing	-
NCCS Development	MIPR	DLA : Philadelphia, PA	3.912	0.600	Oct 2019	0.000	Oct 2020	-		-		-	Continuing	Continuing	-
SBIR/STTR	MIPR	AT&L : Arlington, VA	1.598	0.242	May 2020	-		0.240	May 2021	-		0.240	Continuing	Continuing	-
ADX/JCITS	Option/ TBD	TBD : TBD	-	-		4.000	Apr 2020	-		-		-	Continuing	Continuing	-
DISS Development	TBD	TBD : TBD	-	-		4.594		-		-		-	Continuing	Continuing	-
Subtotal			132.595	9.653		14.378		5.355		-		5.355	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		132.595	9.653	14.378	5.355	-	5.355	Continuing	Continuing	N/A

Remarks
 The Enterprise Security System supports development efforts of the next generation of integrated enterprise automated security solutions to replace DSS legacy IT systems to provide seamless integration of applications.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Counterintelligence and Security Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604130V / <i>Enterprise Security System (ESS)</i>	Project (Number/Name) 000 / <i>Enterprise Security System (ESS)</i>	

FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Enterprise Security System	
Production and Deployment of Applications	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Enterprise Security System	
Production and Deployment of Applications	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604130V / <i>Enterprise Security System (ESS)</i>	Project (Number/Name) 000 / <i>Enterprise Security System (ESS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Enterprise Security System</i>				
Production and Deployment of Applications	1	2017	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303430V / <i>Federal Investigative Services Information Technology</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	-	-	15.326	-	15.326	-	-	-	-	Continuing	Continuing
000: <i>Defense Information System for Security (DISS)</i>	-	0.000	0.000	15.326	-	15.326	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Counterintelligence Security Agency (DCSA) is a strategic asset to the nation and our allies – continuously ensuring a trusted federal, industrial, and affiliated workforce, and enabling industry’s delivery of uncompromised capabilities by leveraging advanced technologies and innovation. DCSA uniquely blends critical technology protection, trusted personnel vetting, counterintelligence, and professional education and certification to advance and preserve America’s strategic edge. The Defense Information System for Security (DISS) transferred to DCSA from DHRA/ DMDC in FY2021. The DISS consolidates the DoD personnel security mission into an enterprise adjudicative case management system that will automate and improve national investigative and adjudicative standards to eliminate costly and inefficient work processes and increase information collaboration across the community. DISS provides comprehensive capabilities to perform processing and verification of security clearances for all DoD military personnel, civilians and contractors including the technology and processes to implement Continuous Evaluation.

The Continuous Evaluations IT System for NBIS funds sustained requirements for mandated unclassified and classified cross-domain automated data feeds for CE and modifies systems to enhance vetting with access to multi-domain data sources. Allows CE/CV across all three network fabrics as mandated in national personnel vetting strategy entitled Trusted Workforce 2.0. Expands IT capacity providing DCSA capability to conduct continuous vetting for the national security population for the entire Federal government.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	15.326	-	15.326
Total Adjustments	0.000	0.000	15.326	-	15.326
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Element Realignment	-	-	15.326	-	15.326

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303430V / <i>Federal Investigative Services Information Technology</i>				Project (Number/Name) 000 / <i>Defense Information System for Security (DISS)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000: <i>Defense Information System for Security (DISS)</i>	-	0.000	0.000	15.326	-	15.326	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Counterintelligence Security Agency (DCSA) is a strategic asset to the nation and our allies – continuously ensuring a trusted federal, industrial, and affiliated workforce, and enabling industry’s delivery of uncompromised capabilities by leveraging advanced technologies and innovation. DCSA uniquely blends critical technology protection, trusted personnel vetting, counterintelligence, and professional education and certification to advance and preserve America’s strategic edge. The Defense Information System for Security (DISS) transferred to DCSA from DHRA/ DMDC in FY2021. The DISS consolidates the DoD personnel security mission into an enterprise adjudicative case management system that will automate and improve national investigative and adjudicative standards to eliminate costly and inefficient work processes and increase information collaboration across the community. DISS provides comprehensive capabilities to perform processing and verification of security clearances for all DoD military personnel, civilians and contractors including the technology and processes to implement Continuous Evaluation.

The Continuous Evaluations IT System for National Background Investigation Service (NBIS) funds sustained requirements for mandated unclassified and classified cross-domain automated data feeds for Continuous Evaluation (CE) and modifies systems to enhance vetting with access to multi-domain data sources. Allows CE/CV across all three network fabrics as mandated in national personnel vetting strategy entitled Trusted Workforce 2.0. Expands IT capacity providing DCSA capability to conduct continuous vetting for the national security population for the entire Federal government.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Defense Information System for Security (DISS)/ Continuous Evaluations Data Feeds	-	-	15.326
Description: The Defense Information System for Security (DISS) consolidates the DoD personnel security mission into an enterprise adjudicative case management system that will automate and improve national investigative and adjudicative standards to eliminate costly and inefficient work processes and increase information collaboration across the community to provide comprehensive capabilities to perform processing and verification of security clearances for all DoD military personnel, civilians, and contractors including the technology and processes that need to be addressed in order to implement Continuous Evaluation.			
FY 2022 Plans: DCSA will move to a limited operational environment to allow the transition of the JPAS customers and data to DISS to support the sunset of JPAS and provide continuing enhancements required by the DoD, Federal, and industrial customer base.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303430V / <i>Federal Investigative Services Information Technology</i>	Project (Number/Name) 000 / <i>Defense Information System for Security (DISS)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Sustains and modifies systems to enhance vetting with access to multi-domain data sources. Data feeds are required to comply with policy from the Office of the Director of National Intelligence for reciprocity.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> 1. There is no growth in program funding for DISS realigned from PE 0604130V 2. Provides funding for CE data feeds to provide multi-domain data sources.			
Accomplishments/Planned Programs Subtotals	-	-	15.326
Defense Information System for Security (DISS)	0.000	0.000	0.000
Defense Counterintelligence and Security Agency Subtotals	-	-	15.326

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

DCSA will use a variety of acquisition strategies such Blanket Purchase Agreements (BPA), and multiple or single award contracts for the development of new applications, enhancement of other applications, and perform system integration with COTS and GOTS solutions and technology. These efforts will reduce the contract award process lead time and contract overhead, improve technical solutions, deployments, and deliver more effective and efficient automation projects for DCSA.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Counterintelligence and Security Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303430V / <i>Federal Investigative Services Information Technology</i>	Project (Number/Name) 000 / <i>Defense Information System for Security (DISS)</i>	

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Defense Information System for Security (DISS)																												
Defense Information System for Security (DISS)																												
CE DATA FEEDS																												
CE DATA FEEDS																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303430V / <i>Federal Investigative Services Information Technology</i>	Project (Number/Name) 000 / <i>Defense Information System for Security (DISS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Defense Information System for Security (DISS)</i>				
Defense Information System for Security (DISS)	4	2022	3	2026
<i>CE DATA FEEDS</i>				
CE DATA FEEDS	4	2022	3	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305128V I <i>Security and Investigative Activities</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	2.400	5.700	8.800	-	8.800	-	-	-	-	Continuing	Continuing
000: <i>Social Media</i>	0.000	2.400	5.700	8.800	-	8.800	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Starting in FY 2022, the Vetting Risk Operations Center (VROC) develops and implements a scalable capability to include Publicly Available Electronic Information (PAEI), including social media, into background investigations in accordance with Security Executive Agent Directive 5 (SEAD-5) and aligned to the Trusted Workforce 2.0 personnel vetting reform initiative. VROC access to PAEI also fulfills the Secretary's requirements to improve the vetting of International Military Students who intend to or are currently receiving training within the continental U.S. The investment develops collection, analysis, and reporting tools for PAEI, including as social media, in support of national security eligibility determinations. DoD studies have identified PAEI as a unique data source to identify key behaviors that are potentially derogatory under the Allegiance, Foreign Influence, Foreign Preference, and Personal Conduct guidelines of the National Security Adjudication Guidelines. Data received from PAEI is often not found anywhere else in the course of the personnel vetting cycle. To utilize PAEI within the Department, on a national security population of ~3.6M individuals, the Department is developing a scalable, cost-effective, and automated capability. A PAEI investment will deliver a capability flexible to changing cultural conditions, policy requirements, and emerging threats, while simultaneously able to constantly monitor millions of people on hundreds of social media platforms with billions of individual data points, aggregate and curate that data, identify potential risk, and seamlessly provide notification in a digestible analytical product to a human for risk mitigation.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	2.400	5.700	8.800	-	8.800
Current President's Budget	2.400	5.700	8.800	-	8.800
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305128V / Security and Investigative Activities	Project (Number/Name) 000 / Social Media
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000: Social Media	0.000	2.400	5.700	8.800	-	8.800	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Starting in FY 2022, the Vetting Risk Operations Center (VROC) develops and implements a scalable capability to include Publicly Available Electronic Information (PAEI), including social media, into background investigations in accordance with Security Executive Agent Directive 5 (SEAD-5) and aligned to the Trusted Workforce 2.0 personnel vetting reform initiative. VROC access to PAEI also fulfills the Secretary's requirements to improve the vetting of International Military Students who intend to or are currently receiving training within the continental U.S. The investment develops collection, analysis, and reporting tools for PAEI, including as social media, in support of national security eligibility determinations. DoD studies have identified PAEI as a unique data source to identify key behaviors that are potentially derogatory under the Allegiance, Foreign Influence, Foreign Preference, and Personal Conduct guidelines of the National Security Adjudication Guidelines. Data received from PAEI is often not found anywhere else in the course of the personnel vetting cycle. To utilize PAEI within the Department, on a national security population of ~3.6M individuals, the Department is developing a scalable, cost-effective, and automated capability. A PAEI investment will deliver a capability flexible to changing cultural conditions, policy requirements, and emerging threats, while simultaneously able to constantly monitor millions of people on hundreds of social media platforms with billions of individual data points, aggregate and curate that data, identify potential risk, and seamlessly provide notification in a digestible analytical product to a human for risk mitigation

The Risk Rating Tool (RRT) identifies individuals with high risk stressors mapped to the 13 Adjudicative guidelines. Use of the Risk Rating Tool for case management and enrollment into High, Medium, Low Continuous Vetting Tier management is projected to generate cost avoidance in data acquisition by focusing resources on high risks rather than a randomly selected process. Execution of small scale prototypes or pilots will facilitate demonstrating value added before full scale integration, ensuring funds are not executed on an effort that cannot scale or meet all requirements. The Risk Rating Tool funds the development of data focused on individuals demonstrating high risk behaviors as identified by machine learning modeling approaches.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Social Media	2.400	5.700	8.800
Description: Starting in FY 2022, the Vetting Risk Operations Center (VROC) develops and implements a scalable capability to include Publicly Available Electronic Information (PAEI), including social media, into background investigations in accordance with Security Executive Agent Directive 5 (SEAD-5) and aligned to the Trusted Workforce 2.0 personnel vetting reform initiative. VROC access to PAEI also fulfills the Secretary's requirements to improve the vetting of International Military Students who intend to or are currently receiving training within the continental U.S. The investment develops collection, analysis, and reporting tools for PAEI, including as social media, in support of national security eligibility determinations. DoD studies have identified PAEI as a unique data source to identify key behaviors that are potentially derogatory under the Allegiance, Foreign Influence, Foreign Preference, and Personal Conduct guidelines of the National Security Adjudication Guidelines. Data received from PAEI			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305128V / <i>Security and Investigative Activities</i>	Project (Number/Name) 000 / <i>Social Media</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>is often not found anywhere else in the course of the personnel vetting cycle. To utilize PAEI within the Department, on a national security population of ~3.6M individuals, the Department is developing a scalable, cost-effective, and automated capability. A PAEI investment will deliver a capability flexible to changing cultural conditions, policy requirements, and emerging threats, while simultaneously able to constantly monitor millions of people on hundreds of social media platforms with billions of individual data points, aggregate and curate that data, identify potential risk, and seamlessly provide notification in a digestible analytical product to a human for risk mitigation.</p> <p>FY 2021 Plans:</p> <ol style="list-style-type: none"> RRT. Continue development of RRT models with integration of results in future system of use with the national Background Investigation System. Establishment of a Research & innovation Fund for Behavioral Research and policy impacts/recommendations as well as state of the art testing and evaluation of capabilities that can support continuous vetting and provide cost savings <p>FY 2022 Plans:</p> <p>Funds development of automated PAEI scraping, stratification, and analysis of PAEI data. Funds graphical user interface to support case management processes, user experience, and efficient analysis and decision-making. Funds the creation and maturation of artificial intelligence to increase automated capabilities. Funds interconnectivity with various government systems to ensure seamless and timely flow of PAEI data and analysis.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p> <p>The increase from FY21 is a realignment of funding from O&M to fund the development and fielding of an automated platform capable of collection, analysis, and reporting of PAEI, including social media, in support of national security eligibility determinations of the highest risk cleared population, while supporting the vetting of both military accessions and international military students.</p>			
Title: NA	0.000	-	-
Accomplishments/Planned Programs Subtotals	2.400	5.700	8.800

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305128V / <i>Security and Investigative Activities</i>	Project (Number/Name) 000 / <i>Social Media</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Risk Rating Tool	
Production and Deployment	
Social Media	
Production and Deployment	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305128V / <i>Security and Investigative Activities</i>	Project (Number/Name) 000 / <i>Social Media</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Risk Rating Tool</i>				
Production and Deployment	3	2020	4	2021
<i>Social Media</i>				
Production and Deployment	2	2022	3	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305146V / <i>Defense Joint Counterintelligence Activities</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	-	-	3.820	-	3.820	-	-	-	-	Continuing	Continuing
000: <i>Adaptive Data Exchange (ADX)</i>	-	-	-	3.820	-	3.820	-	-	-	-	Continuing	Continuing

Note

The Adaptive Data Exchange (ADX) effort continued from PE 0604130V/Enterprise Security System (ESS).

A. Mission Description and Budget Item Justification

The Defense Counterintelligence Security Agency (DCSA) is a strategic asset to the nation and our allies – continuously ensuring a trusted federal, industrial, and affiliated workforce, and enabling industry’s delivery of uncompromised capabilities by leveraging advanced technologies and innovation. DCSA uniquely blends critical technology protection, trusted personnel vetting, counterintelligence, and professional education and certification to advance and preserve America’s strategic edge.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	3.820	-	3.820
Total Adjustments	0.000	0.000	3.820	-	3.820
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Element Realignment	-	-	3.820	-	3.820

Change Summary Explanation

(CUI) The Adaptive Data Exchange (ADX)- is an Advanced Persistent Threat (APT) focused cyber threat intelligence sensor platform applying advanced, threat adaptive analysis techniques for early alerting and engagement of the cyber adversary across the entire kill chain.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305146V / Defense Joint Counterintelligence Activities	Project (Number/Name) 000 / Adaptive Data Exchange (ADX)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000: Adaptive Data Exchange (ADX)	-	-	-	3.820	-	3.820	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The Adaptive Data Exchange (ADX) effort is funded in PE 0604130V in FY2021.

A. Mission Description and Budget Item Justification

Defense Counterintelligence Security Agency (DCSA) administers ADX funding for cyber protection at cleared defense contractor sites.. Funds are provided to FBI NCIJTF to further develop and integrate a combination of advanced, data adaptive analytic techniques that provide near real-time, high confidence detection across network perimeter, internal and distributed cyber threat activities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Adaptive Data Exchange (ADX)	-	-	3.820
Description: ADX generated multiple technical threat reports disseminated to FBI Field Office and the US Intelligence Community			
FY 2022 Plans: CUI) Enable unclassified teaming and integration with additional government and industry to integrate applications and data; Scale up and out platform architecture, deployments and data centers.			
FY 2021 to FY 2022 Increase/Decrease Statement: FY2022 increase of 3.820 is attributed to the realignment from the ESS PE: 0604130V.			
Accomplishments/Planned Programs Subtotals	-	-	3.820

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

(CUI) FY 20-21, O&M services, 80%; hardware/software/data, 20%
 (CUI) FY 21-22, O&M/R&D Services, 99%; hardware/software/data, 1%
 (CUI) FY22-23, O&M/R&D Services, 96.5%; hardware/software/data, 3.5%
 (CUI) FY23-24, O&M/R&D Services, 98%; hardware/software/data, 2%

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305146V / <i>Defense Joint Counterintelligence Activities</i>	Project (Number/Name) 000 / <i>Adaptive Data Exchange (ADX)</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Adaptive Data Exchange (ADX)</i>	
Adaptive Data Exchange (ADX)	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305146V / <i>Defense Joint Counterintelligence Activities</i>	Project (Number/Name) 000 / <i>Adaptive Data Exchange (ADX)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Adaptive Data Exchange (ADX)</i>				
Adaptive Data Exchange (ADX)	3	2022	3	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305327V / <i>Insider Threat</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	29.456	1.964	3.000	-	-	-	-	-	-	-	Continuing	Continuing
002: <i>Insider Threat</i>	29.456	1.964	3.000	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The two programs which fall under Insider Threat are DoD Insider Threat Management and Analysis Center (DITMAC) and National Center for Credibility Assessment (NCCA)

DITMAC: Oversees the mitigation of insider threats to DoD and U.S. Government installations, facilities, personnel, missions, or resources; assesses enterprise-level risks, refers recommendations for action, synchronizes responses, and oversees resolution of identified issues on the insider threats. Develops enterprise-level risk reporting criteria (thresholds) to facilitate component reporting of potential threat information and assesses the effectiveness of actions taken by reporting elements to address, mitigate, or resolve the threat posed to DoD missions and resources; Supports the Office of the USD(I) in establishing standards to ensure the DoD Insider Threat Program comply with applicable statutes, Executive Orders, and other national and DoD regulations and policies that specify insider threat program requirements. Provides a single repository for enterprise-level DoD insider threat-related information; and promotes the collaboration and sharing of the insider threat information among DoD Components.

NCCA: Conducts credibility assessment training and education, research and development, technical support, and oversight activities for federal polygraph and credibility assessment mission partners. This program is to clinically and scientifically evaluate ocular-motor deception detection capabilities and determine their performance parameters, including how accurately they are able to classify deceptive and non-deceptive individuals. This program is to clinically and scientifically evaluate ocular-motor deception detection capabilities and determine their performance parameters, including how accurately they are able to classify deceptive and non-deceptive individuals. These funds will support the NCCA efforts to collect EyeDetect data from one or more field locations.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	1.964	0.000	0.000	-	0.000
Current President's Budget	1.964	3.000	0.000	-	0.000
Total Adjustments	0.000	3.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	3.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0305327V / <i>Insider Threat</i>				Project (Number/Name) 002 / <i>Insider Threat</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
002: <i>Insider Threat</i>	29.456	1.964	3.000	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DITMAC: Oversees the mitigation of insider threats to DoD and U.S. Government installations, facilities, personnel, missions, or resources; Assesses enterprise-level risks, refers recommendations for action, synchronizes responses, and oversees resolution of identified issues on the insider threats; Develops enterprise-level risk reporting criteria (thresholds) to facilitate component reporting of potential threat information and assess the effectiveness of actions taken by reporting elements to address, mitigate, or resolve the threat posed to DoD missions and resources; Supports the Office of the USD(I) in establishing standards to ensure that the DoD Insider Threat Program comply with applicable statutes, Executive Orders, and other national and DoD regulations and policies that specify insider threat program requirements; Provides a single repository for enterprise-level DoD insider threat-related information; and promotes the collaboration and the sharing of insider threat information among DoD Components.

NCCA: Conducts credibility assessment training and education, research and development, technical support, and oversight activities for federal polygraph and credibility assessment mission partners. This program is to clinically and scientifically evaluate ocular-motor deception detection capabilities and determine their performance parameters, including how accurately they are able to classify deceptive and non-deceptive individuals. These funds will support the NCCA efforts to collect EyeDetect data from one or more field locations.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: DITMAC System of System / National Center for Credibility Assessment</p> <p>Description: Development of capabilities to better serve the insider threat community, and align with Personnel Vetting mission. Maturing of the systems has facilitated increased use of the DITMAC System of Systems (DSoS) as the case management system for DoD Component's insider threat mission from 11 reported in 2017 to 37 as of 4th quarter 2018. The system redesign provides the next generation platform that can pace and align with the expanding mission. The re-architecture will deliver a new platform that fosters communication/information sharing, adaptability, and an enhanced cyber posture while reducing annual investments in software licensing and technical support.</p> <p>NCCA program is to clinically and scientifically evaluate ocular-motor deception detection capabilities and determine their performance parameters, including how accurately they are able to classify deceptive and non-deceptive individuals. These funds will support the NCCA efforts to collect EyeDetect data from one or more field locations.</p> <p>FY 2021 Plans: To continue efforts to collect field data for the purpose of having non-clinical data to evaluate along-side of pristine clinical data collected</p>	1.964	3.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305327V / <i>Insider Threat</i>	Project (Number/Name) 002 / <i>Insider Threat</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>as part of project. Also resource the procurement of systems, licenses, software upgrades, and training support, necessary to employ systems in forward deployed and more austere conditions. The NCCA is in the early phases of planning for 1 or 2 field trials to occur within the FY21-22 cycle. This might also involve incorporating the ocular-motor deception Testing (ODT) capability into the Computer-generated Agent (CGA) capability that has recently been identified as a research priority of DCSA. There is no DITMAC System of Systems (DSoS) planned in FY21 due to Full Operational Capability (FOC).</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase in FY21 is attributed to a one time Congressional Add to supports NCCA's mission.</p>			
Accomplishments/Planned Programs Subtotals	1.964	3.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305327V / <i>Insider Threat</i>	Project (Number/Name) 002 / <i>Insider Threat</i>
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FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Insider Threat</i>	
Production Development	
<i>National Center for Credibility Assessment</i>	
Production Development	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Insider Threat</i>	
Production Development	
<i>National Center for Credibility Assessment</i>	
Production Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305327V / <i>Insider Threat</i>	Project (Number/Name) 002 / <i>Insider Threat</i>
--	---	---

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Insider Threat</i>				
Production Development	4	2015	4	2020
<i>National Center for Credibility Assessment</i>				
Production Development	3	2021	4	2022

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 8: Software and Digital Technology Pilot Programs</i>	R-1 Program Element (Number/Name) PE 0608197V / <i>National Background Investigation Services - Software Pilot Program</i>
--	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	109.676	123.570	-	123.570	-	-	-	-	Continuing	Continuing
000: <i>National Background Investigation Services - Software Pilot Program</i>	0.000	0.000	109.676	123.570	-	123.570	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Counterintelligence and Security Agency (DCSA) acquires, develops, and deploys software to support the development of a modernized Federal Government background investigations information technology (IT) system(s) to replace the current OPM legacy IT systems and provide a highly secured infrastructure. DoD assumed modernization efforts beginning in FY 2017, as decided by the Interagency Deputies Committee and the Office of Management and Budget (OMB). Funds support the development, sustainment, technical refresh of hardware and software, Cloud migration, and program management costs to develop and field a modernized Federal Investigation System. This modernized data architecture will leverage and extend the existing secure Information Technology capabilities inherent to DoD infrastructure to the federal-wide background investigation processes and data archives. This approach will provide essential security information, protect the identities, lives, and livelihoods of the BI applicants and the family members and associates identified as part of BI records. The aim is to avert or eliminate the continuous and dynamic threat of identity theft, financial espionage and other attacks on this personal information, while providing a secure basis for background investigations necessary to Federal and DoD operations.

Using proven data architecture and prioritizing security, DCSA will leverage critical and inherent information technology (IT) security capabilities; identify means and methods to efficiently and securely access digital services; enhance systems necessary to operate the background investigation processes and associated vast reservoirs of data and interfaces; provide Government-wide tools to assist agencies with workforce management; and, develop and provide investigative products that comply with the new, Federal Investigations Standards and Workforce 2.0. Resources will be used to implement and sustain agency network upgrades and security software maintenance to ensure a stronger, more reliable, and better protected network architecture for conducting background investigations. Costs include program management activities, payroll for security specialists, engineers, data architects, and business process management activities to develop, test, and deploy the new capability. As capabilities are fielded NBIS and DCSA will provide system maintenance, security licenses and operational support to the system and users worldwide.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Counterintelligence and Security Agency	Date: May 2021
--	-----------------------

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 8: Software and Digital Technology Pilot Programs</i>	R-1 Program Element (Number/Name) PE 0608197V / <i>National Background Investigation Services - Software Pilot Program</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	121.676	123.570	-	123.570
Current President's Budget	0.000	109.676	123.570	-	123.570
Total Adjustments	0.000	-12.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-12.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

The NBIS will provide a secure end-to-end IT architecture for USG Personnel Vetting Enterprise. The increase from FY2021 provides investigative, adjudicative and continuous vetting capabilities consistent with emerging Trusted Workforce 2.0 requirements. Fielding phased NBIS-based capabilities will reduce and then eliminate the inefficient and more costly manual processes by employing state of the art workflow systems and automated record checking. NBIS eliminates security vulnerabilities and incorporates enhanced security architecture and processes. This allows NBIS to integrate deferred capabilities due to the FY21 reduction into the four releases scheduled in FY2022. The DoD and Federal customers have identified requirements for Mirador migration and integration, alert management, identity validation, case management for levels 1-3, automated records check of data sources, predictive analytics, and automated decision tools. This increase facilitates accomplishing Background Investigations Initial Operating Capability in late 3QFY22.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 8					R-1 Program Element (Number/Name) PE 0608197V / National Background Investigation Services - Software Pilot Program				Project (Number/Name) 000 / National Background Investigation Services - Software Pilot Program			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000: National Background Investigation Services - Software Pilot Program	0.000	0.000	109.676	123.570	-	123.570	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Counterintelligence and Security Agency acquires, develops, and deploys software and manages digital talent. The National Background Investigation Services (NBIS) will be used in support of the government-wide background investigation process; replacing the OPM's case management legacy systems that were breached in 2015. The NBIS enhances security, meets new policy requirements, reduces the backlog of pending cases, and realizes cost avoidance as legacy systems are retired. The system establishes and streamlines the requirements intake (software factory model), implements the DevSecOps pipeline, standardizes test processes, automates unit component, and integration testing, implements cyber processes to achieve continuous ATO, consolidates help desk activities, and enhances monitoring capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Software Pilot Program	-	109.676	123.570
<p>Description: The Defense Counterintelligence and Security Agency acquires, develops, and deploys software and manages digital talent. The National Background Investigation Services (NBIS) will be used in support of government-wide background investigation process; replacing the OPM's legacy systems that were breached in 2015. The objectives of NBIS enhances security, meets new policy requirements, reduces the backlog of pending cases, and realizes cost avoidance as legacy systems are retired. The system establishes and streamlines the requirements intake (software factory model), implements the DevSecOps pipeline, standardizes test processes, automates unit component, and integration testing, implements cyber processes to achieve continuous ATO, consolidates help desk activities, and enhances monitoring capabilities.</p> <p>FY 2021 Plans: FY 2021 O&M Plans: \$83.176 NBIS will continue to provide support functions for DMDC capabilities that are running in the DISA Data Centers along with the COOP to ensure continuous operations in event of system failure. NBIS will leverage programmatic, operations and support contracts to provide Program Control, Financial and Budget support as well as the Operations functions to support the Cloud environment and transition of existing and new services into the Gov Cloud environments. NBIS will provide travel, non-centralized training, credit card, supplies, new laptops, Joint Enterprise Licensing Agreement (JELA) costs, and common licensing costs in support of running a PEO and Program Office. Finally, in FY2021 NBIS will pay any residual moving costs required for the</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0608197V / <i>National Background Investigation Services - Software Pilot Program</i>	Project (Number/Name) 000 / <i>National Background Investigation Services - Software Pilot Program</i>

B. Accomplishments/Planned Programs (\$ in Millions)

transition from the DISA campus to a DCSA facility. Additionally, under Budget Authority (BA) 8, the previous BA4 funds will be capitalized to offset the shortfalls in the previous BA7 funds to continue development of the evolving Investigation Services.

FY 2021 RDT&E Plans: \$38.500

DoD will continue to develop, enhance and improve the capabilities. As part of an Agile development process, the National Background Investigation System (NBIS) will deploy additional releases in FY21 to improve automation of the background investigation process, improve analytics to address insider threat analysis, improve continuous evaluation capabilities, and develop capabilities to meet additional Federal Agency requirements (e.g., Trusted Workforce 2.0). The system will continue to defend against cyber-attacks and improve defensibility by meeting new and evolving threats. Specifically, NBIS will continue to support Investigation Management (IM) Development for automation, new models, rules engines, and algorithms for optimization of assignments (i.e., continuous development); continue evolving the automation of IT infrastructure and DevSecOps tools and processes; implement Security Enterprise Architecture and Data Services to develop the capability to re-use data and analytics across multiple security missions, all while, simplifying system security and user access; supporting business transformation and late-derived requirements, technology change management, and Tier support for the NBIS Customers; identifying, developing, and testing multiple prototype efforts; and continuing to evolve and execute the adjusted implementation strategy based on lessons learned from prototype efforts and results of independent assessments.

FY 2022 Plans:

FY 2022 O&M Plans: \$57,767

NBIS will continue to support DMDC capabilities that are running in the DISA Data Centers used by the NBIS and legacy services along with the COOP function. The PEO NBIS will continue to fund programmatic and operations and support contracts to provide Program Control, Financial and Budget support as well as the Operations functions to support the Cloud environment and transition of existing and new services into the GovCloud platform. NBIS will fund travel, non-centralized training, credit card, supplies, new laptops, Joint Enterprise Licensing Agreement (JELA) costs, and common licensing costs in support of running a PEO and Program Office.

FY2022 RDT&E Plans: \$65,803

The NBIS Investigations Management services will be supporting investigations and adjudications while additional development is being performed to optimize workflows, implement customer required enhancements, and refine existing analytics and develop additional analytics to meet customer requirements. Processes and services will be developed to safely, securely, and completely transfer completed investigation and adjudication data from the legacy systems into the secure NBIS data repositories. Development will continue for the transfer of Fingerprint operations from legacy services and data repositories into the Gov

FY 2020	FY 2021	FY 2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0608197V / <i>National Background Investigation Services - Software Pilot Program</i>	Project (Number/Name) 000 / <i>National Background Investigation Services - Software Pilot Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>Cloud environments data repositories and the on-boarding of Data Sources will continue. NBIS will continue work on the multi-classification environment to place NBIS services on the main DoD networks while also supporting the Federal workforce.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The NBIS will provide a secure end-to-end IT architecture for USG Personnel Vetting Enterprise. The increase from FY2021 provides investigative, adjudicative and continuous vetting capabilities consistent with emerging Trusted Workforce 2.0 requirements. Fielding phased NBIS-based capabilities will reduce and then eliminate the inefficient and more costly manual processes by employing state of the art workflow systems and automated record checking. NBIS eliminates security vulnerabilities and incorporates enhanced security architecture and processes.</p>				
Accomplishments/Planned Programs Subtotals		-	109.676	123.570
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Counterintelligence and Security Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0608197V / <i>National Background Investigation Services - Software Pilot Program</i>	Project (Number/Name) 000 / <i>National Background Investigation Services - Software Pilot Program</i>
--	--	--

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Key Capability Development	TBD	TBD : TBD	-	-		60.596		59.037		-		59.037	Continuing	Continuing	-
Testing & Cyber Assessment	MIPR	DISA : JITC	-	-		5.873		5.887		-		5.887	Continuing	Continuing	-
Infrastructure	MIPR	TBD : TBD	-	-		25.566		30.592		-		30.592	Continuing	Continuing	-
Mission Support	TBD	TBD : TBD	-	-		9.082		17.669		-		17.669	Continuing	Continuing	-
Program Management Support	TBD	TBD : TBD	-	-		8.559		10.385		-		10.385	Continuing	Continuing	-
Subtotal			-	-		109.676		123.570		-		123.570	Continuing	Continuing	N/A

Remarks
 The Defense Counterintelligence and Security Agency (DCSA) acquires, develops, and deploys software to support the agile development of a modernized Federal Government background investigations information technology (IT) system(s) to replace the legacy OPM background investigative legacy IT systems, and provide a highly secured infrastructure. DoD assumed modernization efforts beginning in FY 2017, as decided by the Interagency Deputies Committee and the Office of Management and Budget (OMB). These Funds support the DevSecOps development, sustainment, technical refresh of hardware and software, Cloud migration, and program management costs to develop and field a modernized digital Federal Investigation System (FIS). This modernized data architecture leverages and extends the existing secure cloud-based Information Technology capabilities inherent to DoD infrastructure for the FIS enterprise service to the other Federal Agencies for their federal-wide background investigation processes and data archive purposes. This approach will securely provide essential security information and protect the identities, lives, and livelihoods of the BI applicants, their family members, and associates who are identified as part of BI records. The aim is to avert the continuous and dynamic threat of identity theft, financial espionage and other attacks on personal information, while providing a secure basis for background investigations necessary to Federal and DoD operations.

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	109.676	123.570	-	123.570	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0608197V / <i>National Background Investigation Services - Software Pilot Program</i>	Project (Number/Name) 000 / <i>National Background Investigation Services - Software Pilot Program</i>

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Key Capability Development																												
Key Capability Development									[REDACTED]																			
Testing & Cyber Assessment																												
Testing & Cyber Assessment									[REDACTED]																			
Infrastructure																												
Infrastructure									[REDACTED]																			
Mission Support																												
Mission Support									[REDACTED]																			
Program Management Support																												
Program Management Support									[REDACTED]																			
Program Support																												
Program Management Support									[REDACTED]																			
Capability Development																												
Key Capability Development									[REDACTED]																			
Cyber Assessment & testing																												
Cyber Assessment & testing									[REDACTED]																			
Infrastructure support																												
Infrastructure support									[REDACTED]																			
Support Mission																												
Support Mission									[REDACTED]																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Counterintelligence and Security Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0608197V / <i>National Background Investigation Services - Software Pilot Program</i>	Project (Number/Name) 000 / <i>National Background Investigation Services - Software Pilot Program</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Key Capability Development				
Key Capability Development	4	2021	4	2023
Testing & Cyber Assessment				
Testing & Cyber Assessment	4	2021	3	2023
Infrastructure				
Infrastructure	4	2021	4	2023
Mission Support				
Mission Support	4	2021	4	2023
Program Management Support				
Program Management Support	4	2021	4	2023
Program Support				
Program Management Support	2	2022	4	2024
Capability Development				
Key Capability Development	3	2022	3	2025
Cyber Assessment & testing				
Cyber Assessment & testing	2	2022	3	2024
Infrastructure support				
Infrastructure support	3	2022	3	2025
Support Mission				
Support Mission	2	2022	4	2024

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Defense Information Systems Agency

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Defense Information Systems Agency • Budget Estimates FY 2022 • RDT&E Program

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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	510,009	390,750	377,812
Total Research, Development, Test & Evaluation	510,009	390,750	377,812

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
System Development & Demonstration	1,262		
Management Support	61,757	96,823	76,775
Operational Systems Development	446,990	218,177	81,624
Software And Digital Technology Pilot Programs		75,750	219,413
Total Research, Development, Test & Evaluation	510,009	390,750	377,812
Summary Recap of FYDP Programs			
General Purpose Forces	67,128	59,813	55,361
Intelligence and Communications	249,054	185,848	121,444
Research and Development	183,834	137,058	196,672
Central Supply and Maintenance	1,361	1,654	1,690
Administration and Associated Activities	3,090	3,138	2,645
Space	5,542	3,239	
Total Research, Development, Test & Evaluation	510,009	390,750	377,812

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
System Development & Demonstration	1,262		
Management Support	61,757	96,823	76,775
Operational Systems Development	446,990	218,177	81,624
Software And Digital Technology Pilot Programs		75,750	219,413
Total Research, Development, Test & Evaluation	510,009	390,750	377,812
 Summary Recap of FYDP Programs -----			
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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Defense Information Systems Agency	510,009	390,750	377,812
Total Research, Development, Test & Evaluation	510,009	390,750	377,812

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	S e c
146	0303141K	Global Combat Support System	05	1,262			U
		System Development & Demonstration		1,262			
184	0208045K	C4I Interoperability	06		59,813	55,361	U
190	0305172K	Combined Advanced Applications	06	58,667	30,824	15,696	U
192	0305208K	Distributed Common Ground/Surface Systems	06		3,048	3,073	U
198	0903235K	Joint Service Provider (JSP)	06	3,090	3,138	2,645	U
		Management Support		61,757	96,823	76,775	
201	0604532K	Joint Artificial Intelligence	07	183,834	137,058	10,033	U
209	0208045K	C4I Interoperability	07	67,128			U
213	0302019K	Defense Info Infrastructure Engineering and Integration	07	10,798	16,324	16,233	U
214	0303126K	Long-Haul Communications - DCS	07	11,749	11,884	10,275	U
215	0303131K	Minimum Essential Emergency Communications Network (MEECN)	07	17,699	5,560	4,892	U
219	0303140K	Information Systems Security Program	07	39,798	8,922	5,707	U
220	0303150K	Global Command and Control System	07	14,534	3,695	4,150	U
221	0303153K	Defense Spectrum Organization	07	19,212	20,113	19,302	U
222	0303228K	Joint Regional Security Stacks (JRSS)	07	16,869	9,728	9,342	U
223	0303430K	Federal Investigative Services Information Technology	07	44,001			U
225	0303467K	SENSR Spectrum Pipeline SRF	07	11,484			U
241	0305208K	Distributed Common Ground/Surface Systems	07	2,981			U
253	0708012K	Logistics Support Activities	07	1,361	1,654	1,690	U

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 4, 2021 at 09:07:38

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Sec
269	1203610K	Teleport Program	07	5,542	3,239		U
		Operational Systems Development		446,990	218,177	81,624	
270	0604532K	Joint Artificial Intelligence	08			186,639	U
273	0303150K	Global Command and Control System	08		75,750	32,774	U
		Software And Digital Technology Pilot Programs			75,750	219,413	
Total Research, Development, Test & Eval, DW				510,009	390,750	377,812	

Defense Information Systems Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	\$ e c
146	0303141K	Global Combat Support System	05	1,262			U
		System Development & Demonstration		1,262			
184	0208045K	C4I Interoperability	06		59,813	55,361	U
190	0305172K	Combined Advanced Applications	06	58,667	30,824	15,696	U
192	0305208K	Distributed Common Ground/Surface Systems	06		3,048	3,073	U
198	0903235K	Joint Service Provider (JSP)	06	3,090	3,138	2,645	U
		Management Support		61,757	96,823	76,775	
201	0604532K	Joint Artificial Intelligence	07	183,834	137,058	10,033	U
209	0208045K	C4I Interoperability	07	67,128			U
213	0302019K	Defense Info Infrastructure Engineering and Integration	07	10,798	16,324	16,233	U
214	0303126K	Long-Haul Communications - DCS	07	11,749	11,884	10,275	U
215	0303131K	Minimum Essential Emergency Communications Network (MEECN)	07	17,699	5,560	4,892	U
219	0303140K	Information Systems Security Program	07	39,798	8,922	5,707	U
220	0303150K	Global Command and Control System	07	14,534	3,695	4,150	U
221	0303153K	Defense Spectrum Organization	07	19,212	20,113	19,302	U
222	0303228K	Joint Regional Security Stacks (JRSS)	07	16,869	9,728	9,342	U
223	0303430K	Federal Investigative Services Information Technology	07	44,001			U
225	0303467K	SENSR Spectrum Pipeline SRF	07	11,484			U
241	0305208K	Distributed Common Ground/Surface Systems	07	2,981			U
253	0708012K	Logistics Support Activities	07	1,361	1,654	1,690	U
269	1203610K	Teleport Program	07	5,542	3,239		U

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 4, 2021 at 09:07:38

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Defense Information Systems Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	S e c
		Operational Systems Development		446,990	218,177	81,624	
270	0604532K	Joint Artificial Intelligence	08			186,639	U
273	0303150K	Global Command and Control System	08		75,750	32,774	U
		Software And Digital Technology Pilot Programs			75,750	219,413	
Total Defense Information Systems Agency				510,009	390,750	377,812	

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Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
146	05	0303141K	Global Combat Support System.....	Volume 5 - 137

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
184	06	0208045K	C4I Interoperability.....	Volume 5 - 145
190	06	0305172K	Combined Advanced Applications.....	Volume 5 - 153
192	06	0305208K	Distributed Common Ground/Surface Systems.....	Volume 5 - 157
198	06	0903235K	Joint Service Provider.....	Volume 5 - 161

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Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
201	07	0604532K	Joint Artificial Intelligence Center (JAIC).....	Volume 5 - 165
209	07	0208045K	C4I Interoperability.....	Volume 5 - 175
213	07	0302019K	Defense Info. Infrastructure Engineering and Integration.....	Volume 5 - 195
214	07	0303126K	Long-Haul Communications - DCS.....	Volume 5 - 221
215	07	0303131K	Minimum Essential Emergency Communications Network (MEECN).....	Volume 5 - 239
219	07	0303140K	Information Systems Security Program.....	Volume 5 - 249
220	07	0303150K	Global Command and Control System.....	Volume 5 - 259
221	07	0303153K	Defense Spectrum Organization.....	Volume 5 - 271
222	07	0303228K	Joint Information Environment.....	Volume 5 - 283
223	07	0303430K	Federal Investigative Services Information Technology.....	Volume 5 - 289
225	07	0303467K	Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund.....	Volume 5 - 295
241	07	0305208K	Distributed Common Ground/Surface Systems.....	Volume 5 - 301
253	07	0708012K	Logistics Support Activities.....	Volume 5 - 307
269	07	1203610K	Teleport Program.....	Volume 5 - 313

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Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
270	08	0604532K	Joint Artificial Intelligence.....	Volume 5 - 325
273	08	0303150K	Global Command and Control System Software and Digital Technology Pilot Programs	Volume 5 - 333

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Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
C4I Interoperability	0208045K	184	06.....	Volume 5 - 145
C4I Interoperability	0208045K	209	07.....	Volume 5 - 175
Combined Advanced Applications	0305172K	190	06.....	Volume 5 - 153
Defense Info. Infrastructure Engineering and Integration	0302019K	213	07.....	Volume 5 - 195
Defense Spectrum Organization	0303153K	221	07.....	Volume 5 - 271
Distributed Common Ground/Surface Systems	0305208K	192	06.....	Volume 5 - 157
Distributed Common Ground/Surface Systems	0305208K	241	07.....	Volume 5 - 301
Federal Investigative Services Information Technology	0303430K	223	07.....	Volume 5 - 289
Global Combat Support System	0303141K	146	05.....	Volume 5 - 137
Global Command and Control System	0303150K	220	07.....	Volume 5 - 259
Global Command and Control System Software and Digital Technology Pilot Programs	0303150K	273	08.....	Volume 5 - 333
Information Systems Security Program	0303140K	219	07.....	Volume 5 - 249
Joint Artificial Intelligence	0604532K	270	08.....	Volume 5 - 325
Joint Artificial Intelligence Center (JAIC)	0604532K	201	07.....	Volume 5 - 165
Joint Information Environment	0303228K	222	07.....	Volume 5 - 283
Joint Service Provider	0903235K	198	06.....	Volume 5 - 161

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Program Element Title	Program Element Number	Line #	BA	Page
Logistics Support Activities	0708012K	253	07.....	Volume 5 - 307
Long-Haul Communications - DCS	0303126K	214	07.....	Volume 5 - 221
Minimum Essential Emergency Communications Network (MEECN)	0303131K	215	07.....	Volume 5 - 239
Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund	0303467K	225	07.....	Volume 5 - 295
Teleport Program	1203610K	269	07.....	Volume 5 - 313

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0303141K / <i>Global Combat Support System</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	270.621	1.262	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
CS01: <i>Global Combat Support System</i>	270.621	1.262	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Program MDAP/MAIS Code: 483

A. Mission Description and Budget Item Justification

Global Combat Support System - Joint (GCSS-J), is a key enabler for achieving Focused Logistics and is essential during peace, contingency, crisis, and war in support of the joint warfighter across the full range of military operations. GCSS-J, the Logistics System of Record, provides a Joint Logistics Common Operational Picture to ensure the right personnel, equipment, supplies, and support are in the right place at the right time and in the right quantities to mobilize, move, and sustain all elements of operating forces within a theater or operational area.

GCSS-J gathers data from authoritative sources to provide a fused, integrated, near real-time, multidimensional view of combat support and combat service support across joint capability areas. These efforts provide situational awareness of the battlespace and logistics pipeline (e.g., supply, deployment and distribution, engineering, etc.). Using GCSS-J, the joint logistics warfighter no longer needs to log into multiple legacy systems and manually gather data to compile reports. GCSS-J provides real time actionable information in the form of watchboards (e.g., fuels and munitions watchboards) and near real time information in the form of reports and mapping visualizations.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	1.262	0.000	0.000	-	0.000
Current President's Budget	1.262	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

No vertical statement required.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0303141K / <i>Global Combat Support System</i>				Project (Number/Name) CS01 / <i>Global Combat Support System</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
CS01: <i>Global Combat Support System</i>	270.621	1.262	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Global Combat Support System – Joint (GCSS-J) provides the warfighter with a single, end-to-end capability to manage and monitor personnel and equipment through the mobilization process. GCSS-J, the Logistics' System of Record, provides a Joint Logistics Common Operational Picture (JLogCOP), ensuring the right personnel, equipment, supplies, and support are in the right place, at the right time, and in the right quantities across the full spectrum of military operations.

GCSS-J gathers data from authoritative sources to provide fused, integrated, near real-time multidimensional view of combat support and combat service support across joint capability areas. These efforts provide situational awareness of the battlespace and logistics pipeline (e.g., Supply, Deployment and Distribution, Engineering, etc.). Using GCSS-J, the joint logistics warfighter no longer needs to log into multiple legacy systems and manually gather data to compile reports. GCSS-J provides real-time in the form of reports and mapping visualizations.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Global Combat Support System-Joint	1.262	-	-
Description: GCSS-J is a key enabler for achieving Focused Logistics and is essential during peace, contingency, crisis, and war in support of the joint warfighter across the full range of military operations. GCSS-J, the Logistics System of Record, provides a Joint Logistics Common Operational Picture (LogCOP) to ensure the right personnel, equipment, supplies, and support are in the right place at the right time and in the right quantities to mobilize, move, and sustain all elements of operating forces within a theater or operational area.			
Accomplishments/Planned Programs Subtotals	1.262	-	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• O&M, DW/PE 0303141K: O&M, DW	14.717	-	-	-	-	-	-	-	-	14.717	0.000

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0303141K / <i>Global Combat Support System</i>	Project (Number/Name) CS01 / <i>Global Combat Support System</i>

D. Acquisition Strategy
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0303141K / <i>Global Combat Support System</i>	Project (Number/Name) CS01 / <i>Global Combat Support System</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development 1	C/T&M	Enterworks : Sterling, VA	8.745	-		-		-		-		-	0.000	8.745	8.745
Product Development 2	C/T&M	WFI (DSI) : Manassas, VA	4.125	-		-		-		-		-	0.000	4.125	4.125
Product Development 3	C/CPAF	NGIT : Herndon, VA	127.849	-		-		-		-		-	0.000	127.849	127.849
Product Development 4	C/T&M	SAIC : Falls Church, VA	17.061	-		-		-		-		-	0.000	17.061	17.061
Product Development 5	C/FFP	NGIT, : Reston, VA	27.051	-		-		-		-		-	0.000	27.051	27.051
Product Development 6	SS/FFP	UNISYS, : Falls Church, VA	16.472	-		-		-		-		-	0.000	16.472	16.472
Product Development 7	MIPR	FGM, : Reston, VA	5.482	-		-		-		-		-	0.000	5.482	5.482
Product Development 8	SS/FFP	Merlin, : McLean, VA	1.664	-		-		-		-		-	0.000	1.664	1.664
Product Development 9	MIPR	JDTC, : Ft. Eustis, VA	2.423	-		-		-		-		-	0.000	2.423	2.423
Product Development 10	MIPR	CSC, : Norfolk, VA	0.300	-		-		-		-		-	0.000	0.300	0.300
Product Development 11	C/FFP	Pragmatics : Reston, VA	15.968	0.722	May 2020	-		-		-		-	0.000	16.690	17.266
Subtotal			227.140	0.722		-		-		-		-	0.000	227.862	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation 1	C/CPFF	COMTEK, : Sterling, VA	3.902	-		-		-		-		-	0.000	3.902	3.902
Test & Evaluation 2	MIPR	SSO, : Montgomery	0.500	-		-		-		-		-	0.000	0.500	0.500
Test & Evaluation 3	MIPR	DIA : WDC	3.785	-		-		-		-		-	0.000	3.785	3.785
Test & Evaluation 4	C/CPFF	Pragmatics : Pragmatics	1.684	-		-		-		-		-	0.000	1.684	1.684
Test & Evaluation 5	C/CPFF	AAC, Inc., : Vienna, VA	2.790	-		-		-		-		-	0.000	2.790	2.790

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0303141K / <i>Global Combat Support System</i>	Project (Number/Name) CS01 / <i>Global Combat Support System</i>
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation 6	MIPR	JITC, : Ft. Huachuca, AZ	8.718	0.300	Oct 2019	-		-		-		-	0.000	9.018	9.018
Test & Evaluation 7	MIPR	STRATCOM (DAA) : Bolling AFB, DC	1.289	0.170	Oct 2019	-		-		-		-	0.000	1.459	1.459
Test & Evaluation 8	MIPR	DISA (TE LAB Support) : Fort Meade, MD	1.659	0.070	Oct 2019	-		-		-		-	0.000	1.729	1.729
Test & Evaluation 9	MIPR	DISA FSO Security Testing Support : Fort Meade, MD	0.350	-		-		-		-		-	0.000	0.350	0.350
Subtotal			24.677	0.540		-		-		-		-	0.000	25.217	N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services 1	FFRDC	MITRE, : Vienna, VA	16.934	-		-		-		-		-	0.000	16.934	16.934
Management Services 2	SS/CPFF	UMD, : Eastern Shore, MD	1.021	-		-		-		-		-	0.000	1.021	1.021
Management Services 3	MIPR	IDA, : Alexandria, VA	0.749	-		-		-		-		-	0.000	0.749	0.749
Management Services 4	MIPR	JFCOM, : Norfolk, Va	0.100	-		-		-		-		-	0.000	0.100	0.100
Subtotal			18.804	-		-		-		-		-	0.000	18.804	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	270.621	1.262	0.000	-	-	-	0.000	271.883	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0303141K / <i>Global Combat Support System</i>	Project (Number/Name) CS01 / <i>Global Combat Support System</i>

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

System Development & Testing - Increment 8	
Full Deployment Decision - Increment 8	

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

System Development & Testing - Increment 8	
Full Deployment Decision - Increment 8	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0303141K / <i>Global Combat Support System</i>	Project (Number/Name) CS01 / <i>Global Combat Support System</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
System Development & Testing - Increment 8	2	2017	4	2020
Full Deployment Decision - Increment 8	4	2019	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	59.813	55.361	-	55.361	-	-	-	-	Continuing	Continuing
T-30: MRTFB Test and Evaluation	0.000	0.000	7.831	1.790	-	1.790	-	-	-	-	Continuing	Continuing
T-40: Major Range Test Facility Base Operations	0.000	0.000	51.982	53.571	-	53.571	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Information Systems Agency's Joint Interoperability Test Command (JITC) serves as the only joint element of the Department of Defense's (DoD's) Major Range and Test Facility Base (MRTFB) that is operated primarily for Information Technology and National Security Systems (IT/NSS) Test and Evaluation (T&E) support missions. JITC executes the T&E mission in support of Command, Control, Communications, Computers and Intelligence (C4I), and is the DoD's Sole Interoperability Certifier and the only Non-Service Operational Test Agency.

With a focus on T&E for IT, JITC has the unique mission to provide consistent, structured, and effective T&E services that include converged information environment, Cyber, Cloud services, Mobility and NSS. JITC also has the responsibility for ensuring Joint/Coalition interoperability; issuing interoperability certifications; conducting operational evaluations; maintaining a federated IT infrastructure as a MRTFB activity and providing direct interoperability support to the warfighter by ensuring Joint warfighting capabilities are interoperable and support mission needs.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	59.813	55.938	-	55.938
Current President's Budget	0.000	59.813	55.361	-	55.361
Total Adjustments	0.000	0.000	-0.577	-	-0.577
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.577	-	-0.577

Change Summary Explanation

The decrease in FY 2022 of -0.577 is due to a reduction in technical contract support.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability				Project (Number/Name) T-30 / MRTFB Test and Evaluation			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T-30: MRTFB Test and Evaluation	0.000	0.000	7.831	1.790	-	1.790	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Information Systems Agency (DISA), through the Joint Interoperability Test Command (JITC), manages the Department’s Interoperability Test, Evaluation, and Certification process that is structured to provide meaningful and independent test results in order to increase stakeholder confidence. The objectives, of the Test and Evaluation (T&E) activities, are to validate that DISA’s (and the Department’s, where appropriate) deliverables have met operational requirements. The T&E activities target evaluation strategies in the design, development, operational, integration and/or sustainment aspects of every program requiring support. DISA’s T&E efforts span a variety of test categories supporting DISA’s delivery of Department-wide enterprise solutions as well as Service, Agency, and mission partner developmental, operational, Information Assurance, and interoperability testing, validation and certification efforts. These efforts are focused on T&E for Information Technology (IT) that includes the Joint Information Environment (JIE), Cyber, Cloud services, and Mobility.

As the Department of Defense (DoD) Joint Interoperability Certification Authority, JITC annually:

- Issues hundreds of interoperability testing and certification related products.
- Manages the scheduling and executes multiple annual distributed Joint Tactical Data Link hardware in the loop interoperability test events. These events are designed to evaluate, certify and re-certify Service/Agency Tactical Data systems.
- Reviews hundreds of Joint Capabilities Integration and Development System documents, interoperability support plans and Legacy Waiver requests on behalf of the DoD Chief Information Officer (CIO) and the Joint Staff.
- Serves as executive agent to DoD Interoperability Steering Group, in support of the DoD CIO, and uses this forum to coordinate policy, adjudicate issues, and to process Interim Certificates to Operate.
- Ensures interoperability test and certification standard practices and procedures are in accordance with DoD policy, and reviews and issues over 600 Joint interoperability certifications annually for DoD’s Information Technology and National Security Systems (IT/NSS).
- Manages the scheduling and prioritization of multiple annual distributed Joint Tactical Data Link simulated test events using real components (hardware in the loop interoperability test events) designed to evaluate, certify and re-certify Service/Agency Tactical systems.

JITC provides interoperability test support to Joint, Coalition and Allied operations in theater by providing Interoperability test support within the area of responsibility and supports exercises intended to evaluate Joint, Coalition and Allied operations in, or planning to deploy to theater by:

- Providing on-demand rapid response contingency support to Regional Combatant Commands (COCOMs) as required, and conducting assessments of interoperability exercises.
- Conducting assessments during one of the largest interoperability exercises (the Endeavors).
- Broadening its support to the Joint Staff and functional COCOMs with a multitude of interoperability assessment services.
- Maintaining a 24x7 Warfighter Command, Control, Communications, Computers and Intelligence (C4I) Interoperability Hotline that connects warfighters to subject matter experts to resolve IT interoperability challenges.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0208045K / <i>C4I Interoperability</i>	Project (Number/Name) T-30 / <i>MRTFB Test and Evaluation</i>
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- Establishing the framework for the conduct of annual independent evaluations and the status of interoperability through DoD Interoperability Communications Exercises (DICE).
- Emulating a distributed Joint Task Force network, providing realism and operational significance during the assessments and evaluations of data integrity, interfacing and responsiveness coupled with efficient configuration tactics, techniques, and procedures.
- Including first responder local and federal communications as part of the task force.

As the only non-Service Operational Test Agency (OTA) within DoD, JITC conducts operational testing of IT/NSS under realistic conditions to determine the operational effectiveness, suitability, interoperability, and security; and independently assesses the operational impact of system issues on mission accomplishment. JITC is the OTA for DISA-managed programs, and also upon request serves as the OTA for other Agencies such as the Defense Logistics Agency, Department of Homeland Security, and the National Security Agency.

JITC designs Operational Test and Evaluation (OT&E) events to determine if IT/NSS meet user requirements, offering sustaining support services to users to assist Acquisition Program Managers with meeting their overall milestone objectives.

JITC focuses its efforts towards core T&E improvements, better T&E policy for IT/NSS and designing new test methodologies to better assess Enterprise Service systems, aligning with the Information Technology Service Management model evaluating fulfillment services for suitability.

The T&E project supports the strategy development and investment plans in support of maintaining, improving and operating the DISA Major Range and Test Facility Base (MRTFB). Specific goals for DISA's MRTFB each year are to:

- Integrate evolving technologies that are able to leverage efficiencies such as virtualization, enterprise elements such as Infrastructure as a Service and Platform as a Service, and the foundational Cyber assets mandated by the JIE.
- Expand test infrastructure and operations to allow for rapid, on-demand provisioning, and federation across the DoD and Cyber integration with enterprise environments.
- Design consistent, repeatable test methodologies that ensure efficient T&E on changing or emerging technologies.
- Provide T&E guidance/oversight to nearly 130 DISA programs, creating synergy and efficiencies across the large DISA IT portfolio, gaining insight in new technologies and commercial best practices.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: DoD's Joint Interoperability Certification Authority</p> <p>Description: Plans and executes interoperability certifications for Department of Defense's (DoD) Information Technology and National Security Systems (IT/NSS) by evaluating joint military operations, conformance to standards, and participating in developmental testing or executing purposefully planned Interoperability Test Events.</p> <p>FY 2021 Plans:</p>	-	6.911	0.870

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T-30 / MRTFB Test and Evaluation
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Will evolve customer accessibility through enhanced T&E capabilities by employing automation technologies to include cloud services. Continue to reduce risk and identify/analyze trends by employing new technology and methodology to conduct data analysis in the operational environment.</p> <p>FY 2022 Plans: Continue to evolve customer accessibility through enhanced T&E capabilities by employing automation technologies to include cloud services. Continue to reduce risk and identify/analyze trends by employing new technology and methodology to conduct data analysis in the operational environment.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$6.041 from FY 2021 to FY 2022 is due to the realignment of 1) civilian pay from T-30 (MRTFB Test and Evaluation) to T-40 (Major Range Test Facility Base Operations) to reflect civilian pay in one project (-\$5.781). A decrease of -\$0.260 is a result of a delay in deployment of automation technologies.</p>			
<p>Title: Operational Test and Evaluation</p> <p>Description: Conduct operational testing of IT/NSS under realistic operational conditions to determine the operational effectiveness, suitability, interoperability, and security of a particular system. Independently assesses the operational impact of system issues on mission accomplishment.</p> <p>FY 2021 Plans: Will enhance OT&E processes, procedures, and tools by increasing automation and utilizing virtualization as needed, to better evaluate performance and to improve operational testing capabilities for evolving requirements. Provide OT&E support to COCOMs, Military Services, and Defense Agencies as requested.</p> <p>FY 2022 Plans: Continue to evolve customer accessibility through enhanced T&E capabilities by employing automation technologies to include cloud services. Continue to reduce risk and identify/analyze trends by employing new technology and methodology to conduct data analysis in the operational environment.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: N/A</p>	-	0.800	0.800
<p>Title: Support to Warfighter</p> <p>Description: Provides pre/post-production evaluations including: collecting relevant data during a continuous monitoring effort, and providing on-the-spot evaluations of problem areas and viable mission-oriented solutions to warfighting COCOMs during exercises and contingency operations.</p> <p>FY 2021 Plans:</p>	-	0.120	0.120

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T-30 / MRTFB Test and Evaluation

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Support will focus primarily on the Asia Pacific region, consistent with the National Defense Strategy. Will sustain a Warfighter Support capability sufficient to respond to critical fielded system issues only. FY 2022 Plans: Support will focus primarily on the Asia Pacific region, consistent with the National Defense Strategy. Will sustain a Warfighter Support capability sufficient to respond to critical fielded system issues only. FY 2021 to FY 2022 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	-	7.831	1.790

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Test, Evaluation, and Certification (TEC) indefinite delivery/indefinite quantity contract provides T&E support by performing a wide range of non-personal services to encompass testing, scientific, engineering, logistic, administrative, and ancillary support of the DISA T&E missions. The TEC contract provides for expansion and contraction of staff years as workload dictates. An additional contract is a Federal Preferential Sole Source Procurement set-aside which provides consolidated facilities support.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability				Project (Number/Name) T-40 / Major Range Test Facility Base Operations			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T-40: Major Range Test Facility Base Operations	0.000	0.000	51.982	53.571	-	53.571	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As the only non-Service activity of the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB), Defense Information Systems Agency (DISA) provides the only dedicated Information Technology (IT) environment investing in a single end-to-end infrastructure for testing the Enterprise Edge to the Tactical Edge. As an MRTFB, Joint Interoperability Test Command (JITC) provides tested IT infrastructure products to the DoD, Federal/non-Federal Government, Commercial vendors, and Allied partners.

The DISA MRTFB infrastructure:

- Encompasses two geographic locations (Ft. Huachuca, AZ; Ft. Meade, MD).
- 116K square feet of raised floor space comprised of multiple test environments and test networks supporting over 100 programs on an annual basis.
- Complies with multiple levels of security and is scaled to support approximately 1,000 annual testing events to evaluate the DoD's converged information environment, Cyber, Cloud services, Mobility, and National Security Systems (NSS).
- Encompasses a significant portfolio of reference implementations, test tools, and supporting IT systems to aid both test execution and data collection/analysis.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: MRTFB Improvements and Operations	-	51.982	53.571
Description: Information Technology and National Security Systems (IT/NSS), Command and Control (C2), Defense reform initiatives, and the Department of Defense's (DoD's) migration towards more agile development and acquisition of IT capabilities by providing Test and Evaluation (T&E) support, including infrastructure, testing capabilities and events, policies and processes to Regional Combatant Commands (COCOMS), Military Services, DoD Agencies, other Federal Government agencies, private industry, Coalition partners and allies.			
FY 2021 Plans: As an MRTFB, JITC will operate the DISA IT Test infrastructure standardized test bed at Fort George G. Meade, MD and Fort Huachuca, AZ. JITC will support the Agency and the Department by expanding the use of cloud technologies to provide seamless			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T-40 / Major Range Test Facility Base Operations

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
distributed testing services and efficient use of testing equipment and resources. JITC maintain technical workforce, support base operations, communications, and operating expenses at each location. FY 2022 Plans: As an MRTFB, JITC will operate the DISA IT Test infrastructure standardized test bed at Fort George G. Meade, MD and Fort Huachuca, AZ. JITC will support the Agency and the Department with the use of cloud technologies to provide seamless distributed testing services and efficient use of testing equipment and resources. JITC maintain technical workforce, support base operations, communications, and operating expenses at each location. FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$1.589 in FY 2021 to FY 2022 is attributed to 1) civilian pay from T-30 (MRTFB Test and Evaluation) to T-40 (MRTFB Operations) to reflect civilian pay in one project.(+\$5.781) and 2.) decrease of -\$4,192 due to delay in test infrastructure enhancements.			
Accomplishments/Planned Programs Subtotals	-	51.982	53.571

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Test, Evaluation, and Certification (TEC) indefinite delivery/indefinite quantity contract provides T&E support by performing a wide range of non-personal services to encompass testing, scientific, engineering, logistic, administrative, and ancillary support of the DISA T&E missions. The TEC contract provides for expansion and contraction of staff years as workload dictates. An additional contract is a Federal Preferential Sole Source Procurement set-aside which provides consolidated facilities support.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6:</i> <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0305172K / <i>Combined Advanced Applications</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	50.561	58.667	30.824	15.696	-	15.696	-	-	-	-	Continuing	Continuing
CA1: <i>Combined Advanced Applications</i>	50.561	48.667	30.824	5.696	-	5.696	-	-	-	-	Continuing	Continuing
FM1: <i>Financial Management Systems</i>	0.000	10.000	0.000	10.000	-	10.000	-	-	-	-	0.000	20.000

A. Mission Description and Budget Item Justification

Combined Advanced Applications is classified and exhibit will be provided under a separate cover.

Financial Management Systems will acquire support for the modernization of the financial account management information system capability. The new procurement will use a single step to full capability approach and execute in accordance with the Component Acquisition Executive (CAE) Guideline for Projects. This Acquisition Strategy provides the business and technical management approach to achieve program objectives within resource constraints. The financial business area is currently supported by multiple legacy systems operating on platforms with associated performance issues such as high cost, technology support issues, unsupportable interoperability, and high risk of failure. In addition, various federal financial management and Department of Defense requirements (e.g., Business Enterprise Architecture (BEA)); the Treasury Department's Invoice Processing Platform).

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	58.667	30.824	6.472	-	6.472
Current President's Budget	58.667	30.824	15.696	-	15.696
Total Adjustments	0.000	0.000	9.224	-	9.224
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	9.224	-	9.224

Change Summary Explanation

Increase of +\$9.224 in FY 2022 is due to the development of a financial management system for sensitive activities in support of the Defense-Wide (TI-97) and the Army (TI-21) (+\$10.000) and includes a net decrease (-\$0.776) that is classified and exhibit will be provided under a separate cover.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0305172K / <i>Combined Advanced Applications</i>				Project (Number/Name) CA1 / <i>Combined Advanced Applications</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
CA1: <i>Combined Advanced Applications</i>	50.561	48.667	30.824	5.696	-	5.696	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Program is classified and exhibit will be provided under a separate cover.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Combined Advanced Applications	48.667	30.824	5.696
Description: Classified.			
FY 2021 Plans: Classified.			
FY 2022 Plans: Classified.			
FY 2021 to FY 2022 Increase/Decrease Statement: Classified.			
Accomplishments/Planned Programs Subtotals	48.667	30.824	5.696

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Classified

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0305172K / Combined Advanced Applications	Project (Number/Name) FM1 / Financial Management Systems
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
FM1: <i>Financial Management Systems</i>	0.000	10.000	0.000	10.000	-	10.000	-	-	-	-	0.000	20.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Financial Management Systems will acquire support for the modernization of the financial account management information system capability. The new procurement will use a single step to full capability approach and execute in accordance with the Component Acquisition Executive (CAE) Guideline for Projects. This Acquisition Strategy provides the business and technical management approach to achieve program objectives within resource constraints. The financial business area is currently supported by multiple legacy systems operating on platforms with associated performance issues such as high cost, technology support issues, unsupportable interoperability, and high risk of failure. In addition, various federal financial management and Department of Defense requirements (e.g., Business Enterprise Architecture (BEA); the Treasury Department’s Invoice Processing Platform).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Financial Management Systems - Test and Development	10.000	-	10.000
Description: Provides development, testing, piloting and pre-deployment for integrated business solution for the modernization of the sensitive financial information platform capability for the DoD users.			
FY 2022 Plans: Provides development, testing, piloting and pre-deployment for integrated business solution for the modernization of the sensitive financial information platform capability for the DoD users.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of +\$10.000 from FY 2021 to FY 2022 is additional funding to continue the development of a financial management system for sensitive activities in support of the Defense-Wide (TI-97) and the Army (TI-21).			
Accomplishments/Planned Programs Subtotals	10.000	-	10.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	3.048	3.073	-	3.073	-	-	-	-	Continuing	Continuing
NF1: <i>Distributed Common Ground/Surface Systems</i>	0.000	0.000	3.048	3.073	-	3.073	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

As the sole joint interoperability certification agent, the Joint Interoperability Test Command (JITC) established and maintains a Distributed Development and Test Enterprise (T&E) for the Department of Defense (DoD) Distributed Common Ground/Surface System (DCGS) program, as directed by the Office of the Under Secretary of Defense Intelligence (OUSD(I)). DCGS is an integral and critical component of the overall DoD Intelligence, Surveillance, and Reconnaissance interoperability and data integration strategy which provides world-wide capabilities to receive, process, exploit, and disseminate data from airborne and national reconnaissance sensors/platforms and commercial sources.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	3.048	3.110	-	3.110
Current President's Budget	0.000	3.048	3.073	-	3.073
Total Adjustments	0.000	0.000	-0.037	-	-0.037
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.037	-	-0.037

Change Summary Explanation

The decrease of -\$0.037 in FY 2022 is due to a non-fuel technical adjustment.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>			Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>				
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
NF1: <i>Distributed Common Ground/Surface Systems</i>	0.000	0.000	3.048	3.073	-	3.073	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Joint Interoperability Test Command (JITC) coordinates with the Military Services and Defense Intelligence Agencies to conduct Joint/Distributed Common Ground/Surface System (DCGS) testing and analysis, including event coordination, configuration, instrumentation and integration functions on the Distributed Development and Test Enterprise (DDTE). Under the DCGS Governance, this effort, referred to as the DCGS Test and Evaluation (T&E) Focus Team (FT), is composed of three parts: the DDTE Focus Group, providing and sustaining a distributed development network; the Strategy Focus Group, looking at current and future net-enabled enterprise T&E methods; and the Execution Focus Group, which leverages the Strategy Focus Group’s methodologies in executing DCGS Enterprise assessment events, such as the annual DCGS demonstration, ENTERPRISE CHALLENGE. These efforts improve systems engineering and T&E throughout all phases of the DCGS life-cycle, resulting in improved capabilities to share net-centric data and services between the DCGS Programs of Record (PoRs) and the overarching Defense Intelligence Information Enterprise (DI2E).

Operates and maintains the DDTE, providing DCGS PoRs a virtual, operationally-relevant assessment environment maintaining connectivity between Service facilities, National Agency capabilities, and Coalition partners. DDTE allows robust integration of modeling and simulation T&E capabilities across Joint DCGS events without introducing vulnerabilities to operational Command and Control networks and has enabled improvements in systems engineering, instrumentation and T&E throughout all phases of the DCGS life cycle.

DCGS PoRs and Coalition partners use the DDTE network, which supports the net-centric maturity assessment of the DCGS Enterprise under the DCGS Governance, to integrate architecture, standards, and capabilities for implementation of the DCGS Integration Backbone and support the migration to net-centricity, including DCGS Enterprise services for the Military Departments, DCGS-Special Operations Forces and the DCGS Intelligence Community. National Agency capabilities supporting DCGS include Geospatial Intelligence, Signals Intelligence, Measurement and Signature Intelligence and Human Intelligence, which are integrated and tested in the DDTE domain.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Distributed Common Ground/Surface Systems (DCGS)	-	3.048	3.073
Description: Joint Interoperability Test Command (JITC) coordinates with the Military Services and Defense Intelligence Agencies to conduct Joint/Distributed Common Ground/Surface System (DCGS) testing and analysis, including event coordination, configuration, instrumentation and integration functions on the Distributed Development and Test Enterprise (DDTE). Under the DCGS Governance, this effort, referred to as the DCGS Test and Evaluation (T&E) Focus Team (FT), is composed of three parts: the DDTE Focus Group, providing and sustaining a distributed development network; the Strategy Focus Group, looking at current			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>and future net-enabled enterprise T&E methods; and the Execution Focus Group, which leverages the Strategy Focus Group’s methodologies in executing DCGS Enterprise assessment events, such as the annual DCGS demonstration, ENTERPRISE CHALLENGE. These efforts improve systems engineering and T&E throughout all phases of the DCGS life-cycle, resulting in improved capabilities to share net-centric data and services between the DCGS Programs of Record (PoRs) and the overarching Defense Intelligence Information Enterprise (DI2E).</p> <p>FY 2021 Plans: Will revise and evolve test and evaluation (T&E) data collection techniques and analysis strategies in support of DCGS Enterprise community members acquisition programs’ interoperability as they integrate capabilities and services solutions to address the operational gaps identified in the OUDS(I) sponsored Distributed Common Ground/Surface System Enterprise Capabilities Based Assessment. Continue to plan, develop and execute enterprise-level data collection during multiple yearly test events. Continue to support DDTE, provide enhanced functionality, expand T&E capability, and perform automated evaluations of net-centric capabilities with improved assessment methodologies and practices due to incorporating new technologies such as cloud computing, mobile technology, and “big data”. Continue enhancement of instrumentation and automated data collection tools to support testing on multiple network domains and enclaves where the DCGS PoRs, National Agencies and Coalition Partners test and operate. Continue to develop T&E methodology and tools to support testing of enterprise cybersecurity solutions to determine if they comply with standards, support interoperability between the DCGS PoRs, and meet the DCGS Enterprise cybersecurity requirements. Continue to conduct compliance testing of data, metadata, and web services against established standards to enhance the sharing and promote reuse of net centric solutions. Continuing to expand TaaS capabilities that enable DCGS entities and other COIs to test for standards compliance during the development and acquisition processes. All data collected by these assessment efforts are reflected in an annual DCGS Enterprise Assessment Report that delineates how well the DCGS Enterprise shows progress over time in meeting the capabilities and closing the gaps reflected in the 2016 DCGS Enterprise Initial Capabilities Document.</p> <p>FY 2022 Plans: Will revise and evolve test and evaluation (T&E) data collection techniques and analysis strategies in support of DCGS Enterprise community members acquisition programs’ interoperability as they integrate capabilities and services solutions to address the operational gaps identified in the OUDS(I) sponsored Distributed Common Ground/Surface System Enterprise Capabilities Based Assessment. Continue to plan, develop and execute enterprise-level data collection during multiple yearly test events. Continue to support DDTE, provide enhanced functionality, expand T&E capability, and perform automated evaluations of net-centric capabilities with improved assessment methodologies and practices due to incorporating new technologies such as cloud computing, mobile technology, and “big data”. Continue enhancement of instrumentation and automated data collection tools to support testing on multiple network domains and enclaves where the DCGS (Program of Record) PoRs, National Agencies and Coalition Partners test and operate. Continue to develop T&E methodology and tools to support testing of enterprise</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>cybersecurity solutions to determine if they comply with standards, support interoperability between the DCGS PoRs, and meet the DCGS Enterprise cybersecurity requirements. Continue to conduct compliance testing of data, metadata, and web services against established standards to enhance the sharing and promote reuse of net centric solutions. Continuing to expand TaaS capabilities that enable DCGS entities and other COIs to test for standards compliance during the development and acquisition processes. All data collected by these assessment efforts are reflected in an annual DCGS Enterprise Assessment Report that delineates how well the DCGS Enterprise shows progress over time in meeting the capabilities and closing the gaps reflected in the 2016 DCGS Enterprise Initial Capabilities Document.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase of +\$0.025 from FY 2021 to FY 2022 will provide implementation of enhanced data analytics for DCGS.</p>			
Accomplishments/Planned Programs Subtotals	-	3.048	3.073

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Test, Evaluation, and Certification (TEC) indefinite delivery/indefinite quantity contract provides T&E support by performing a wide range of non-personal services to encompass testing, scientific, engineering, logistic, administrative, and ancillary support of the DISA T&E missions. The TEC contract provides for expansion and contraction of staff years as workload dictates. An additional contract is a Federal Preferential Sole Source Procurement set-aside which provides consolidated facilities support.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0903235K / <i>Joint Service Provider</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	9.193	3.090	3.138	2.645	-	2.645	-	-	-	-	Continuing	Continuing
JSP: <i>Joint Service Provider</i>	9.193	3.090	3.138	2.645	-	2.645	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Service Provider (JSP) provides Information Technology (IT) infrastructure and office automation systems, components, supporting software, and IT support services for the Office of the Secretary of Defense (OSD), Joint Staff, Headquarters Department of the Army (HQDA), Washington Headquarters Services (WHS), Pentagon Force Protection Agency (PFPA), DoD Consolidated Adjudication Facility (DoD CAF), and other JSP-supported 4th Estate users and communities supported within the Pentagon Reservation and other areas in the National Capitol Region (NCR). RDT&E provides for the test, pilot, and development of new integrated business tools to enhance the JSP business processes and improve the delivery of IT services and capabilities. This activity executes JSP's testing environment to allow insertion of commercial off-the-shelf and government-managed software for all supported JSP services to include network transport, storage, compute, defensive cyber operations, Pentagon Installation Processing Node (IPN), and other components of the NCR's core network infrastructure. These efforts also provide mobile classified computing and communications platforms technology test and development for the immediate Office of the Secretary of Defense, enabling secured computing at residence, temporary and mobile locations around the world.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	3.090	3.138	2.992	-	2.992
Current President's Budget	3.090	3.138	2.645	-	2.645
Total Adjustments	0.000	0.000	-0.347	-	-0.347
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.347	-	-0.347

Change Summary Explanation

The decrease of -\$0.347 in FY 2022 is due to a reduction in technical evaluation activities.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0903235K / Joint Service Provider				Project (Number/Name) JSP / Joint Service Provider			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JSP: Joint Service Provider	9.193	3.090	3.138	2.645	-	2.645	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Joint Service Provider (JSP) provides mobile classified computing and communications platforms technology test and development for the immediate Office of the Secretary of Defense, enabling secured computing at residence, temporary and mobile locations around the world.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: SECDEF Communications</p> <p>Description: Provides mobile classified computing and communications platforms technology test and development for the immediate Office of the Secretary of Defense, enabling secured computing at residence, temporary and mobile locations around the world.</p> <p>FY 2021 Plans: Continue to provide mobile classified computing and communications platforms technology test and development for the immediate Office of the Secretary of Defense, enabling secured computing at residence, temporary and mobile locations around the world.</p> <p>FY 2022 Plans: Continue to provide mobile classified computing and communications platforms technology test and development for the immediate Office of the Secretary of Defense, enabling secured computing at residence, temporary and mobile locations around the world.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$0.001 from FY 2021 to FY 2022 is attributed to an increase to technical contract support.</p>	0.105	0.107	0.108
<p>Title: Enterprise Initiative Test & Development</p> <p>Description: This activity executes JSP's testing environment to allow insertion of commercial off the shelf and government managed software for all supported JSP services to include network transport, storage, compute, defensive cyber operations, Pentagon Installation Processing Node (IPN), and other components of the NCR's core network infrastructure. This effort allows informed investment in cyber defense, resilience, and the continued integration of cyber capabilities into the full spectrum of military operational needs required by the JSP supported user base and prioritize developing capabilities enabling a more resilient and survivable Department of Defense Information Network (DODIN) in the face of a dynamic and increasingly sophisticated threat environment.</p>	2.985	3.031	2.537

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0903235K / <i>Joint Service Provider</i>	Project (Number/Name) JSP / <i>Joint Service Provider</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p><i>FY 2021 Plans:</i> Develop, pilot, and test integrated capabilities and solutions to support the operational requirements of the JSP user base. Supports such efforts as adaptive security architecture, threat intelligence machine learning, runtime application self protection and Desktop as a Service. Improve delivery of IT services and capabilities of an increasingly mobile, application centric knowledge workforce JSP supports in a dynamic environment with advanced persistent cyber threats targeting DoD information networks (DODIN).</p> <p><i>FY 2022 Plans:</i> Develop, pilot, and test integrated capabilities and solutions to support the operational requirements of the JSP user base. Supports such efforts as adaptive security architecture, threat intelligence machine learning, runtime application self protection and Desktop as a Service. Improve delivery of IT services and capabilities of an increasingly mobile, application centric knowledge workforce JSP supports in a dynamic environment with advanced persistent cyber threats targeting DoD information networks (DODIN).</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease of -\$0.493 from FY 2021 to FY 2022 is due to a reduction in technical evaluation activities.</p>			
Accomplishments/Planned Programs Subtotals	3.090	3.138	2.645

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>					R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>							
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	183.834	137.058	10.033	-	10.033	-	-	-	-	Continuing	Continuing
JA1: <i>Joint Artificial Intelligence Center (JAIC)</i>	0.000	183.834	137.058	10.033	-	10.033	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The JAIC was established to preserve and expand our military advantage in support of the Department’s 2018 National Defense Strategy (NDS). As a primarily executing body it will accelerate the delivery of Artificial Intelligence (AI) enabled capabilities, scale the Department-wide impact of AI, and synchronize Department of Defense (DoD) AI activities to expand Joint Force advantages. The JAIC mission is to accelerate the delivery of AI to achieve impact scaled across the DoD at relevant speed to transform the DoD and ensure the nation maintains a competitive advantage. JAIC capitalizes on Project Maven’s efforts as the pathfinder AI initiative for the DoD to further critical AI architecture and prototyping to rapidly expand AI to other mission areas. As JAIC efforts prove relevant, they will expedite technology transition from the laboratory to operational use, and increase Joint Force capability. Most military data storage, utilization, and analytic tools and systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. JAIC capabilities are commercial technology initiatives that insert commercial AI into existing programs of record.

JAIC will execute an initial sequence of cross-functional use cases to demonstrate value and create momentum, called National Mission Initiatives (NMI). NMIs will rapidly develop and deploy AI across the Joint Force for selected high-priority, pressing operational or business reform challenges. Additionally, JAIC will work closely with individual components to help identify, shape, and accelerate component-specific AI deployments. NMI efforts will include selecting commercial and academic partners for prototypes, and develop standardized processes with respect to data, testing and evaluation, and cybersecurity. JAIC will use lessons learned from these initial projects to establish new processes and standards that will be repeatable across additional projects and immediately relevant to the Joint Force. This will be done in collaboration with partners across technology companies, consulting firms, academia, government labs, Federally Funded Research and Development Centers (FFRDC), services, and international partners.

To support NDS, the JAIC will catalyze and develop AI capabilities to enhance readiness and lethality and ensure DoD maintains an advantage over adversaries. JAIC will spearhead this unique opportunity to expand the competitive space across all domains with AI. JAIC efforts will directly contribute to increased military readiness towards a more lethal Joint Force, it will strengthen alliances and attract new partners by focusing on global problems, and it will enable Departmental reform to increase performance and affordability. JAIC will cultivate workforce talent by recruiting, developing, and retaining high-quality personnel to enable the development and delivery of AI. This will bring critical skills into the department by drawing outside expertise, and leveraging small companies, start-ups, and universities. Implementing AI at a speed of relevance hinges on the ability to integrate AI better than our adversaries, and the JAIC will enable the Department to adapt AI into how it fights. JAIC will focus on speed of delivery, continuous adaptation, and frequent capability delivery sprints. To fully realize this potential, the JAIC will pioneer AI approaches across the full scale of the global enterprise in a manner that is jointly interoperable with allies, partners, military Services, and agencies. Specifically, JAIC will identify and implement new organizational approaches, establish key AI building blocks and standards, develop and attract AI talent, and introduce new operational models that will enable DoD to systematically take advantage of AI at enterprise scale. The JAIC will fulfill the National Security Strategy and NDS to ensure conventional overmatch through dual-use commercial technology and partnered DoD-developed AI. The JAIC will collaborate with non-governmental organizations, corporations, strategic influencers,

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>
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and partners and allies. JAIC will seize the initiative to lead the world in the development and adoption of transformative defense AI solutions that are safe, ethical, and secure. JAIC will spearhead this effort, engaging with the best minds in government, the private sector, academia, and international community.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	183.834	132.058	128.049	-	128.049
Current President's Budget	183.834	137.058	10.033	-	10.033
Total Adjustments	0.000	5.000	-118.016	-	-118.016
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-118.016	-	-118.016

Change Summary Explanation

The decrease of -\$118.010 in FY 2022 reflects a realignment from RDT&E BA 7 (-\$106.434) to the newly created BA 8: Software and Digital Technology for the Software Pilot Program. Additional decrease of -\$11.582 for re-phasing adjustment (-\$10.375) and technical adjustments (-\$1.207).

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>				Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JA1: <i>Joint Artificial Intelligence Center (JAIC)</i>	0.000	183.834	137.058	10.033	-	10.033	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The JAIC was established to preserve and expand our military advantage in support of the Department’s 2018 National Defense Strategy. As a primarily executing body it will accelerate the delivery of Artificial Intelligence (AI) enabled capabilities, scale the Department-wide impact of AI, and synchronize DoD AI activities to expand Joint Force advantages. The JAIC mission is to accelerate the delivery of AI to achieve impact scaled across the DoD at relevant speed to transform the DoD and ensure the nation maintains a competitive advantage. JAIC capitalizes on Project Maven’s efforts as the pathfinder AI initiative for the DoD to further critical AI architecture and prototyping to rapidly expand AI to other mission areas. As JAIC efforts prove relevant, they will expedite technology transition from the laboratory to operational use, and increase Joint Force capability. Most military data storage, utilization, and analytic tools and systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. JAIC capabilities are commercial technology initiatives that insert commercial AI into existing programs of record.

JAIC will execute an initial sequence of cross-functional use cases to demonstrate value and create momentum, called National Mission Initiatives (NMI). NMIs will rapidly develop and deploy AI across the Joint Force for selected high-priority, pressing operational or business reform challenges. Additionally, JAIC will work closely with individual components to help identify, shape, and accelerate component-specific AI deployments. NMI efforts will include selecting commercial and academic partners for prototypes, and develop standardized processes with respect to data, testing and evaluation, and cybersecurity. JAIC will use lessons learned from these initial projects to establish new processes and standards that will be repeatable across additional projects and immediately relevant to the Joint Force. This will be done in collaboration with partners across technology companies, consulting firms, academia, government labs, Federally Funded Research and Development Centers (FFRDC), services, and international partners.

To support the National Defense Strategy (NDS), the JAIC will catalyze and develop AI capabilities to enhance readiness and lethality and ensure DoD maintains an advantage over adversaries. JAIC will spearhead this unique opportunity to expand the competitive space across all domains with AI. JAIC efforts will directly contribute to increased military readiness towards a more lethal Joint Force, it will strengthen alliances and attract new partners by focusing on global problems, and it will enable Departmental reform to increase performance and affordability. JAIC will cultivate workforce talent by recruiting, developing, and retaining high-quality personnel to enable the development and delivery of AI. This will bring critical skills into the department by drawing outside expertise, and leveraging small companies, start-ups, and universities. Implementing AI at a speed of relevance hinges on the ability to integrate AI better than our adversaries, and the JAIC will enable the Department to adapt AI into how it fights. JAIC will focus on speed of delivery, continuous adaptation, and frequent capability delivery sprints. To fully realize this potential, the JAIC will pioneer AI approaches across the full scale of the global enterprise in a manner that is jointly interoperable with allies, partners, military Services, and agencies. Specifically, JAIC will identify and implement new organizational approaches, establish key AI building blocks and standards, develop and attract AI talent, and introduce new operational models that will enable DoD to systematically take advantage of AI at enterprise scale. The JAIC will fulfill the National Security Strategy and NDS to ensure conventional overmatch through dual-use commercial technology and partnered DoD-developed AI. The JAIC will collaborate with non-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>	Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i>
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governmental organizations, corporations, strategic influencers, and partners and allies. JAIC will seize the initiative to lead the world in the development and adoption of transformative defense AI solutions that are safe, ethical, and secure. JAIC will spearhead this effort, engaging with the best minds in government, the private sector, academia, and international community.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Joint Artificial Intelligence Center (JAIC)</p> <p>Description: JAIC develops, tests, prototypes and demonstrates innovative AI, Machine Learning (ML), data infrastructure, and model/algorithm test and assessment capabilities to integrate AI capabilities across numerous domains and technical areas including maintenance and supply chain, personnel recovery, infrastructure assessment, geospatial monitoring during disaster, and cyber sense making. JAIC develops and evaluates integrated prototype technologies in realistic operating environments with DoD entities to assess the performance or cost reduction potential of applying such advanced technology to scale across multiple services. JAIC does this by aligning rapid prototype projects under NMIs and leverages existing commercial technology for DoD use, built upon a common architecture that enables the DoD to rapidly scale AI capability.</p> <p>FY 2021 Plans: JAIC will begin to transition the lines of effort in the areas of Joint Logistics Operations formally Predictive Maintenance (PMx) and Humanitarian Assistance and Disaster Relief (HA/DR) to service and component partners. These capabilities are expected to be available on the Joint Common Foundation (JCF) for reuse by many. As soon as an NMI has fully transitioned ongoing lines of effort, those JAIC resources will be aligned to kick off new AI Capability lines of effort in accordance with the direction of the DOD AI ESG. The JAIC will mature AI enabled capabilities in the National Mission Initiative Areas of Joint Information Warfare formally Cyber Sense-making, Business Process Transformation formally Intelligence Business Automation, Joint Warfighting Operations and Warfighter Health and will begin to plan and prepare for their transition to component transition partners. The JAIC will begin up to 5 new lines of effort within the six National Mission areas. By FY21, 90% of NMIs Development and Test will be accomplished in the JCF. The JCF will provide a collaboration portal for the DoD, a registry for DoD AI Projects and optimized JCF virtual environments provisioned with the right tools, suited to the users and developers assigned to given project. In FY21 the JCF will begin testing capabilities on the SIPR domain. In FY21 the JAIC will continue the Joint Information Warfare formally Cyber Sense-making NMI that was begun in FY20 to shrink timelines for cyber-threat situational awareness using AI anomaly detection and network exploration techniques. In FY21 the NMI will leverage the CSSP gold standard benchmark dataset, and the completed GOTS assessments o AI-enabled cyber threat detection applications to deploy the highest performing tools and models, along with the lessons learned, to the Joint Common Foundation for wide-spread adoption. In FY21 the JAIC will begin the Business Process Transformation formally Intelligent Business Automation (IBA) NMI to increase the effectiveness and efficiency of routine tasks by enabling DoD staff to use robotic process automation (RPA) and other AI tools. In FY21, based on the most promising RPA technologies and workflows, this NMI will gain temporary authority to operate (ATO) and authority to connect (ATC), and will conduct operational experiments. The Intelligent Business Automation (IBA) will deliver</p>	183.834	137.058	10.033

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>	Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>a platform of Robotic Process Automation (RPA) services and platform to save manhours, reduce routine errors in back-office processes.</p> <p>In FY21 the JAIC will continue the Joint Warfighting NMI started in FY20 to increase the speed, precision and agility of warfighting through improved Joint All-Domain Command and Control (JADC2), the autonomous application of systems, sensors, and targeting solutions, and accelerated AI-enabled mission command. The Joint Warfighting NMI will continue to develop and mature the application platform for JADC2 using open-API tools to automate the fusion and curation of a unified purpose-built information set. Based on the FY20 assessment of current tools, techniques and data sources within scope for the JADC2 platform, the approved architecture and a repeatable data curation and fusion pipeline, the JW NMI will design and build AI enabled workflows related to the identification, tracking and targeting within a well understood and appropriately governed data-driven command and control eco system.</p> <p>In FY21 the JAIC will continue the Warfighter Health NMI to accelerate health classification, individual diagnoses, and enable resilient field medicine. In FY21, this NMI will leverage the structured Medical Readiness repository of data created in FY20 to reduce the time it takes to perform Readiness and Disability Adjudications hours to minutes per warfighter. In FY21 this NMI will expand on early successes dynamically classifying disabling conditions. The NMI will leverage the Medical Readiness data, architecture, and repeatable AI pipeline to train a machine to recognize all 50 categorically disabling conditions, in anticipation of wide deployment during subsequent fiscal years.</p> <p>FY 2022 Plans:</p> <p>In FY22, Joint Information Warfare formally Cyber Sensemaking/ JAIC will further support integration of AI/ML MISO solutions for effective understanding, messaging, and influencing within the changing information environment. The JAIC will also align resources to kick off new AI capability lines of effort in accordance with the direction of the DOD AI Executive Steering Group (ESG). The JAIC will continue development of AI/ML products ANMVIS, BlueVector, MADHAT, Cyber Data Framework, Analytic Support Officers (ASO) Ecosystem Concept, and Medifor.</p> <p>The Threat Reduction and Protection formally the Humanitarian Assistance/Disaster Relief (HA/DR) will continue efforts building AI Capability in the areas of Damage Assessment, Full Motion Video, and Search and Rescue and continue development of Damage Assessment and Road Obstruction Product Line. JAIC will continue development efforts and work towards a Joint Common Foundation (JCF) Enterprise Environment and Full Operating Capability (FOC) by FY22.</p> <p>In FY22, the Joint Warfighting Operations Initiative will continue to develop and begin to transition AI/ML products lines Target Development, Wargaming, Gargoyle, Precision Targeting, and The Assistant Secretary of the Air Force (Acquisition, Technology and Logistics) (SAF/AQ) to mission partners. The JAIC will also continue resourcing AI/ML products in the areas of Electromagnetic Spectrum Operations (EMSO) and Strategic Mobility in accordance with the direction of the DOD AI Wxecutive Steering Group (ESG). In FY22, The Joint Warfighting Operations mission initiative will deliver the Terrestrial Reconnaissance and Surveillance and sUAS product to partners for field testing, complete field testing and deliver to Army G-Boss Program office and service program. Integrate Strategy Robot into ATO, Joint Staff J8 - User Interface for existing air-to-air Force Structure</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>	Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Planning Tool and Joint Staff J8 - All-Domain Force Structure Planning Tool. Project Smart Sensor - Full- onboard processing and navigation and transition to U.S. Air Force Special Operations Command Program Executive Office Fixed Wing (AFSCO PEO FW) and MQ-9 Reaper Drone (MQ-9) System Program Office (SPO).</p> <p>In FY22, The Warfighter Health mission initiative will work with the Defense Health Agency (DHA) to transition the initial rollout of Medical Imagery Analysis to Military medical diagnosis facilities. The JAIC will continue work in Medical Imaging, Suicide Intervention & Prevention, Point of Injury Decision Support, and Data Commons AI/ML products.</p> <p>In FY22, The JAIC's Business Process Transformation initiative will work with the DoD Comptroller's Advanced Analytics (ADVANA) Team, Office of Chief Management Officer (OCMO)/Washington Headquarters Services, OCMO/Data Insights Directorate, and Undersecretary Defense for Intelligence USD(I) and will begin to test and integrate GAMECHANGER with multiple user groups. The JAIC will also continue to development of Humanless Unmatched Transactions (HUnT), Acquisition Alert, MyNavy HR, and Army Talent Assignment Recommender and begin transition efforts to partners.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease of -\$127.025 from FY 2021 to FY 2022 reflects a realignment from RDT&E BA 7 (-\$106.434) to the newly created BA 8: Software and Digital Technology for the Software Pilot Program. A decrease of -\$11.582 for re-phasing adjustment (-\$10.375) and technical adjustments (-\$1.207). Also a decrease of -\$5.000 is due to the one-time cost for the geo-analytics effort in FY 2021, additional decrease attributed to the transition of two Predictive Maintenance/Joint Logistics Operations AI products, the H-60 Engine Health Model to the US Army 160th SOAR and Fort Rucker Aviation Center of Excellence. (-\$4.009).</p>			
Accomplishments/Planned Programs Subtotals	183.834	137.058	10.033

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The JAIC acquisition, management, and contracting strategy follows guidance outlined in the DoD 5000 series directives, Federal Acquisition Regulation (FAR) and FAR supplement policies and procedures. Management uses project management tools and meetings to ensure delivery of stated capabilities and performance criteria.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>	Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i>

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint Artificial Intelligence Center (JAIC)																												
Joint Artificial Intelligence Center (JAIC)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence Center (JAIC)</i>	Project (Number/Name) JA1 / <i>Joint Artificial Intelligence Center (JAIC)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint Artificial Intelligence Center (JAIC)</i>				
Joint Artificial Intelligence Center (JAIC)	2	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0208045K / <i>C4I Interoperability</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	870.372	67.128	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
T30: <i>MRTFB Test and Evaluation</i>	192.870	7.584	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
T40: <i>Major Range Test Facility Base Operations</i>	677.502	59.538	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
COVID: <i>COVID-19</i>	0.000	0.006	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Information Systems Agency's Joint Interoperability Test Command (JITC) serves as the only joint element of the Department of Defense's (DoD's) Major Range and Test Facility Base (MRTFB) that is operated primarily for Information Technology and National Security Systems (IT/NSS) Test and Evaluation (T&E) support missions. JITC executes the T&E mission in support of Command, Control, Communications, Computers and Intelligence (C4I), and is the DoD's Sole Interoperability Certifier and the only Non-Service Operational Test Agency.

With a focus on T&E for IT, JITC has the unique mission to provide consistent, structured, and effective T&E services that include converged information environment, Cyber, Cloud services, Mobility and NSS. JITC also has the responsibility for ensuring Joint/Coalition interoperability; issuing interoperability certifications; conducting operational evaluations; maintaining a federated IT infrastructure as a MRTFB activity and providing direct interoperability support to the warfighter by ensuring Joint warfighting capabilities are interoperable and support mission needs.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	67.128	0.000	0.000	-	0.000
Current President's Budget	67.128	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

No vertical statement required.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability				Project (Number/Name) T30 / MRTFB Test and Evaluation			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T30: MRTFB Test and Evaluation	192.870	7.584	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Information Systems Agency (DISA), through the Joint Interoperability Test Command (JITC), manages the Department’s Interoperability Test, Evaluation, and Certification process that is structured to provide meaningful and independent test results in order to increase stakeholder confidence. The objectives, of the Test and Evaluation (T&E) activities, are to validate that DISA’s (and the Department’s, where appropriate) deliverables have met operational requirements. The T&E activities target evaluation strategies in the design, development, operational, integration and/or sustainment aspects of every program requiring support. DISA’s T&E efforts span a variety of test categories supporting DISA’s delivery of Department-wide enterprise solutions as well as Service, Agency, and mission partner developmental, operational, Information Assurance, and interoperability testing, validation and certification efforts. These efforts are focused on T&E for Information Technology (IT) that includes the Joint Information Environment (JIE), Cyber, Cloud services, and Mobility.

As the Department of Defense (DoD) Joint Interoperability Certification Authority, JITC annually:

- Issues hundreds of interoperability testing and certification related products.
- Manages the scheduling and executes multiple annual distributed Joint Tactical Data Link hardware in the loop interoperability test events. These events are designed to evaluate, certify and re-certify Service/Agency Tactical Data systems.
- Reviews hundreds of Joint Capabilities Integration and Development System documents, interoperability support plans and Legacy Waiver requests on behalf of the DoD Chief Information Officer (CIO) and the Joint Staff.
- Serves as executive agent to DoD Interoperability Steering Group, in support of the DoD CIO, and uses this forum to coordinate policy, adjudicate issues, and to process Interim Certificates to Operate.
- Ensures interoperability test and certification standard practices and procedures are in accordance with DoD policy, and reviews and issues over 600 Joint interoperability certifications annually for DoD’s Information Technology and National Security Systems (IT/NSS).
- Manages the scheduling and prioritization of multiple annual distributed Joint Tactical Data Link simulated test events using real components (hardware in the loop interoperability test events) designed to evaluate, certify and re-certify Service/Agency Tactical systems.

JITC provides interoperability test support to Joint, Coalition and Allied operations in theater by providing Interoperability test support within the area of responsibility and supports exercises intended to evaluate Joint, Coalition and Allied operations in, or planning to deploy to theater by:

- Providing on-demand rapid response contingency support to Regional Combatant Commands (COCOMs) as required, and conducting assessments of interoperability exercises.
- Conducting assessments during one of the largest interoperability exercises (the Endeavors).
- Broadening its support to the Joint Staff and functional COCOMs with a multitude of interoperability assessment services.
- Maintaining a 24x7 Warfighter Command, Control, Communications, Computers and Intelligence (C4I) Interoperability Hotline that connects warfighters to subject matter experts to resolve IT interoperability challenges.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / <i>C4I Interoperability</i>	Project (Number/Name) T30 / <i>MRTFB Test and Evaluation</i>
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- Establishing the framework for the conduct of annual independent evaluations and the status of interoperability through DoD Interoperability Communications Exercises (DICE).
- Emulating a distributed Joint Task Force network, providing realism and operational significance during the assessments and evaluations of data integrity, interfacing and responsiveness coupled with efficient configuration tactics, techniques, and procedures.
- Including first responder local and federal communications as part of the task force.

As the only non-Service Operational Test Agency (OTA) within DoD, JITC conducts operational testing of IT/NSS under realistic conditions to determine the operational effectiveness, suitability, interoperability, and security; and independently assesses the operational impact of system issues on mission accomplishment. JITC is the OTA for DISA-managed programs, and also upon request serves as the OTA for other Agencies such as the Defense Logistics Agency, Department of Homeland Security, and the National Security Agency.

JITC designs Operational Test and Evaluation (OT&E) events to determine if IT/NSS meet user requirements, offering sustaining support services to users to assist Acquisition Program Managers with meeting their overall milestone objectives.

JITC focuses its efforts towards core T&E improvements, better T&E policy for IT/NSS and designing new test methodologies to better assess Enterprise Service systems, aligning with the Information Technology Service Management model evaluating fulfillment services for suitability.

The T&E project supports the strategy development and investment plans in support of maintaining, improving and operating the DISA Major Range and Test Facility Base (MRTFB). Specific goals for DISA's MRTFB each year are to:

- Integrate evolving technologies that are able to leverage efficiencies such as virtualization, enterprise elements such as Infrastructure as a Service and Platform as a Service, and the foundational Cyber assets mandated by the JIE.
- Expand test infrastructure and operations to allow for rapid, on-demand provisioning, and federation across the DoD and Cyber integration with enterprise environments.
- Design consistent, repeatable test methodologies that ensure efficient T&E on changing or emerging technologies.
- Provide T&E guidance/oversight to nearly 130 DISA programs, creating synergy and efficiencies across the large DISA IT portfolio, gaining insight in new technologies and commercial best practices.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Title: DoD's Joint Interoperability Certification Authority Description: Plans and executes interoperability certifications for Department of Defense's (DoD) Information Technology and National Security Systems (IT/NSS) by evaluating joint military operations, conformance to standards, and participating in developmental testing or executing purposefully planned Interoperability Test Events.	6.664	-	-
Title: Operational Test and Evaluation	0.800	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T30 / MRTFB Test and Evaluation
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: Conduct operational testing of IT/NSS under realistic operational conditions to determine the operational effectiveness, suitability, interoperability, and security of a particular system. Independently assesses the operational impact of system issues on mission accomplishment.</p>			
<p>Title: Support to Warfighter</p>	0.120	-	-
<p>Description: Provides pre/post-production evaluations including: collecting relevant data during a continuous monitoring effort, and providing on-the-spot evaluations of problem areas and viable mission-oriented solutions to warfighting COCOMs during exercises and contingency operations.</p>			
Accomplishments/Planned Programs Subtotals	7.584	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

T&E Mission Support Services (MSS) cost plus and firm fixed price contract provides T&E support by performing a wide range of non-personal services to encompass testing, scientific, engineering, logistic, administrative, and ancillary support of the DISA T&E missions. The T&E MSS contract provides for expansion and contraction of staff years as workload dictates.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T30 / MRTFB Test and Evaluation
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	C/T&M	Northop Grumman Mission System : FT Huachuca, AZ	36.487	-		-		-		-		-	0.000	36.487	-
Test and Evaluation	C/T&M	Interop Joint Venture : FT Huachuca, AZ	44.342	-		-		-		-		-	0.000	44.342	-
Test and Evaluation	C/T&M	Northop Grumman Technology : FT Huachuca, AZ	25.831	-		-		-		-		-	0.000	25.831	-
Test and Evaluation	C/Various	Various : Various	15.076	1.529	Oct 2019	-		-		-		-	0.000	16.605	-
Test and Evaluation	Option/CPFF	ALION SCIENCE & TECH CORP : Various	0.036	-		-		-		-		-	0.000	0.036	-
Test and Evaluation	Option/CPFF	AMERICAN SYSTEMS CORP : Various	0.426	-		-		-		-		-	0.000	0.426	-
Test and Evaluation	Option/CPFF	MANTECH TELECOMMUNICATIONS AND INFORMATION : Various	1.713	-		-		-		-		-	0.000	1.713	-
Test and Evaluation	Option/CPFF	OBERON ASSOCIATES : Various	0.357	-		-		-		-		-	0.000	0.357	-
Test and Evaluation	Option/CPFF	TASC, INC : Various	6.242	-		-		-		-		-	0.000	6.242	-
Subtotal			130.510	1.529		-		-		-		-	0.000	132.039	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T30 / MRTFB Test and Evaluation
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Provide JIE Compliance Test and Evaluation framework and infrastructure																												
Provide Cyberspace Test and Evaluation framework and infrastructure																												
Plan and conduct the Defense Interoperability Communications Exercise (DICE)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T30 / MRTFB Test and Evaluation
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MRTFB Test and Evaluation</i>				
Provide Operational Test & Evaluation (OT&E) of DISA acquired systems	1	2017	4	2020
Conduct Joint interoperability test and certification on IT/NSS using the Joint Family of Tactical Data Link (TDL)	1	2017	4	2020
Operate 24/7 Interoperability Hotline	1	2017	4	2020
Provide Joint/Combined Interoperability Test support to Combatant Commanders	2	2017	4	2020
Provide JIE Compliance Test and Evaluation framework and infrastructure	1	2017	4	2020
Provide Cyberspace Test and Evaluation framework and infrastructure	1	2017	4	2020
Plan and conduct the Defense Interoperability Communications Exercise (DICE)	3	2017	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T40 / Major Range Test Facility Base Operations
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T40: Major Range Test Facility Base Operations	677.502	59.538	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As the only non-Service activity of the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB), Defense Information Systems Agency (DISA) provides the only dedicated Information Technology (IT) environment investing in a single end-to-end infrastructure for testing the Enterprise Edge to the Tactical Edge. As an MRTFB, Joint Interoperability Test Command (JITC) provides tested IT infrastructure products to the DoD, Federal/non-Federal Government, Commercial vendors, and Allied partners.

The DISA MRTFB infrastructure:

- Encompasses two geographic locations (Ft. Huachuca, AZ; Ft. Meade, MD).
- 116K square feet of raised floor space comprised of multiple test environments and test networks supporting over 100 programs on an annual basis.
- Complies with multiple levels of security and is scaled to support approximately 1,000 annual testing events to evaluate the DoD's converged information environment, Cyber, Cloud services, Mobility, and National Security Systems (NSS).
- Encompasses a significant portfolio of reference implementations, test tools, and supporting IT systems to aid both test execution and data collection/analysis.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: MRTFB Improvements and Operations	59.538	-	-
Description: Information Technology and National Security Systems (IT/NSS), Command and Control (C2), Defense reform initiatives, and the Department of Defense's (DoD's) migration towards more agile development and acquisition of IT capabilities by providing Test and Evaluation (T&E) support, including infrastructure, testing capabilities and events, policies and processes to Regional Combatant Commands (COCOMS), Military Services, DoD Agencies, other Federal Government agencies, private industry, Coalition partners and allies.			
Accomplishments/Planned Programs Subtotals	59.538	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / <i>C4I Interoperability</i>	Project (Number/Name) T40 / <i>Major Range Test Facility Base Operations</i>

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy

A T&E Mission Support Services (MSS) cost plus and firm fixed price contract provides T&E support by performing a wide range of non-personal services to encompass testing, scientific, engineering, logistic, administrative, and ancillary support of the DISA T&E missions. The T&E MSS contract provides maximum flexibility and allow for expansion and contraction of staff years as workload dictates. An additional contract is a Federal Preferential Sole Source Procurement set-aside which provides consolidated facilities support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T40 / Major Range Test Facility Base Operations
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation 1	C/T&M	Northrop Grumman Mission System : Ft. Huachuca, AZ	75.279	-		-		-		-		-	0.000	75.279	-
Test and Evaluation 2	C/T&M	Interop Joint Venture : Ft. Huachuca, AZ	99.188	-		-		-		-		-	0.000	99.188	-
Test and Evaluation 3	C/T&M	Northrop Grumman Information Technology : Ft. Huachuca, AZ	49.746	-		-		-		-		-	0.000	49.746	-
Test and Evaluation 4	C/Various	VARIOUS - pending development of query : VARIOUS	54.481	-		-		-		-		-	0.000	54.481	-
Test and Evaluation 5	Option/CPFF	ALION SCIENCE & TECHNOLOGY CORP : Various	0.617	-		-		-		-		-	0.000	0.617	-
Test and Evaluation 6	Option/CPFF	AMERICAN SYSTEMS COPR : Various	1.559	-		-		-		-		-	0.000	1.559	-
Test and Evaluation 7	Option/CPFF	MANTECH TELECOMMUNICATIONS AND INFORMATION : Various	9.903	-		-		-		-		-	0.000	9.903	-
Test and Evaluation 8	Option/CPFF	OBERON ASSOCIATES : Various	12.980	-		-		-		-		-	0.000	12.980	-
Test and Evaluation 9	Option/CPFF	TASC, INC. : Various	3.951	-		-		-		-		-	0.000	3.951	-
Test and Evaluation 10	Option/CPFF	BEACON GROUP SW, INC : Various	29.074	-		-		-		-		-	0.000	29.074	-
Test and Evaluation 11	Option/CPFF	Multiple : Various	12.001	-		-		-		-		-	0.000	12.001	-
Test and Evaluation 12	C/CPFF	Various : Various	33.741	33.226	Nov 2020	-		-		-		-	0.000	66.967	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T40 / Major Range Test Facility Base Operations	

FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Develop and Implement Interoperability test systems to support warfighters	[REDACTED]																											
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Develop and Implement Interoperability test systems to support warfighters	[REDACTED]																											
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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) T40 / Major Range Test Facility Base Operations

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Develop and Implement Interoperability test systems to support warfighters	1	2017	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability				Project (Number/Name) COVID / COVID-19			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
COVID: COVID-19	0.000	0.006	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Information Systems Agency's Joint Interoperability Test Command (JITC) serves as the only joint element of the Department of Defense's (DoD's) Major Range and Test Facility Base (MRTFB) that is operated primarily for Information Technology and National Security Systems (IT/NSS) Test and Evaluation (T&E) support missions. JITC executes the T&E mission in support of Command, Control, Communications, Computers and Intelligence (C4I), and is the DoD's Sole Interoperability Certifier and the only Non-Service Operational Test Agency.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: COVID-IT-0069	0.006	-	-
Description: Provide a secure means of mobile communication for JITC's leadership to maintain situational awareness as well as to coordinate and direct the organization's response to higher headquarters taskings and to local situations that arise in preparation for or in response to the ongoing pandemic. Much of the required information exchange will be via secure email as it involves unit readiness or the PHI of affected personnel. Without the DMCC phones, the command's only option will be to keep more personnel on-site risking each to unnecessary exposure to the virus.			
Accomplishments/Planned Programs Subtotals	0.006	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / C4I Interoperability	Project (Number/Name) COVID / COVID-19
--	--	--

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

COVID-19	
Mobile Communication	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0208045K / <i>C4I Interoperability</i>	Project (Number/Name) COVID / COVID-19
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
COVID-19				
Mobile Communication	4	2021	3	2022

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	179.181	10.798	16.324	16.233	-	16.233	-	-	-	-	Continuing	Continuing
E65: <i>Modeling and Simulation</i>	107.075	2.109	4.068	4.101	-	4.101	-	-	-	-	Continuing	Continuing
T62: <i>DoD Information Network (DODIN) Systems Engineering and Support</i>	72.106	8.689	12.256	9.997	-	9.997	-	-	-	-	Continuing	Continuing
T-0010: <i>Enterprise Messaging</i>	0.000	0.000	0.000	2.135	-	2.135	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Information Infrastructure Engineering and Integration effort encompasses two projects: Modeling and Simulation and DoD Information Network (DODIN) Systems Engineering and Support. There are two major activities under the Modeling and Simulation project: Modeling and Simulation and DODIN Enterprise Wide Systems Engineering (EWSE).

The DODIN EWSE activity resolves near term (one to three years) high-priority technical issues defined by DoD Chief Information Officer (DoD CIO) and Defense Information Systems Agency (DISA), that impact operational capabilities affecting DODIN End-to-End (E2E) interoperability and performance.

The Modeling and Simulation project provides architecture, systems engineering and E2E analytical functions for DISA and its customers, ensuring integrated capabilities to fulfill warfighter mission requirements. Ongoing beneficiaries of these capabilities include DoD CIO, the DISA Network Services Directorate, the DISA Enterprise Services Directorate, Program Executive Office-Mission Assurance, the Defense Information Systems Network Command Center and Joint Communications Simulation System users in DoD.

The DODIN Systems Engineering and Support project performs discovery, research, development and experimentation of emerging and commercial technologies through the Office of the Chief Technology Officer (OCTO) Emerging Technology Directorate (EM) (formerly OCTO) to fill capability shortfalls and technology gaps across the Future Years Defense Program (FYDP). EM identifies these gaps/shortfalls, pursues leading innovative solutions from industry, academia, and the Federal sector, and engages industry partners for commercial best practices. EM conducts technical system engineering reviews and oversight of DISA and DoD enterprise products and services. EM resolves mission partner gaps and agency challenges requiring technical and/or process innovation in Machine Learning/Artificial Intelligence (AI), Mobility, Assured Identity, Rapid Transition, Cyber Defense, and Blockchain among other technologies.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	10.798	16.324	16.538	-	16.538
Current President's Budget	10.798	16.324	16.233	-	16.233
Total Adjustments	0.000	0.000	-0.305	-	-0.305
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.305	-	-0.305

Change Summary Explanation

The decrease of -\$0.305 in FY 2022 is due a reduction in technical contract support.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) E65 / <i>Modeling and Simulation</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>E65: Modeling and Simulation</i>	107.075	2.109	4.068	4.101	-	4.101	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Modeling and Simulation project provides architecture, systems engineering and end-to-end (E2E) analytical functions for the Defense Information Systems Agency (DISA) and its customers, ensuring integrated capabilities to fulfill warfighter mission requirements. Modeling and Simulation activities support the Department of Defense (DoD) communications planning and investment strategy, including: application performance assessments, contingency planning, network capacity planning and diagnostics, and systems-level modeling and simulation. Project efforts provide across-theater information awareness for Combatant Commands through application solutions for integrated networks, including DoD’s missions in Afghanistan and the Defense Information Systems Network (DISN) by: (1) supporting the development and implementation of DoD Information Network (DODIN) Enterprise Wide Systems Engineering (EWSE) processes essential to evolving the DODIN in a manner that enables interoperability and E2E performance for critical DODIN programs; (2) developing standardized DISA systems analyses and integration processes to improve systems integration across DISA for all DISA developed communication systems and services; and (3) providing the underlying modeling and simulation and analytical support for E2E DISA and DoD systems engineering and assessment.

Project efforts provide DoD decision makers with services and a suite of tools capable of identifying key points of impact on DoD command and control information systems and recommending trade-offs within the DODIN configuration with regard to prioritized performance, availability, and security. This effort will reduce the risk in products deployed to the warfighter through improved network performance and traffic analysis, and an efficient means of troubleshooting and subsequent redesign.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Modeling and Simulation	2.109	4.068	4.101
Description: The Modeling and Simulation project provides architecture, systems engineering and end-to-end (E2E) analytical functions for the Defense Information Systems Agency (DISA) and its customers, ensuring integrated capabilities to fulfill warfighter mission requirements. Modeling and Simulation activities support the Department of Defense (DoD) communications planning and investment strategy, including: application performance assessments, contingency planning, network capacity planning and diagnostics, and systems-level modeling and simulation. Project efforts provide across-theater information awareness for Combatant Commands through application solutions for integrated networks, including DoD’s missions in Afghanistan and the Defense Information Systems Network (DISN) by: (1) supporting the development and implementation of DoD Information Network (DODIN) Enterprise Wide Systems Engineering (EWSE) processes essential to evolving the DODIN in a manner that enables interoperability and E2E performance for critical DODIN programs; (2) developing standardized DISA systems analyses and integration processes to improve systems integration across DISA for all DISA developed communication systems and services; and (3) providing the underlying modeling and simulation and analytical support for E2E DISA and DoD systems engineering and assessment.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) E65 / <i>Modeling and Simulation</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p><i>FY 2021 Plans:</i> Revision of DoD Cybersecurity Analysis and Review (DoDCAR) analysis tools and testing of implementations of DoDCAR based cyber architecture and system assessment methods. This effort will develop add Mil-Cloud networking, and the evaluation of network security solutions. Will expand the testing of Mil-Cloud access point solutions with government and contracted labor support. Will perform additional product and solution testing. Will evaluate performance monitoring framework to support reliable operation of enterprise services and applications. This task will develop continued assessment, testing, prototype improvement and implementation of DoDCAR processes. This includes portfolio management against threat coverage of DoD Networks. Will continue fielding modeling tools integrated with the DISN for automated DISN views and troubleshooting tools. Will develop modeling and simulation tools to analyze planned changes to the DISN optical and IP core network, data centers, internet and commercial cloud computing gateways, and network security solutions. Will develop capabilities for analysis of software defined networking. Will perform test and evaluation of DISN Internet Access Point security solutions with government and contracted labor support. Will research technologies and solutions that can be transitioned to operations and will demonstrate feasibility through solutions analysis and proof-of-concept development and test. Will perform product and solution assessments using developed modeling tools to provide technical solutions for IT capabilities to ensure compatibility and interoperability with the DISN, on-premise and cloud data centers, and JIE solution architectures. Will develop application performance monitoring to support reliable operation of enterprise services and applications.</p> <p><i>FY 2022 Plans:</i> Will continue fielding modeling tools integrated with the DISN for automated DISN views and troubleshooting tools and begin migration to cloud based development and monitoring tools. Will develop modeling and simulation tools to analyze planned changes to the DISN optical and IP core network, data centers, internet and commercial cloud computing gateways, universal gateways, enterprise services, and network security solutions. Will develop capabilities for analysis of software defined networking. Will perform test and evaluation of DISN Internet Access Point security solutions with government and contracted labor support. Will research technologies and solutions that can be transitioned to operations and will demonstrate feasibility through solutions analysis and proof-of-concept development and test. Will perform product and solution assessments using developed modeling tools to provide technical solutions for IT capabilities to ensure compatibility and interoperability with the DISN, on-premise and cloud data centers, and JIE solution architectures. Will develop application performance monitoring to support reliable operation of enterprise services and applications.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase of +\$0.033 from FY 2021 to FY 2022 is due to additional efforts to develop and test cloud defensive cyber operations performance metrics.</p>			
Accomplishments/Planned Programs Subtotals	2.109	4.068	4.101

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) E65 / <i>Modeling and Simulation</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0302019K: <i>Operation & Maintenance, Defense-Wide</i>	16.579	16.911	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Enterprise Wide Systems Engineering (EWSE) uses contractors to assist/supplement the Government lead/team for technical activities. Subject matter experts in both large and small businesses are sought for the engineering support. Firm fixed price contracts with one option year are typically used in open competition. Furthermore, technical work with Federally Funded Research and Development Centers (FFRDCs) such as MITRE and MIT Lincoln Lab are established and coordinated when the Government can leverage their expertise and R&D in the key technology.

Modeling and Simulation uses a range of contractors for modeling support to the various projects. Contractors range from small to large business, predominantly using open competition methods and Firm Fixed Price (FFP) tasks and utilizing multi-year (base plus option years) contracts where possible. Support includes network modeling tool and processes development to adapt to ever-evolving DoD programs and projects, analyses, capacity planning, and network redesign using the models. Some specific support (e.g., integration with proprietary software) will require contracting with OPNET (e.g., sole source). Federally Funded Research and Development Centers (FFRDCs) are also considered depending upon the task.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / Defense Info. Infrastructure Engineering and Integration	Project (Number/Name) E65 / Modeling and Simulation
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development 1	SS/FFP	OPNET Tech, Inc : Bethesda, MD	10.245	0.218	Feb 2020	0.276	Feb 2021	0.276	Feb 2022	-		0.276	Continuing	Continuing	Continuing
Product Development 2	C/CPFF	APPTIS : Chantilly, VA	3.851	0.087	Feb 2020	0.187	Feb 2021	0.187	Feb 2022	-		0.187	Continuing	Continuing	Continuing
Product Development 3	SS/FFP	Falls Church, VA : Falls Church, VA	1.312	-		-		-		-		-	0.000	1.312	-
Product Development 4	C/FFP	Booz Allen, Hamilton : McLean, VA	5.193	0.170	Feb 2020	0.250	Feb 2021	0.250	Feb 2022	-		0.250	Continuing	Continuing	Continuing
Product Development 5	C/FFP	NRL : Washington, DC	0.100	-		-		-		-		-	0.000	0.100	-
Product Development 6	C/CPFF	Soliel, LLC : Reston, VA	3.862	-		-		-		-		-	0.000	3.862	-
Product Development 7	C/FFP	COMPTEL : Arlington, VA	2.805	-		-		-		-		-	0.000	2.805	-
Product Development 8	C/CPFF	COMPTEL : Arlington, VA	0.926	-		-		-		-		-	0.000	0.926	-
Product Development 9	C/CPFF	MIT Lincoln Labs : Cambridge, MA	13.299	-		-		-		-		-	0.000	13.299	-
Product Development 10	MIPR	Various : Various	11.268	-		-		-		-		-	0.000	11.268	-
Enterprise Wide Systems Engineering 11	C/FFP	Northrop Grumman : Fairfax, VA	1.784	-		-		-		-		-	0.000	1.784	-
Clear Sky Pilot	C/CPFF	AFRL Terremark : Various	24.083	-		-		-		-		-	0.000	24.083	-
Narus	C/CPFF	AFRL : Rome, NY	1.450	-		-		-		-		-	0.000	1.450	-
Cyber Accelerator	C/CPFF	DTIC : Alexandria, VA	7.516	-		-		-		-		-	0.000	7.516	-
Commercial Integration Demonstration	C/CPFF	DTIC : Alexandria, VA	2.750	-		-		-		-		-	0.000	2.750	-
Web Content Filtering: Perimeter Defense Integration	C/FFP	Oberon Associates : Ft. Meade, MD	1.854	-		-		-		-		-	0.000	1.854	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / Defense Info. Infrastructure Engineering and Integration	Project (Number/Name) E65 / Modeling and Simulation
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Host Based Security Ops Assessment	C/FFP	Summit Technologies, Inc : Ft Meade, MD	0.700	-		-		-		-		-	0.000	0.700	-
Secure Configuration Management Ops Assessment	C/FFP	Cyber Security research and Solutions Corp : Ft Meade	0.964	-		-		-		-		-	0.000	0.964	-
Product Development 11	C/CPFF	Johns Hopkins University Applied Physics : Laurel, MD	0.861	-		-		-		-		-	0.000	0.861	-
Engineering Technical Services	MIPR	Axom Technologies : Fort Meade	1.150	-		-		-		-		-	0.000	1.150	-
Requirements Analysis/ Program Management: Civilian Pay	MIPR	Various : Various	1.537	0.520	Feb 2020	-		-		-		-	Continuing	Continuing	Continuing
Cloud Hosted Shared Services	C/FFP	Nisga's Data Systems LLC : Herndon, VA	1.350	-		-		-		-		-	0.000	1.350	-
Cloud/ Gateway Pilot	C/FFP	Alvarez and Associates : Tysons Corner, VA	0.304	-		-		-		-		-	0.000	0.304	-
Cloud/ Gateway Pilot	C/FFP	BY Light Professional IT Services : : Arlington, VA	0.413	-		-		-		-		-	0.000	0.413	-
DoDCAR	C/FFP	TBD : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			99.577	0.995		0.713		0.713		-		0.713	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / Defense Info. Infrastructure Engineering and Integration	Project (Number/Name) E65 / Modeling and Simulation
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IP Network Modeling	SS/FFP	Riverbed : Bethesda, MD	2.073	0.588	Sep 2020	1.504	Sep 2021	2.036	Sep 2022	-		2.036	Continuing	Continuing	-
JCSS/JRSS Modeling	C/FFP	Booz Allen, Hamilton : McLean, VA	2.377	0.251	May 2020	1.210	May 2021	1.210	May 2022	-		1.210	Continuing	Continuing	-
JRSS Modeling	C/FFP	IPKEYS : Annapolis Junction, MD	0.373	-		-		-		-		-	0.000	0.373	-
E2E Performance	C/FFP	Tapestry : Chambersburg, PA	0.251	-		0.499	Oct 2020	-		-		-	0.000	0.750	-
E2E Performance	C/FFP	Various : Various	0.352	0.275	Oct 2019	0.142	Oct 2020	0.142	Oct 2021	-		0.142	Continuing	Continuing	-
Subtotal			5.426	1.114		3.355		3.388		-		3.388	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	SS/CPFF	Comptel : Arlington, VA	2.072	-		-		-		-		-	0.000	2.072	-
Subtotal			2.072	-		-		-		-		-	0.000	2.072	N/A

			Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			107.075	2.109	4.068	4.101	-	4.101	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) E65 / <i>Modeling and Simulation</i>

FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Horizontal Engineering</i>	
Horizontal Engineering	
<i>Modeling and Simulation Applications</i>	
Modeling and Simulation Applications	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Horizontal Engineering</i>	
Horizontal Engineering	
<i>Modeling and Simulation Applications</i>	
Modeling and Simulation Applications	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) E65 / <i>Modeling and Simulation</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Horizontal Engineering</i>				
Horizontal Engineering	1	2017	4	2026
<i>Modeling and Simulation Applications</i>				
Modeling and Simulation Applications	1	2017	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>				Project (Number/Name) T62 / <i>DoD Information Network (DODIN) Systems Engineering and Support</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T62: <i>DoD Information Network (DODIN) Systems Engineering and Support</i>	72.106	8.689	12.256	9.997	-	9.997	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The DoD Information Network (DODIN) Systems Engineering and Support project identifies key technology areas that are essential for Defense Information Systems Agency (DISA) including: Machine Learning/Artificial Intelligence (AI), Mobility, Assured Identity, Rapid Transition, Cyber Defense, and Blockchain among other technologies.

The DODIN Systems Engineering and Support Project ensure the technical strategies for the Defense Information Systems Agency (DISA) are in line with the DoD IT Efficiency strategy and the latest Department of Defense Chief Information Office (DoD CIO) Capabilities Planning Guidance (CPG) through the Emerging Technology Directorate (EM). These strategies will establish the foundation for DISA's technology investments and technical development. The EM leverages emerging technology to drive efficiencies and cost savings to the DoD, the Warfighter, and other Federal Agencies, and provides actionable, decision-oriented information to the Secretary of Defense, Joint Staff, Military Services, Combatant Commands, and other mission partners in satisfying DoD mission objectives.

Cyber security and cloud computing present critical near term challenges, especially the ability to securely leverage commercial cloud service offerings. The EM's partnership with Defense Advanced Research Projects Agency (DARPA) will assess and transition technologically relevant and mature solutions. Included are applications with a security wrapper that detect and mitigate cyberattacks; smart routing and managed reputation capability; embedded system defense capabilities; and resilient and intrusion-tolerant network capabilities.

Partnerships with industry, academia, and the Federal sectors will produce requisite cyber measures and ensure optimal use of commercial cloud services. The EM will conduct technology assessments, process improvements, as well as the analysis and review of potential technology solutions, products, capabilities and services to ensure consistency with DODIN architecture and standards. Enabled by the Technology Assessment Framework (TAF) and the DISA Technology Information Repository (DTIR), the EM will perform "quick looks" and deeper technology evaluations to provide critical awareness, characterization, and suitability of specific technologies. These include the assessments of advanced cloud management capabilities; physical containers to enable mobile data center; emerging open source Storage Service Application Programming Interfaces (APIs) and/or abstractions and global standards for storage services; analytic platform performance baselines of emerging commercial analytic platform products; advanced approaches to Continuity of Operations (COOP) in a hybrid cloud environment; and the next generation software defined networks for automating and virtualizing the DODIN.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Department of Defense Information Network (DODIN) Systems Engineering and Support	8.689	12.256	9.997

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T62 / <i>DoD Information Network (DODIN) Systems Engineering and Support</i>

B. Accomplishments/Planned Programs (\$ in Millions)

Description: The DoD Information Network (DODIN) Systems Engineering and Support project aligns with the updated DISA Strategic Plan, which includes the Chief Technology Officer’s Outlook and a Technology Watchlist. The Watchlist identifies key technology areas that are essential for Defense Information Systems Agency (DISA) including: Process/Automation, Cloud, Cyber Security, End-User Devices, and Communication (DODIN, Mobile/End-User Devices). The DODIN Systems Engineering and Support Project ensure the technical strategies for the Defense Information Systems Agency (DISA) are in line with the DoD IT Efficiency strategy and the latest Department of Defense Chief Information Office (DoD CIO) Capabilities Planning Guidance (CPG) through the Office of the Chief Technology Officer (OCTO). These strategies will establish the foundation for DISA’s technology investments and technical development. The OCTO leverages emerging technology to drive efficiencies and cost savings to the DoD, the Warfighter, and other Federal Agencies, and provides actionable, decision-oriented information to the Secretary of Defense, Joint Staff, Military Services, Combatant Commands, and other mission partners in satisfying DoD mission objectives.

Cyber security and cloud computing present critical near term challenges, especially the ability to securely leverage commercial cloud service offerings. The OCTO’s partnership with Defense Advanced Research Projects Agency (DARPA) will assess and transition technologically relevant and mature solutions. Included are applications with a security wrapper that detect and mitigate cyberattacks; smart routing and managed reputation capability; embedded system defense capabilities; and resilient and intrusion-tolerant network capabilities.

Partnerships with industry, academia, and the Federal sectors will produce requisite cyber measures and ensure optimal use of commercial cloud services. The OCTO will conduct technology assessments, process improvements, as well as the analysis and review of potential technology solutions, products, capabilities and services to ensure consistency with DODIN architecture and standards. Enabled by the Technology Assessment Framework (TAF) and the DISA Technology Information Repository (DTIR), the OCTO will perform “quick looks” and deeper technology evaluations to provide critical awareness, characterization, and suitability of specific technologies. These include the assessments of advanced cloud management capabilities; physical containers to enable mobile data center; emerging open source Storage Service Application Programming Interfaces (APIs) and/or abstractions and global standards for storage services; analytic platform performance baselines of emerging commercial analytic platform products; advanced approaches to Continuity of Operations (COOP) in a hybrid cloud environment; and the next generation software defined networks for automating and virtualizing the DODIN. The Agency’s internal innovation suggestion program, DISArruptive, previously resourced by available government civilian time, will be revamped in FY2019 with relaunch by FY20 to deliver technical expertise and including training for potential innovators and innovation suggestion technical support including limited test conduct, instrumentation, or test materials.

FY 2021 Plans:

Identify and deliver innovative processes, services, and capabilities across all facets of DISA’s operating model. Accelerate the transition of emerging technology through collaboration, outreach, and cooperative research and development agreements

FY 2020	FY 2021	FY 2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T62 / <i>DoD Information Network (DODIN) Systems Engineering and Support</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>(CRADA's) among agency, mission, and industry partners. Work with mission partners to discover, test, and deploy appropriate technological solutions/processes, including efforts in development, security and operations (DevSecOps), Next-Generation Endpoint, Machine Learning/Artificial Intelligence (AI), Assured Identity, Universal Transport, Internet Browser Isolation, Blockchain, Commercial Solutions for Classified (CSfC) , SIPR/NIPR Single Device and Multiple Access Reduced Sign-on. Further Operationalize DISAruprive enhancements, continue training support curriculum, and enhance R&D support to innovative ideas received through the DISAruprive portal.</p> <p>FY 2022 Plans: Work with mission partners to discover, test, and deploy appropriate technology solutions/processes, including efforts in Multi-Class Mobile endpoint, End-User Devices, Assured Identity, Machine Learning/Artificial Intelligence (AI), Cyber Defense, Cloud Computing, and Process Automation. Perform discovery, research, development and experimentation of emerging and commercial technologies to fill capability shortfalls and technology gaps across the Future Years Defense Program (FYDP). Collaborate and influence commercial leaders in innovative technology and practices in an effort to guide the Department towards the 21st century warfighting Domain. Pursue leading innovative solutions from industry, academia, and the Federal sector, and engage industry partners for commercial best practices. Conduct technical system engineering reviews and oversight of DISA and DoD enterprise products and services. Further Operationalize DISAruprive enhancements, continue training support curriculum, and enhance R&D support to innovative ideas received through the DISAruprive portal.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$2.259 from FY 2021 to FY 2022 is due to a reduction in technology research partnerships with Universities, and University affiliations, in order to develop deeper expertise in fewer core technology areas (-\$0.124) and a realignment of -\$2.135 to a establish the ISO ST-0100 project that will be moving to Operation & Maintenance in FY 2022.</p>			
Accomplishments/Planned Programs Subtotals	8.689	12.256	9.997

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• O&M, DW/PE 0302019K: <i>Operation & Maintenance, Defense-Wide</i>	2.899	2.962	3.035	-	3.035	-	-	-	-	Continuing	Continuing

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T62 / <i>DoD Information Network (DODIN) Systems Engineering and Support</i>

D. Acquisition Strategy

Market research during the acquisition process includes a review of DISA contracts, other DoD contract vehicles, and other Federal Government agency contracts which are advertised for Government-wide usage. This market research also includes consideration of small businesses including minority/women owned (8A) businesses, Historically Black Colleges and Universities, mentor/protégé and other specialized contract vehicles and processes. Market research evaluates all contractors available from DISA sources for their ability to deliver the products specifically required for the unique program efforts. The program works collaboratively with vendors to obtain generic cost data for planning and analysis purposes. Past and current contract prices for similar work and other government-wide agency contracts provide additional sources of information. Quotes from multiple sources help provide averages for more realistic cost estimates. DISA makes a concerted effort to award many of its contracts to small businesses. Additionally, many of the DISA contracts are awarded with multiple option periods. These have the benefit of fixing labor costs over an extended period and minimizing the administrative costs associated with re-issuing short-term contracts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / Defense Info. Infrastructure Engineering and Integration	Project (Number/Name) T62 / DoD Information Network (DODIN) Systems Engineering and Support
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering and Technical Services	FFRDC	MITRE : McLean, VA	14.233	0.505	Oct 2019	0.505	Oct 2020	0.671	Nov 2021	-		0.671	Continuing	Continuing	Continuing
Industry Tech Res	C/FFP	Gartner : Various	0.249	-		-		-		-		-	0.000	0.249	-
GIG Technical Insertion Engineering	C/FFP	SRA, Inc. : Fairfax, VA	1.211	-		-		-		-		-	0.000	1.211	-
Product Development	C/Various	Raytheon : Various	1.601	-		-		-		-		-	0.000	1.601	-
DAMA-C	MIPR	Defense Micro-electronics Activity : Various	11.794	-		-		-		-		-	0.000	11.794	-
Thin Engineering Support	MIPR	MIT Lincoln Labs : Lexington, MA	4.260	-		-		-		-		-	0.000	4.260	-
Engineering and Technical Support	C/FFP	Moya Technologies, Inc. : Various	1.212	-		-		-		-		-	0.000	1.212	-
Engineering Technical Services	MIPR	Various : Chambersburg, PA	4.399	1.000	Jan 2020	1.967	Jan 2021	-		-		-	Continuing	Continuing	Continuing
Product Development	C/FFP	Science and Technology Associates, Inc : Arlington, VA	2.091	-		-		-		-		-	0.000	2.091	-
Product Development	MIPR	SPAWAR : Charleston, SC	0.376	-		-		1.300	Mar 2022	-		1.300	Continuing	Continuing	Continuing
Product Development	MIPR	NSA : Ft. Meade, MD	0.691	-		-		-		-		-	0.000	0.691	-
Engineering Technical Services	C/FFP	TWM : Falls Church, VA	0.202	-		-		-		-		-	0.000	0.202	-
Product Development	C/FFP	SOLERS : Arlington, VA	3.023	-		-		-		-		-	0.000	3.023	-
Product Development	C/FFP	Booz Allen Hamilton : McLean, VA	1.062	-		-		-		-		-	0.000	1.062	-
Product Development	MIPR	JITC : Ft. Meade, MD	0.351	-		-		-		-		-	0.000	0.351	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / Defense Info. Infrastructure Engineering and Integration	Project (Number/Name) T62 / DoD Information Network (DODIN) Systems Engineering and Support
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Technical Services	MIPR	Various : Ft. Meade, MD	4.481	-		-		-		-		-	0.000	4.481	-
Engineering Technical Services	C/Various	IV2: IT Consulting Services, LLC : Jackson, WY	1.674	-		-		-		-		-	0.000	1.674	-
Engineering Technical Services	C/FFP	Information Assurance TWM Follow On : Various	0.741	-		-		-		-		-	0.000	0.741	-
Engineering Technical Services	C/CPFF	TIE NEMS: B&D Consulting : Various	0.564	-		-		-		-		-	0.000	0.564	-
Engineering Technical Services	C/Various	Tapestry Technologies, INC : Various	3.173	-		-		-		-		-	0.000	3.173	-
Management Services - Civilian Pay	Various	Various : Ft. Meade, MD	6.428	-		-		-		-		-	0.000	6.428	-
Engineering Technical Services	C/FFP	PMPC-Itility LLC : Ft. Meade, MD	0.807	-		-		-		-		-	Continuing	Continuing	Continuing
Information Assurance	C/CPFF	Tapestry Tech : Chambersburg, PA	0.583	0.600	Jan 2020	0.600	Jan 2021	1.061	Dec 2021	-		1.061	Continuing	Continuing	Continuing
Sys Engineering	C/CPFF	Various : Ft. Meade, MD	4.911	4.897	Mar 2020	5.114	Dec 2020	1.057	Mar 2022	-		1.057	Continuing	Continuing	Continuing
Management Services - Civilian Pay	C/CPFF	Various : Ft. Meade	1.989	1.417	Oct 2019	3.570	Mar 2021	3.955	Nov 2021	-		3.955	Continuing	Continuing	Continuing
Program Management and Knowledge Management	C/FFP	TBD : TBD	-	-		-		1.453	Mar 2022	-		1.453	Continuing	Continuing	Continuing
(DODIN) Systems Engineering and Support	C/FFP	TBD : TBD	-	0.270	Mar 2020	0.500	Mar 2021	0.500	Mar 2022	-		0.500	Continuing	Continuing	Continuing
Subtotal			72.106	8.689		12.256		9.997		-		9.997	Continuing	Continuing	N/A
Project Cost Totals			72.106	8.689		12.256		9.997		-		9.997	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency							Date: May 2021			
Appropriation/Budget Activity 0400 / 7			R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>			Project (Number/Name) T62 / <i>DoD Information Network (DODIN) Systems Engineering and Support</i>				
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / Defense Info. Infrastructure Engineering and Integration	Project (Number/Name) T62 / DoD Information Network (DODIN) Systems Engineering and Support

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Technical Direction Agent (TDA)																												
Technical Direction Agent (TDA)	[REDACTED]																											
Engineering Support																												
Engineering Support	[REDACTED]																											
Industry/University Technical Research																												
Industry/University Technical Research	[REDACTED]																											
Technology Assessments																												
Technology Assessments	[REDACTED]																											
DISA Ruptive																												
DISA Ruptive																												
Research and Development for technical solutions																												
Research and Development for technical solutions	[REDACTED]																											

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Technical Direction Agent (TDA)																												
Technical Direction Agent (TDA)	[REDACTED]																											
Engineering Support																												
Engineering Support	[REDACTED]																											
Industry/University Technical Research																												
Industry/University Technical Research	[REDACTED]																											
Technology Assessments																												
Technology Assessments	[REDACTED]																											

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / Defense Info. Infrastructure Engineering and Integration	Project (Number/Name) T62 / DoD Information Network (DODIN) Systems Engineering and Support
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>DISA Ruptive</i>																												
DISA Ruptive																												
<i>Research and Development for technical solutions</i>																												
Research and Development for technical solutions																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T62 / <i>DoD Information Network (DODIN) Systems Engineering and Support</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Technical Direction Agent (TDA)				
Technical Direction Agent (TDA)	1	2017	4	2024
Engineering Support				
Engineering Support	1	2017	4	2024
Industry/University Technical Research				
Industry/University Technical Research	1	2017	4	2024
Technology Assessments				
Technology Assessments	1	2017	4	2024
DISA Ruptive				
DISA Ruptive	4	2020	3	2025
Research and Development for technical solutions				
Research and Development for technical solutions	4	2019	3	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T-0010 / <i>Enterprise Messaging</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T-0010: <i>Enterprise Messaging</i>	0.000	0.000	0.000	2.135	-	2.135	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Enterprise Messaging (EM) is an infrastructure service providing standardized mechanisms to exchange critical and globally visible data between applications/machines and provides the infrastructure for joint information sharing across the entire DoD. DISA Tasking Order (DTO) 15-544: Cybersecurity Risk Management Data Sharing mandates use of EM for messaging-to-messaging (M2M) data exchanges.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enterprise Messaging (EM)	0.000	-	2.135
Description: Define and deploy a distributed EM capability that is highly available, secure, and scalable with redundancy, built-in self-recovery, and zero downtime for updates for the next major version of the EM capability.			
FY 2022 Plans: Build the test environments on Secure Internet Protocol Router/Non-Secure Internet Protocol Router (SIPR/NIPR) and developing new Enterprise Messaging technology to replace the current deployed systems. These systems will run in parallel until fully operational capability (FOC) is achieved. To achieve FOC an operational assessment of the new infrastructure, software, security requirements, and user functional testing will be completed.			
FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$2.135 from FY 2021 to FY 2022 will be used for support, new infrastructure, software, testing, and to establish a robust risk management process that meets federal agency information security standards and achieve Full Operational Capability (FOC) of Enterprise Messaging (EM) Version 5.0 (EM V5.0) for JEON ST-0010. EM is an automated machine to machine messaging system which automatically communicates DoD system status and other operational information across DoD networks. Data is used to evaluate the readiness and capability of U.S. armed forces to carry out assigned and potential tasks. This JEON project will be moving to Operation & Maintenance in FY 2022.			
Accomplishments/Planned Programs Subtotals	0.000	-	2.135

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T-0010 / <i>Enterprise Messaging</i>

D. Acquisition Strategy
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T-0010 / <i>Enterprise Messaging</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Technical Services	C/FFP	TBD : TBD	-	-		-		2.135	Jul 2022	-		2.135	Continuing	Continuing	-
Subtotal			-	-		-		2.135		-		2.135	Continuing	Continuing	N/A

			Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-	0.000	2.135	-	2.135	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T-0010 / <i>Enterprise Messaging</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Enterprise Messaging System	
Engineering Technical Services	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0302019K / <i>Defense Info. Infrastructure Engineering and Integration</i>	Project (Number/Name) T-0010 / <i>Enterprise Messaging</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Enterprise Messaging System</i>				
Engineering Technical Services	4	2022	3	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303126K / <i>Long-Haul Communications - DCS</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	201.292	11.749	11.884	10.275	-	10.275	-	-	-	-	Continuing	Continuing
T82: <i>DISN Systems Engineering Support</i>	201.292	11.166	11.884	10.275	-	10.275	-	-	-	-	Continuing	Continuing
COVID: <i>COVID</i>	-	0.583	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Information Systems Network (DISN) is the Department of Defense's (DoD's) consolidated worldwide telecommunications capability that provides secure, end-to-end information transport for DoD operations. It also provides the warfighter and the Combatant Commands (COCOMs) with a robust Command, Control, Communications, Computing, and Intelligence infrastructure to support DoD net-centric missions and business requirements. The Defense Red Switch Network (DRSN) is a DoD Secure Voice, Command and Control Network that is controlled and directed by the Joint Staff and the Office of the Secretary of Defense. It provides multi-level secure, rapid, ad hoc, voice calling and conferencing capability to the President, Secretary of Defense, Services, COCOMs, subordinate organizations (military and civilian) and coalition allies. DRSN also supports the Presidential and National Voice Conferencing (PNVC) (formerly known as National Emergency Action Decision Network (NEADN)) and the Enhanced Pentagon Capability/Survivable Emergency Conferencing Network. These funds support three major efforts:

DISN Systems Engineering Support: This effort includes engineering for Networking capabilities and optical transport capabilities to ensure the essential operations of a robust and secure DISN; refreshing the systems that instrument and automate the operations, administration, maintenance and provisioning functions and creating a single DISN-wide view for network managers and operators.

PNVC: The PNVC provides selected system engineering for continued development and testing of the PNVC equipment for senior leaders. The PNVC system provides a military, satellite-based, survivable, secure, and near toll-quality voice conferencing capability for the President, Secretary of Defense, Chairman, Joint Chiefs of Staff, and other senior national/military leaders anywhere in the world as needed. Funding supports the acquisition activities for the PNVC baseband equipment, including critical and essential engineering required to develop new vocoder and cryptographic and audio-summing equipment.

DoD Mobility: The Mobility Program will lead the development of an Enterprise Solution to support Controlled Unclassified Information (CUI) and leverage commercial carrier infrastructure to provide entry points for both classified and unclassified wireless capabilities. Continued evolution and expansion, within the Department, of the DoD Mobility program will allow for increased mobile services in direct support of the warfighter and the COCOMs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303126K / <i>Long-Haul Communications - DCS</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	11.749	11.884	11.674	-	11.674
Current President's Budget	11.749	11.884	10.275	-	10.275
Total Adjustments	0.000	0.000	-1.399	-	-1.399
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustmenet	-	-	-1.399	-	-1.399

Change Summary Explanation

Decrease of -\$1.399 in FY 2022 is due to reduction in technical contract support.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS				Project (Number/Name) T82 / DISN Systems Engineering Support			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T82: DISN Systems Engineering Support	201.292	11.166	11.884	10.275	-	10.275	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Information Systems Network (DISN) Systems Engineering Support project encompasses four activities:

Next Generation Networking Technologies (formally known as Internet Protocol (IP) and Optical Transport Technology Refresh): Provides engineering technical expertise to support and integrate newer, more efficient technologies required to replace end of lifecycle equipment and to achieve more efficient Networking technologies. These new technologies provide protected and assured services for critical support to the warfighter as well as other DoD and federal customers.

Element Management System (EMS): Provides operational and network operating systems that instrument and automate the operations, administration, maintenance and provisioning functions creating a single DISN-wide view for network managers and operators. EMS is a component of the DISN Operational Support Systems (OSS).

Peripheral and Component Design (Secure Voice Switches): This equipment satisfies unique military requirements for multi-level security (i.e., extensive conferencing/conference management capabilities and features, and gateway functions) that are not available in commercial products.

DoD Mobility: The Mobility Program will lead the development of an Enterprise Solution to support Controlled Unclassified Information (CUI) and leverage commercial carrier infrastructure to provide entry points for both classified and unclassified wireless capabilities. Continued evolution and expansion, within the Department, of the DoD Mobility program will allow for increased mobile services in direct support of the warfighter and the COCOMs.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Next Generation Networking Technologies (formally known as Internet Protocol (IP) and Optical Transport Technology Refresh)	5.061	5.318	4.583
Description: Provides engineering technical expertise to support and integrate newer, more efficient technologies required to replace end of lifecycle equipment and to achieve more efficient Networking technologies. These new technologies provide protected and assured services for critical support to the warfighter as well as other DoD and federal customers.			
FY 2021 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>The DISN will continue to perform Research, Test and Evaluation activities in Software Environment, Next Generational Networking to include Gray networks and all associated encryption technologies.</p> <p>FY 2022 Plans: Will continue to perform Research, Test and Evaluation activities in Software Environment, Next Generational Networking to include Gray networks and all associated encryption technologies.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$0.735 from FY 2021 to FY 2022 is due to reduction in DISA Network Architecture requirements.</p>			
<p>Title: Peripheral and Component Design</p> <p>Description: This equipment satisfies unique military requirements for multi-level security (i.e., extensive conferencing/conference management capabilities and features, and gateway functions) that are not available in commercial products.</p> <p>FY 2021 Plans: Support replacement of obsolete equipment as it relates to Secure Voice Switches.</p> <p>FY 2022 Plans: Continue to support replacement of obsolete equipment as it relates to Secure Voice Switches.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$0.270 from FY 2021 to FY 2022 is due to reduction in technical contract support.</p>	1.627	1.817	1.547
<p>Title: Mobility</p> <p>Description: The Mobility Program will lead the development of an Enterprise Solution to support Controlled Unclassified Information (CUI) and leverage commercial carrier infrastructure to provide entry points for both classified and unclassified wireless capabilities. Continued evolution and expansion, within the Department, of the DoD Mobility program will allow for increased mobile services in direct support of the warfighter and the Combatant Commands (COCOMs).</p> <p>FY 2021 Plans: Developmental and production testing of new-model commercial mobile devices per product baseline, carrier, and platform authenticated against the Mobile Device Manager. Security, interoperability, and functional evaluation of mobile applications. Production testing of the applications development framework and integration testing for infrastructure components, including additional gateway instances supporting secret and top secret domains as well as any COTS component technology refresh requirements against the end-to-end architecture. In addition, Outside Continental United States (OCONUS) development of the</p>	4.478	4.749	4.145

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Commercial Solutions for Classified (CSfC) converged gateway (C2G) merging of current DoD Enterprise Classified Travel Kit (DEC-TK) gateway and Defense Mobility Classified Capability - Secret (DMCC-S) gateway.			
<i>FY 2022 Plans:</i> Identify, assess, explore, and develop unclassified and classified mobile technologies enhancements that will increase information sharing and use of secure mobile devices across the global DoD. Support moving towards a desktop zero environment. Developmental and production testing of new-model commercial mobile devices per product baseline, carrier, and platform authenticated against the Mobile Device Manager. Security, interoperability, and functional evaluation of mobile applications. Production testing of the applications development framework and integration testing for infrastructure components. The modernization of the Secure View capability will require prototype work to deliver a SIPR data at rest capability in a Windows environment. The development and deployment of the Unclassified and Classified Mobility Gold Core pre-production environments will support ongoing and future mobility prototype integration testing with various DMUC and DMCC applications/capabilities (i.e., email, purebred, etc.).			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease of -\$0.604 from FY 2021 to FY 2022 is due to contract efficiencies achieved through reduced system engineering costs for unified wireless capabilities.			
Accomplishments/Planned Programs Subtotals	11.166	11.884	10.275

C. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>	
• O&M/PE0303126K: <i>Operation & Maintenance, Defense-Wide</i>	123.058	127.029	128.714	-	128.714	-	-	-	-	-	Continuing	Continuing
• Procurement/PE0303126K: <i>Procurement, Defense-Wide</i>	17.574	28.141	26.982	-	26.982	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy
Products acquired for Element Management System (EMS) requirements are professional services, network management software, supporting hardware, and development tools. Professional services will be procured through existing contracts available to DISA. The DISA Computing Services will be used for hardware and software leased managed services, as well as the National Aeronautics and Space Administration (NASA) enterprise equipment contracting vehicle when necessary and applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / <i>Long-Haul Communications</i> - DCS	Project (Number/Name) T82 / <i>DISN Systems Engineering Support</i>
<p>The Internet Protocol (IP) enabling of the DRSN Digital Small Switch (DSS-2A) switch, Secure voice conference management improvements, High Altitude Electromagnetic Pulse (HEMP) Phone and related DRSN components will use an existing Air Force Command and Control Switching Systems (CCSS) Depot Support contract with the Secure Voice Switch systems manufacturer (Raytheon) to perform the development and modification work, system integration and testing support.</p> <p>The Mobility initiative supports systems engineering and development of a DoD Mobility solution. The focus is on acquisitions to support the program across the DoD to include scheduling, delivery approach, and risk management. This also includes the vision and phased approach to unified capabilities for classified and unclassified wireless capabilities to meet DoD needs.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering for DSRN Components & Peripherals	Various	Raytheon : Florida	15.525	1.627	Mar 2020	1.462	Mar 2021	1.462	Mar 2022	-		1.462	Continuing	Continuing	Continuing
Systems Engineering for IP Enabling DSS-2A Secure Voice Switch	C/T&M	Raytheon : Florida	21.440	-		-		-		-		-	0.000	21.440	-
Engineering & Technical Services for Information Sharing Services for Voice	C/T&M	SAIC : VA	2.774	-		-		-		-		-	0.000	2.774	-
Engineering & Technical Services for Network Mgmt Solutions for New DISN Element Technologies	C/T&M	Various : VA	2.026	-		-		-		-		-	0.000	2.026	-
Single Sign On	C/T&M	SAIC : Various	1.397	-		-		-		-		-	0.000	1.397	-
System Engineering for VoSIP	C/T&M	Various : Various	1.218	-		-		-		-		-	0.000	1.218	-
Space Vehicle Upload	SS/CPFF	Iridium : McLean, VA	12.635	-		-		-		-		-	0.000	12.635	-
Gateway Improvement	SS/CPFF	Iridium : McLean, VA	13.565	-		-		-		-		-	0.000	13.565	-
Field Application Tool	MIPR	NSWC : Dahlgren	6.635	-		-		-		-		-	0.000	6.635	-
DTCS Handset	SS/CPFF	Iridium : McLean, VA	5.850	-		-		-		-		-	0.000	5.850	-
Command and Control Handset	SS/CPFF	Iridium : McLean, VA	7.275	-		-		-		-		-	0.000	7.275	-
Alt. Supplier Development	MIPR	NSWC : Dahlgren, VA	3.450	-		-		-		-		-	0.000	3.450	-
Radio Only Interface	MIPR	NSWC : Dahlgren, VA	2.525	-		-		-		-		-	0.000	2.525	-
Remote Control Unit	SS/CPFF	Iridium : McLean, VA	2.100	-		-		-		-		-	0.000	2.100	-
Type 1 Security	SS/CPFF	Iridium : McLean, VA	6.455	-		-		-		-		-	0.000	6.455	-
Vehicle Integration	MIPR	NSWC : Dahlgren, VA	3.185	-		-		-		-		-	0.000	3.185	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering for IP and Optical Technology Refresh	Various	DITCO : Various	8.717	-		-		-		-		-	0.000	8.717	-
Engineering & Technical Services for Web Based Mediation	C/T&M	Apptis : VA	1.168	-		-		-		-		-	0.000	1.168	-
System Engineering and Technical Services for ISOM	Various	DITCO : Various	2.915	-		-		-		-		-	0.000	2.915	-
Serialized Asset Management - OSS	C/T&M	SAIC : VA	0.822	-		-		-		-		-	0.000	0.822	-
Gateways - Mobility	C/FFP	Various : Various	7.107	-		-		-		-		-	0.000	7.107	-
Thin Client Solution - Mobility	C/Various	Various : Various (MDM)	2.154	-		-		-		-		-	0.000	2.154	-
New Field Communications	C/FFP	Various : Various	0.550	-		-		-		-		-	0.000	0.550	-
National Conference Management	MIPR	USAF : Raytheon	4.514	-		-		-		-		-	0.000	4.514	-
IP Enable DRSN	MIPR	USAF : Raytheon	1.562	-		0.355	Mar 2021	0.355	Mar 2022	-		0.355	Continuing	Continuing	-
HEMP Phone Development	MIPR	USAF : Raytheon	0.869	-		-		-		-		-	0.000	0.869	-
100G Optical	Various	Various : Various	0.337	-		-		-		-		-	0.000	0.337	-
Defense Production Act III Optical Networking	Various	Various : Various	2.666	-		-		-		-		-	0.000	2.666	-
DoD Mobility Capability Service Assurance	C/FFP	Various (JITC, HYPHONI) : Various	2.316	-		-		-		-		-	0.000	2.316	-
System Engineering & Future Technology Support	SS/CPFF	SPAWAR : Charleston	2.420	-		-		-		-		-	0.000	2.420	-
System Engineering Support DMCC/DMUC	C/FFP	BAH : Annapolis Junction MD	3.191	1.339	Feb 2020	1.449	Feb 2021	1.449	Feb 2022	-		1.449	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DIUx-Mobility APP Vetting and MSM tools (MTD)	MIPR	Zimperium : Dallas TX	2.237	-		-		-		-		-	0.000	2.237	-
MES-C-DMCC Buildout/ VDI	SS/CPFF	APRIVA/SPAWAR : APRIVA/SPAWAR	-	1.139	Oct 2019	1.300	Oct 2020	0.736	Oct 2021	-		0.736	Continuing	Continuing	-
Subtotal			151.600	4.105		4.566		4.002		-		4.002	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IT Support - Mobility	C/FFP	Arieds, LLC : Ft. Meade	2.300	-		-		-		-		-	0.000	2.300	-
NS2 SE Support - Mobility	C/FFP	APPTIS : Ft. Meade	0.311	-		-		-		-		-	0.000	0.311	-
IT Support - Mobility	Various	Various : Various	3.000	1.050	Oct 2019	1.050	Oct 2020	1.050	Oct 2021	-		1.050	Continuing	Continuing	-
PNVC Software enhancements	C/CPFF	General Dynamics : NSA	5.900	-		-		-		-		-	0.000	5.900	-
Subtotal			11.511	1.050		1.050		1.050		-		1.050	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Certification Testing	Various	JITC : Various	8.242	-		-		-		-		-	0.000	8.242	-
Test & Evaluation Support - Mobility	Various	JITC : Ft. Meade	6.193	0.950	Oct 2019	0.950	Oct 2020	0.950	Oct 2021	-		0.950	Continuing	Continuing	-
Integration, Test ann Modification - Mobility	Various	Various : Various	7.158	-		-		-		-		-	0.000	7.158	-
DISN Tech Refresh	Various	Various : Various	14.283	5.061	Dec 2019	5.318	Dec 2020	4.273	Dec 2021	-		4.273	Continuing	Continuing	-
Various	Various	Various : Various	2.305	-		-		-		-		-	0.000	2.305	-
Subtotal			38.181	6.011		6.268		5.223		-		5.223	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency								Date: May 2021					
Appropriation/Budget Activity 0400 / 7			R-1 Program Element (Number/Name) PE 0303126K / <i>Long-Haul Communications</i> - DCS				Project (Number/Name) T82 / <i>DISN Systems Engineering Support</i>						
	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	201.292	11.166		11.884		10.275		-		10.275	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support	

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DRSN																												
DRSN																												
OSS																												
OSS																												
Technology Refresh																												
Technology Refresh																												
DISN Tech Refresh																												
Mobility																												
Lab Purchase (Gateways, NIPR, SIPR, TS Enclave)																												
DoD Mobility Gateways - Architecture Support																												
NIPR Enclave (MDM, MAS)																												
SIPR Enclave (MDM, MAS)																												
TS Enclave (MDM, MAS)																												
MDM & MAS Operational Testing																												
Virtual Desktop Infrastructure (VDI)																												
PNVC																												
DISN Tech Refresh																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DRSN																												
DRSN																												
OSS																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
OSS																												
Technology Refresh																												
Technology Refresh																												
DISN Tech Refresh																												
Mobility																												
Lab Purchase (Gateways, NIPR, SIPR, TS Enclave)																												
DoD Mobility Gateways - Architecture Support																												
NIPR Enclave (MDM, MAS)																												
SIPR Enclave (MDM, MAS)																												
TS Enclave (MDM, MAS)																												
MDM & MAS Operational Testing																												
Virtual Desktop Infrastructure (VDI)																												
PNVC																												
DISN Tech Refresh																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) T82 / DISN Systems Engineering Support

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
DRSN				
DRSN	1	2017	4	2023
OSS				
OSS	1	2017	4	2017
Technology Refresh				
Technology Refresh	1	2015	4	2021
DISN Tech Refresh	1	2017	4	2025
Mobility				
Lab Purchase (Gateways, NIPR, SIPR, TS Enclave)	1	2017	4	2025
DoD Mobility Gateways - Architecture Support	1	2017	4	2025
NIPR Enclave (MDM, MAS)	1	2017	4	2025
SIPR Enclave (MDM, MAS)	1	2017	4	2025
TS Enclave (MDM, MAS)	1	2017	4	2025
MDM & MAS Operational Testing	1	2017	4	2025
Virtual Desktop Infrastructure (VDI)	4	2018	3	2020
PNVC	4	2018	4	2019
DISN Tech Refresh	1	2019	3	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / Long-Haul Communications - DCS	Project (Number/Name) COVID / COVID
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
COVID: COVID	-	0.583	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Information Systems Network (DISN) Systems Engineering Support project encompasses four activities:

Next Generation Networking Technologies (formally known as Internet Protocol (IP) and Optical Transport Technology Refresh): Provides engineering technical expertise to support and integrate newer, more efficient technologies required to replace end of lifecycle equipment and to achieve more efficient Networking technologies. These new technologies provide protected and assured services for critical support to the warfighter as well as other DoD and federal customers.

Element Management System (EMS): Provides operational and network operating systems that instrument and automate the operations, administration, maintenance and provisioning functions creating a single DISN-wide view for network managers and operators. EMS is a component of the DISN Operational Support Systems (OSS).

Peripheral and Component Design (Secure Voice Switches): This equipment satisfies unique military requirements for multi-level security (i.e., extensive conferencing/conference management capabilities and features, and gateway functions) that are not available in commercial products.

DoD Mobility: The Mobility Program will lead the development of an Enterprise Solution to support Controlled Unclassified Information (CUI) and leverage commercial carrier infrastructure to provide entry points for both classified and unclassified wireless capabilities. Continued evolution and expansion, within the Department, of the DoD Mobility program will allow for increased mobile services in direct support of the warfighter and the COCOMs.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Win10 TOG Support	0.583	-	-
Description: Provide classified mobile solutions for senior leaders throughout DoD. The Win10 project will provide DoD-wide seniors with a classified tablet that will enable secure remote collaboration. If the additional funding is not provided, the Win10 project will not be able to support or provide tier 1 service desk support for DoD-wide senior leaders who have been issued a Win10 Tablets.			
Accomplishments/Planned Programs Subtotals	0.583	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / <i>Long-Haul Communications</i> - DCS	Project (Number/Name) COVID / COVID

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / <i>Long-Haul Communications</i> - DCS	Project (Number/Name) COVID / COVID
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>Win10 TOG Support</i>																												
Win10 TOG Support																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303126K / <i>Long-Haul Communications</i> - DCS	Project (Number/Name) COVID / COVID

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Win10 TOG Support</i>				
Win10 TOG Support	4	2021	3	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	199.615	17.699	5.560	4.892	-	4.892	-	-	-	-	Continuing	Continuing
T64: <i>Special Projects</i>	76.466	5.874	5.560	4.892	-	4.892	-	-	-	-	Continuing	Continuing
T70: <i>Strategic C3 Support</i>	123.149	11.825	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Minimum Essential Emergency Communications Network (MEECN) provides the Nuclear Command, Control, and Communications (NC3) Engineer with plans and procedures, systems analysis, operational assessments, systems engineering, and development of concepts of operation and architectures. The NC3 System provides connectivity from the President and the Secretary of Defense through the National Military Command System to nuclear execution forces integral to fighting a “homeland-to-homeland,” as well as theater nuclear war. MEECN includes the Emergency Action Message dissemination systems and those systems used for integrated Tactical Warning/Attack Assessment, presidential decision-making conferencing, force report back, re-targeting, force management, and requests for permission to use nuclear weapons. Efforts assure positive control of nuclear forces and connectivity between the Secretary of Defense, military forces, and an informed decision-making linkage between the President, the Secretary of Defense, and the Combatant Commands. MEECN ensures our national leadership has proper command and control of our forces during times of national emergency, up to and including nuclear war.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	17.699	5.560	5.558	-	5.558
Current President's Budget	17.699	5.560	4.892	-	4.892
Total Adjustments	0.000	0.000	-0.666	-	-0.666
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.666	-	-0.666

Change Summary Explanation

The decrease of -\$0.666 in FY 2022 is due to reduction in technical contract support.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T64 / <i>Special Projects</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T64: <i>Special Projects</i>	76.466	5.874	5.560	4.892	-	4.892	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The mission is performing classified work. All aspects of this project are classified and require special access. Detailed information on this project is not contained in this document.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<i>Title:</i> Special Projects	5.874	5.560	4.892
<i>Description:</i> Program is classified and exhibit will be provided under a separate cover.			
<i>FY 2021 Plans:</i> Program is classified and exhibit will be provided under a separate cover.			
<i>FY 2022 Plans:</i> Program is classified and exhibit will be provided under a separate cover.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Program is classified and exhibit will be provided under a separate cover.			
Accomplishments/Planned Programs Subtotals	5.874	5.560	4.892

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Program is classified and exhibit will be provided under a separate cover.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T64 / <i>Special Projects</i>	

FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Classified	
Classified	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Classified	
Classified	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T64 / <i>Special Projects</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Classified				
Classified	1	2018	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T70 / <i>Strategic C3 Support</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
T70: <i>Strategic C3 Support</i>	123.149	11.825	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the mission of the Nuclear Command, Control, and Communications (NC3) Systems Engineer to the Joint Staff and Executive Leadership. It also provides NC3 expertise to the Department of Defense (DoD) Chief Information Officer (CIO) National Leadership Command Capability (NLCC) Management Office. Systems Analysis supports long range planning and vulnerability assessments to ensure the NC3 System is adequate under all conditions of stress or war and recommends investment strategies to evolve the Nuclear Command and Control System to achieve desired capabilities. Operational Assessments of fielded systems and weapon platforms provide the sole means for verification of NC3 systems' performance in support of plans and procedures, operation orders, training, equipment, and end-to-end system configuration. Assessments provide strategic and theater level C3 interfaces into the NC3 System. Supporting efforts assure positive control of nuclear forces and connectivity between the Secretary of Defense and strategic and theater forces. Systems Engineering provides the Senior Leadership C3 System with technical and management advice, planning and engineering support, and Test & Evaluation. Leading Edge Command, Control, Communications, Computers, and Intelligence technology is assessed for all communication platforms supporting executive travelers and senior leaders to include the interoperability of hardware and operational procedures. These technology elements support the President's and other DoD command centers and aircraft (e.g., Air Force One and the National Airborne Operations Center).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Systems Engineering, Analysis and Architecture	11.825	-	-
Description: Engineering, development, testing and systems analysis to support NLCC capabilities.			
Accomplishments/Planned Programs Subtotals	11.825	-	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• O&M, PE 0303131K: O&M	19.331	19.989	20.246	-	20.246	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Full and open competition resulted in contract vehicles with Raytheon, Arlington, VA; Science Applications Int'l Corporation (SAIC), McLean, VA; and Pragmatics, Mclean, VA.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T70 / <i>Strategic C3 Support</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering 1	C/CPAF	SAIC : McLean, VA	21.699	-		-		-		-		-	0.000	21.699	-
Systems Engineering 2	C/CPAF	Raytheon Company : Arlington, VA	35.600	-		-		-		-		-	0.000	35.600	-
Systems Engineering 3	C/CPFF	Pragmatics : McLean, VA	10.080	-		-		-		-		-	0.000	10.080	-
Systems Engineering 4	C/FP	Raytheon Company : Arlington, VA	30.297	6.050	Feb 2020	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering 5	C/CPFF	BAH : Falls Church, VA	4.273	-		-		-		-		-	0.000	4.273	-
Systems Engineering 6	C/CPFF	Harris Corporation : Melbourne, FL	2.500	-		-		-		-		-	0.000	2.500	-
Systems Engineering 7	C/CPAF	Carson Engineering : Bethesda, MD	1.056	-		-		-		-		-	0.000	1.056	-
System Engineering 8	C/FFP	MITRE Corp : McLean, VA	3.273	1.000	Oct 2019	-		-		-		-	Continuing	Continuing	Continuing
System Engineering 9	C/FFP	JHU APL : Laurel, MD	3.500	0.551	Apr 2020	-		-		-		-	Continuing	Continuing	Continuing
System Engineering 10	C/FFP	Various : Various	1.342	-		-		-		-		-	0.000	1.342	-
System Engineering	C/CPFF	Jacob FNS : Arlington, Va	4.048	4.224	Dec 2019	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering & Integration	C/CPFF	Verizon : Arlington, VA	5.481	-		-		-		-		-	0.000	5.481	-
Subtotal			123.149	11.825		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		123.149	11.825	0.000	-	-	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T70 / <i>Strategic C3 Support</i>
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FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>NLCC Program Tracking Report (formally known as NC3 Program Tracking Report)</i>	
NLCC Program Tracking Report	
<i>Systems Analysis Documents</i>	
Systems Analysis Documents	
<i>NLCC Reference Architecture (formally known as NC3 Reference Architecture)</i>	
NLCC Reference Architecture	
<i>Operational Assessments</i>	
Operational Assessments	
<i>NLCC Portfolio Roadmap</i>	
NLCC Portfolio Roadmap	
<i>NLCC System Engineering and Integration</i>	
NLCC System Engineering and Integration	
<i>NLCC Target Architecture</i>	
NLCC Target Architecture	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>NLCC Program Tracking Report (formally known as NC3 Program Tracking Report)</i>	
NLCC Program Tracking Report	
<i>Systems Analysis Documents</i>	
Systems Analysis Documents	

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T70 / <i>Strategic C3 Support</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>NLCC Reference Architecture (formally known as NC3 Reference Architecture)</i>																												
NLCC Reference Architecture																												
<i>Operational Assessments</i>																												
Operational Assessments																												
<i>NLCC Portfolio Roadmap</i>																												
NLCC Portfolio Roadmap																												
<i>NLCC System Engineering and Integration</i>																												
NLCC System Engineering and Integration																												
<i>NLCC Target Architecture</i>																												
NLCC Target Architecture																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303131K / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) T70 / <i>Strategic C3 Support</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NLCC Program Tracking Report (formally known as NC3 Program Tracking Report)				
NLCC Program Tracking Report	1	2018	3	2026
Systems Analysis Documents				
Systems Analysis Documents	1	2018	4	2026
NLCC Reference Architecture (formally known as NC3 Reference Architecture)				
NLCC Reference Architecture	1	2018	4	2026
Operational Assessments				
Operational Assessments	1	2018	4	2026
NLCC Portfolio Roadmap				
NLCC Portfolio Roadmap	1	2018	1	2026
NLCC System Engineering and Integration				
NLCC System Engineering and Integration	1	2018	1	2026
NLCC Target Architecture				
NLCC Target Architecture	4	2018	3	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>					R-1 Program Element (Number/Name) PE 0303140K / <i>Information Systems Security Program</i>							
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	42.262	39.798	8.922	5.707	-	5.707	-	-	-	-	Continuing	Continuing
IA3: <i>Information Systems Security Program</i>	42.262	39.798	8.922	5.707	-	5.707	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Information Systems Security Program (ISSP) mission focuses on developing Department of Defense (DoD) enterprise solutions to Combatant Commands, Services, and Defense-wide agencies to ensure critical mission execution in the face of cyber attacks. The ISSP ensures that, the network, the computing centers, and core enterprise services will evolve to better support a joint cybersecurity/information assurance model that has common enterprise-scale perimeter defenses and will support a broad range of sharing policies from completely unclassified to tightly-held within a classified community. The ISSP will test and develop active-active defensive capabilities; test and integrate software defined networking and orchestration closed-loop security; perform research, development and engineering of emerging cyber situational awareness technologies; harden the network by providing architecture support, systems engineering and analytical functions for Endpoint and Perimeter defense capabilities; cyber IT infrastructure and automation support to deploy enterprise-wide next generation identity technologies; and develop and evolve an integrated cyber domain security workforce to be on the leading edge of defensive capabilities.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	39.798	8.922	6.485	-	6.485
Current President's Budget	39.798	8.922	5.707	-	5.707
Total Adjustments	0.000	0.000	-0.778	-	-0.778
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.778	-	-0.778

Change Summary Explanation

The decrease of -\$0.778 in FY 2022 is reduction in contract support.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303140K / Information Systems Security Program				Project (Number/Name) IA3 / Information Systems Security Program			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
IA3: Information Systems Security Program	42.262	39.798	8.922	5.707	-	5.707	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Information Systems Security Program (ISSP) mission focuses on developing Department of Defense (DoD) enterprise solutions to Combatant Commands, Services, and Defense-wide agencies to ensure critical mission execution in the face of cyber attacks. The ISSP ensures that, the network, the computing centers, and core enterprise services will evolve to better support a joint cybersecurity/information assurance model that has common enterprise-scale perimeter defenses and will support a broad range of sharing policies from completely unclassified to tightly-held within a classified community. The ISSP will test and develop active-active defensive capabilities; test and integrate software defined networking and orchestration closed-loop security; perform research, development and engineering of emerging cyber situational awareness technologies; harden the network by providing architecture support, systems engineering and analytical functions for Endpoint and Perimeter defense capabilities; cyber IT infrastructure and automation support to deploy enterprise-wide next generation identity technologies; and develop and evolve an integrated cyber domain security workforce to be on the leading edge of defensive capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: DoD Cyber Security Range (CSR)	1.337	-	-
Description: The DoD Cyber Security Range (CSR) provides a multi-classification level, operationally realistic, DODIN representative, cyber security environment to sustain and enhance the professional development of the DoD cyber security workforce.			
Title: Cyber Innovation and Technology	1.179	0.464	0.459
Description: Provide research and development, conduct technology assessments, rapidly produce prototypes using commercial solutions, validate assumptions, and provide empirical data to drive real time enterprise solutions and decisions in assisting DoD requirement owners for enterprise fielding of innovative gap fillers to address cyber capabilities and militarization of commercial information assurance capabilities tactical edge. All project undertaken directly increase information sharing capabilities and assure C2 functionality against a common operating picture. The program will leverage its robust IT infrastructure to develop small prototypes to find cost saving initiatives across the DoD Information Network (DODIN) in an effort to provide the DoD with faster more reliable communications capabilities. These solutions will look to provide enhanced warfighting technology and research development programs improving the protection, survivability, mobility and combat effectiveness of the DoD.			
FY 2021 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140K / <i>Information Systems Security Program</i>	Project (Number/Name) IA3 / <i>Information Systems Security Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Continued assessment, testing, prototype improvement and implementation of DoDCAR (DoD Cybersecurity Analysis and Review processes. This includes portfolio management against threat coverage and the execution of deeper analyses of advisory behaviors within DoD Networks. FY 2022 Plans: Continued assessment, testing, prototype improvement and implementation of DoDCAR (DoD Cybersecurity Analysis and Review processes. This includes portfolio management against threat coverage and the execution of deeper analyses of advisory behaviors within DoD Networks. FY 2021 to FY 2022 Increase/Decrease Statement: No statement required.				
Title: Identity, Credential, and Access Management (ICAM) Description: Develop and deploy Identity, Credential, and Access Management (ICAM) efforts associated with automated account provisioning and auditability and federalized authentication services that support credentials for DoD and non-DoD personnel.		30.000	-	-
Title: Sharkseer Description: SHARKSEER is a critical component of the Cyber Kill Chain that uniquely enhances the defensive posture of the Department of Defense Information Network (DoDIN) by assisting us with mitigating unknown (zero-day) cyber threats in near-real time utilizing orchestration. SHARKSEERs primary mission is to detect and mitigate Zero-Days and Advanced Persistent Threats (APTs) at DoDIN IAPs. SHARKSEER also provides Malware Analytics, Deep Packet Analysis, Global Threat Intelligence, and Cyber Threat Indicator (CTI) sharing to Federal Agencies, Military Departments, and Services.		1.882	-	-
Title: Zero Trust Architecture (ZTA) Description: Will develop, test, and evaluate the technologies required for the implementation of ZTA. FY 2021 Plans: To develop, test, and evaluate technologies, identify critical applications on SIPR that are required to improve security, and analyze backbone design, gateway, and mobility infrastructure for necessary improvements. FY 2022 Plans: To develop, test, and evaluate technologies, identify critical applications on NIPR and begin SIPR development that are required to improve security, and analyze backbone design, gateway, and mobility infrastructure for necessary improvements. FY 2021 to FY 2022 Increase/Decrease Statement:		-	2.462	2.053

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140K / Information Systems Security Program	Project (Number/Name) IA3 / Information Systems Security Program		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
The decrease of -\$0.409 from FY 2021 to FY 2022 is due to the reduction of software license purchases.				
<p>Title: Secure Application Development (DevSecOps) Program</p> <p>Description: Will provide an enterprise capability for an automated DevSecOps platform that programs can use to rapidly and automatically build, accredit, secure, test, deploy, monitor, and protect newly developed applications.</p> <p>FY 2021 Plans: Develops integrated tools and standards that enable users and partners to develop, deploy, and operate applications in a secure and flexible environment.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$5.996 from FY 2021 to FY 2022 is due to the DevSecOps program reaching a Continuous Compliance Monitoring (CCM) Minimal Viable Product (MVP) for the DoD cloud security and compliance across the DoD Enterprise.</p>		5.400	5.996	-
<p>Title: PKI/Software Defined Enterprise (SDE)</p> <p>Description: Identify, develop and enforce the adoption of software defined technologies to modernize service delivery and cyber operations.</p> <p>FY 2022 Plans: Develop and enforce the adoption of software defined technologies to modernize service delivery and cyber operations, to ensure the efforts conform to the DISA SDE strategy.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$1.876 from FY 2021 to FY 2022 is due to engineering support increases.</p>		0.000	-	1.876
<p>Title: License and Support</p> <p>Description: ESS will perform proof of concept research for new endpoint security capabilities.</p> <p>FY 2022 Plans: Support licenses and engineering support of proof of concept capabilities for endpoint security.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$1.319 from FY 2021 to FY 2022 is due to proof of concept research for Endpoint Security capabilities.</p>		0.000	-	1.319
Accomplishments/Planned Programs Subtotals		39.798	8.922	5.707

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140K / Information Systems Security Program	Project (Number/Name) IA3 / Information Systems Security Program

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022	FY 2022	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Cost To	
			Base	OCO	Total					Complete	Total Cost
• O&M, DW: PE 0303140K	0.000	56.974	59.237	-	59.237	-	-	-	-	Continuing	Continuing
• Procurement, DW: PE 0303140K	0.000	4.160	2.214	-	2.214	-	-	-	-	Continuing	Continuing

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140K / Information Systems Security Program	Project (Number/Name) IA3 / Information Systems Security Program
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ZND Technology Assessment/Evaluation for email capability Tech Refresh	C/FFP	ASRC Federal : Beltsville, MD	16.705	-		-		-		-		-	0.000	16.705	-
DoD Cyber Security Range (CSR) Virtual Training Environment	C/FFP	ManTech : Fairfax, VA	2.198	-		-		-		-		-	0.000	2.198	-
DoD Cyber Security Range (CSR) Virtual Training Environment - Re-compete	C/FFP	ManTech : Fairfax, VA	0.476	1.207	Sep 2020	-		-		-		-	Continuing	Continuing	-
DoD Endpoint Security Solutions (ESS)	C/FFP	TBD : TBD	-	-		-		1.319	Jan 2022	-		1.319	Continuing	Continuing	-
Cyber HQs Support	C/FFP	Bylight : Fort Meade, MD	18.705	-		-		-		-		-	0.000	18.705	-
Joint Information Operations Range (JIOR) Connection	C/FFP	ManTech : Stafford, VA	0.130	0.130	Sep 2020	-		-		-		-	Continuing	Continuing	-
DISA EA Model Development for Cyber Security and Network Technical Domains, DODCAR Cyber Analysis Tool Development	C/FFP	Various : Various	4.048	0.459	Jan 2020	0.464	Jan 2021	0.459	Jan 2022	-		0.459	Continuing	Continuing	-
Deployment of Blockchain and Next Generation Identity	C/FFP	TBD : TBD	-	6.000	Jan 2020	1.494	Jan 2021	-		-		-	Continuing	Continuing	-
Cyber Innovation and Technology	C/FFP	TBD : TBD	-	5.000	Mar 2020	-		-		-		-	Continuing	Continuing	-
Identity, Credential, and Access Management (ICAM)	C/FFP	TBD : TBD	-	27.002	Mar 2020	-		-		-		-	Continuing	Continuing	-
Sharkseeker	C/FFP	TBD : TBD	-	-		4.500		1.876	Nov 2021	-		1.876	Continuing	Continuing	-
Zero Trust Architecture (ZTA)	C/FFP	TBD : TBD	-	-		2.464		2.053	Nov 2021	-		2.053	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140K / Information Systems Security Program	Project (Number/Name) IA3 / Information Systems Security Program

FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Secure Application Development (DevSecOps) Program	
Secure Application Development (DevSecOps) Program	
Innovation and Technology	
Block Chain Cyber Innovation Technology Assessment	
Next Gen Identity Tool Suite Cyber Innovation Technology Assessment	
Zero Trust Architecture (ZTA)	
Develop, test, and evaluate the technologies	
Sharkseer	
To develop Sharkseer 2.0	█
Endpoint License and Support	
Develop, test, and evaluate the technologies	
PKI/ Software Defined Enterprise	
Identify, develop and enforce the adoption of software defined technologies	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Secure Application Development (DevSecOps) Program	
Secure Application Development (DevSecOps) Program	████████████████████
Innovation and Technology	

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140K / <i>Information Systems Security Program</i>	Project (Number/Name) IA3 / <i>Information Systems Security Program</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Block Chain Cyber Innovation Technology Assessment																												
Next Gen Identity Tool Suite Cyber Innovation Technology Assessment																												
<i>Zero Trust Architecture (ZTA)</i>																												
Develop, test, and evaluate the technologies																												
<i>Sharkseer</i>																												
To develop Sharkseer 2.0																												
<i>Endpoint License and Support</i>																												
Develop, test, and evaluate the technologies																												
<i>PKI/ Software Defined Enterprise</i>																												
Identify, develop and enforce the adoption of software defined technologies																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303140K / <i>Information Systems Security Program</i>	Project (Number/Name) IA3 / <i>Information Systems Security Program</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Secure Application Development (DevSecOps) Program				
Secure Application Development (DevSecOps) Program	4	2020	4	2021
Innovation and Technology				
Block Chain Cyber Innovation Technology Assessment	3	2020	3	2026
Next Gen Identity Tool Suite Cyber Innovation Technology Assessment	3	2020	3	2026
Zero Trust Architecture (ZTA)				
Develop, test, and evaluate the technologies	4	2021	3	2026
Sharkseer				
To develop Sharkseer 2.0	4	2019	3	2020
Endpoint License and Support				
Develop, test, and evaluate the technologies	4	2021	3	2026
PKI/ Software Defined Enterprise				
Identify, develop and enforce the adoption of software defined technologies	4	2021	3	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	617.629	14.534	3.695	4.150	-	4.150	-	-	-	-	Continuing	Continuing
CC01: <i>Global Command and Control System-Joint (GCCS-J)</i>	617.629	14.534	3.695	4.150	-	4.150	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Global Command and Control System – Joint (GCCS-J) is DoD’s Joint Command and Control (JC2) system of record and provides the foundation for migration of service-unique C2 systems into a Joint, interoperable environment. The Defense Information System Agency’s (DISAs) portfolio includes funding to support GCCS-J, Joint Planning and Execution Services (JPES), and the development and sustainment of the JC2 Architecture. GCCS-J incorporates the core planning and assessment tools required by combatant commanders and their subordinate Joint Task Force Commanders while meeting the readiness support requirements of the Services. Adaptive Planning and Execution Joint Planning Services are being developed to modernize the adaptive planning functions in a net centric environment. DISA continues to provide support for the operational system to ensure continued access to information integration and decision-support capabilities that enable the exercise of authority and direction over assigned and attached forces, in a net-centric, collaborative information environment. Additionally, DISA provides critical C2 capabilities to the Commander-in-Chief, Secretary of Defense, National Military Command Center, Combatant Commands (COCOMs), Joint Force Commanders, and Service Component Commanders. JPES is a set of JC2 Global Force Management capabilities that address components of the DOD’s Adaptive Planning Roadmap (13 December 2005) and Adaptive Planning Roadmap II (5 March 2008). JPES produces enhancements to the Joint Operations Planning and Execution System (JOPEs), Joint Capabilities Requirements Manager (JCRM), and newly developed Joint Collaboration Tool (JCT); focused adaptive planning capabilities; and provides a set of core infrastructure services necessary to provide the warfighter a fully interoperable environment where functionality can be easily added as mission needs dictate. The JC2 Architecture is a foundational element of JC2 capabilities for the Department. The JC2 Architecture provides a set of net-centric tenets associated with data, functional service and the C2 infrastructure that describes architectural and operational concepts, technical constructs, and is a repository for valuable reference information relating to C2 standards and information security. Each year, the DISA architecture team produces a transitional architecture that documents the current state of C2 capabilities, anticipated changes/enhancements either in progress or planned by the JC2 community.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	14.534	3.695	4.201	-	4.201
Current President's Budget	14.534	3.695	4.150	-	4.150
Total Adjustments	0.000	0.000	-0.051	-	-0.051
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.051	-	-0.051

Change Summary Explanation

The decrease of -\$0.051 in FY 2022 is due to a technical adjustment.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>				Project (Number/Name) CC01 / <i>Global Command and Control System-Joint (GCCS-J)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
CC01: <i>Global Command and Control System-Joint (GCCS-J)</i>	617.629	14.534	3.695	4.150	-	4.150	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Global Command and Control System – Joint (GCCS-J) is DoD’s Joint Command and Control (JC2) system of record and provides the foundation for migration of service-unique C2 systems into a Joint, interoperable environment. The Defense Information System Agency’s (DISAs) portfolio includes funding to support GCCS-J, Joint Planning and Execution Services (JPES), and the development and sustainment of the JC2 Architecture. GCCS-J incorporates the core planning and assessment tools required by combatant commanders and their subordinate Joint Task Force Commanders while meeting the readiness support requirements of the Services. Adaptive Planning and Execution Joint Planning Services are being developed to modernize the adaptive planning functions in a net centric environment. DISA continues to provide support for the operational system to ensure continued access to information integration and decision-support capabilities that enable the exercise of authority and direction over assigned and attached forces, in a net-centric, collaborative information environment. Additionally, DISA provides critical C2 capabilities to the Commander-in-Chief, Secretary of Defense, National Military Command Center, Combatant Commands (COCOMs), Joint Force Commanders, and Service Component Commanders.

JPES is a set of JC2 Global Force Management capabilities that address components of the DOD’s Adaptive Planning Roadmap (13 December 2005) and Adaptive Planning Roadmap II (5 March 2008). JPES produces enhancements to the Joint Operations Planning and Execution System (JOPEs), Joint Capabilities Requirements Manager (JCRM), and newly developed Joint Collaboration Tool (JCT); focused adaptive planning capabilities; and provides a set of core infrastructure services necessary to provide the warfighter a fully interoperable environment where functionality can be easily added as mission needs dictate.

The JC2 Architecture is a foundational element of JC2 capabilities for the Department. The JC2 Architecture provides a set of net-centric tenets associated with data, functional service and the C2 infrastructure that describes architectural and operational concepts, technical constructs, and is a repository for valuable reference information relating to C2 standards and information security. Each year, the DISA architecture team produces a transitional architecture that documents the current state of C2 capabilities, anticipated changes/enhancements either in progress or planned by the JC2 community.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Development and Strategic Planning	11.260	-	-
Description: Develop, publish, and execute a GCCS-J migration and modernization strategy that achieves the following GCCS-J Modernization objectives in accordance with Joint C2 Mission operational priorities and the DoD’s JC2 Reference Architecture:			
<ul style="list-style-type: none"> • Continue to decompose applicable existing applications into services • Limit local deployment and move as much to the enterprise as possible • Continue to expose data and scale services to support an enterprise implementation 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>	Project (Number/Name) CC01 / <i>Global Command and Control System-Joint (GCCS-J)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> Continue to evolve more economical hardware and software architecture without impact to the operational user or Family of Systems (FoS)/interface partners Reduce overall sustainment cost through use of more cost effective and appropriate Commercial-off-the-Shelf (COTS) and Hardware (HW) products Evolve to use of agile development practices Consolidation of clients and tools 			
<p>Title: Joint Planning and Execution Services (JPES)</p> <p>Description: JPES is a collection of capabilities supporting joint policies, processes, procedures, and reporting structures, that are supported by communications and information technology used by the Joint Planning and Execution Community (JPEC). JPEC uses these capabilities to monitor, plan, and execute: mobilization, deployment, employment, sustainment, redeployment, and demobilization activities associated with joint operations.</p> <p>FY 2021 Plans: Continue to modernize JPES by improving performance on the Framework, integrating with additional external partners, developing additional data services and enhancements to the user interface.</p> <p>FY 2022 Plans: JPES PMO will continue to meet the JS approved and prioritized functional requirements to support Global Force Management (GFM). We will continue JPES solution development to sunset legacy system; continue sustainment of legacy system including cybersecurity and Commercial Off the Shelf (COTS) end-of-life upgrades, continue sustainment of Joint Capabilities Requirements Manager (JCRM) including cybersecurity and COTS end-of-life upgrades, and continue integrating additional external partners requesting GFM data</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$0.455 from FY 2021 to FY 2022 is the result of increased licensing costs, GCCS-J 4.3 middleware support, and development to address COTS end-of-life upgrades on legacy systems.</p>	3.274	3.695	4.150
Accomplishments/Planned Programs Subtotals	14.534	3.695	4.150

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0303150K: <i>Operation & Maintenance, Defense-Wide</i>	107.667	44.507	45.269	-	45.269	-	-	-	-	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>	Project (Number/Name) CC01 / <i>Global Command and Control System-Joint (GCCS-J)</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

Use of performance-based contract awards is maximized while use of Time and Material contracts is minimized to those providing programmatic support versus software development, integration, or testing. All development, integration, and migration efforts within the portfolio are primarily supported through Cost Reimbursable Task Orders issued under competitively awarded contracts. Acquisition Strategies are structured to retain contractors capable of satisfying cost, schedule, and performance objectives. Contract awards incorporate provisions requiring contractors to establish and manage specific earned value data. This strategy mitigates risk by requiring monthly Contract Performance Reviews (CPRs) and utilizing award fee contracts where appropriate to incentivize performance. GCCS-J applies formal acquisition rigor to include reporting requirements, as appropriate, by acquisition program designation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>	Project (Number/Name) CC01 / <i>Global Command and Control System-Joint (GCCS-J)</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development 1	C/CPFF	NGMS : Reston, VA	20.289	-		-		-		-		-	0.000	20.289	-
Product Development 2	FFRDC	MITRE : McLean, VA	7.077	-		-		-		-		-	0.000	7.077	-
Product Development 3	SS/FFP	Dynamic Systems : Los Angeles, CA	3.189	-		-		-		-		-	0.000	3.189	-
Product Development 4	C/CPFF	Pragmatics : McLean, VA	31.239	-		-		-		-		-	0.000	31.239	-
Product Development 6	C/CPIF	BAH : McLean, VA	3.369	-		-		-		-		-	0.000	3.369	-
Product Development 7	C/CPIF	JPES Framework : Various	20.141	-		-		-		-		-	0.000	20.141	-
Product Development 8	C/CPFF	RTB Development : Various	13.116	-		-		-		-		-	0.000	13.116	-
Product Development 9	C/CPFF	IGS Development : Various	12.398	-		-		-		-		-	0.000	12.398	-
Product Development 10	C/CPFF	SAIC : Falls Church, VA	4.826	-		-		-		-		-	0.000	4.826	-
Product Development 11	MIPR	SSC : San Diego, CA	13.317	-		-		-		-		-	0.000	13.317	-
Product Development 12	C/CPFF	NGMS : Reston, VA	67.014	-		-		-		-		-	0.000	67.014	-
Product Development 13	MIPR	NGIT : Various	1.772	-		-		-		-		-	0.000	1.772	-
Product Development 14	C/CPFF	NGMS : Reston, VA	86.191	2.100	Dec 2019	-		-		-		-	0.000	88.291	-
Product Development 15	C/CPIF	Booz Allen Hamilton : McLean, VA	3.283	-		-		-		-		-	0.000	3.283	-
Product Development 16	C/CPFF	Booz Allen Hamilton : Various	3.685	-		-		-		-		-	0.000	3.685	-
Product Development 17	C/CPAF	Booz Allen Hamilton : Falls Church, VA	1.229	-		-		-		-		-	0.000	1.229	-
Product Development 18	C/CPAF	AB Floyd : Alexandria, VA	12.477	-		-		-		-		-	0.000	12.477	-
Product Development 19	C/CPAF	Femme Comp Inc : Chantilly, VA	7.249	-		-		-		-		-	0.000	7.249	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency												Date: May 2021			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 7				PE 0303150K / Global Command and Control System				CC01 / Global Command and Control System-Joint (GCCS-J)							
Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development 20	C/CPFF	SAIC : Falls Church, VA	5.876	-		-		-		-		-	0.000	5.876	-
Product Development 21	C/CPIF	Booz Allen Hamilton : McLean, VA	5.865	-		-		-		-		-	0.000	5.865	-
Product Development 22	MIPR	JDISS : Various	6.039	-		-		-		-		-	0.000	6.039	-
Product Development 23	C/FFP	NGMS : Reston, VA	4.790	-		-		-		-		-	0.000	4.790	-
Product Development 24	MIPR	SPAWAR : Charleston, SC	11.475	1.681	Sep 2020	-		-		-		-	Continuing	Continuing	Continuing
Product Development 25	MIPR	Dept of Energy, Army Research Lab, PD Intelligence Fusion, GSA/FAS : Various	5.710	-		-		-		-		-	0.000	5.710	-
Product Development 26	C/CPAF	Tactical 3-D COP : Various	3.200	-		-		-		-		-	0.000	3.200	-
Product Development 27	SS/FFP	JITC : Various	20.400	-		-		-		-		-	0.000	20.400	-
Product Development 28	C/CPFF	JCRM : McLean, VA	8.600	-		-		-		-		-	Continuing	Continuing	Continuing
Product Development 30	C/CPFF	Systems Engineering and Integration : Various	14.030	-		-		-		-		-	0.000	14.030	-
Product Development 31	C/Various	GCCS-J : Various	5.367	-		-		-		-		-	0.000	5.367	-
Product Development 32	C/CPFF	CRSA/GDIT LLC : Chantilly, VA	14.193	-		-		-		-		-	0.000	14.193	-
Product Development 33	C/FFP	Interimage Inc : Arlington, VA	6.179	-		2.246	Mar 2021	-		-		-	Continuing	Continuing	Continuing
Engineering Services and Integration 29	SS/FFP	GCCS-J : Various	6.782	-		-		-		-		-	6.782	13.564	-
I3 Engineering Services & SW Development	C/TBD	NGIT : Various	1.811	-		-		-		-		-	0.000	1.811	-
Product Development 29	C/FFP	JOPES modernization : TBD	10.248	-		-		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / Global Command and Control System	Project (Number/Name) CC01 / Global Command and Control System-Joint (GCCS-J)
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development 34	C/CPFF	JPES Solution : Falls Church, VA	7.400	2.542	Jun 2020	0.307	Jun 2021	2.783	Jun 2022	-		2.783	Continuing	Continuing	Continuing
Product Development 35	C/CPFF	Leidos : Gaithersburg, MD	0.000	0.307	Aug 2020	-		-		-		-	Continuing	Continuing	Continuing
Product Development	C/CPFF	GCCS-JE OTA : McLean, VA	25.292	-		-		-		-		-	0.000	25.292	-
Product Development 37	C/CPFF	Leidos OTA : McLean, VA	10.134	-		-		-		-		-	Continuing	Continuing	Continuing
Product Development 38	C/CPFF	GCCS-J : Various	11.801	-		-		-		-		-	Continuing	Continuing	Continuing
Product Development 39	C/CPFF	Bluestone Logic : McLean, VA	1.499	-		-		-		-		-	Continuing	Continuing	Continuing
Product Development 40	C/CPFF	C2 Systems Engineering : TBD	-	3.563	Aug 2020	-		-		-		-	Continuing	Continuing	Continuing
Product Development 41	C/CPFF	Tapestry : Chambersburg, PA	3.048	-		-		-		-		-	Continuing	Continuing	Continuing
Product Development 42	C/CPFF	Leidos : McLean, VA	0.670	-		-		-		-		-	Continuing	Continuing	Continuing
Product Development 36	C/CPFF	TBD : C2 Systems Engineering	-	0.179	Aug 2020	0.442	Aug 2021	0.468	Aug 2022	-		0.468	Continuing	Continuing	Continuing
Subtotal			502.270	10.372		2.995		3.251		-		3.251	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support 1	C/T&M	Oracle : Various	1.003	-		-		-		-		-	0.000	1.003	-
Support 2	C/CPFF	JC2 Common Interface : Various	4.808	-		-		-		-		-	0.000	4.808	-
Support Costs - Engineering Support 3	FFRDC	MITRE : Various	0.754	0.908	Nov 2019	-		-		-		-	Continuing	Continuing	Continuing
Support Costs - Engineering Support 4	C/CPFF	Pragmatics : McLean, VA	3.799	0.342	Nov 2019	-		-		-		-	0.000	4.141	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>	Project (Number/Name) CC01 / <i>Global Command and Control System-Joint (GCCS-J)</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support Costs - Engineering Support 5	C/CPFF	IPA : College Park, MD	0.283	-		-		-		-		-	0.000	0.283	-
Support Cost 6	C/FFP	STA : Falls Church, VA	2.772	-		-		-		-		-	0.000	2.772	-
Support Costs	C/CPFF	GCCS-J : Various	4.557	-		-		-		-		-	0.000	4.557	-
Support Cost 7	C/FFP	Pragmatics : McLean, VA	3.564	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			21.540	1.250		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation 1	C/CPFF	SAIC : Falls Church, VA	0.744	-		-		-		-		-	0.000	0.744	-
Test & Evaluation 2	MIPR	JITC : Ft. Huachuca, AZ	33.365	1.311	Oct 2019	-		-		-		-	Continuing	Continuing	Continuing
Test & Evaluation 3	MIPR	DIA : Various	9.733	-		-		-		-		-	Continuing	Continuing	Continuing
Test & Evaluation 4	MIPR	DAA : Various	4.952	0.602	Oct 2019	-		-		-		-	Continuing	Continuing	Continuing
Test & Evaluation 5	C/CPFF	SAIC : Falls Church, VA	9.681	-		-		-		-		-	0.000	9.681	-
Test & Evaluation 6	C/CPAF	SAIC : Falls Church, VA	23.133	-		-		-		-		-	0.000	23.133	-
Test & Evaluation 7	C/CPFF	Pragmatics : McLean, VA	0.308	-		-		-		-		-	0.000	0.308	-
Test & Evaluation 8	MIPR	JITC : Various	0.005	-		-		-		-		-	0.000	0.005	-
Test & Evaluation 9	MIPR	JITC : Various	0.897	-		-		-		-		-	0.000	0.897	-
Test & Evaluation 10	MIPR	DISA FSO : Various	1.059	-		-		-		-		-	0.000	1.059	-
Test & Evaluation 11	MIPR	TEMC Test Support : Various	0.229	-		-		-		-		-	0.000	0.229	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / Global Command and Control System	Project (Number/Name) CC01 / Global Command and Control System-Joint (GCCS-J)
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation 12	MIPR	DISA TEMC : Falls Church, VA	0.971	-		-		-		-		-	0.000	0.971	-
Test & Evaluation 13	MIPR	STRATCOM : Offut, NE	1.155	-		-		-		-		-	0.000	1.155	-
Test & Evaluation 14	MIPR	DISA FSO : Falls Church, VA	1.200	-		-		-		-		-	0.000	1.200	-
Test & Evaluation 15	C/CPFF	TQI : Falls Church, VA	1.698	-		-		-		-		-	0.000	1.698	-
Test & Evaluation 16	C/CPFF	TQI : Falls Church, VA	0.494	-		-		-		-		-	0.000	0.494	-
Test & Evaluation 17	MIPR	Slidell : Various	0.436	-		-		-		-		-	0.000	0.436	-
Test & Evaluation 19	C/CPFF	NextGen Federal Systems LLC : Morgantown, WV	-	0.999	Aug 2020	0.700	Aug 2021	0.899	Aug 2022	-		0.899	Continuing	Continuing	-
Subtotal			90.060	2.912		0.700		0.899		-		0.899	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services	MIPR	SSC Atlantic : Charleston, SC	3.759	-		-		-		-		-	0.000	3.759	-
Subtotal			3.759	-		-		-		-		-	0.000	3.759	N/A

Project Cost Totals	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
617.629	14.534		3.695	4.150	-	4.150	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>	Project (Number/Name) CC01 / <i>Global Command and Control System-Joint (GCCS-J)</i>

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>System Design and Testing</i>																												
System Design																												
System Design and Testing																												
<i>Operational Testing and Evaluation</i>																												
Operational Testing and Evaluation																												
<i>Deployment and Sunset of Legacy System</i>																												
Deployment and Sunset of Legacy System																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System</i>	Project (Number/Name) CC01 / <i>Global Command and Control System-Joint (GCCS-J)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>System Design and Testing</i>				
System Design	1	2021	1	2021
System Design and Testing	2	2021	1	2023
<i>Operational Testing and Evaluation</i>				
Operational Testing and Evaluation	2	2023	2	2023
<i>Deployment and Sunset of Legacy System</i>				
Deployment and Sunset of Legacy System	3	2023	3	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	198.390	19.212	20.113	19.302	-	19.302	-	-	-	-	Continuing	Continuing
JS1: <i>Joint Spectrum Center</i>	198.390	19.212	20.113	19.302	-	19.302	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Spectrum Organization (DSO) provides a full array of electromagnetic spectrum services and capabilities, ranging from short notice on-the-ground operational support at the forward edge, to long range planning in pursuit of national strategic objectives. These services/capabilities are in direct support of Combatant Commanders, the Department of Defense (DoD) Chief Information Officer, Military Services, and Defense Agencies. The DSO is the focal point for electromagnetic spectrum analysis and the development of integrated spectrum plans and strategies to address current and future needs for DoD spectrum access. In addition, DSO serves as DoD's spectrum advocate at national and international forums and conducts extensive outreach to both industry and government. DSO also implements enterprise spectrum management capabilities to enhance spectrum efficiency and agility to improve spectrum-dependent capabilities in support of United States and Coalition operations. This includes acquiring, implementing and sustaining the Global Electromagnetic Spectrum Information System (GEMSIS) which provides an integrated catalog of joint net-centric spectrum management tools and services. Electromagnetic Spectrum Management enables information dominance through effective spectrum operations.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	19.212	20.113	21.932	-	21.932
Current President's Budget	19.212	20.113	19.302	-	19.302
Total Adjustments	0.000	0.000	-2.630	-	-2.630
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-2.630	-	-2.630

Change Summary Explanation

The decrease of -\$2.630 in FY 2022 is due to reduction in requirements to develop new emerging spectrum technologies, spectrum capabilities within the Joint Ordnance Electromagnetic Environmental Effects (E3) Risk Assessment Database, and assessment work to determine the applicability of the Army's Electronic Warfare Planning and Management Tool (EWPMT) to the Electromagnetic Battle Management (EMBM) requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>				Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JS1: <i>Joint Spectrum Center</i>	198.390	19.212	20.113	19.302	-	19.302	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Spectrum Center (JSC), which is a division of Defense Spectrum Organization (DSO), designs, develops, and maintains Department of Defense (DoD) automated spectrum management systems, evaluation tools, and databases. The databases are the prime sources of information for DoD use of the electromagnetic (EM) spectrum. The JSC provides technical measurement and analysis in support of DoD spectrum policy decisions to ensure the development, acquisition, and operational deployment of systems are compatible with other spectrum dependent systems operating within the same EM environment (EME). Additional efforts focus on improving future warfighter EM spectrum utilization through technological innovation, and influencing research and development emerging technology efforts.

Improved spectrum support includes the Global Electromagnetic Spectrum Information System (GEMSIS), a net centric capability that will provide commanders with an increased common picture of spectrum situational awareness of friendly and hostile forces while transparently deconflicting competing mission requirements for spectrum use. This capability will enable the transformation from the current preplanned and static assignment strategy into autonomous and adaptive spectrum operations.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Advanced Spectrum Tools	0.883	0.883	-
Description: The Joint Spectrum Data Repository and Tools program supports development of spectrum management tools, spectrum modeling and simulation capabilities, spectrum database development, and spectrum data transformation and standardization. This program provides the Combatant Commands (COCOMs) and Military Services with the spectrum management tools and associated databases to manage spectrum resources at the strategic and operational level. It also provides the DoD acquisition community with analytical tools to conduct Electromagnetic Environmental Effects (E3) analyses and Spectrum Supportability Risk Assessments (SSRA).			
FY 2021 Plans: Will make enhancements to analytical tools in support of Spectrum Engineering Analysis and Relocation efforts. Supports evaluation of future and existing spectrum analysis tools.			
FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$0.883 from FY 2021 to FY 2022 realigns Advance Spectrum Tools program into a new line called the New Spectrum Paradigms.			
Title: DoD Electromagnetic Environmental Effects (E3) Program	4.203	4.203	3.074

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)

Description: The DoD E3 Program supports the Joint Capabilities Integration and Development System (JCIDS) process and the DoD acquisition process to ensure that E3 control and spectrum supportability are incorporated into the development, testing, and procurement of information technology and National Security Systems. The E3 Program also supports the development of the Joint Ordnance E3 Risk Assessment Database (JOERAD) and Hazards of Electromagnetic Radiation to Ordnance (HERO) electromagnetic environmental effects surveys in support of the COCOMs and Joint Task Forces. JOERAD develops algorithms and provides analytical capabilities to perform real-time risk assessments to evaluate platform/system safety and identify equipment limitations in the operational EM environment. JOERAD enables operators to make critical decisions about the hazards associated with the use of ordnance within complex EM environments. A SSRA is performed by program managers and materiel developers on all programs that are acquiring or incorporating spectrum-dependent systems or equipment per DoDI 4650.1. These assessments encompassed regulatory, technical, and operational spectrum and E3 issues and associated risks.

FY 2021 Plans:

Will continue to conduct JOCG HERO Subgroup meetings, support the JOCG Executive Steering Committee and develop and maintain the Services' HERO susceptibility data records. Will conduct forward deployed base HERO surveys for the COCOMs/ Services, and CONUS based emitter surveys for ordnance safety database validation and update the DoD ordnance radio frequency (RF) safety requirements. Will update military handbooks as needed to keep pace with technology. Will conduct monthly DoD E3 Integrated Product Team (IPT) Meetings. Will provide technical support to DoD CIO, the Joint Staff, and other DoD Components on E3, spectrum, hazards of EM radiation matters. Will review JCIDS and ISP acquisition documents assigned by the Joint Staff and DoD CIO and update guidance instructions as necessary. Will provide E3 and SS training to the DoD Components and develop/maintain training curricula at the Defense Acquisition University.

FY 2022 Plans:

Will continue to conduct JOCG HERO Subgroup meetings, support the JOCG Executive Steering Committee and develop and maintain the Services' HERO susceptibility data records. Will conduct forward deployed base HERO surveys for the COCOMs/ Services, and CONUS based emitter surveys for ordnance safety database validation and update the DoD ordnance RF safety requirements. Will update MIL-HDBK-235, "EME Profiles" and develop EME profiles to address blue force jammer and electronic warfare environments. Will conduct monthly DoD E3 Integrated Product Team (IPT) Meetings. Will provide technical support to DoD CIO, the Joint Staff, and other DoD Components on E3, spectrum, hazards of EM radiation matters. Will review JCIDS and ISP acquisition documents assigned by the Joint Staff and DoD CIO and update guidance instructions as necessary. Will provide E3 and SS training to the DoD Components and develop/maintain training curricula at the Defense Acquisition University.

FY 2021 to FY 2022 Increase/Decrease Statement:

FY 2020	FY 2021	FY 2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
The decrease of -\$1.129 from FY 2021 to FY 2022 is due to the reduced number of forward deployed base HERO surveys for COCOMs/Services and any CONUS based emitter surveys for ordnance safety database validation. This will also reduce the number of E3 and SS training events delivered to DoD Components.				
<p>Title: Emerging Spectrum Technologies (EST)</p> <p>Description: DSO has the responsibility to investigate emerging spectrum related technologies and evaluate their applicability to improve future warfighter EM spectrum utilization through technological innovation. The goal of the EST program is to identify the opportunities and risks associated with emerging spectrum-related technologies in the early stages of the technology development, influence and lead technology development in order to maximize DoD spectrum utilization, and ensure that spectrum policies incorporate optimal technology to meet DoD mission requirements. Within EST there is an increased focus on Dynamic Spectrum Access (DSA). DSA is realized through wireless networking architectures and technologies that enable wireless devices to dynamically adapt their spectrum access according to criteria such as policy constraints, spectrum availability, propagation environment, and application performance requirements.</p> <p>FY 2021 Plans: Will continue collaboration efforts with the Science and Technology community (including ASDR&E, Service Labs and DARPA) to develop and execute the technology roadmaps and integration strategies that result in system flexibility and operational agility. Revisions will be made to the current spectrum management architecture to reflect transforming spectrum operations through application of EST in accordance with the new DoD EMS Spectrum Strategy. Prototype capabilities that provide increased operational agility will be developed and demonstrated. Continue to develop initiatives that include the roadmap, standards, architecture, and business processes to exploit and/or minimize the impact of emerging technologies on DoD spectrum operations.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$2.215 from FY 2021 to FY 2022 realigns the Emerging Spectrum Technologies program into a new line called the New Spectrum Paradigms.</p>		1.630	2.215	-
<p>Title: Global Electromagnetic Spectrum Information System (GEMSIS)</p> <p>Description: The GEMSIS is a net centric capability that will provide operational commanders with an increased common picture of spectrum situational awareness of friendly and hostile forces while transparently deconflicting competing mission requirements for spectrum use. This capability will enable the transformation from the current preplanned and static assignment strategy into autonomous and adaptive spectrum operations.</p> <p>FY 2021 Plans:</p>		-	12.812	0.751

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Will continue (SXXI) Legacy, E2ESS, and JSDR maintenance and version releases. FY 2022 Plans: Will continue (SXXI) Legacy, E2ESS, and JSDR maintenance and version releases. FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$12.061 from FY 2021 to FY2022 is due to Electromagnetic Battlefield Management (EMBM) program is required to be broken out in a separate line.				
Title: Electromagnetic Battlefield Management (EMBM) (C2 Capabilities/Data Interface&Visualization, EW Planning/Mgt Tool) Description: The Electromagnetic Battle Management (EMBM) mission capability responds to a Department of Defense (DoD) Electronic Warfare (EW) Strategy objective to field advanced EMBM capabilities and to a DoD Electromagnetic Spectrum Strategy goal to increase the agility of DoD electromagnetic spectrum (EMS) operations by developing the capabilities to preform near-real-time EMS operations (EMSO). As part of planning, resourcing, implementing and assessing Joint Electromagnetic Spectrum Operations (JEMSO), an EMBM technical solution will provide a secure and globally connected suite of dynamic tools to provide situational awareness, command and control (C2), decision support and training. The system is planned to provide a range of capabilities that will improve upon existing software applications useful for JEMSO and access information from other related operational systems to provide a long-term solution for operational EMS planning, execution and assessment capabilities. FY 2022 Plans: DSO will continue to develop the Electromagnetic Battlespace Management (EMBM) mission capability IAW DoD's Electromagnetic Spectrum Strategy goal to increase the agility of DoD spectrum operations. Will continue to develop new C2 Capabilites, Data Interface & Visualization requirements, and the EW planning and management tool. FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$12.620 from FY2021 to FY2022 is due to EMBM requirement being broken out into its own program. The increase includes the decrease on the GEMSIS line. Additional increase in the development requirements for additional improvement in C2 Capabilities and continued development of the EW planning and management tool requirement.		12.496	-	12.620
Title: New Spectrum Paradigms Description: DSO new spectrum paradigms is to investigate emerging spectrum related technologies and evaluate their applicability to improve future warfighter EM spectrum utilization through technological innovation. The goal of the EST program is to identify the opportunities and risks associated with emerging spectrum-related technologies in the early stages of the technology development, influence and lead technology development in order to maximize DoD spectrum utilization, and ensure that spectrum policies incorporate optimal technology to meet DoD mission requirements. Within EST there is an increased focus on Dynamic Spectrum Access (DSA). DSA is realized through wireless networking architectures and technologies that		-	-	2.857

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>enable wireless devices to dynamically adapt their spectrum access according to criteria such as policy constraints, spectrum availability, propagation environment, and application performance requirements. DSO has the responsibility to investigate emerging spectrum related technologies and evaluate their applicability to improve future warfighter EM spectrum utilization through technological innovation. The goal of the EST program is to identify the opportunities and risks associated with emerging spectrum-related technologies in the early stages of the technology development, influence and lead technology development in order to maximize DoD spectrum utilization, and ensure that spectrum policies incorporate optimal technology to meet DoD mission requirements. Within EST there is an increased focus on Dynamic Spectrum Access (DSA). DSA is realized through wireless networking architectures and technologies that enable wireless devices to dynamically adapt their spectrum access according to criteria such as policy constraints, spectrum availability, propagation environment, and application performance requirements. The Joint Spectrum Data Repository and Tools program supports development of spectrum management tools, spectrum modeling and simulation capabilities, spectrum database development, and spectrum data transformation and standardization. This program provides the Combatant Commands (COCOMs) and Military Services with the spectrum management tools and associated databases to manage spectrum resources at the strategic and operational level. It also provides the DoD acquisition community with analytical tools to conduct Electromagnetic Environmental Effects (E3) analyses and Spectrum Supportability Risk Assessments (SSRA).</p> <p>FY 2022 Plans: Will continue to make enhancements to Spectrum Technology and Testbed Initiative in support of Spectrum Engineering Analysis and Relocation efforts. Supports evaluation of future and existing spectrum analysis tools. Will continue collaboration efforts with the Science and Technology community (including ASDR&E, Service Labs and DARPA) to develop and execute the technology roadmaps and integration strategies that result in system flexibility and operational agility. Revisions will be made to the current spectrum management architecture to reflect transforming spectrum operations through application of EST in accordance with the new DoD EMS Spectrum Strategy. Prototype capabilities that provide increased operational agility will be developed and demonstrated. Continue to develop initiatives that include the roadmap, standards, architecture, and business processes to exploit and/or minimize the impact of emerging technologies on DoD spectrum operations.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase of +\$2.857 from FY 2021 to FY 2022 is the realignment of Advance Spectrum Tools with Emerging Spectrum Technologies and Emerging Spectrum Technologies into one line called New Spectrum Paradigms.</p>			
Accomplishments/Planned Programs Subtotals	19.212	20.113	19.302

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• O&M, DW/PE 0303153K: O&M, DW	34.270	34.902	35.743	-	35.743	-	-	-	-	-	Continuing Continuing

Remarks

D. Acquisition Strategy

Engineering support services are provided by the use of a contract. Competition is being used under existing Indefinite Delivery Indefinite Quantity (IDIQ) contracts. Task orders will be a mix of Firm Fixed Price (FFP) and Cost Plus Fixed Fee (CPFF) as dictated by specific tasks to be accomplished.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / Defense Spectrum Organization	Project (Number/Name) JS1 / Joint Spectrum Center
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering Services 1	C/FFP	Multi : Various	180.920	7.198	Nov 2019	9.176	Nov 2020	9.786	Apr 2022	-		9.786	Continuing	Continuing	Continuing
Technical Engineering Services 2	MIPR	Various : Various	6.099	11.684	Oct 2019	10.573	Oct 2020	9.152	Nov 2021	-		9.152	Continuing	Continuing	Continuing
Subtotal			187.019	18.882		19.749		18.938		-		18.938	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	MIPR	JITC : Ft. Huachuca	2.312	-		-		-		-		-	0.000	2.312	-
Subtotal			2.312	-		-		-		-		-	0.000	2.312	N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	FFRDC	MITRE : Ft. Monmouth, NJ	9.059	0.330	Nov 2019	0.364	Nov 2020	0.364	Nov 2021	-		0.364	Continuing	Continuing	Continuing
Subtotal			9.059	0.330		0.364		0.364		-		0.364	Continuing	Continuing	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals			198.390	19.212		20.113		19.302		-		19.302	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint Spectrum Center																												
Spectrum Tool (SXXI, Coalition Joint Spectrum Management Planning Tool (CJSMPT), JSDR) Version Releases																												
JOERAD Releases																												
Emerging Spectrum Technology Research Projects																												
Spectrum Data Sharing Capability Deployments																												
Increment Two GEMISIS																												
E3 Program Outputs																												
EMBM SA Capability																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint Spectrum Center																												
Spectrum Tool (SXXI, Coalition Joint Spectrum Management Planning Tool (CJSMPT), JSDR) Version Releases																												
JOERAD Releases																												
Emerging Spectrum Technology Research Projects																												
Spectrum Data Sharing Capability Deployments																												
Increment Two GEMISIS																												
E3 Program Outputs																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EMBM SA Capability																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303153K / <i>Defense Spectrum Organization</i>	Project (Number/Name) JS1 / <i>Joint Spectrum Center</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Joint Spectrum Center				
Spectrum Tool (SXXI, Coalition Joint Spectrum Management Planning Tool (CJSMPT), JSDR) Version Releases	3	2017	4	2025
JOERAD Releases	3	2017	4	2025
Emerging Spectrum Technology Research Projects	3	2017	4	2025
Spectrum Data Sharing Capability Deployments	3	2017	4	2025
Increment Two GEMISIS	1	2017	4	2019
E3 Program Outputs	1	2017	4	2026
EMBM SA Capability	2	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303228K <i>Joint Information Environment</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	14.996	16.869	9.728	9.342	-	9.342	-	-	-	-	Continuing	Continuing
JE1: <i>Joint Regional Security Stacks</i>	14.996	16.869	9.728	9.342	-	9.342	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Information Environment (JIE) construct is a consolidated secure and defensible environment across Department of Defense (DoD). This is comprised of unified, consolidated and shared information technology (IT) infrastructure, enterprise services, and standardized security architectures throughout the Department of Defense Information Network (DODIN) to achieve full spectrum superiority, improve mission effectiveness, increase security and realize IT efficiencies.

The target objective state of JIE is a DODIN that optimizes the use of DoD's IT assets from the administrative and operational planning at the Pentagon to the tactical edge; to include our mission partners through converging communications, computing, enterprise services, and defense of the DODIN that can be leveraged for all Department missions.

When implemented, JIE will reduce DoD's Total Cost of Ownership (TCO), improved security by reducing the attack surface of our networks, and enable Combatant Commands/Services/Agencies (CC/S/A) to more efficiently access information to perform their missions from any authorized IT device, any time, from anywhere in the world.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	16.869	9.728	2.945	-	2.945
Current President's Budget	16.869	9.728	9.342	-	9.342
Total Adjustments	0.000	0.000	6.397	-	6.397
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	6.397	-	6.397

Change Summary Explanation

The Increase of +\$6.397 in FY 2022 is attributed to integration, testing, and development of JRSS/JMS hardware/software to support tech refresh of end-of-support/end-of-life appliances.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303228K / Joint Information Environment				Project (Number/Name) JE 1 / Joint Regional Security Stacks			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JE1: Joint Regional Security Stacks	14.996	16.869	9.728	9.342	-	9.342	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Regional Security Stack (JRSS) is a joint Department of Defense (DoD) security architecture deployed regionally throughout the world. Each of the 23 Non-Secure Internet Protocol Router (NIPR) and 25 Secure Internet Protocol Router (SIPR) stacks is comprised of complementary defensive security solutions that remove redundant Information Assurance (IA) protections; leverages enterprise defensive capabilities with standardized security suites; protects the enclaves after the separation of server and user assets; and provides the tool sets necessary to monitor and control all security mechanisms throughout DoD's Joint Information Environment. The JRSS Management System (JMS) is the management and operational control suite/capability for the JRSS. While the JMS is treated as a related effort, it requires its own experience and evaluation strategy as the JMS is a selection of best of breed capabilities. The JMS is a system-of-systems designed to centralize and enhance the management of the JRSS components and achieve economies of scale by using DoD common suites/infrastructure. The savings are realized by coupling the JRSS and JMS. The JRSS collapses replicated IT security functionality for all DoD components into relatively few regionally located stacks. The JMS provides Centralized Network Management of the JRSS with a standard interoperable set of capabilities across DoD. JMS provides visibility and control over network transport and associated security systems. It enables monitoring and analysis of relevant fault and performance data to determine the impact on current operations and trend analysis. This centralized capability allows standardization of policies, procedures and configurations of critical network transport assets. The JMS enables DoD Components to maintain Title 10 required management and visibility of their IT security while providing high level visibility to Cyber Command (CYBERCOM). Cyber Operations can take proactive actions to ensure the uninterrupted availability and protection of system and network information.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Joint Regional Security Stacks	16.869	9.728	9.342
<p>Description: The Joint Regional Security Stack (JRSS) is a joint DoD security architecture deployed regionally throughout the world. Each of the 23 NIPR and 25 SIPR stacks is comprised of complementary defensive security solutions that remove redundant Information Assurance (IA) protections; leverages enterprise defensive capabilities with standardized security suites; protects the enclaves after the separation of server and user assets; and provides the tool sets necessary to monitor and control all security mechanisms throughout DoD's Joint Information Environment.</p> <p>FY 2021 Plans: Will provide integration, testing, and development of JRSS/JMS hardware/software to support tech refresh of end-of-support/end-of-life appliances. Support pathfinder efforts associated with JRSS optimization and evolution.</p> <p>FY 2022 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303228K / <i>Joint Information Environm ent</i>	Project (Number/Name) JE1 / <i>Joint Regional Security Stacks</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Will provide integration, testing, and development of JRSS/JMS hardware/software to support tech refresh of end-of-support/end-of-life appliances. Support pathfinder efforts associated with JRSS optimization and evolution. <i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease of <i>-\$</i> .386 from FY 2021 to FY 2022 is attributed to decreased JRSS pathfinder efforts associated with JRSS optimization and evolution.			
Accomplishments/Planned Programs Subtotals	16.869	9.728	9.342

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303228K / Joint Information Environm ent	Project (Number/Name) JE 1 / Joint Regional Security Stacks
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Certification Testing	Various	Various : Various	1.532	-		-		-		-		-	0.000	1.532	-
Test and Evaluation Support	Various	JITC : Various	2.068	0.500	Oct 2019	0.500	Oct 2021	0.550	Oct 2022	-		0.550	Continuing	Continuing	-
Integration Test and Modification	Various	Multiple : Various	2.247	0.537	Dec 2019	0.682	Dec 2020	0.750	Dec 2021	-		0.750	Continuing	Continuing	-
Tech Refresh/Functionality Testing	Various	Multiple : Various	5.339	0.750	Dec 2019	0.700	Dec 2020	1.245	Dec 2021	-		1.245	Continuing	Continuing	-
Analytic Development & Testing (CSAAC)	Various	Multiple : Various	3.810	1.010	Dec 2019	-		-		-		-	0.000	4.820	-
JRSS Integration Test and Acceptance Support	Various	Multiple : Various	-	2.595	Mar 2020	7.846	Dec 2020	6.797	Jan 2022	-		6.797	Continuing	Continuing	-
JRSS Integration Test and Acceptance Support_2	Various	Multiple : Various	-	6.309	Apr 2020	-		-		-		-	Continuing	Continuing	-
JRSS Integration Test and Acceptance Support_3	Various	Multiple : Various	-	5.168	Sep 2020	-		-		-		-	Continuing	Continuing	-
Subtotal			14.996	16.869		9.728		9.342		-		9.342	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals		14.996	16.869	9.728	9.342	-	-	9.342	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303228K / <i>Joint Information Environm ent</i>	Project (Number/Name) JE1 / <i>Joint Regional Security Stacks</i>	

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>JIE</i>																												
JIE																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>JIE</i>																												
JIE																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303228K / <i>Joint Information Environm ent</i>	Project (Number/Name) JE1 / <i>Joint Regional Security Stacks</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>JIE</i>				
JIE	1	2017	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0303430K / Federal Investigative Services Information Technology
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	176.613	44.001	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
KA1: Federal Investigative Services Information Technology	176.613	44.001	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Develop an enterprise Information Technology (IT) architecture and data strategy for modernizing Investigative capabilities supporting background investigations (BI) (replacing capabilities such as Office of Personnel Management (OPM)'s eAdjudication and eApplication). Provides a new, secure infrastructure and investigative support system for Department of Defense (DoD) and Federal Agencies utilizing web/cloud based capabilities and robust cybersecurity. Leverages DoD's cybersecurity capabilities and national security focus to protect government and contractors' personal and investigative information. Supports the distributed adjudication processes with built-in security; active governance structure, and a new national security culture based on process improvement/change management.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	44.001	0.000	0.000	-	0.000
Current President's Budget	44.001	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

No vertical change statement required.

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Background Investigation Information Technology Systems	44.001	-	-
Description: Implements the decision by the Interagency Deputies Committee and the Office of Management and Budget (OMB) to transfer responsibility for the development and sustainment of new Federal Government background investigation information technology (IT) system(s) from the OPM to the DoD beginning in FY 2017.			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303430K / <i>Federal Investigative Services Information Technology</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Accomplishments/Planned Programs Subtotals	44.001	-	-

D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0303430K, O&M: <i>Background Investigation Information Technology Systems</i>	82.046	0.000	0.000	-	0.000	-	-	-	-	82.046	82.046

Remarks

E. Acquisition Strategy

- Leverage existing secure infrastructure/capabilities coordinated with United States Cyber Command (USCYBERCOM) and Department of Defense (DoD) security functions
- Assess Key Performance Parameter (KPP) of existing Government-Off-The-Shelf (GOTS)/Commercial Off-the-Shelf (COTS) products for enterprise scaling
- Establish support agreements with capability/data providers
- Transition to Cloud Infrastructure and development, security and operations (DevSecOps) pipeline and refactor necessary capabilities for Cloud
- Incrementally test and release the 7 core capabilities using Agile software development methodology
- Government is the Lead System Integrator
- Contract Strategy
- Integrated Management (IM) prototype capability using Other Transactional Authority (Section 815 NDAA 2015/2016)
- Re-use / extend successes from the IM prototype
- Leverage investment in Defense Manpower Data Center (DMDC) developed capabilities for initial deployments:
- Fingerprint and biometrics processing (Continue to leverage)
- Automated records checking (ARC) (Transition to system agnostic data broker & Sunset)
- Adjudication (Transition to integrated architecture with case management and Sunset)
- Continuous evaluation (CE) (Transition to system agnostic data broker & Sunset)
- Initiate Security Enterprise Architecture leveraging IdAM, Modular Workflow Engines, Artificial Intelligence, Machine Learning, and Natural Language Processing capabilities
- Re-factor ARC, CE, and Adjudication capabilities

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303430K / <i>Federal Investigative Services Information Technology</i>	Project (Number/Name) KA1 / <i>Federal Investigative Services Information Technology</i>
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	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
NBIS																												
IOC Testing																												
IOC Implementation																												
FOC Development																												
FOC Testing																												
FOC Implementation																												
Post Deployment Improvement - Scheduled Releases																												
Post Deployment Improvement - Scheduled Releases																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
NBIS																												
IOC Testing																												
IOC Implementation																												
FOC Development																												
FOC Testing																												
FOC Implementation																												
Post Deployment Improvement - Scheduled Releases																												
Post Deployment Improvement - Scheduled Releases																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303430K / <i>Federal Investigative Services Information Technology</i>	Project (Number/Name) KA1 / <i>Federal Investigative Services Information Technology</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NBIS				
IOC Testing	3	2017	4	2020
IOC Implementation	4	2017	1	2020
FOC Development	4	2017	2	2020
FOC Testing	2	2017	3	2021
FOC Implementation	4	2017	4	2021
Post Deployment Improvement - Scheduled Releases				
Post Deployment Improvement - Scheduled Releases	1	2020	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303467K / <i>Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.230	11.484	0.000	0.000	-	0.000	-	-	-	-	-	-
JS1: <i>SENSR Spectrum Pipeline SRF</i>	0.230	11.484	0.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Commercial Spectrum Enhancement Act (CSEA) of 2004 created the Spectrum Relocation Fund (CSEA, Title II of P.L. 108-494) to provide a centralized and streamlined funding mechanism through which Federal agencies can recover the costs associated with relocating their radio communications systems from certain spectrum bands, which were authorized to be auctioned for commercial purposes.

On January 29, 2015, the Federal Communications Commission completed an auction of Advanced Wireless Service licenses in the 1695-1710 Megahertz (MHz), 1755-1780 MHz, and 2155-2180 MHz bands (collectively, the "AWS-3" bands). On June 23, 2015, the Office of Management and Budget (OMB) notified Congress of the forthcoming transfer of \$5.030 billion to federal agencies with systems affected by the AWS-3 transition. Following the conclusion of the 30-day statutory waiting period, OMB transferred the funds to the federal agencies.

The Department of Defense (DoD) received \$3.500 billion of the auction proceeds and created a \$500 million Spectrum Access Research and Development Program (SAR&DP) to investigate new DoD technologies. The SAR&DP encompasses spectrum technology development that enables the DoD to perform its missions using spectrum-dependent systems in a manner that preferably enhances operational readiness and capability. Being able to operate in accordance with spectrum allocations resulting after the spectrum auction is a necessary, but not sufficient requirement for pursued technology solutions. DoD's transition out of or sharing of the auctioned bands can only be successful if the research and development solutions are sufficiently resilient (survivable and electronically protected) to operate in both the United States and congested/contested spectrum environments wherever forces will be deployed.

This program represents the DISA investment within the SAR&DP.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303467K / <i>Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	11.484	0.000	0.000	-	0.000
Current President's Budget	11.484	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

No statement required.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303467K / <i>Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund</i>	Project (Number/Name) JS1 / <i>SENSR Spectrum Pipeline SRF</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JS1: <i>SENSR Spectrum Pipeline SRF</i>	0.230	11.484	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding supports Spectrum relocation and sharing activities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SENSR Spectrum Pipeline SRF	11.484	-	-
Description: Funding supports SENSR Spectrum Pipeline relocation and sharing activities			
Accomplishments/Planned Programs Subtotals	11.484	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency											Date: May 2021				
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0303467K / <i>Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund</i>						Project (Number/Name) JS1 / <i>SENSR Spectrum Pipeline SRF</i>				

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost To Complete	Total Cost	Target Value of Contract
Funding supports SENSR Spectrum Pipeline relocation and sharing activities	Various	Various : Various	0.230	11.484	Apr 2020	-		-		-		-		-	-	-
Subtotal			0.230	11.484		-		-		-		-		-	-	N/A

			Prior Years	FY 2020	FY 2021	FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.230	11.484	0.000	-		-		-	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303467K / <i>Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund</i>	Project (Number/Name) JS1 / <i>SENSR Spectrum Pipeline SRF</i>

FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Auctioned Spectrum Relocation Fund</i>	
Support SENSR Spectrum Pipeline relocation activities	██████████

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Auctioned Spectrum Relocation Fund</i>	
Support SENSR Spectrum Pipeline relocation activities	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0303467K / <i>Spectrum Efficient National Surveillance Radar (SENSR) Pipeline Spectrum Relocation Fund</i>	Project (Number/Name) JS1 / <i>SENSR Spectrum Pipeline SRF</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Auctioned Spectrum Relocation Fund</i>				
Support SENSR Spectrum Pipeline relocation activities	1	2019	4	2019

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	58.975	2.981	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
NF1: <i>Distributed Common Ground/Surface Systems</i>	58.975	2.981	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

As the sole joint interoperability certification agent, the Joint Interoperability Test Command (JITC) established and maintains a Distributed Development and Test Enterprise (T&E) for the Department of Defense (DoD) Distributed Common Ground/Surface System (DCGS) program, as directed by the Office of the Under Secretary of Defense Intelligence (OUSD(I)). DCGS is an integral and critical component of the overall DoD Intelligence, Surveillance, and Reconnaissance interoperability and data integration strategy which provides world-wide capabilities to receive, process, exploit, and disseminate data from airborne and national reconnaissance sensors/platforms and commercial sources.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	2.981	0.000	0.000	-	0.000
Current President's Budget	2.981	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

No vertical statement required.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>				Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
NF1: <i>Distributed Common Ground/Surface Systems</i>	58.975	2.981	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Joint Interoperability Test Command (JITC) coordinates with the Military Services and Defense Intelligence Agencies to conduct Joint/Distributed Common Ground/Surface System (DCGS) testing and analysis, including event coordination, configuration, instrumentation and integration functions on the Distributed Development and Test Enterprise (DDTE). Under the DCGS Governance, this effort, referred to as the DCGS Test and Evaluation (T&E) Focus Team (FT), is composed of three parts: the DDTE Focus Group, providing and sustaining a distributed development network; the Strategy Focus Group, looking at current and future net-enabled enterprise T&E methods; and the Execution Focus Group, which leverages the Strategy Focus Group’s methodologies in executing DCGS Enterprise assessment events, such as the annual DCGS demonstration, ENTERPRISE CHALLENGE. These efforts improve systems engineering and T&E throughout all phases of the DCGS life-cycle, resulting in improved capabilities to share net-centric data and services between the DCGS Programs of Record (PoRs) and the overarching Defense Intelligence Information Enterprise (DI2E).

Operates and maintains the DDTE, providing DCGS PoRs a virtual, operationally-relevant assessment environment maintaining connectivity between Service facilities, National Agency capabilities, and Coalition partners. DDTE allows robust integration of modeling and simulation T&E capabilities across Joint DCGS events without introducing vulnerabilities to operational Command and Control networks and has enabled improvements in systems engineering, instrumentation and T&E throughout all phases of the DCGS life cycle.

DCGS PoRs and Coalition partners use the DDTE network, which supports the net-centric maturity assessment of the DCGS Enterprise under the DCGS Governance, to integrate architecture, standards, and capabilities for implementation of the DCGS Integration Backbone and support the migration to net-centricity, including DCGS Enterprise services for the Military Departments, DCGS-Special Operations Forces and the DCGS Intelligence Community. National Agency capabilities supporting DCGS include Geospatial Intelligence, Signals Intelligence, Measurement and Signature Intelligence and Human Intelligence, which are integrated and tested in the DDTE domain.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Distributed Common Ground/Surface Systems (DCGS)	2.981	-	-
Accomplishments/Planned Programs Subtotals	2.981	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>

D. Acquisition Strategy
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
In-House Contracts	MIPR	Various : Various	23.963	1.000	Oct 2019	-		-		-		-	0.000	24.963	-
Subtotal			23.963	1.000		-		-		-		-	0.000	24.963	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering & Technical Services 1	C/T&M	Interop : Ft Huachuca	3.763	-		-		-		-		-	0.000	3.763	-
Engineering & Technical Services 2	C/T&M	NGMS : Ft Huachuca	12.927	-		-		-		-		-	0.000	12.927	-
Engineering & Technical Services 3	C/T&M	NGIT : Ft Huachuca	3.612	-		-		-		-		-	0.000	3.612	-
Engineering & Technical Services 4	C/Various	Various : Various	2.173	-		-		-		-		-	0.000	2.173	-
Engineering & Technical Services 5	C/CPFF	TASC : Andover, MA	9.887	-		-		-		-		-	0.000	9.887	-
Engineering & Technical Services 6	MIPR	Various : Various	2.650	1.981	Dec 2019	-		-		-		-	0.000	4.631	-
Subtotal			35.012	1.981		-		-		-		-	0.000	36.993	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract						
Project Cost Totals											58.975	2.981	0.000	-	-	-	0.000	61.956	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>
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	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DCGS																												
DCGS T&E IPT																												
Connectivity to Other Testbeds & Test Event Conduct																												
DDT&E Operation and Maintenance Support																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DCGS																												
DCGS T&E IPT																												
Connectivity to Other Testbeds & Test Event Conduct																												
DDT&E Operation and Maintenance Support																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208K / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) NF1 / <i>Distributed Common Ground/Surface Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
DCGS				
DCGS T&E IPT	1	2018	4	2020
Connectivity to Other Testbeds & Test Event Conduct	1	2018	4	2020
DDT&E Operation and Maintenance Support	1	2018	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0708012K / <i>Logistics Support Activities</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	1.317	1.361	1.654	1.690	-	1.690	-	-	-	-	Continuing	Continuing
LSA: <i>Logistics Support Activities</i>	1.317	1.361	1.654	1.690	-	1.690	-	-	-	-	Continuing	Continuing

Note

N/A

A. Mission Description and Budget Item Justification

Classified

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	1.361	1.654	1.710	-	1.710
Current President's Budget	1.361	1.654	1.690	-	1.690
Total Adjustments	0.000	0.000	-0.020	-	-0.020
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-0.020	-	-0.020

Change Summary Explanation

Program is classified and exhibit will be provided under a separate cover.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0708012K / Logistics Support Activities				Project (Number/Name) LSA / Logistics Support Activities			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
LSA: Logistics Support Activities	1.317	1.361	1.654	1.690	-	1.690	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Classified.

A. Mission Description and Budget Item Justification

Classified.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: LSA	1.361	1.654	1.690
Description: Classified.			
FY 2021 Plans: Classified.			
FY 2022 Plans: Classified.			
FY 2021 to FY 2022 Increase/Decrease Statement: Classified.			
Accomplishments/Planned Programs Subtotals	1.361	1.654	1.690

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

Classified.

D. Acquisition Strategy

Classified.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency											Date: May 2021	
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0708012K / <i>Logistics Support Activities</i>				Project (Number/Name) LSA / <i>Logistics Support Activities</i>			

Product Development (\$ in Millions)			FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date				Cost
Classified	Various	Classified : Classified	1.317	1.361	Oct 2019	1.654	Oct 2020	1.690	Oct 2021	-		1.690	Continuing	Continuing	-
Subtotal			1.317	1.361		1.654		1.690		-		1.690	Continuing	Continuing	N/A

			Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1.317	1.361	1.654	1.690	-	1.690	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708012K / <i>Logistics Support Activities</i>	Project (Number/Name) LSA / <i>Logistics Support Activities</i>
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FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Classified	
Classified	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Classified	
Classified	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708012K / <i>Logistics Support Activities</i>	Project (Number/Name) LSA / <i>Logistics Support Activities</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Classified				
Classified	1	2019	3	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	47.290	5.542	3.239	0.000	-	0.000	-	-	-	-	Continuing	Continuing
NS01: <i>Teleport Generation 1/2</i>	47.290	1.042	1.240	0.000	-	0.000	-	-	-	-	Continuing	Continuing
NS03: <i>SATCOM Gateway</i>	0.000	4.500	1.999	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Department of Defense (DoD) Teleport system is a satellite communications (SATCOM) gateway that links the deployed warfighter to the Global Information Grid. The DoD Teleport program has fielded system capabilities incrementally using a multi-generational approach with Generation 1 and 2 Full Deployment authorized by DoD Chief Information Officer on February 18, 2011. DoD Teleport Generation 3 consists of three phases; Phases 1 and 2 are in Production and Deployment while Phase 3 is in Engineering and Manufacturing Development. Each DoD Teleport investment increases the warfighter's ability to communicate with a world-wide, net-centric set of information capabilities, which is vital for the DoD to maintain a persistent presence among its adversaries.

Currently, the Teleport system operates as an upgrade of SATCOM capabilities at selected DoD SATCOM gateways. This system provides deployed warfighters with seamless worldwide multi-band SATCOM connectivity to the Defense Information System Network (DISN) Service Delivery Nodes and legacy tactical command, control, communications, computers, and intelligence systems. It also provides centralized integration capabilities, contingency capacity, and common interfaces to access the DISN.

DoD Teleport's goal is to provide secure, seamless, interoperable, and economical upgrades to DoD SATCOM Gateways and meet the growing throughput requirements of the deployed warfighter.

The primary beneficiaries of the DoD Teleport investment are the DoD Combatant Commanders, Military Departments, Defense Agencies, and the warfighter. DoD Teleport Generation 3 is designed to meet the growing demands of the warfighter through the execution of the following phases:

Phase 1: Gateway Advanced Extremely High Frequency [Extended Data Rate] terminals provides tactical users with a 350% bandwidth increase in survivable, antijam communications through all peacetime and combat operations by installing Navy Multiband Terminals (NMT) at select Teleport sites. In addition to enhanced throughput, the NMT maintains compatibility with legacy waveforms and current tactical terminals.

Phase 2: Gateway Wideband Global SATCOM X/Ka-band terminals provide enhanced Wideband Global System (WGS) X/Ka capability to warfighters worldwide by installing terminals from the Modernization of Enterprise Terminal (MET) program at DoD Teleport and other gateway sites. This gateway enhancement allows Teleport to replace end-of-life Defense Satellite Communications System (DSCS) terminals while remaining interoperable with tactical WGS X/Ka-band users. The MET enhancement provides a 300% Ka-band capacity increase and an 1100% X-band capacity increase to current enterprise terminal X/Ka capabilities. Additionally, it enables the DoD Teleport system to maintain operational availability consistent with Generation 2 requirements and reduce the overall life-cycle cost of X/Ka capabilities across the DoD.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>
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Phase 3: Mobile User Objective System (MUOS) to Legacy Ultra High Frequency (UHF) systems interoperability will provide interoperability between MUOS users and legacy UHF users by installing MUOS-to-Legacy UHF SATCOM Gateway Component (MLGC) suites of equipment at DoD Teleport sites. MUOS is the next generation DoD UHF SATCOM system that will provide the warfighter with modern worldwide mobile communication services, utilizing the Wideband Code Division Multiple Access waveform for use in the military UHF SATCOM band. MLGC suites will provide critical continuity and interoperability as DoD tactical satellite users transition from legacy waveforms and radios to the Joint Tactical Radio System.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	5.542	3.239	1.273	-	1.273
Current President's Budget	5.542	3.239	0.000	-	0.000
Total Adjustments	0.000	0.000	-1.273	-	-1.273
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-1.273	-	-1.273

Change Summary Explanation

The decrease of -\$1.273 in FY 2022 is due to the end of Generation Three Phase Three MLGC/MVG (MUOS to Legacy Gateway Component/MUOS Voice Gateway) testing.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>				Project (Number/Name) NS01 / <i>Teleport Generation 1/2</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
NS01: <i>Teleport Generation 1/2</i>	47.290	1.042	1.240	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Teleport program will implement an integrated test approach that will combine the objectives from multiple testing disciplines (e.g., developmental test, operational test, interoperability, and information assurance) throughout the testing lifecycle to support needed system evaluations. The Teleport program executes its own test events to achieve this integrated approach, but will partner with each phase's respective program office generated test activities to leverage the data needed to satisfy Teleport program test objectives. An approach summary for Teleport Gen 1/2 follows:

Generation 1/2 Technology Refresh/Technology Insertion: Funding will be used to maintain the Joint Interoperability Certification of the DoD Teleport System as the system is upgraded and refreshed with new components.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Teleport Program	1.042	1.240	-
Description: Department of Defense (DoD) Teleport system is a satellite communications (SATCOM) gateway that links the deployed warfighter to the Department of Defense Information Network (DODIN). The Teleport program supports the warfighter with a world-wide, net-centric set of communication and information capabilities.			
FY 2021 Plans: Funding will be used to maintain the Joint Interoperability Certification of the DoD Teleport System as the system is upgraded with new components.			
FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$1.240 from FY 2021 to FY 2022 is due to the end of G3P3 MLGC/MVG testing.			
Accomplishments/Planned Programs Subtotals	1.042	1.240	-

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• O&M, DW/ PE1203610K: O&M, DW	10.335	11.375	11.505	-	11.505	-	-	-	-	Continuing	Continuing
• Procurement, DW/ PE1203610K: Procurement, DW	22.324	26.655	31.814	-	31.814	-	-	-	-	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>	Project (Number/Name) NS01 / <i>Teleport Generation 1/2</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

The Teleport Program Office (TPO) uses the DoD preferred evolutionary acquisition approach to acquire Commercial off the Shelf (COTS) and modified COTS equipment when possible. The three TPO procuring agencies, Program Manager Defense Communications and Army Transmission Systems, the Space and Naval Warfare Systems Command, and Defense Information Technology Contracting Organization (DITCO) provide direct contracting support. Assistance from other Departments including Army, Navy, and Air Force is acquired via Military Interdepartmental Purchase Request for both organic and contracted support. The TPO maximizes the use of performance-based contracts and requires contractors to establish and manage specific earned value data to mitigate risk and monitor deviations from cost, schedule, and performance objectives. Performance is evaluated through post-award contract reviews, performance assessment during quarterly program reviews. The MLGC program will use various contract types to employ the vendor best suited to deliver the program’s capabilities to the warfighter.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency Date: May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1203610K / Teleport Program	Project (Number/Name) NS01 / Teleport Generation 1/2
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Technical Support (Tech Refresh)	MIPR	CERDEC : APG	0.000	1.042	Oct 2019	-		-		-		-	Continuing	Continuing	Continuing
SATCOM, NATO, DISN, and Tactical Radio Tech Support Svcs	MIPR	ANSER : VARIOUS	0.125	-		-		-		-		-	0.000	0.125	0.125
Subtotal			0.125	1.042		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Testing Support Services (Tech Refresh)	MIPR	JITC : Ft. Huachuca	47.165	-		1.240	Nov 2020	-		-		-	Continuing	Continuing	-
Subtotal			47.165	-		1.240		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	47.290	1.042	1.240	-	-	-	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>	Project (Number/Name) NS01 / <i>Teleport Generation 1/2</i>	

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Teleport Program	
Integrated testing that supported Teleport system evaluation and Technology Refresh/ Technology Insertion	██████████

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Teleport Program	
Integrated testing that supported Teleport system evaluation and Technology Refresh/ Technology Insertion	██

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>	Project (Number/Name) NS01 / <i>Teleport Generation 1/2</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Teleport Program</i>				
Integrated testing that supported Teleport system evaluation and Technology Refresh/ Technology Insertion	2	2019	4	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1203610K / Teleport Program				Project (Number/Name) NS03 / SATCOM Gateway			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
NS03: SATCOM Gateway	0.000	4.500	1.999	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The SATCOM Gateway is an enterprise system that will adhere to the Joint Information Environment (JIE) architecture, and support all DoD satellite communications requirements, to include Strategic (Presidential, SECDEF, SECSTATE, Chairman Joint Chiefs of Staff, Milestone Decision Authority (MDA)) and Tactical (Combatant Commanders/Services/Agencies (CC/S/A)) users over satellite trunks through the DoD Information Network (DODIN).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SATCOM Gateway	4.500	1.999	-
Description: The SATCOM Gateway is an enterprise system that adheres to the Joint Information Environment (JIE) architecture in support of SATCOM operations. The SATCOM Gateway system supports the warfighter to include strategic and tactical users by providing DoD satellite communication requirements over satellite trunks through the DoD Information Network (DODIN).			
FY 2021 Plans: Funding will be used to build out software research and development for Full Motion Video (FMV).			
FY 2021 to FY 2022 Increase/Decrease Statement: The decrease of -\$1.999 from FY 2021 to FY 2022 is due to completion of the MUOS terminal planning tool and data controller to support SATCOM operations.			
Accomplishments/Planned Programs Subtotals			
	4.500	1.999	-

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• O&M, DW/ PE1203610K: O&M, DW	7.651	7.999	7.956	-	7.956	-	-	-	-	Continuing	Continuing
• Procurement, DW/ PE1203610K: Procurement, DW	1.633	2.037	5.447	-	5.447	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>	Project (Number/Name) NS03 / <i>SATCOM Gateway</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Technical Support (MUOS tool)	Various	TBD : TBD	-	4.500	Oct 2019	1.999	Oct 2020	-		-		-	Continuing	Continuing	-
Subtotal			-	4.500		1.999		-		-		-	Continuing	Continuing	N/A
Project Cost Totals			-	4.500		1.999		-		-		-	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>	Project (Number/Name) NS03 / <i>SATCOM Gateway</i>
--	---	--

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

SATCOM Gateway
Engineering, development, testing, and evaluation of a MUOS terminal planning tool and data controller supporting SATCOM operations.

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1203610K / <i>Teleport Program</i>	Project (Number/Name) NS03 / <i>SATCOM Gateway</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SATCOM Gateway				
Engineering, development, testing, and evaluation of a MUOS terminal planning tool and data controller supporting SATCOM operations.	2	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 8: Software and Digital Technology Pilot Programs</i>	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	186.639	-	186.639	-	-	-	-	Continuing	Continuing
JAIC: JA1	-	0.000	0.000	186.639	-	186.639	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The JAIC was established to preserve and expand our military advantage in support of the Department’s 2018 National Defense Strategy (NDS). As a primarily executing body it will accelerate the delivery of Artificial Intelligence (AI) enabled capabilities, scale the Department-wide impact of AI, and synchronize Department of Defense (DoD) AI activities to expand Joint Force advantages. The JAIC mission is to accelerate the delivery of AI to achieve impact scaled across the DoD at relevant speed to transform the DoD and ensure the nation maintains a competitive advantage. JAIC capitalizes on Project Maven’s efforts as the pathfinder AI initiative for the DoD to further critical AI architecture and prototyping to rapidly expand AI to other mission areas. As JAIC efforts prove relevant, they will expedite technology transition from the laboratory to operational use, and increase Joint Force capability. Most military data storage, utilization, and analytic tools and systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. JAIC capabilities are commercial technology initiatives that insert commercial AI into existing programs of record.

JAIC will execute an initial sequence of cross-functional use cases to demonstrate value and create momentum, called National Mission Initiatives (NMI). NMIs will rapidly develop and deploy AI across the Joint Force for selected high-priority, pressing operational or business reform challenges. Additionally, JAIC will work closely with individual components to help identify, shape, and accelerate component-specific AI deployments. NMI efforts will include selecting commercial and academic partners for prototypes, and develop standardized processes with respect to data, testing and evaluation, and cybersecurity. JAIC will use lessons learned from these initial projects to establish new processes and standards that will be repeatable across additional projects and immediately relevant to the Joint Force. This will be done in collaboration with partners across technology companies, consulting firms, academia, government labs, Federally Funded Research and Development Centers (FFRDC), services, and international partners.

To support NDS, the JAIC will catalyze and develop AI capabilities to enhance readiness and lethality and ensure DoD maintains an advantage over adversaries. JAIC will spearhead this unique opportunity to expand the competitive space across all domains with AI. JAIC efforts will directly contribute to increased military readiness towards a more lethal Joint Force, it will strengthen alliances and attract new partners by focusing on global problems, and it will enable Departmental reform to increase performance and affordability. JAIC will cultivate workforce talent by recruiting, developing, and retaining high-quality personnel to enable the development and delivery of AI. This will bring critical skills into the department by drawing outside expertise, and leveraging small companies, start-ups, and universities. Implementing AI at a speed of relevance hinges on the ability to integrate AI better than our adversaries, and the JAIC will enable the Department to adapt AI into how it fights. JAIC will focus on speed of delivery, continuous adaptation, and frequent capability delivery sprints. To fully realize this potential, the JAIC will pioneer AI approaches across the full scale of the global enterprise in a manner that is jointly interoperable with allies, partners, military Services, and agencies. Specifically, JAIC will identify and implement new organizational approaches, establish key AI building blocks and standards, develop and attract AI talent, and introduce new operational models that will enable DoD to systematically take advantage of AI at enterprise scale. The JAIC will fulfill the National Security Strategy and NDS to ensure conventional overmatch through dual-use commercial technology and partnered DoD-developed AI. The JAIC will collaborate with non-governmental organizations, corporations, strategic influencers, and partners and allies. JAIC will seize the initiative to lead the world in the development and adoption of transformative defense AI solutions that are safe, ethical, and secure. JAIC will spearhead this effort, engaging with the best minds in government, the private sector, academia, and international community.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I</i> BA 8: <i>Software and Digital Technology Pilot Programs</i>	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	186.639	-	186.639
Total Adjustments	0.000	0.000	186.639	-	186.639
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	186.639	-	186.639

Change Summary Explanation

The increase of +\$186.639 in FY 2022 reflects a realigning of from O&M (+\$72.724) and RDT&E BA7 (+\$106.434) to the newly created BA 8: Software and Digital Technology for the Software Pilot Program. This also includes an increase of +\$8.040 received for the COVID-19 for requirements to support the health of the Warfighter predictive analytics/forecasting platform; for use by the COCOMS NORAD, NORTHCOM (North American Aerospace Defense Command, and Northern Command). Increase is offset by a decrease of -\$0.559 due to a technical adjustment.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 8					R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence</i>				Project (Number/Name) JAIC / JA1			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JAIC: JA1	-	0.000	0.000	186.639	-	186.639	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The JAIC was established to preserve and expand our military advantage in support of the Department’s 2018 National Defense Strategy. As a primarily executing body it will accelerate the delivery of Artificial Intelligence (AI) enabled capabilities, scale the Department-wide impact of AI, and synchronize DoD AI activities to expand Joint Force advantages. The JAIC mission is to accelerate the delivery of AI to achieve impact scaled across the DoD at relevant speed to transform the DoD and ensure the nation maintains a competitive advantage. JAIC capitalizes on Project Maven’s efforts as the pathfinder AI initiative for the DoD to further critical AI architecture and prototyping to rapidly expand AI to other mission areas. As JAIC efforts prove relevant, they will expedite technology transition from the laboratory to operational use, and increase Joint Force capability. Most military data storage, utilization, and analytic tools and systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. JAIC capabilities are commercial technology initiatives that insert commercial AI into existing programs of record.

JAIC will execute an initial sequence of cross-functional use cases to demonstrate value and create momentum, called National Mission Initiatives (NMI). NMIs will rapidly develop and deploy AI across the Joint Force for selected high-priority, pressing operational or business reform challenges. Additionally, JAIC will work closely with individual components to help identify, shape, and accelerate component-specific AI deployments. NMI efforts will include selecting commercial and academic partners for prototypes, and develop standardized processes with respect to data, testing and evaluation, and cybersecurity. JAIC will use lessons learned from these initial projects to establish new processes and standards that will be repeatable across additional projects and immediately relevant to the Joint Force. This will be done in collaboration with partners across technology companies, consulting firms, academia, government labs, Federally Funded Research and Development Centers (FFRDC), services, and international partners.

To support the National Defense Strategy (NDS), the JAIC will catalyze and develop AI capabilities to enhance readiness and lethality and ensure DoD maintains an advantage over adversaries. JAIC will spearhead this unique opportunity to expand the competitive space across all domains with AI. JAIC efforts will directly contribute to increased military readiness towards a more lethal Joint Force, it will strengthen alliances and attract new partners by focusing on global problems, and it will enable Departmental reform to increase performance and affordability. JAIC will cultivate workforce talent by recruiting, developing, and retaining high-quality personnel to enable the development and delivery of AI. This will bring critical skills into the department by drawing outside expertise, and leveraging small companies, start-ups, and universities. Implementing AI at a speed of relevance hinges on the ability to integrate AI better than our adversaries, and the JAIC will enable the Department to adapt AI into how it fights. JAIC will focus on speed of delivery, continuous adaptation, and frequent capability delivery sprints. To fully realize this potential, the JAIC will pioneer AI approaches across the full scale of the global enterprise in a manner that is jointly interoperable with allies, partners, military Services, and agencies. Specifically, JAIC will identify and implement new organizational approaches, establish key AI building blocks and standards, develop and attract AI talent, and introduce new operational models that will enable DoD to systematically take advantage of AI at enterprise scale. The JAIC will fulfill the National Security Strategy and NDS to ensure conventional overmatch through dual-use commercial technology and partnered DoD-developed AI. The JAIC will collaborate with non-governmental organizations, corporations, strategic influencers, and partners and allies. JAIC will seize the initiative to lead the world in the development and adoption of transformative defense AI solutions that are safe, ethical, and secure. JAIC will spearhead this effort, engaging with the best minds in government, the private sector, academia, and international community.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence</i>	Project (Number/Name) JAIC / JA1

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
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Title: Joint Artificial Intelligence Center (JAIC)	-	-	186.639
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Description: JAIC develops, tests, prototypes and demonstrates innovative AI, Machine Learning (ML), data infrastructure, and model/algorithm test and assessment capabilities to integrate AI capabilities across numerous domains and technical areas including maintenance and supply chain, personnel recovery, infrastructure assessment, geospatial monitoring during disaster, and cyber sense making. JAIC develops and evaluates integrated prototype technologies in realistic operating environments with DoD entities to assess the performance or cost reduction potential of applying such advanced technology to scale across multiple services. JAIC does this by aligning rapid prototype projects under NMLs and leverages existing commercial technology for DoD use, built upon a common architecture that enables the DoD to rapidly scale AI capability.

FY 2022 Plans:

FY 2021 O&M Plans: \$72.724

In FY22, In order to lead the adoption and scaling of AI throughout the Department of Defense, the JAIC will continue to acquire highly technical expertise for Program Management; Data Management; Capability Delivery Development Teams; AI Test and Evaluation; AI Protect and Counter Intelligence Research and Analysis and JCF administrative and logical support. The JAIC will seek vendor services to advance systemic data stewardship practices in all AI related capability development, which will require vendors with technical experts in data engineering, and data science. The JAIC will also continue operation and sustainment efforts for the Joint Common Foundation. Funds Joint Common Foundation computing and cloud services in addition to enterprise AI tools that enable users to import data, build and test AI models, and deploy models into production environments.

FY 2021 RDT&E Plans: \$106.434

In FY22, Joint Information Warfare formally Cyber Sensemaking/ JAIC will further support integration of AI/ML MISO solutions for effective understanding, messaging, and influencing within the changing information environment. The JAIC will also align resources to kick off new AI capability lines of effort in accordance with the direction of the DOD AI Executive Steering Group (ESG). The JAIC will continue development of AI/ML products ANMVIS, BlueVector, MADHAT, Cyber Data Framework, Analytic Support Officers (ASO) Ecosystem Concept, and Medifor.

The Threat Reduction and Protection formally the Humanitarian Assistance/Disaster Relief (HA/DR) will continue efforts building AI Capability in the areas of Damage Assessment, Full Motion Video, and Search and Rescue and continue development of Damage Assessment and Road Obstruction Product Line. JAIC will continue development efforts and work towards a Joint Common Foundation (JCF) Enterprise Environment and Full Operating Capability (FOC) by FY22.

In FY22, the Joint Warfighting Operations Initiative will continue to develop and begin to transition AI/ML products lines Target Development, Wargaming, Gargoyle, Precision Targeting, and The Assistant Secretary of the Air Force (Acquisition, Technology and Logistics) (SAF/AQ) to mission partners. The JAIC will also continue resourcing AI/ML products in the areas of Electromagnetic Spectrum Operations (EMSO) and Strategic Mobility in accordance with the direction of the DOD AI Executive Steering Group (ESG). In FY22, The Joint Warfighting Operations mission initiative will deliver the Terrestrial Reconnaissance

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence</i>	Project (Number/Name) JAIC / JA1

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>and Surveillance and sUAS product to partners for field-testing, complete field testing and deliver to Army G-Boss Program office and service program. Integrate Strategy Robot into ATO, Joint Staff J8 - User Interface for existing air-to-air Force Structure Planning Tool and Joint Staff J8 - All-Domain Force Structure Planning Tool. Project Smart Sensor - Full- onboard processing and navigation and transition to U.S. Air Force Special Operations Command Program Executive Office Fixed Wing (AFSCO PEO FW) and MQ-9 Reaper Drone (MQ-9) System Program Office (SPO).</p> <p>In FY22, The Warfighter Health mission initiative will work with the Defense Health Agency (DHA) to transition the initial rollout of Medical Imagery Analysis to Military medical diagnosis facilities. The JAIC will continue work in Medical Imaging, Suicide Intervention & Prevention, Point of Injury Decision Support, and Data Commons AI/ML products.</p> <p>In FY22, The JAIC's Business Process Transformation initiative will work with the DoD Comptroller's Advanced Analytics (ADVANA) Team, Data Insights Directorate, and Undersecretary Defense for Intelligence USD(I) and will begin to test and integrate GAMECHANGER with multiple user groups. The JAIC will also continue to development of Humanless Unmatched Transactions (HUnT), Acquisition Alert, MyNavy HR, and Army Talent Assignment Recommender and begin transition efforts to partners.</p> <p>FY 2022 RDT&E Plans: \$7.481</p> <p>Increased COVID-19 requirements for the health of the Warfighter resulted in the need for a predictive analytics/forecasting platform for use by the COCOMS (NNC, INDOPACOM) to provide predictive analytics associated with COVID planning and response.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i></p> <p>The increase of +\$186.639 from FY 2021 to FY 2022 reflects a realigning of from O&M (+\$72.724) and RDT&E BA7 (+\$106.434) to the newly created BA 8: Software and Digital Technology for the Software Pilot Program. This also includes an increase of +\$8.040 received for the COVID-19 for requirements to support the health of the Warfighter predictive analytics/forecasting platform; for use by the COCOMS NORAD, NORTHCOM (North American Aerospace Defense Command, and Northern Command). Increase is offset by a decrease of -\$0.559 due to a technical adjustment.</p>			
Accomplishments/Planned Programs Subtotals	-	-	186.639

C. Other Program Funding Summary (\$ in Millions) N/A
Remarks
D. Acquisition Strategy The JAIC acquisition, management, and contracting strategy follows guidance outlined in the DoD 5000 series directives, Federal Acquisition Regulation (FAR) and FAR supplement policies and procedures. Management uses project management tools and meetings to ensure delivery of stated capabilities and performance criteria.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence</i>	Project (Number/Name) JAIC / JA1
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Joint Artificial Intelligence Center (JAIC)	
Joint Artificial Intelligence Center (JAIC)	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0604532K / <i>Joint Artificial Intelligence</i>	Project (Number/Name) JAIC / JA1
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint Artificial Intelligence Center (JAIC)</i>				
Joint Artificial Intelligence Center (JAIC)	4	2022	3	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 8: Software and Digital Technology Pilot Programs</i>	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	75.750	32.774	-	32.774	-	-	-	-	Continuing	Continuing
CC01: <i>Global Command</i>	0.000	0.000	75.750	32.774	-	32.774	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Global Command and Control System-Joint (GCCS-J) is the Joint C2 system of record and an essential component for successful implementation of the operational concepts of dominant maneuver, precision engagement, full-dimension protection, and focused logistics. It provides an integrated near real time picture of the battlespace to support joint and multinational operations on US and coalition networks. GCCS-J provides air, maritime, ground, space and cyber tracks for US, coalition, and enemy forces. It also provides applications for situational awareness, missile warning, intelligence, targeting, imagery exploitation, and applications for modeling chemical, biological, radiological, and nuclear (CBRN) hazard areas and effects. GCCS-J is used by key decision makers at the strategic national, strategic theater, and operational levels. Additionally, GCCS-J is used by all nine combatant commands (COCOMs) at sites around the world, supporting joint and coalition operations. The GCCS Family of Systems (FoS) (i.e. the military services) use components of GCCS-J to build their Service unique variants.

Beginning in FY 2021, the GCCS-J was approved and will be funded in the Software & Digital Technology Pilot Program under a new Budget Activity ("BA 8") in existing Research, Development, Testing & Evaluation (RDT&E) appropriations. Approved pilot programs will have all funding realigned to discrete Program Elements in BA 8 under each Component's RDT&E appropriation. This new pilot program was established in response to Section 872 of the National Defense Authorizations Act (NDAA) for FY 2018 (P.L. 115-91) in an effort to "streamline DoD software development and acquisition regulations."

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	86.750	37.928	-	37.928
Current President's Budget	0.000	75.750	32.774	-	32.774
Total Adjustments	0.000	-11.000	-5.154	-	-5.154
• Congressional General Reductions	-	-11.000			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment	-	-	-5.154	-	-5.154

Change Summary Explanation

The decrease of -\$5.154 in FY 2022 is the result of the re-phasing that will decrease the GCCS-J support to Joint All-Domain Command and Control (JADC2) efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 8					R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>				Project (Number/Name) CC01 / <i>Global Command</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
CC01: <i>Global Command</i>	0.000	0.000	75.750	32.774	-	32.774	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Global Command and Control System-Joint (GCCS-J) is the Joint C2 system of record and an essential component for successful implementation of the operational concepts of dominant maneuver, precision engagement, full-dimension protection, and focused logistics. It provides an integrated near real time picture of the battlespace to support joint and multinational operations on US and coalition networks. GCCS-J provides air, maritime, ground, space and cyber tracks for US, coalition, and enemy forces. It also provides applications for situational awareness, missile warning, intelligence, targeting, imagery exploitation, and applications for modeling chemical, biological, radiological, and nuclear (CBRN) hazard areas and effects. GCCS-J is used by key decision makers at the strategic national, strategic theater, and operational levels. Additionally, GCCS-J is used by all nine combatant commands (COCOMs) at sites around the world, supporting joint and coalition operations. The GCCS Family of Systems (FoS) (i.e. the military services) use components of GCCS-J to build their Service unique variants. Beginning in FY 2021, the GCCS-J was approved and will be funded in the Software & Digital Technology Pilot Program under a new Budget Activity ("BA 8") in existing Research, Development, Testing & Evaluation (RDT&E) appropriations. Approved pilot programs will have all funding realigned to discrete Program Elements in BA 8 under each Components RDT&E appropriation. This new pilot program was established in response to Section 872 of the National Defense Authorizations Act (NDAA) for FY 2018 (P.L. 115-91) in an effort to "streamline DoD software development and acquisition regulations."

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Development and Strategic Planning	-	75.750	32.774
<p>Description: Develop, publish, and execute a GCCS-J migration and modernization strategy that achieves the following GCCS-J Modernization objectives in accordance with Joint C2 Mission operational priorities and the DoD's JC2 Reference Architecture:</p> <ul style="list-style-type: none"> • Continue to decompose applicable existing applications into services • Limit local deployment and move as much to the enterprise as possible • Continue to expose data and scale services to support an enterprise implementation • Continue to evolve more economical hardware and software architecture without impact to the operational user or Family of Systems (FoS)/interface partners • Reduce overall sustainment cost through use of more cost effective and appropriate Commercial-off-the-Shelf (COTS) and Hardware (HW) products • Evolve to use of agile development practices • Consolidation of clients and tools 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>
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B. Accomplishments/Planned Programs (\$ in Millions)

FY 2021 Plans:

Cyber security analysis is an ongoing aspect of the software lifecycle required to keep the system securely deployed. Continue to maintain the synchronization across DOD of GCCS-J, joint interfaces and the GCCS Family of Systems; continue to deliver capabilities as prioritized by the warfighter; and meet emerging operational priorities.

Continue the development of the GCCS-JE Framework to meet the programs Initial Operational Capability. In addition we will execute a development, integration and sustainment contract that will develop the functional capability that will be integrated in the framework design and sustain the capability as it is operationally deployed to the warfighter.

FY 2022 Plans:

FY 2022 O&M Plans: \$21.375

Continue to support the Operational Community by incrementally developing, testing, and fielding additional GCCS-J 6.0.x and GCCS-J 6.1.x capabilities, as identified and prioritized by the Joint Staff (JS) and User community. Also, continue to address missile warning requirements as defined in the Global Threat Characterization Assessment (GTCA); complete the implementation of the full set of Link 16 requirements in the Link Processing Capability (LPC) application; and address additional high priority items from the Joint Staff "Top 10" list of requirements. Continue to support / fund GCCS-J certification and accreditation activities to include GCCS-J v6.0 reaccreditation; GCCS-J v6.1 accreditation (new); and GCCS-J Enterprise Baseline accreditation (new). Additionally, continue to fund software licenses for the Joint Staff critical sites, as required.

FY 2022 RDT&E Plans: \$11.399

Continue the GCCS-J modernization activities that began in FY21 to include: developing, testing, and deploying additional GCCS-J Web client capabilities; support the Joint All Domain Command and Control (JADC2) campaign and series of modernization experiments designed to "increase interoperability, situational awareness and lethality that will enable any shooter, with any sensor, through any C2 node, in near-real time to employ joint and mission partner effects"; continue IPv6 compliance work to achieve DoD's IPv6 compliance objective; and develop and deploy GCCS-J web client capabilities and backend services to a SIPR cloud environment (e.g. Amazon Web Services, and Microsoft AZURE).

FY 2021 to FY 2022 Increase/Decrease Statement:

The decrease of -\$42.976 from FY 2021 to FY 2022 is due to the required payback of funds provided via the 2016 GCCS-J Recapitalization Business Case Analysis to modernize GCCS-J and move to an enterprise deployment. The existing and unmitigated program risk of no modernization funding in FY 2022 results in ceasing current modernization efforts in FY

	FY 2020	FY 2021	FY 2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
2020-2021, as there would be insufficient funding starting in FY 2022 and out to host and maintain any enterprise capability (e.g., GCCS-J web application).			
Accomplishments/Planned Programs Subtotals	-	75.750	32.774

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PE 0303150K: <i>Operation & Maintenance, Defense-Wide</i>	0.000	27.426	26.829	-	26.829	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Use of performance-based contract awards is maximized while use of Time and Material contracts is minimized to those providing programmatic support versus software development, integration, or testing. All development, integration, and migration efforts within the portfolio are primarily supported through Cost Reimbursable Task Orders issued under competitively awarded contracts. Acquisition Strategies are structured to retain contractors capable of satisfying cost, schedule, and performance objectives. Contract awards incorporate provisions requiring contractors to establish and manage specific earned value data. This strategy mitigates risk by requiring monthly Contract Performance Reviews (CPRs) and utilizing award fee contracts where appropriate to incentivize performance. GCCS-J applies formal acquisition rigor to include reporting requirements, as appropriate, by acquisition program designation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPFF	NMGS: GCCS-J Sustainment : Reston, VA	-	-		38.400	Dec 2020	18.993	Dec 2021	-		18.993	Continuing	Continuing	-
Product Development	C/CPFF	C2 Systems Engineering : TBD	-	-		4.200	Dec 2021	1.944	Feb 2022	-		1.944	Continuing	Continuing	-
Product Development	C/CPFF	GCCS-J Development : TBD	-	-		16.575	Jan 2021	-		-		-	Continuing	Continuing	-
Product Development	C/FFP	Configuration Management : Montgomery	-	-		1.000	Oct 2020	1.040	Oct 2021	-		1.040	Continuing	Continuing	-
Product Development	C/FFP	Milcloud Hosting : TBD	-	-		3.000	Jan 2021	-		-		-	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance GEMFIRE : TBD	-	-		1.214	Apr 2021	-		-		-	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: VMWare : TBD	-	-		0.150	Apr 2021	0.148	Apr 2022	-		0.148	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Redhat : TBD	-	-		0.487	Dec 2020	0.565	Dec 2021	-		0.565	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance Sybase : TBD	-	-		0.652	Sep 2021	0.663	Sep 2022	-		0.663	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance : TBD	-	-		2.500	Jan 2021	-		-		-	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Oracle WebLogic : TBD	-	-		-		0.806	Jan 2022	-		0.806	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Oracle JAVA JELA : TBD	-	-		-		0.059	Sep 2022	-		0.059	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development	C/FFP	Software Maintenance: Microfocus : TBD	-	-		-		0.084	Mar 2022	-		0.084	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: ForgeRock : TBD	-	-		-		0.048	May 2022	-		0.048	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Microsoft JELA : TBD	-	-		-		0.031	Nov 2021	-		0.031	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: VEEAM : TBD	-	-		-		0.016	Mar 2022	-		0.016	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Fortify : TBD	-	-		-		0.088	Dec 2021	-		0.088	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: JIRA : TBD	-	-		-		0.039	Dec 2021	-		0.039	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Crunchy PostGresSQL : TBD	-	-		-		0.097	Jul 2022	-		0.097	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Risk Radar : TBD	-	-		-		0.018	Jul 2022	-		0.018	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: NetApp : TBD	-	-		-		0.230	Jul 2022	-		0.230	Continuing	Continuing	-
Product Development	C/FFP	Software Maintenance: Solarwinds and Flexera (CC) : TBD	-	-		-		0.006	Jun 2022	-		0.006	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development	C/FFP	HW Maintenance: CISCO JELA : TBD	-	-		-		0.035	Jun 2022	-		0.035	Continuing	Continuing	-
Product Development	C/FFP	HW Maintenance: Sun : TBD	-	-		-		0.414	Feb 2022	-		0.414	Continuing	Continuing	-
Subtotal			-	-		68.178		25.324		-		25.324	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support Cost	C/FFP	TBD : TBD	-	-		1.300	May 2021	-		-		-	Continuing	Continuing	-
Support: SD Program Management Support	C/FFP	Strategic Alliance Business Group : Ft Meade	-	-		-		0.920	Aug 2022	-		0.920	Continuing	Continuing	-
Support: GM&A (Travel, Training, Laptops, Credit Card, etc.)	C/FFP	Various : Ft Meade	-	-		-		0.495	Oct 2021	-		0.495	Continuing	Continuing	-
Support: Mobility PDC - EWMB97	MIPR	DISA : Ft Meade	-	-		-		0.057	Oct 2021	-		0.057	Continuing	Continuing	-
Support: Naval Information Warfare Center (NIWC) Atlantic	MIPR	NIWC : Various	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			-	-		1.300		1.472		-		1.472	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation	MIPR	JITC : Various	-	-		2.500	Oct 2020	0.218	Oct 2021	-		0.218	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation	MIPR	DAA : STRATCOM:Various	-	-		0.672	Oct 2020	0.896	Oct 2021	-		0.896	Continuing	Continuing	-
Test & Evaluation	MIPR	RME : Variuos	-	-		2.500	Oct 2020	0.888	Oct 2021	-		0.888	Continuing	Continuing	-
Test & Evaluation	MIPR	DISA Circuit: PDC WHPP : Ft Meade	-	-		-		0.057	Oct 2021	-		0.057	Continuing	Continuing	-
Test & Evaluation	MIPR	Telecommunication Services: CDES FAA : TBD	-	-		-		0.081	Oct 2021	-		0.081	Continuing	Continuing	-
Test & Evaluation	MIPR	C2 Test and Evaluation - NEXTGEN : Various	-	-		-		2.985	Aug 2022	-		2.985	Continuing	Continuing	-
Test & Evaluation	MIPR	SD CyberSecurity Support - U.S. Army Combat Capabilities Development Command Data & Analysis Center : Various	-	-		-		0.557	Aug 2022	-		0.557	Continuing	Continuing	-
Test & Evaluation	MIPR	AIR FORCE RESEARCH LAB/ RIFB (AFRL) : Various	-	-		-		0.291	Oct 2021	-		0.291	Continuing	Continuing	-
Test & Evaluation	MIPR	FAA Feed, FAA NAS Defense Programs : Various	-	-		-		0.005	Oct 2021	-		0.005	Continuing	Continuing	-
Subtotal			-	-		5.672		5.978		-		5.978	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services	FFRDC	MITRE : Various	-	-		0.600	Oct 2020	-		-		-	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Development and Strategic Planning																												
Development and Strategic Planning																												
Integration and Test																												
Integration and Test																												
Process Transformation																												
Process Transformation																												
Development Transformation																												
Development Transformation																												
Security Transformation																												
Security Transformation																												
UX Transformation																												
UX Transformation																												
Data Transformation																												
Data Transformation																												
Operations Transformation																												
Operations Transformation																												
Operational Web Client - IOC																												
Operational Web Client - IOC																												
Initial Enterprise Deployment																												
Initial Enterprise Deployment																												
ICSF Independence																												
ICSF Independence																												
GCCS-J Release v.6.1.0 - v6.1.X																												
GCCS-J Release v.6.1.0 - v6.1.X																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Information Systems Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Operational Web Client -FOC																												
Operational Web Client -FOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Development and Strategic Planning</i>				
Development and Strategic Planning	1	2020	4	2021
<i>Integration and Test</i>				
Integration and Test	1	2020	4	2026
<i>Process Transformation</i>				
Process Transformation	3	2020	4	2021
<i>Development Transformation</i>				
Development Transformation	2	2020	4	2021
<i>Security Transformation</i>				
Security Transformation	3	2020	2	2022
<i>UX Transformation</i>				
UX Transformation	2	2020	4	2026
<i>Data Transformation</i>				
Data Transformation	2	2020	4	2026
<i>Operations Transformation</i>				
Operations Transformation	2	2020	4	2026
<i>Operational Web Client - IOC</i>				
Operational Web Client - IOC	1	2021	4	2021
<i>Initial Enterprise Deployment</i>				
Initial Enterprise Deployment	1	2021	3	2021
<i>ICSF Independence</i>				

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Information Systems Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0303150K / <i>Global Command and Control System Software and Digital Technology Pilot Programs</i>	Project (Number/Name) CC01 / <i>Global Command</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ICSF Independence	1	2021	3	2023
<i>GCCS-J Release v.6.1.0 - v6.1.X</i>				
GCCS-J Release v.6.1.0 - v6.1.X	3	2021	4	2026
<i>Operational Web Client -FOC</i>				
Operational Web Client -FOC	1	2022	4	2026

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Defense Logistics Agency

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

06 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	316,218	247,947	251,904
Total Research, Development, Test & Evaluation	316,218	247,947	251,904

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Advanced Technology Development	269,130	215,309	210,782
System Development & Demonstration	31,773	23,552	32,933
Management Support	10,065		
Operational Systems Development	5,250	9,086	8,189
Total Research, Development, Test & Evaluation	316,218	247,947	251,904
 Summary Recap of FYDP Programs -----			
Research and Development	310,968	238,861	243,715
Central Supply and Maintenance	5,250	9,086	8,189
Total Research, Development, Test & Evaluation	316,218	247,947	251,904

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Advanced Technology Development	269,130	215,309	210,782
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Total Research, Development, Test & Evaluation	316,218	247,947	251,904
Summary Recap of FYDP Programs -----			
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Total Research, Development, Test & Evaluation	316,218	247,947	251,904

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

06 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Defense Logistics Agency	316,218	247,947	251,904
Total Research, Development, Test & Evaluation	316,218	247,947	251,904

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
51	0603680S	Manufacturing Technology Program	03	50,184	69,025	37,543	U
53	0603712S	Generic Logistics R&D Technology Demonstrations	03	17,402	10,235	12,418	U
55	0603720S	Microelectronics Technology Development and Support	03	201,544	136,049	160,821	U
		Advanced Technology Development		269,130	215,309	210,782	
136	0605070S	DOD Enterprise Systems Development and Demonstration	05	2,291	1,377	679	U
138	0605080S	Defense Agency Initiatives (DAI) - Financial System	05	23,114	20,537	32,254	U
139	0605090S	Defense Retired and Annuitant Pay System (DRAS)	05	6,368	1,638		U
		System Development & Demonstration		31,773	23,552	32,933	
169	0605502S	Small Business Innovative Research	06	10,065			U
		Management Support		10,065			
254	0708012S	Pacific Disaster Centers	07	1,705	1,785	1,799	U
255	0708047S	Defense Property Accountability System	07	3,545	7,301	6,390	U
		Operational Systems Development		5,250	9,086	8,189	
Total Research, Development, Test & Eval, DW				316,218	247,947	251,904	

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Defense Logistics Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
51	0603680S	Manufacturing Technology Program	03	50,184	69,025	37,543	U
53	0603712S	Generic Logistics R&D Technology Demonstrations	03	17,402	10,235	12,418	U
55	0603720S	Microelectronics Technology Development and Support	03	201,544	136,049	160,821	U
		Advanced Technology Development		269,130	215,309	210,782	
136	0605070S	DOD Enterprise Systems Development and Demonstration	05	2,291	1,377	679	U
138	0605080S	Defense Agency Initiatives (DAI) - Financial System	05	23,114	20,537	32,254	U
139	0605090S	Defense Retired and Annuitant Pay System (DRAS)	05	6,368	1,638		U
		System Development & Demonstration		31,773	23,552	32,933	
169	0605502S	Small Business Innovative Research	06	10,065			U
		Management Support		10,065			
254	0708012S	Pacific Disaster Centers	07	1,705	1,785	1,799	U
255	0708047S	Defense Property Accountability System	07	3,545	7,301	6,390	U
		Operational Systems Development		5,250	9,086	8,189	
Total Defense Logistics Agency				316,218	247,947	251,904	

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Defense Retired and Annuitant Pay System 2 (DRAS2)	0605090S	139	05.....	Volume 5 - 421
DoD Enterprise Systems Development and Demonstration	0605070S	136	05.....	Volume 5 - 403
Logistics Research and Development Technology (Log R&D)	0603712S	53	03.....	Volume 5 - 379
Manufacturing Technology Program (ManTech)	0603680S	51	03.....	Volume 5 - 363
Microelectronics Technology Development and Support (DMEA)	0603720S	55	03.....	Volume 5 - 389
Pacific Disaster Center	0708012S	254	07.....	Volume 5 - 431
Small Business Innovative Research (SBIR)	0605502S	169	06.....	Volume 5 - 427

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	121.222	50.184	69.025	37.543	-	37.543	-	-	-	-	Continuing	Continuing
IBMP: <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>	57.181	27.724	42.205	13.809	-	13.809	-	-	-	-	Continuing	Continuing
AAA: <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>	48.372	16.481	17.854	17.695	-	17.695	-	-	-	-	Continuing	Continuing
OOO: <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>	15.669	5.979	8.966	6.039	-	6.039	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Logistics Agency (DLA) Manufacturing Technology (ManTech) Program funds the advanced technology development needed to achieve a responsive, efficient domestic industrial base that meets the warfighters' needs in an affordable and timely manner. The ManTech program works with DLA's diverse supply chains to improve manufacturing capability throughout a product's life cycle. It provides the crucial link between invention and application by maturing, scaling up, and validating advanced manufacturing technology in "real world" environments. ManTech developments provide a path to low-risk technology implementation for many small businesses and defense unique suppliers as well as depots and shipyards that are critical to DLA. By anticipating and addressing production and sustainment problems before they occur, readiness levels increase and sustainment costs are lower.

DLA ManTech is aligned into three Strategic Focus Areas (SFA): 1) Improving Industrial Base Manufacturing Processes (IIBM); 2) Maintaining Viable Sources of Supply (MVSS); and 3) Improving Technical and Logistics Information (ITLI).

- The IIBM SFA includes efforts to reduce industrial base material costs and production lead-times, while improving the quality of DLA managed products. This SFA has supply chain focused execution portfolios for food (Subsistence Network), Castings (Procurement Readiness Optimization—Advanced Casting Technology), Forgings (Procurement Readiness Optimization—Forging Advance System Technology), Batteries (Battery Network) and Additive Manufacturing.

- MVSS includes efforts to assure the commercial industrial base can satisfy DLA materiel requirements without relying on foreign sources for microcircuits. This strategic focus area mitigates supply issues caused by the lack of a reliable domestic manufacturing capability to produce products or raw materials needed to build and maintain weapon systems. The major focus of the program is maintaining a reliable, trusted, domestic source for "non-procurable" linear and digital microcircuits. Microcircuit emulation allows the Services to save significant costs by using form, fit and functionally equivalent spare parts rather than redesigning the next-higher-assembly.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>
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• The ITLI SFA includes efforts to improve and facilitate the exchange of engineering and logistics information among DLA, the Military Services, DLA industry partners and DLA customers. It includes the Military Unique Sustainment Technology (MUST) and the Defense Logistics Information Research (DLIR) programs. A primary focus of this SFA is to capitalize on the emerging “Model Based Enterprise” paradigm and the semantic web as an enabler to a logistics system that is smart and connected up and down the supply chain and across all DLA Customers and suppliers. A major focus is to transform DoD engineering data from two-dimensional paper-based products to three-dimensional computer based models, and to develop processes to move from “electronic paper” (i.e. PDF files) to technical data files that can interface directly with industries’ engineering systems. The benefits include shorter product introduction cycles, lower set up-costs for parts production and more economical small batch production.

DLA’s focus for this budget cycle highlights advanced capabilities in digital and technical data modernization, management and analytics to fulfill the DLA role in the DoD Digital Engineering Strategy and improve sharing of data with the industrial base and supported organizations. Investment explores technologies to lower the Agency’s material acquisition and operations costs and improve weapons systems support. This effort spans across both DLA R&D Program Elements and multiple Strategic Focus Areas, impacting across the DoD Joint Defense Manufacturing Technology Panel and DLA Enterprise logistics processes.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	50.184	40.025	40.029	-	40.029
Current President's Budget	50.184	69.025	37.543	-	37.543
Total Adjustments	0.000	29.000	-2.486	-	-2.486
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	29.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation for Civilian Pay	-	-	0.016	-	0.016
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.950	-	-0.950
• Decrease for Travel	-	-	-0.062	-	-0.062
• Internal Realignment to LOG PE 0603712S	-	-	-1.500	-	-1.500
• Retired Pay Accrual	-	-	0.010	-	0.010

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: IBMP: *Improving Industrial Base Manufacturing Processes (formerly Material Availability)*

Congressional Add: *Improve Steel Performance Initiative in Castings*

Congressional Add: *Supply Chain adoption of additive manufacturing, automation, and robotics in Castings*

	FY 2020	FY 2021
	10.000	10.000
	-	10.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)

	FY 2020	FY 2021
Congressional Add: <i>Additive Manufacturing Castings Model</i>	-	5.000
Congressional Add Subtotals for Project: IBMP		
	10.000	25.000
Project: <i>OOO: Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>		
Congressional Add: <i>Rare Earth Magnets</i>	-	4.000
Congressional Add Subtotals for Project: OOO		
	-	4.000
Congressional Add Totals for all Projects		
	10.000	29.000

Change Summary Explanation

FY 2021:

-SBIR/STTR Transfer: Due to an error while coding FY 2021 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For ManTech, the SBIR/STTR transfer is \$2.393M.

FY 2022:

- Inflation for Non-Pay/Non-Fuel Purchases: \$0.725 million of the \$0.950 million reduction was incorrectly coded to Manufacturing Technology and was intended for the Defense Microelectronics Activity for non-pay/non-fuel inflation. The funding will be adjusted correctly upon enactment of FY 2022 funding.
- Decrease for Travel: Defense-Wide activities are directed to maximize their travel funding through the use of technology, such as video teleconference, and cost-efficient transportation options.
- Internal Realignment to LOG PE 0603712S: Funding moved to LOG for requirements.
- Retired Pay Accrual: Agency Contribution Assumption FY 22 rate was increased by 1.1%.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>				Project (Number/Name) IBMP / <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
IBMP: <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>	57.181	27.724	42.205	13.809	-	13.809	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Improving Industrial Base Manufacturing Processes Strategic Focus Area (SFA) is an R&D effort undertaken with DLA’s suppliers to reduce material costs, reduce the length and variability of production lead-times, assure DLA managed products meet performance requirements, and continuously improve quality and reliability. Benefits of this SFA include lower material costs, lower inventory levels and more predictable customer wait times, fewer quality deficiencies, and lower customer support costs. This SFA includes within its scope the Subsistence Network, the Battery Network, the Castings/Forging programs and Additive Manufacturing programs.

The Subsistence Network (SUBNET) program is the successor to the Combat Rations Network R&D program. SUBNET focuses on solutions to develop and promote manufacturing improvements in the subsistence supply chain. The program’s expanded areas of interest include: combat rations, food equipment, field feeding solutions, food footprint, food innovations, food safety and defense developments, garrison feeding, nutrition and health, storage and packing solutions, surge and sustainment support, and water security. SUBNET forms a community of practice with Military Services, U.S. Department of Agriculture, Natick Soldier Research Development, and Engineering Center; Academia, and Industry to research and promote manufacturing improvements in the Subsistence Supply Chain with the goals of maximizing capability and capacity to produce, and to encourage innovation and modernization needed to leverage the latest technologies. Desired outcomes include: reduced cost, increased efficiencies, improved processes, enhanced quality, and improved surge demand capabilities.

The Casting program works to ensure a stable, reliable, and competitive domestic casting industrial base supporting the weapon system needs of the Department of Defense (DoD) and the Defense Logistics Agency (DLA). The casting program works with industry, universities, and the Casting Industry Associations to identify projects that improve the materials, processes and business practices of the nation’s foundry industry. The program aligns projects with strategic issues and identified focus areas within the DLA and DoD. Guidance for these projects comes from the DLA Strategic Plan and input from the casting industry. Weapon system spare parts managed by DLA that contain castings are responsible for a disproportionate share of DLA’s backorders or unfilled orders (UFOs). Cast parts are ~2% of National Stock Numbered Class IX parts but represent ~5% of all backorders, and when only the oldest backorders are considered, up to 10% are castings. This program includes tasks that focus on developing new capabilities in the areas of inspection, materials, processes, modeling, and design. Once developed, these capabilities will support the foundry industry, where the technologies will be tested and implemented, most often in conjunction with the casting industry associations. These advancements improve the metal casting supply chains for the DoD and the DLA to better support the warfighter. We will invest in projects aimed at reducing lead-time, reducing cost, and improving quality of castings critical to DoD weapon systems.

The Forging program works to ensure a stable, reliable, and competitive domestic forging industrial base for the weapon system needs of the Department of Defense (DoD) and the Defense Logistics Agency (DLA). Working with industry, universities, and the Forging Industry Associations to identify projects that improve the materials,

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) IBMP / <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>

processes and business practices of the nation's forging industry. The program aligns its projects with strategic issues and focus areas identified within the DLA and DoD. Guidance for these projects comes from the DLA Strategic Plan and input from the forging industry. Weapon system spare parts managed by DLA that contain Forgings are responsible for a disproportionate share of DLA's backorders or unfilled orders (UFOs). Forged parts are ~2% of National Stock Number (NSN) Class IX parts but represent ~5% of all backorders, and when only the oldest backorders are considered, up to 10% are forgings. This program includes tasks to develop new capabilities in the areas of inspection, materials, processes, modeling, and design. Once developed these capabilities will support the forging industry, where these technologies will be tested and implemented in conjunction with the forging industry associations. These advancements improve the forging supply chains for the DoD and the DLA to better support the warfighter. We will invest in projects aimed at reducing lead-time, reducing cost, and improving quality of forgings critical to DoD weapon systems.

The Battery Network (BATTNET) program objective is to develop the next generation of battery manufacturing technologies for cost and price efficiency, longer shelf life, and lighter batteries with higher energy. BATTNET conducts R&D initiatives to address sustainment gaps and bridge technical solutions into higher a Manufacturing Readiness Level (MRL) for specific groups of batteries. BATTNET also focuses on projects to develop the production capability for advanced lithium-based non-rechargeable and rechargeable batteries to ensure the prompt and sustained availability, quality, and affordability of Service approved batteries. Desired outcomes include: streamlined inventory and associated cost reductions through standardization and improved distribution practices; resolved obsolescence issues; addressed surge and sustainment issues; enhanced security of supply chain; increased competition and manufacturing base; reduced per unit battery cost; and leveraged Service-level (Army, Navy, Air Force) and other governmental (DOE, DOT, NASA) R&D efforts to insert new technology and practices into the existing DLA battery inventory.

The Additive Manufacturing (AM) program objective is to establish AM as an effective alternative to conventional manufacturing and document the process for AM benefits. DLA is pursuing all AM technology as a lead-time and inventory reduction enabler. The AM effort pursues alternate means of supply for products that are otherwise non-procurable or susceptible to procurement issues due to an unresponsive manufacturing vendor base. The AM effort includes the identification of AM candidates among the population of products that are needed but hard to obtain, costly or have long manufacturing lead times. The AM effort requires management of 3D digital technical and manufacturing data. In addition, the AM effort includes the development of the processes that will tie the designers, engineers, maintainers, logisticians, procurement managers and the vendor base into a seamless AM procurement stream. Potential benefits include products that can address an unfulfilled Warfighter readiness need by reducing production lead times, production costs, storage costs, transportation costs and in some cases fuel consumption due to lighter design and material options. DLA R&D will leverage these efforts with Industry, Academia and ongoing Military Service-level agreements (Army, Navy, Marine Corps, Air Force), Oak Ridge National Laboratory (ORNL) and the Department of Energy.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Title: Improving Industrial Base Manufacturing Processes (formerly Material Availability)	17.724	17.205	13.809
FY 2021 Plans: The Subsistence Network (SUBNET) program will continue to research and execute short-term innovative projects to improve the subsistence supply chain. SUBNET will work with community partners (military services, industry, and academia) to leverage the latest innovations. SUBNET plans to research and execute projects in FY 2021 regarding modernization and readiness analysis of a Joint Food Management System, Subsistence readiness and innovation assessment of the supply chain, Pre and Polyfluoroalkyl			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) IBMP / <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>(PFAS) in MRE Packing materials, Identification of critical performance properties for barrier materials in hot sauce packaging for MRE rations and Blockchain application for the Outside of Continental U.S. (OCONUS) Subsistence Prime Vendor supply chain. The program will also continue to work Small Business Innovation Research (SBIR) topics in Subsistence, for example, using cold plasma fog mist to disinfect personnel protective equipment, cold plasma technology to extend the shelf life of fresh fruits and vegetables, and collaborate with the Defense Advanced Research Projects Agency on future projects for synergy and as a potential transition partner.</p> <p>The Casting program will continue to monitor awarded contracts for projects that research, develop and deploy innovative and technical solutions to ensure a viable and competitive domestic industrial base. These projects focus on improving manufacturing processes and technology that includes robotic and additive manufacturing methods and implementation, new test processes and procedures to evaluate cast materials, computer simulation and modeling to decrease lead-time and increase quality. The Casting program works with Academia, industry, and industry associations to continually identify future development and technical needs in alignment with the DoD and DLA.</p> <p>The Forging program will execute projects focused on exploring alternative forging manufacturing methods, materials to reduce production lead-time and costs, modeling and simulation software improvements and enhancements and improvements to post processing methods. These projects will be in alignment with the needs of the DoD and DLA aimed and supporting and fulfilling the needs of the warfighter.</p> <p>The Battery Network (BATNET) program will continue new projects for improving the production readiness, transition, and standardization of soldier and system batteries within the DLA supply chain. The BATNET program will also leverage new battery manufacturing technologies for the supply chain that have been developed by industry – advanced electrode production, low cost materials production or recycling, advanced performance cells, and deep-discharge lithium-ion capabilities</p> <p>The Additive Manufacturing (AM) program, using market research, requests for information/proposals, Broad Agency Announcements (BAA), DLA R&D will fund analysis of alternatives for the best cognitive computing solutions to integrate information from several logistics, engineering, legal, and supplier data sources into an efficient AM decisional framework. These augmented analytics efforts will help identify unseen patterns in the utilization of AM resources such as machines, materials, manufacturing expertise, and manufacturing data to shape an efficient AM distributive manufacturing ecosystem. Desired outcomes include: optimization of polymer and metal AM production to obtain land, air and sea and expeditionary platform spare parts. The Additive Manufacturing (AM) program plans to finance collaborative technical efforts from the military departments, industry, and academic institutions that enhance the customer engagement with the AM product management workflows. Overall DLA Enterprise AM efforts will identify the best AM applications to achieve precise robustness-repeatability-reproducibility of</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) IBMP / <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>

B. Accomplishments/Planned Programs (\$ in Millions)

part fabrication using an AM technical data package in a distributed manufacturing setting and prove the delivery of AM parts to warfighters deployed at the expeditionary sea, land or air bases.

FY 2022 Plans:

The Subsistence Network (SUBNET) program plans to continue to research and execute short-term innovative projects to improve the subsistence supply chain in FY 2022. SUBNET will continue to incorporate emerging technologies to address stakeholder's requirements as well as leverage supply chain innovations, best practices and trends. SUBNET will continue to research and conduct pilot test in the areas of modernization and readiness analysis of Joint Food Management System and improving subsistence visibility enhancing receipting and barcoding at an OCONUS location. SUBNET plans to conduct research in FY 2022 regarding data analytics, wire mesh sensor technology, and automation in Military Dining Facilities. The program will also continue to pursue Small Business Innovation Research topics in Subsistence. The SUBNET program will continue to work with community partners (military, academia and industry) to promote initiatives in the subsistence supply chain.

The Casting program will continue to monitor awarded contracts for projects that research, develop and deploy innovative and technical solutions to ensure a viable and competitive domestic industrial base. These projects focus on improving manufacturing processes and technology that includes robotic and additive manufacturing methods and implementation, new test processes and procedures to evaluate cast materials, computer simulation and modeling to decrease lead-time and increase quality. The Casting program works with Academia, industry, and industry associations to continually identify future development and technical needs in alignment with the DoD and DLA.

The Forging program will continue to monitor projects that research, develop and deploy innovative and technical solutions to ensure a viable and competitive domestic industrial base. These projects focus on improving manufacturing processes and alternative forging manufacturing methods, materials to reduce production lead-time and costs, modeling and simulation software improvements and enhancements and improvements to post processing methods. These projects align with the needs of the DoD and DLA aimed and supporting and fulfilling the needs of the warfighter.

The Battery Network (BATTNET) program will continue to execute projects for improving the production readiness, transition, and standardization of soldier and system batteries within the DLA supply chain. These projects will leverage new battery manufacturing technologies for the supply chain that have been developed by industry – advanced electrode production, low cost materials production or recycling, advanced performance cells, and deep-discharge lithium-ion capabilities.

The DLA R&D Additive Manufacturing (AM) program will continue to collaborate with the Military Services, DLA's Process Owners and Major Subordinate Commands (MSC) to identify technologies that assist with AM enterprise-wide processes that align DLA's

FY 2020	FY 2021	FY 2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) IBMP / <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>identification of hard-to-source parts requirements with MILSVC cognizant engineer authorities and AM manufacturing capabilities in order to obtain qualified AM parts that support a DLA customer. The convergence of authoritative data in the DLA Joint AM Model Exchange (JAMMEX) platform will improve DLA's position to exercise quality assurance of AM parts flowing into the DoD supply chains. The DLA R&D AM projects will explore innovative remote inspection capabilities that enable interoperable quality control inspections among DLA, the Military Service cognizant engineers and the manufacturing base. The convergence of automated requirements' tools based on DoD consensus of AM risk categorization criteria, JAMMEX authoritative data, and remote inspection technologies can render repeatable and accelerated qualifications processes.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Reduction of \$3.000 million for internal realignment: \$2.000 million is realigned within the ManTech Program Element from Additive Manufacturing (AM) to Defense Logistics Information Research (DLIR) and Military Unique Sustainment Technology (MUST) for increased investment priorities for Digital Data Modernization. These investments will continue to benefit the AM program through improvement to sharing technical data and requirements with the industrial base, a critical component to AM. \$0.500 million from Battery Network and \$0.500 million from Forgings is realigned from the ManTech Program Element to the Log R&D Program Element for increased investments in Data Management and Predictive Analytics. The additional \$0.400 million decrease was previously taken.</p>			
Accomplishments/Planned Programs Subtotals	17.724	17.205	13.809

	FY 2020	FY 2021
<p>Congressional Add: Improve Steel Performance Initiative in Castings</p> <p>FY 2020 Accomplishments: Began work to develop a government-industry network to develop automated design processes to allow small lot size, low rate production without requiring custom programming for each part. Steel alloy development and manufacturing technology processes improvements will extract higher performance from steel components through utilizing modeling, design and process optimization, and development of performance-based Non-Destructive Testing (NDT) standards for component qualification.</p> <p>FY 2021 Plans: Conduct projects under the Steel Performance Initiative that includes: Steel Alloy Development and Manufacturing Technology; Integrated Process and Performance Modeling; Advanced Testing & Qualification; Improved Steel Casting Tooling; and Optimized Processing of Steel Materials</p>	10.000	10.000
<p>Congressional Add: Supply Chain adoption of additive manufacturing, automation, and robotics in Castings</p>	-	10.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) IBMP / <i>Improving Industrial Base Manufacturing Processes (formerly Material Availability)</i>

	FY 2020	FY 2021
FY 2021 Plans: Continue projects to improve the Casting supply chain through use of modeling and simulations for process analysis and improvements and design optimization; additive manufacturing technologies, and robotics in castings processes to improve quality and production lead times.		
Congressional Add: Additive Manufacturing Castings Model	-	5.000
FY 2021 Plans: Explore additive manufacturing technology application to Digital Tooling, to include a benchmark study of the Casting industry for additive manufacturing technology, research binder jet printing method for investment casting molds, and improve surface finish of casting produced from printed sand.		
Congressional Adds Subtotals	10.000	25.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DLA R&D program is executed through Delivery Orders placed on Indefinite Delivery/Indefinite Quantity Contracts that resulted from competitive Broad Agency Announcements and through interagency agreements with the Military Services when it is cost effective and/or provides some technical advantage, e.g. improves the probability of successful transition. DLA also has a continuously open Broad Agency Announcement for Emerging Technologies.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>				Project (Number/Name) AAA / <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
AAA: <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>	48.372	16.481	17.854	17.695	-	17.695	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Maintaining Viable Supply Sources (MVSS) Strategic Focus Area (SFA) consists of projects undertaken to assure that the industrial base can respond to DLA requirements and DLA can fill military customers' material requirements reliably and consistently. Benefits include eliminating cancelled requisitions returned to customers as "non-procurable." This strategic focus area includes within its scope the Advanced Microcircuit Emulation (AME) program.

The Program Roadmap has two major thrusts areas: Digital Microcircuits and Linear/Analog Microcircuits. The program has several projects addressing specific classes of obsolescent microcircuit technologies. Over the past several years, obsolescence in this class of microcircuits has greatly increased and has become a significant concern. These are classes of microcircuits that are expected to become non-procurable in FY 2020 and beyond. Without the technologies planned on the MAE Roadmap, DLA will not be able to support DoD's requirements for high quality spare parts for critical electronic systems and subsystems.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Maintaining Viable Supply Sources (formerly High Quality Sources)	16.481	17.854	17.695
FY 2021 Plans: AME will complete and transition its first Linear/Analog technology project, 20 Volt Operational Amplifier, into full scale production. It will also complete and transition additional digital technology projects into full scale production. The first will address TTL compatible CMOS microcircuits and the second will address Dual-Port Memory microcircuits. MAE will continue development of Additive Manufacturing techniques to address Microcircuit Cases. It will begin additional Linear/Analog emulation projects for types/groups of parts, prioritized based on customer requirements.			
FY 2022 Plans: AME will continue planning for the specific emulation technology implementations to support specific device family groups in consonance with Customer and Agency requirements. It will begin developing dual-voltage digital microcircuit technology to support re-hosting Field-Programmable Gate Array (FPGA) microcircuits. It will begin additional Linear/Analog and Digital emulation projects for types/groups of parts, prioritized based on customer requirements.			
FY 2021 to FY 2022 Increase/Decrease Statement: No significant changes.			
Accomplishments/Planned Programs Subtotals	16.481	17.854	17.695

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) AAA / <i>Maintaining Viable Supply Sources (formerly High Quality Sources)</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DLA R&D program is executed through Delivery Orders placed on Indefinite Delivery/Indefinite Quantity Contracts that resulted from competitive Broad Agency Announcements and through interagency agreements with the Military Services when it is cost effective and/or provides some technical advantage, e.g. improves the probability of successful transition. DLA also has a continuously open Broad Agency Announcement for Emerging Technologies.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>				Project (Number/Name) OOO / <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
OOO: <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>	15.669	5.979	8.966	6.039	-	6.039	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Improving Technical and Logistics Information (ITLI) SFA projects improve and facilitate the communication of technical and logistics information among industry, DLA’s military customers and DLA. This SFA includes the Military Unique Sustainment Technology (MUST), the Defense Logistics Information Research (DLIR), and the Emergent Manufacturing Technology (EMT) portfolios within its scope.

The Military Unique Sustainment Technology (MUST) program’s focus addresses GAO Report 12-707 recommendations for DoD to establish a “knowledge-based approach” to define, communicate, and collaborate on military unique combat uniforms and individual equipment (CUIE) requirements. DLA has the responsibility to manage the technical requirements among the Services and the Defense Industrial Base. Currently there is no common environment for collaborating on new requirements among the stakeholders. The strategic objective of the DLA MUST program is to identify, develop and adopt technologies that can significantly shorten the time needed to transition Combat Uniforms and Individual Equipment from development to operational use from years to months. The Program focuses on technologies that will transform the military CUIE supply chain from an “electronic paper” (i.e. PDF/MS Word) based manual environment, into a knowledge-based automated environment. The resulting approach will be a neutral platform that will seamlessly communicate military unique technical requirements throughout the end-to-end supply chain.

The Defense Logistics Information Research (DLIR) program researches core technology to improve the quality, security, and interoperability of logistics data acquisition and management to enable and streamline DLA operations. DLA enables transformation of business practices and methodologies as the data for weapons systems evolve from traditional formats and delivery methods (such as two-dimensional images and PDF formats) to newer, more innovative methods (such as three-dimensional solid models, object-oriented databases, service-oriented architecture (SOA) and Web 3C standards). This transformational shift for DLA is driven by the Model-Based Enterprise (MBE) approach, the way industry is delivering design and development data for weapon systems to the Military Services and the way the Military Services in turn manage and provide the data to DLA. DLA Logistics Operations, DLA Acquisition, DLA Tech/Quality, and DLA’s Major Subordinate Commands (MSCs) are key stakeholders in the DLIR initiatives to modernize the representation and delivery of weapons systems data.

The EMT program addresses emerging and out of cycle requirements that always occur as DLA strives to maintain readiness of the aging weapon systems.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)	5.979	4.966	6.039

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) OOO / <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>

B. Accomplishments/Planned Programs (\$ in Millions)

FY 2021 Plans:

The Military Unique Sustainment Technology (MUST) program is developing a knowledge based approach for the Combat Uniform and Individual Equipment (CUIE) item development and sustainment by streamlining joint processes and developing integrated prototype tools. MUST I will transition three prototype capabilities and begin work on MUST II objectives which emphasize the interface with the Military Services and the integration with DLA Industrial Base. The MUST-II development advances DLA Troop Support C&T and their supporting Industrial Base toward a Model Based Enterprise / Industry 4.0 capability.

The Defense Logistics Information Research (DLIR) program will continue the Connecting the Model-Based Enterprise (MBE) project to modernize the process to obtain current Technical Data Packages (TDPs) directly from the Product Lifecycle Management (PLM) systems of the Military Services' ESAs and PMOs. DLIR will also develop standard guidance for Military Service organizations, including the ESAs and PMOs, to guide and influence generation of 3D model-based TDPs that will support DLA and its supplier needs. Additionally, DLIR will explore the ability of commercial Digital Rights Management (DRM) tools and techniques to improve the security of TDPs and support the eventual development of functional requirements for the "Catalog of the Future" (COTF) by identifying and prototyping new cleansing tools and methods while simultaneously cleansing data. Finally, DLIR will continue to support DLA's Technical Data Management Transformation (TDMT) efforts to determine the future state IT architecture design and continue to collaborate with USACE to develop a cyber-physical model that will evaluate the resiliency of Operational Technology systems after a cyber-attack.

The EMT program continues to enable DLA's investigation of new disruptive technology advances that may be implemented in the nearer term, without degrading well established program efforts. This program enables the Agency to advance those technologies sooner in order to provide to the warfighter earlier. Small Business Innovation Research (SBIR) phase III efforts (which cannot be funded with SBIR funds) are a prime example of activities that will be funded with these funds, examples include emerging magnetic braking technologies, and addressing strategic materials shortage/risk. Efforts will continue to advance Digital Manufacturing by developing a comprehensive approach to take advantage of integrated, computer-based systems of simulation, three-dimensional (3D) visualization, analytics and various collaboration tools to create and manufacture products to support the warfighter.

FY 2022 Plans:

Military Unique Sustainment Technology (MUST) II will continue to combat problems that plague DLA C&T's industrial base by improving a) the modernization of specifications with correct, current, and complete requirements to eliminate errors, omissions, and outdated information; b) collaboration between the Services and DLA to increase "jointness" of uniform and individual equipment items; and c) the availability of credible, reliable, and timely data and analysis tools so DLA C&T managers can make effective supply chain decisions. MUST II will develop more powerful AI based tools for conversion of legacy text and image

FY 2020	FY 2021	FY 2022

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>technical data into digital models. All new item technical requirement information will be captured as data (vs. pdf images) using one of the MUST I developed and implemented tools – the Supply Request Package (SRP). The SRP is being used by all the Military Services and other DLA customers when items are introduced into DLA Troop Support for sustainment. MUST II will work with the Services to promote the use of data formats that are compatible with the digital document model paradigm. Digital document models will become the "single source of truth" for technical requirements and provide common visibility to all stakeholders. These models can be efficiently managed (queried, analyzed, updated) and will be capable of supplying data directly to manufacturing processes. Joint processes will be reengineered to take advantage of the digital model data. Prototype tools and interfaces will also be developed to improve digital model utility for the industrial base.</p> <p>DLIR will continue to support DLA’s Technical Data Management Transformation (TDMT) efforts to determine IT architecture needs and to ensure DLA’s MBE architecture meets/exceeds DoD compliance objectives and integrates with Military Services irrespective of platforms. DLIR will also explore Digital Manufacturing Enterprise models that shift procurement strategy orientation from items to on-demand manufacturing capacity. This contracted capacity can be tapped repeatedly on demand using an existing procurement process, rather than triggering multiple individual processes. Additionally, DLIR will continue exploring Digital Rights Management (DRM) tools and techniques to improve the security of TDPs and support the eventual development of functional requirements for the “Catalog of the Future” (COTF) by identifying and prototyping new cleansing tools and methods while simultaneously cleansing data. Finally, DLIR will look for opportunities to collaborate with MxD focusing on digital manufacturing, digital twin, digital thread, cybersecurity, and supply chain resiliency to build a Model Based Enterprise (MBE) and training DLA employees and small and midsize contractors on MBE.</p> <p>The EMT program continues to enable DLA's investigation of new disruptive technology advances that may be implemented in the nearer term, without degrading well established program efforts. This program enables the Agency to advance those technologies sooner in order to provide to the warfighter earlier. Small Business Innovation Research (SBIR) phase III efforts (which cannot be funded with SBIR funds) are a prime example of activities that will be funded with these funds, examples include emerging magnetic braking technologies, and addressing strategic materials shortage/risk. Efforts will continue to advance Digital Manufacturing by developing a comprehensive approach to take advantage of integrated, computer-based systems of simulation, three-dimensional (3D) visualization, analytics and various collaboration tools to create and manufacture products to support the warfighter.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: -Increase of \$2.000 million from internal realignment within the ManTech Program Element of \$2.000 million from Additive Manufacturing (AM), to Defense Logistics Information Research (DLIR) and Military Unique Sustainment Technology (MUST) for</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603680S / <i>Manufacturing Technology Program (ManTech)</i>	Project (Number/Name) OOO / <i>Improving Technical and Logistics Information (formerly Industry and Customer Collaboration)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
increased investment priorities for Digital Data Modernization. These investments will continue to benefit the AM program through improvement to sharing technical data and requirements with the industrial base, a critical component to AM.			
-\$0.725 million reduction for Inflation for Non-Pay/Non-Fuel Purchases was incorrectly coded to Manufacturing Technology under the Improving Technical and Logistics Information (ITLI) Strategic Focus Area (SFA) and was intended for the Defense Microelectronics Activity for non-pay/non-fuel inflation. The funding will be adjusted correctly upon enactment of FY 2022 funding.			
Accomplishments/Planned Programs Subtotals	5.979	4.966	6.039

	FY 2020	FY 2021
Congressional Add: Rare Earth Magnets	-	4.000
FY 2021 Plans: Explore domestic sources to build domestic capacity for recycled rare earth magnets critical to weapon system sustainment. Building domestic source capacity will reduce foreign dependence, and supply chain vulnerability to price increases and access.		
Congressional Adds Subtotals	-	4.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DLA R&D program is executed through Delivery Orders placed on Indefinite Delivery/Indefinite Quantity Contracts that resulted from competitive Broad Agency Announcements and through interagency agreements with the Military Services when it is cost effective and/or provides some technical advantage, e.g. improves the probability of successful transition. DLA also has a continuously open Broad Agency Announcement for Emerging Technologies.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	63.866	17.402	10.235	12.418	-	12.418	-	-	-	-	Continuing	Continuing
EMM: <i>Enhancing Analysis, Modeling, and Decision Support (formerly Analytic & Decision Support)</i>	12.512	2.611	2.729	2.782	-	2.782	-	-	-	-	Continuing	Continuing
GLTD: <i>Improving Logistics Processes (formerly Logistics Process)</i>	23.070	2.437	4.044	5.116	-	5.116	-	-	-	-	Continuing	Continuing
04: <i>Emergent Logistics R&D Requirements (formerly Innovative Products & Services for DLA Customers)</i>	28.284	12.354	3.462	4.520	-	4.520	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Logistics Agency (DLA) is responsible for providing to the Military Services, and other Federal Agencies, as well as combined and allied forces the full spectrum of logistics, acquisition and technical services. DLA sources and provides virtually 100 percent of the consumable items the military services need to operate – including food, uniforms, fuel and energy, medical supplies, construction and barrier materials and equipment, and more than 85 percent of the military’s spare parts. DLA also provides logistics services including logistics information data, manages the reutilization of military equipment, and documents automation and production services. DLA’s Logistics Research and Development (Log R&D) program helps ensure that advanced logistics concepts and business processes are used to accomplish the agency’s mission with the leanest possible infrastructure. Log R&D identifies the best commercial business practices and tailors them, as necessary, into the most effective business processes for the agency. Log R&D develops and demonstrates high risk, high payoff technology that provides a significantly higher level of support at the lowest possible costs.

The DLA Log R&D program is organized into three Strategic Focus Areas (SFAs):

- **Enhancing Analysis, Modeling, and Decision Support (EAMD):** R&D efforts to develop decision support tools, such as modeling, simulation, and other analytics to improve operational strategy decision-making, forecasting, and procurement, which support more effective and efficient responses to emerging market and customer requirements.
- **Improving Logistics Processes (ILP):** R&D efforts to develop and implement advanced technology in logistics processes over and above current baseline systems.
- **Emergent Logistics R&D Requirements (ELR):** R&D efforts to support emergent Logistics R&D requirements that arise out of the budget cycle. These out of cycle requirements always occur. This SFA begins new projects in a timely manner without disrupting ongoing projects by funds reallocation. This SFA scope includes all DLA supply chains and logistics processes.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>
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DLA's focus for this budget cycle highlights advanced capabilities in digital and technical data modernization, management and analytics to fulfill the DLA role in the DoD Digital Engineering Strategy and improve sharing of data with the industrial base and supported organizations. Investment explores technologies to lower the Agency's material acquisition and operations costs and improve weapons systems support. This effort spans across both DLA R&D Program Elements and multiple Strategic Focus Areas, impacting across the DoD Joint Defense Manufacturing Technology Panel and DLA Enterprise logistics processes.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	17.402	10.235	10.355	-	10.355
Current President's Budget	17.402	10.235	12.418	-	12.418
Total Adjustments	0.000	0.000	2.063	-	2.063
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation for Civilian Pay	-	-	0.010	-	0.010
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.356	-	-0.356
• Decrease for Travel	-	-	-0.026	-	-0.026
• Internal Realignment from DRAS2 PE 0605090S	-	-	0.930	-	0.930
• Internal Realignment from ManTech PE 0603680S	-	-	1.500	-	1.500
• Retired Pay Accrual	-	-	0.005	-	0.005

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 04: *Emergent Logistics R&D Requirements (formerly Innovative Products & Services for DLA Customers)*

Congressional Add: *Energy Readiness Program for Fuel Conversion*

Congressional Add: *Energy Readiness Program for Liquid Hydro-carbon Fuel*

Congressional Add Subtotals for Project: 04

Congressional Add Totals for all Projects

	FY 2020	FY 2021
	5.000	-
	5.000	-
Congressional Add Subtotals for Project: 04	10.000	-
Congressional Add Totals for all Projects	10.000	-

Change Summary Explanation

FY 2021:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency Date: May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)	PE 0603712S / Logistics Research and Development Technology (Log R&D)

-SBIR/STTR Transfer: Due to an error while coding FY 2021 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For LOG R&D, the SBIR/STTR transfer is \$0.355M.

FY 2022:

- Decrease for Travel: Defense-Wide activities are directed to maximize their travel funding through the use of technology, such as video teleconference, and cost-efficient transportation options.
- Internal Realignment from DRAS2 PE 0605090S: DRAS2 was still under development when the program was terminated. Since the system was not complete, it did not reach its intended purpose of replacing the existing DRAS system. The DRAS2 Program Cancellation Acquisition Decision Memorandum is dated April 9, 2020. Due to coding error, the funding increase was moved to the Emergent Logistics R&D Requirements Strategic Focus Area (SFA). Upon enactment, funding will move to the Enhancing Analysis, Modeling, and Decision Support SFA in order to support DLA Strategic Plan priorities in digital business transformation and data analytics.
- Internal Realignment from ManTech PE 0603680S: Funding moved from ManTech to LOG for requirements.
- Retired Pay Accrual: Agency Contribution Assumption FY 22 rate was increased by 1.1%.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>				Project (Number/Name) EMM / <i>Enhancing Analysis, Modeling, and Decision Support (formerly Analytic & Decision Support)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
EMM: <i>Enhancing Analysis, Modeling, and Decision Support (formerly Analytic & Decision Support)</i>	12.512	2.611	2.729	2.782	-	2.782	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Strategic Focus Area (SFA) funds developments in advanced analytical tools, modeling, and simulation of logistics and supply chain processes. These tools will improve DLA forecasting and procurement strategy decisions and lead to faster and more flexible responsiveness to emerging market and customer requirements. This SFA consists of two programs:

The Strategic Distribution & Disposition (SDD) Program collaborates with DLA Distribution and Disposition Services to identify legacy capabilities that are inadequate for emerging worldwide distribution and disposition requirements. A key objective of the SDD Program is to anticipate, assess, and meet the current and future Warfighter requirements by leveraging R&D to infuse innovation into solutions. Long-term objectives include mitigating the DoD Supply Chain Management high risk issues identified by the Government Accountability Office (GAO), 2018 (Inventory Management, Material Distribution and Asset Visibility).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enhancing Analysis, Modeling, and Decision Support	2.611	2.729	2.782
FY 2021 Plans: The Strategic Distribution and Disposition (SDD) program will continue to provide applied research, analytical and decision support to DLA Distribution and Disposition Services and provide support to the Distribution Modernization Program (DMP). Additionally, SDD will continue to engage with Industry, Department of Defense (DoD) sponsored Federally Funded Research and Development Centers (FFRDCs) and University-Affiliated Research Center Laboratories (UARCs) leveraging subject-matter expertise in key areas of research such as Blockchain, Artificial Intelligence, Machine Learning, Internet of Things (IoT), Augmented Reality, and Autonomous/Robotics systems. SDD will continue to incorporate Integrate Project Teams (IPT) for project collaboration and Integrated System Engineering concepts (test and evaluation) into Distribution projects.			
FY 2022 Plans: The Strategic Distribution and Disposition (SDD) program will continue to provide applied research, analytical and decision support to DLA Distribution and Disposition Services and provide support to the Distribution Modernization Program (DMP). Additionally, SDD will continue to engage with Industry, Department of Defense (DoD) sponsored Federally Funded Research and Development Centers (FFRDCs) and University-Affiliated Research Center Laboratories (UARCs) leveraging subject-matter			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>	Project (Number/Name) EMM / <i>Enhancing Analysis, Modeling, and Decision Support (formerly Analytic & Decision Support)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>expertise in key areas of research such as 5G Networks, Sensor Internet of Things (IoT), Blockchain, Quantum Computing, Artificial Intelligence/Machine Learning (AI/ML), Augmented Reality (AR), Automated Storage and Retrieval Systems (AS/RS), Performance Management, Automated Inventory, 3D Warehouse Mapping, and Autonomous/Robotics systems. SDD will continue to incorporate Integrate Project Teams (IPT) for project collaboration and Integrated System Engineering concepts (test and evaluation) into Distribution projects.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> No significant change; however, the Internal Realignment from DRAS2 to LOG R&D of approximately \$0.930 million was intended to increase funding for the Strategic Distribution and Disposition (SDD) program in FY 2022 in order to support DLA Strategic Plan priorities in digital business transformation and data analytics. Due to a coding error, the funding increase was incorrectly moved to the Emergent Logistics R&D Requirements Strategic Focus Area (SFA). Upon enactment, the coding will be corrected and moved to the SDD program.</p>			
Accomplishments/Planned Programs Subtotals	2.611	2.729	2.782

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DLA R&D program is executed through Delivery Orders placed on Indefinite Delivery/Indefinite Quantity Contracts that resulted from competitive Broad Agency Announcements and through interagency agreements with the Military Services when it is cost effective and/or provides some technical advantage, e.g. improves the probability of successful transition. DLA also has a continuously open Broad Agency Announcement for Emerging Technologies.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>				Project (Number/Name) GLTD / <i>Improving Logistics Processes (formerly Logistics Process)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
GLTD: <i>Improving Logistics Processes (formerly Logistics Process)</i>	23.070	2.437	4.044	5.116	-	5.116	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Improving Logistics Processes (ILP) Strategic Focus Area (SFA) encompasses R&D efforts within the Weapon System Sustainment (WSS) and Acquisition Modernization Research (AMR) programs to support DLA business functional units through applied research and development of advanced technologies to improve business processes and operational methods, leverage the application of leading edge logistics “out-of-the box” concepts using disruptive technology business tools, and support DLA’s technological transformation effort. To qualify for R&D funding, the R&D effort must develop and apply technology and processes over and above current baseline IT systems and continuous improvements efforts.

Although all DLA processes are in scope, the strategic focus for this budget cycle is in Procurement, Planning, Technical Quality and the Major Subordinate Commands.

Innovative process changes and new technologies will be researched in these areas to drive improvements to internal costs, reduce award delays, and improve material availability, supply chain security, demand forecasting and logistical planning. This will be accomplished through the use of artificial intelligence/machine learning, blockchain technology, and research of emerging commercial best practices and technologies.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Improving Logistics Processes (ILP)	2.437	4.044	5.116
FY 2021 Plans: The Weapon System Sustainment (WSS) program will continue research of artificial intelligence / machine learning (AI/ML) to enhance predictive analytics capabilities through improved metadata management and data quality, and advancements in quantum computing. Research will include application of commercial AI/ML capabilities to improve demand forecasts. In addition, WSS will begin a multi-pronged effort to enhance supply chain risk management using emergent technologies to improve risk assessment, market intelligence, and illumination of supply chain threats.			
The Acquisition Modernization Research (AMR) program will officially be established in FY 2022. Current efforts are funded under the Weapons Systems Sustainment Program and focus on DLA Acquisition efforts to provide enhanced market intelligence research capabilities, contract quality, and best value acquisitions. A comprehensive groundwork study will be conducted to			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>	Project (Number/Name) GLTD / <i>Improving Logistics Processes (formerly Logistics Process)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>identify areas where additional research is needed to support modernization. WSS will conduct a project to develop supporting technology for market intelligence and expansion of previously developed capabilities to additional supply chains.</p> <p>FY 2022 Plans: The Weapon System Sustainment (WSS) program will continue assessment of artificial intelligence / machine learning, quantum-computing capabilities, and begin research into edge computing. WSS will conduct use cases for data analytics improvements, and AI/ML application such as adaptive training and improvements to key processes supporting warfighter readiness. Efforts to improve supply chain risk management identified in FY 2021 will continue.</p> <p>The Acquisition Modernization Research (AMR) program will continue efforts to expand market intelligence capabilities to all DLA supply chains, develop a minimum viable product for a contract quality control system, and pursue best value acquisition practices. In addition, AMR will prioritize and begin pursuit of research areas identified in the FY 2021 groundwork study.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: \$0.500 million from Battery Network, \$0.500 million from Forgings, and \$0.500 million from Advanced Microcircuit Emulation programs is realigned from the ManTech Program Element to the Log R&D Program Element for increased investments in Data Management and Predictive Analytics.</p>			
Accomplishments/Planned Programs Subtotals	2.437	4.044	5.116

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DLA R&D program is executed through Delivery Orders placed on Indefinite Delivery/Indefinite Quantity Contracts that resulted from competitive Broad Agency Announcements and through interagency agreements with the Military Services when it is cost effective and/or provides some technical advantage, e.g. improves the probability of successful transition. DLA also has a continuously open Broad Agency Announcement for Emerging Technologies.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>				Project (Number/Name) 04 / <i>Emergent Logistics R&D Requirements (formerly Innovative Products & Services for DLA Customers)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
04: <i>Emergent Logistics R&D Requirements (formerly Innovative Products & Services for DLA Customers)</i>	28.284	12.354	3.462	4.520	-	4.520	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Emergent Logistics R&D Strategic Focus Area (SFA) includes R&D efforts to develop new products and services for DLA customers in two programs:

The Energy Readiness Program (ERP) roadmap helps to achieve the operational energy strategy goals of increasing sources of supply, developing and implementing alternative fuels under the ERP.

The Supply Chain Management (SCM) program addresses emergent and out of budget cycle requirements and opportunities within DLA's supply chains. A key objective of the SCM Program is to collaborate with customers (DLA J-Codes and Major Subordinate Commands (MSCs)) to identify capability shortfalls that can be addressed through major research efforts. These R&D efforts strive to develop technology mitigation strategies that address current and anticipated problems within DLA's supply chains.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Emergent Logistics R&D Requirements	2.354	3.462	4.520
FY 2021 Plans:			
The Energy Readiness Program (ERP) will continue to focus on providing additional alternatives for military unique fuels, working with the Service customers to improve specifications and standards for fuel quality, engage in modeling and simulation of the energy supply chain and identifying alternative energy sources for Military Customers. ERP will focus on determining R&D solutions for ongoing issues affecting fuel and fuel additive quality and operational requirements (e.g. thermal stability, storage stability, ignition capability). The program will continue to assist the military services in the qualification and certification of alternative fuels to meet military specification requirements; this will be parallel to the availability of military resources necessary to complete these efforts.			
The Supply Chain Management (SCM) program will investigate emergent commercial technologies, like distributed ledger blockchain technology, to pilot and produce a business case for developing a more informed supply chain for a DLA Major Subordinate Command. Additionally, SCM will produce a groundwork study that identifies the requirements, gaps, costs, and			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>	Project (Number/Name) 04 / <i>Emergent Logistics R&D Requirements (formerly Innovative Products & Services for DLA Customers)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>benefits of pursuing a supply chain digital twin for supply chain resilience and risk mitigation at DLA. Finally, SCM will pilot Augmented Reality (AR) applications and continue to address emergent and out of budget cycle requirements and opportunities including Other Transaction Authority (OTA) efforts as they arise.</p> <p>FY 2022 Plans: The Energy Readiness Program (ERP) will continue with focus on providing additional alternatives for military unique fuels, working with the Service customers to improve specifications and standards for fuel quality, engage in modeling and simulation of the energy supply chain and identifying alternative energy sources for Military Customers. ERP will focus on determining R&D solutions for ongoing issues affecting fuel and fuel additive quality and operational requirements (e.g. thermal stability, storage stability, ignition capability). The program's efforts to assist the military services in the qualification and certification of alternative fuels to meet military specification requirements will diminish proportionate with the military's decreased resources necessary to complete these efforts.</p> <p>SCM will initiate efforts to provide DLA the ability to perform system-wide supply chain optimization, scenario evaluation, and risk assessment through a supply chain digital twin - a model of an end-to-end supply chain that is continuously updated with digital data. Additionally, SCM will complete R&D efforts in support of a blockchain pilot and continue to address emergent and out of budget cycle requirements and opportunities including Other Transaction Authority (OTA) efforts as they arise.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase is due to the Internal Realignment from DRAS2 to LOG R&D of \$0.930 million; however, due to a coding error, the funding increase intended for the Strategic Distribution and Disposition (SDD) program under the Enhancing Analysis, Modeling, and Decision Support Strategic Focus Area (SFA) was incorrectly moved to the Emergent Logistics R&D Requirements SFA. Upon enactment, the coding will be corrected and moved to the SDD program.</p>			
Accomplishments/Planned Programs Subtotals	2.354	3.462	4.520

	FY 2020	FY 2021
Congressional Add: Energy Readiness Program for Fuel Conversion	5.000	-
FY 2020 Accomplishments: Committed funds for "Scale-up and Optimization of Advanced Pyrolysis Oil from Woody Biomass Material for Refining to Military and Commercial Transportation Fuels" initiative.		
Congressional Add: Energy Readiness Program for Liquid Hydro-carbon Fuel	5.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603712S / <i>Logistics Research and Development Technology (Log R&D)</i>	Project (Number/Name) 04 / <i>Emergent Logistics R&D Requirements (formerly Innovative Products & Services for DLA Customers)</i>

	FY 2020	FY 2021
FY 2020 Accomplishments: Continued work with University of Maine for research in the “Biomass Conversation to Liquid Hydrocarbon Fuels, Chemicals and Nanocellulose” program.		
Congressional Adds Subtotals	10.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DLA R&D program is executed through Delivery Orders placed on Indefinite Delivery/Indefinite Quantity Contracts that resulted from competitive Broad Agency Announcements and through interagency agreements with the Military Services when it is cost effective and/or provides some technical advantage, e.g. improves the probability of successful transition. DLA also has a continuously open Broad Agency Announcement for Emerging Technologies.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	915.428	201.544	136.049	160.821	-	160.821	-	-	-	-	Continuing	Continuing
001: <i>Technology Development</i>	446.017	111.671	50.429	0.000	-	0.000	-	-	-	-	Continuing	Continuing
003: <i>Trusted Foundry</i>	469.411	89.873	85.620	0.000	-	0.000	-	-	-	-	Continuing	Continuing
004: <i>Defense MicroElectronics Activity (DMEA)</i>	0.000	0.000	0.000	160.821	-	160.821	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Microelectronics Activity (DMEA) mission is to leverage advanced technologies to provide microelectronics solutions across the entire spectrum of technology development and system acquisition phases. It is critical to National Security for the Department to maintain technological superiority through microelectronics solutions via partnerships with the Defense Industrial Base, and by alternative means when industry is unable or unwilling to provide them. DMEA provides an in-house capability to quickly develop and deliver timely, cost-effective, technically appropriate solutions to sustain weapon systems, to modernize their capabilities, increase their lethality, address new threats, and meet operational demands. DMEA augments its in-house capability through extensive industry and Government partnerships that enable streamlined access to a variety of microelectronics technologies and engineering services to enhance responsiveness, and that develop sources for advanced microelectronics solutions.

DMEA's capabilities are critical in an atmosphere of diminishing domestic semiconductor manufacturing capability and increasing worldwide supply chain risks. The Department has very little influence over the microelectronics industry; the defense market represents less than 0.1% share of the total global semiconductor market. Access to mainstream, State of the Practice (SOTP) and State of the Art (SOTA) technologies is therefore a major and growing challenge. Threats to defense microelectronics include counterfeiting, latent vulnerabilities, malicious insertions, reliability issues particular to military environments, consolidation and off-shoring of manufacturing, rapid obsolescence and diminishing technology availability coming from an unpredictable and unsecured supply chain. In addition, as the Department maintains its weapon systems longer than originally planned, extended use increases demand for sustainment and modernization, which further intensifies the need for DMEA's unique capabilities, as well as continued development, and incorporation, of quantifiable assurance mechanisms.

DMEA provides the Department with engineering expertise and laboratories to address the myriad microelectronics issues and to meet military requirements across the entire spectrum of technology research and development, acquisition, and long-term support. DMEA applies its specialized capabilities to resolve microelectronics issues for hundreds of distinct Department programs across the acquisition lifecycle every year. In addition, DMEA assists the Combatant Commands (COCOMs) including Special Ops, Cyber, Intelligence, and the Radiation-Hard communities.

DMEA also provides the Department with front door access to SOTA microelectronics design and manufacturing capabilities with the added benefit of accredited facilities and processes, which employ quantifiable assurance mechanisms, to meet confidentiality, integrity, availability, performance and delivery needs while the Department transitions to a zero trust model. DMEA also provides the Services and Defense Agencies with a competitive cadre of accredited suppliers and advanced hardware assurance capabilities that can meet the needs of mission critical/essential systems for microelectronics components.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	201.544	124.049	126.051	-	126.051
Current President's Budget	201.544	136.049	160.821	-	160.821
Total Adjustments	0.000	12.000	34.770	-	34.770
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	7.000			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation for Civilian Pay	-	-	0.388	-	0.388
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.564	-	-0.564
• MGUE Transfer from PDW	-	-	35.000	-	35.000
• Decrease for Travel	-	-	-0.284	-	-0.284
• Retired Pay Accrual	-	-	0.230	-	0.230

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 001: *Technology Development*

Congressional Add: *Cyber Accelerator Increase*

Congressional Add: *GaN-on-Si-Based RF Front-end Increase*

Congressional Add Subtotals for Project: 001

Project: 003: *Trusted Foundry*

Congressional Add: *MGUE Transfer from PDW*

Congressional Add Subtotals for Project: 003

Congressional Add Totals for all Projects

	FY 2020	FY 2021
	30.000	-
	5.000	5.000
Congressional Add Subtotals for Project: 001	35.000	5.000
	-	7.000
Congressional Add Subtotals for Project: 003	-	7.000
Congressional Add Totals for all Projects	35.000	12.000

Change Summary Explanation

FY 2021:

-SBIR/STTR Transfer: Due to an error while coding FY21 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For DMEA, the SBIR/STTR transfer is \$4.330M.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency Date: May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)	PE 0603720S / Microelectronics Technology Development and Support (DMEA)

FY 2022:

- Inflation for Non-Pay/Non-Fuel Purchases: An additional \$0.725 million reduction was incorrectly coded to Manufacturing Technology and was intended for the Defense Microelectronics Activity for non-pay/non-fuel inflation. The funding will be adjusted correctly upon enactment of FY 2022 funding.
- MGUE Transfer from PDW for \$35M
- Retired Pay Accrual: Agency Contribution Assumption FY 22 rate was increased by 1.1%.
- Decrease for Travel: Defense-Wide activities are directed to maximize their travel funding through the use of technology, such as video teleconference, and cost-efficient transportation options.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>				Project (Number/Name) 001 / <i>Technology Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
001: <i>Technology Development</i>	446.017	111.671	50.429	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Technology Development funds provide DMEA with the resources to maintain an in-house ability to quickly develop and deliver timely, cost-effective, technically appropriate solutions to sustain weapon systems, to modernize their capabilities, increase their lethality, address new threats, and meet operational demands. These funds also support DMEA's ability to partner with industry, other government agencies, and academia to enable streamlined access to a variety of microelectronics technologies and engineering services.

These funds enable DMEA to provide increasingly rare government microelectronics design, fabrication, and test expertise to DoD programs. DMEA's knowledge of varying military requirements across a broad and diverse range of combatant environments and missions—along with its unique technical perspective—allows it to develop, manage and deliver novel, decisive, quick turn microelectronics solutions for defense, intelligence, special operations, and cyber and combat missions.

These funds allow DMEA to maintain and enhance critical, Trusted microelectronics design, aggregation, fabrication, post-processing, assembly and analysis capabilities to ensure that the Department is provided with solutions that enable or maintain the warfighter's technological superiority over potential adversaries. These solutions use high mix, low volume, unique microelectronics that are endemic to military requirements but are not commercially available. In addition, funding provides for the research, development and support necessary to ensure availability of microelectronics technologies for weapon systems, particularly as the technologies advance and industry is increasingly unable or unwilling to provide them.

DMEA looks to industry to see if it can provide the required solutions. If industry cannot or will not, only then does DMEA provide the necessary solutions using its in-house capabilities. A critical element required to enable continued success is DMEA's protection of the industry partners' valuable Intellectual Property (IP) and processes. DMEA is a small, agile government-owned and operated organization, providing the structure and confidence necessary to assure them that commercial IP is protected from potential competitors. This strategic and cooperative industry partnership approach allows DMEA to use industry-developed IP and processes by acquiring, installing, and applying them toward meeting the immediate and long-term needs of the Department. This unique capability is essential to all major weapon systems, combat operations, and support needs. As such, DMEA serves the Department, other US Agencies, industry and Allied nations.

DMEA assists hundreds of Department programs every year. DMEA has provided its specialized engineering assistance and capabilities to older systems, current systems, and even to programs not yet in the production phase. Programs that DMEA has recently provided critical support to include Counter-Rocket, Artillery, and Mortar (C-RAM) System, C-5, V-22, F-15, F-35, RQ-4 Global Hawk, AEGIS Advanced Surface Missile System, Advanced Medium-Range Air-to-Air Missile (AMRAAM), HH-60G Pave Hawk Helicopter, OSD Joint Fuze Technology Program, among many others. DMEA assists the Combatant Commands (COCOMs) including Special Operations, Intelligence, and the Radiation-Hard communities.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>	Project (Number/Name) 001 / <i>Technology Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Title: Technology Development Accomplishments/Plans</p> <p>FY 2021 Plans: DMEA will design, develop, and demonstrate microelectronics concepts, advanced technologies, and applications to solve operational problems. DMEA will apply advanced technologies to add performance enhancements in response to the newest asymmetric threats and to modernize aging weapon systems. The increased missions seen in the last several years by Combatant Commands (CCMDs), Special Operations, and the Intelligence Community have caused those organizations to dramatically increase their demands for DMEA's unique capability to provide quick technical solutions to immediate operational needs. To meet these increases, DMEA will add capacity and extend capability by recapitalizing and modernizing its aging laboratory infrastructure, developing advanced techniques to inspect and analyze circuits, and adapting tools and processes to detect increasingly sophisticated counterfeit microelectronics to ensure a secure supply chain, all to meet quick turn solutions on which CCMDs and Special Operations can rely.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The FY 2021 to FY 2022 decrease is due to Technology Development (P001) and Trusted Foundry (P003) merging into Defense Microelectronics Activity (P004).</p>	76.671	45.429	-
Accomplishments/Planned Programs Subtotals	76.671	45.429	-

	FY 2020	FY 2021
<p>Congressional Add: Cyber Accelerator Increase</p> <p>FY 2020 Accomplishments: \$30M increase for cyber accelerator - Established a Cyber Accelerator to demonstrate viable solutions for next generation (future) DoD technology needs through commercial enterprise use cases to access and motivate private investment in dual use technologies.</p>	30.000	-
<p>Congressional Add: GaN-on-Si-Based RF Front-end Increase</p> <p>FY 2020 Accomplishments: \$5M increase for GaN-on-Si-Based RF Front-end - Commenced a technology validation effort to evaluate the engineering required to introduce GaN to a traditional 200mm CMOS fabrication facility.</p> <p>FY 2021 Plans: \$5M increase for GaN-on-Si-Based RF Front-end - DMEA plans to continue its efforts (phase 2) on scaling and establishing a domestic 200mm Gallium Nitride (GaN) on Silicon (Si) source at an industry partner.</p>	5.000	5.000
Congressional Adds Subtotals	35.000	5.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency Date: May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>	Project (Number/Name) 001 / <i>Technology Development</i>
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C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>				Project (Number/Name) 003 / <i>Trusted Foundry</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
003: <i>Trusted Foundry</i>	469.411	89.873	85.620	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Department, other agencies, and the intelligence community require uninterrupted access to state-of-the-art design and manufacturing processes to produce custom integrated circuits designed specifically for military purposes. Under DoDI 5200.44, Application Specific Integrated Circuits (ASICs) in critical/essential systems must be procured from Trusted sources in order to avoid altered or sabotaged parts. Worldwide competition from foreign, state-subsidized manufacturing facilities continues to greatly reduce the number of U.S. semiconductor fabrication facilities available to be Trusted sources. The prevalence of sophisticated offshore design and manufacturing facilities with economic incentives of state subsidies have resulted in the outsourcing of electronics component and integrated circuit services to these offshore facilities. This production capability is of increasing importance as domestic semiconductor manufacturing resources continue to decline, especially in the scarce domestic production capacity of high performance and state-of-the-art semiconductor technologies. Commercial sources of microelectronics remain inherently unpredictable and constitute a continued supply chain risk regardless of Government investment. This trend threatens the integrity and worldwide leadership of the U.S. semiconductor industry by eliminating many domestic suppliers and reducing access to Trusted fabrication sources for advanced technologies, and is of acute concern to the defense and intelligence communities. Secure communications and cryptographic applications, along with most other key defense technologies, depend heavily on high performance semiconductors where a generation of improvement often translates into significant force multipliers and capability advantages. Important defense technology investments and demonstrations carry size, weight, power, and performance goals that can only be met through the use of the most sophisticated semiconductors.

The Trusted Foundry program provides the Department with access to state-of-the-art microelectronics design and manufacturing capabilities with the added benefit of Trust, if necessary, to meet their confidentiality, integrity, availability, performance and delivery needs. The program also provides the Services and other agencies with a competitive cadre of accredited Trusted suppliers that can meet the needs of their mission critical/essential systems for Trusted integrated circuit components. The Trusted Access Program Office has contracted with commercial sources to satisfy state-of-the-art semiconductor requirements. DMEA will foster all viable alternatives to continue the vital supply of Trusted microelectronics, including the work of the DMEA Trusted Access Program Office with commercial state-of-the-art industry, as well as the extension and implementation of key process technologies for trust at DMEA. It is imperative for a wide range of technologies in ongoing and future Department systems that access to Trusted suppliers continues. Most importantly, access to Trusted Microelectronics is absolutely necessary to meet secure communication and cryptographic needs requiring state-of-the-art semiconductor technologies.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Trusted Foundry	89.873	78.620	-
FY 2021 Plans: Facilitate the availability of Trusted and commercial state-of-the-art semiconductor technology to Department weapon system programs, research organizations, and other federal agencies through the DMEA Trusted Access Program Office (TAPO).			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>	Project (Number/Name) 003 / <i>Trusted Foundry</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Continue efforts to extend Trusted access to 14 nm technology for USG use through the TAPO contracts, and to provide the Department and other USG-sponsored programs with access to this and other leading edge technologies. Enhance the cadre of trusted suppliers for the critical trusted components and services needed for appropriate defense systems. Enhance Trusted microelectronics products to include newly available leading edge technologies and other key specialty processes required by Department programs. Expand a line of trusted catalog components that can be purchased by Defense contractors. Continue activities that ensure the Department has Trusted access to leading edge semiconductor technologies. Continue the development of new capabilities for the inspection and analysis of ASICs and continuously refine the utilized methods for efficiency, accuracy, and applicability to multiple processes. Implement a Trusted flow for new process technologies at DMEA.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The FY 2021 to FY 2022 decrease is due to Technology Development (P001) and Trusted Foundry (P003) merging into Defense Microelectronics Activity (P004).			
Accomplishments/Planned Programs Subtotals	89.873	78.620	-

	FY 2020	FY 2021
<i>Congressional Add:</i> MGUE Transfer from PDW	-	7.000
<i>FY 2021 Plans:</i> \$7M MGUE DLA requested transfer from PDW - DMEA plans to execute the first option year of a two year extension of a critical process technology required for the DoD to complete its procurement of MGUE ASICs.		
Congressional Adds Subtotals	-	7.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>				Project (Number/Name) 004 / <i>Defense MicroElectronics Activity (DMEA)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
004: <i>Defense MicroElectronics Activity (DMEA)</i>	0.000	0.000	0.000	160.821	-	160.821	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DMEA maintains an in-house ability to quickly develop and deliver timely, cost-effective, technically appropriate solutions to sustain weapon systems, to modernize their capabilities, increase their lethality, address new threats, and meet operational demands. These funds also support DMEA's ability to partner with industry, other Government agencies, and academia to enable streamlined access to a variety of microelectronics technologies and engineering services.

These funds enable DMEA to provide increasingly rare government microelectronics design, fabrication, and test expertise to DoD programs. DMEA's knowledge of varying military requirements across a broad and diverse range of combatant environments and missions—along with its unique technical perspective—allows it to develop, manage and deliver novel, decisive, quick-turn microelectronics solutions for defense, intelligence, special operations, cyber and combat missions.

These funds allow DMEA to maintain and enhance critical, microelectronics design, aggregation, fabrication, post-processing, assembly, hardware assurance and analysis capabilities to ensure that the Department is provided with solutions that enable or maintain the warfighter's technological superiority over potential adversaries. These solutions use high mix, low volume, unique microelectronics that are endemic to military requirements but are not commercially available. In addition, funding provides for the research, development and support necessary to ensure availability of microelectronics technologies in accordance with applicable operational security standards, particularly as the technologies advance and industry is increasingly unable or unwilling to provide them.

The Department, other US Agencies, and the Intelligence Community require uninterrupted access to design and manufacturing processes to produce custom integrated circuits designed specifically for military purposes. DMEA partners with industry to provide the required solutions, and the necessary front-door access to commercial SOTA microelectronics design and manufacturing capabilities to meet confidentiality, integrity, availability, performance and delivery needs. If industry cannot or will not provide the required solutions, only then does DMEA provide the necessary solutions using in-house capabilities. A critical element required to enable continued success is DMEA's protection of the industry partners' valuable Intellectual Property (IP). DMEA is an agile, Government-owned-and-operated organization, providing the structure and confidence necessary to assure them that commercial IP is protected from potential competitors. This strategic and cooperative industry partnership approach allows DMEA to use industry-developed IP by acquiring, installing, and applying them toward meeting the immediate and long-term needs of the Department. This unique capability is essential to all major weapon systems, combat operations, and support needs. As such, DMEA serves the Department, other US Agencies, industry and Allied nations.

DMEA assists hundreds of Department programs every year. DMEA has provided its specialized engineering assistance and capabilities to older systems, current systems, and even to programs not yet in the production phase. Programs that DMEA has recently provided critical support to include CH-53E Sea Stallion, Virginia Class Submarines, Columbia Class Submarines, UH-60 Blackhawk, Air Force Air Combat Command, US Army Corps of Engineers, E-3 AWACS, C5ISREW CHEETAH,

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>	Project (Number/Name) 004 / <i>Defense MicroElectronics Activity (DMEA)</i>
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Military GPS User Equipment, NASA Parker Solar Probe, Naval Research Laboratory High Power Microwave Office, among many others. DMEA assists the Combatant Commands (COCOMs) including Special Operations, Intelligence, and the Radiation-Hard communities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Defense Microelectronics Activity Accomplishments/Plans</p> <p>FY 2022 Plans: DMEA will design, develop, and demonstrate microelectronics concepts, advanced technologies, and applications to solve operational problems. DMEA will apply advanced technologies to add performance enhancements in response to the newest asymmetric threats and to modernize aging weapon systems. To meet the increased missions seen in the last several years by CCMDs, Special Operations, and the Intelligence Community, DMEA will extend and refresh capability by recapitalizing and modernizing its aging laboratory infrastructure, developing advanced techniques to inspect and analyze circuits, and adapting tools and processes to contribute to the Department-wide hardware assurance efforts, all to meet quick turn solutions on which CCMDs and Special Operations can rely. Per section 224 of the 2020 NDAA, DMEA will facilitate the availability of tiers of trust and levels of security for assured and commercial SOTA semiconductor technology to Department weapon system programs, research organizations, and other Federal Agencies through the DMEA contracts. DMEA will assist the cadre of accredited suppliers in the incorporation of the standards for production of the critical components and services needed for appropriate defense systems while contributing to the development and transition to a zero trust approach or hybrid zero trust approach. DMEA will continue to support DoD programs in utilizing operational security standards and conducting ACMAs in support of the program protection planning process. DMEA will leverage new models for the use of in-house capabilities to support STEM workforce development, mainstream semiconductor technology fabrication, and streamlined access to advanced technologies.</p> <p>MGUE Transfer from PDW for \$35M: DLA requested transfer to execute the second option year of a two year extension of a critical process technology required for the DoD to complete its procurement of MGUE ASICs. This will fully fund the Capacity Reservation, which ensures DLA's vendors have access to the Trusted Foundry production lines.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The FY 2021 to FY 2022 decrease is due to Technology Development (P001) and Trusted Foundry (P003) merging into Defense Microelectronics Activity (P004) with the addition of the MGUE transfer from Procurement, DW for \$35M.</p>	-	-	160.821
Accomplishments/Planned Programs Subtotals	-	-	160.821

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>	Project (Number/Name) 004 / <i>Defense MicroElectronics Activity (DMEA)</i>

D. Acquisition Strategy
N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Logistics Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>	Project (Number/Name) 004 / <i>Defense MicroElectronics Activity (DMEA)</i>	

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Microelectronics Technology Development and Support (DMEA)

Microelectronics Technology Development and Support (DMEA)



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603720S / <i>Microelectronics Technology Development and Support (DMEA)</i>	Project (Number/Name) 004 / <i>Defense MicroElectronics Activity (DMEA)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Microelectronics Technology Development and Support (DMEA)</i>				
Microelectronics Technology Development and Support (DMEA)	1	2021	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605070S / <i>DoD Enterprise Systems Development and Demonstration</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	30.115	2.291	1.377	0.679	-	0.679	-	-	-	-	Continuing	Continuing
09: <i>Enterprise Funds Distribution</i>	30.115	2.291	1.377	0.679	-	0.679	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The mission of the DoD Enterprise Business Systems (DEBS) is to coordinate and enable business transformation efforts across the Department of Defense (DoD). DoD's business enterprise must be closer to its warfighting customers than ever before, and Joint military requirements drive the need for greater commonality and integration of business and financial operations.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	2.291	1.377	0.687	-	0.687
Current President's Budget	2.291	1.377	0.679	-	0.679
Total Adjustments	0.000	0.000	-0.008	-	-0.008
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.008	-	-0.008

Change Summary Explanation

FY 2021:

SBIR/STTR Transfer: Due to an error while coding FY21 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For EFD, the SBIR/STTR transfer is \$0.050M.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605070S / DoD Enterprise Systems Development and Demonstration	Project (Number/Name) 09 / Enterprise Funds Distribution
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
09: Enterprise Funds Distribution	30.115	2.291	1.377	0.679	-	0.679	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Enterprise Funds Distribution (EFD) is a multi-service/multi-agency process improvement and modernization solution, initiated to provide full visibility of the OUSD(C) funds distributed through echelon I and II for the Military Departments, and at all levels for the Defense Agencies. Funds distribution by its nature is a key enabler of financial visibility within DoD enterprise systems. The concept of a fully visible enterprise funds distribution process serves as a reference where planned and coordinated funds development and execution takes place.

Within the current DoD environment, progress has been made streamlining a diverse set of stove-piped budget execution and funds distribution processes and systems. Efforts continue to improve the visibility of funding information, eliminate manual efforts and undue complexities to the management of budget authority, and to eliminate impediments in the flow of funding documents. The current environment relies heavily on manual processing and on disconnected standalone systems for the processing of Funding Authorization Documents (FADs) and reprogramming actions. This environment made the implementation of internal controls difficult, negatively impacted the accuracy and timeliness of information while making the processes of integrating and obtaining management information arduous.

The envisioned operational environment solves these problems by enabling lifecycle program value management in a web-based application utilizing an authoritative database with single-source data entry and automated workflow. Capabilities within this integrated environment will enable the automation of all funds distribution and funds control processes within OUSD(C) using authoritative and highly visible data. Specifically, capabilities include managing apportionments, distributing budget authority to the Military Departments and Defense Agencies, managing rescissions and continuing resolutions, creating and tracking reprogramming actions, and establishing program baselines and budget authority needed to support changes in funding priorities throughout the year.

The operational environment includes organizational elements down to the echelon II level responsible for managing DoD and Component appropriations operating in an unclassified environment. The web-based application provides pre-planning, apportionment, reprogramming, rescission, continuing resolution, reporting of enterprise-level funds control and distribution of appropriated funding.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enterprise Funds Distribution (EFD)	2.291	1.377	0.679
Description: EFD will distribute funds to the Military Departments and the Defense Agencies.			
FY 2021 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605070S / DoD Enterprise Systems Development and Demonstration	Project (Number/Name) 09 / Enterprise Funds Distribution

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>The program will continue the development and deployment of EFD post Wave 3 requirements based on user group migration strategy. The program will also deploy additional accounts and development activities related to Momentum Software Baseline upgrade and deploy System Change Requests (SCR's) to support post deployment requirements.</p> <p>FY 2022 Plans: Deploy System Change Requests (SCR's) to support post deployment requirements and required enhancements.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: FY 2022 is lower due to the majority of EFD's development to be completed in FY 2021.</p>			
Accomplishments/Planned Programs Subtotals	2.291	1.377	0.679

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The EFD strategy is to use a "single acquisition to full capability," commercial-off-the-shelf (COTS) solution (Momentum software). The effort is needed to ensure EFD is fully implemented for all appropriation funding data for the Military Services and Defense Organizations.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605070S / DoD Enterprise Systems Development and Demonstration	Project (Number/Name) 09 / Enterprise Funds Distribution
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Savantage Solutions	Option/FP	Savantage Solutions : Rockville, MD	14.158	-		-		-		-		-	0.000	14.158	14.158
TeraThink/CGI Corporation	C/FFP	TeraThink Corporation/CGI : Reston, VA	14.465	2.291	Dec 2019	1.377	Dec 2020	0.679	Dec 2021	0.000		0.679	Continuing	Continuing	Continuing
TBD	C/FFP	TBD : TBD	1.492	-		-		-		-		-	0.000	1.492	1.492
Prior Year Contracts	Option/Various	Multiple : Multiple	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			30.115	2.291		1.377		0.679		0.000		0.679	Continuing	Continuing	N/A

Remarks
Prior year contracts line include Savantage Solutions Option/FP Rockville, MD \$14.158 million and TeraThink Corporation FFP Reston, VA \$1.492 million.

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.115	2.291	1.377	0.679	0.000	0.679	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605070S / DoD Enterprise Systems Development and Demonstration	Project (Number/Name) 09 / Enterprise Funds Distribution

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Enterprise Funds Distribution																												
Enterprise Funds Distribution (EFD)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605070S / DoD Enterprise Systems Development and Demonstration	Project (Number/Name) 09 / Enterprise Funds Distribution

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Wave 1 Deployment				
Development Activities using Momentum Financials ERP	1	2017	4	2018
Wave 2 Deployment				
The program will continue the development and deployment of EFD post Wave 2 requirements based on user group migration strategy. Also deploy additional accounts and dev activities.	1	2019	4	2019
Wave 3 Deployment				
The program will continue the development and deployment of EFD post Wave 3 requirements based on user group migration strategy. Also deploy additional accounts and dev activities.	1	2020	4	2020
Post Waves 1, 2 and 3 Development				
SCRs, Momentum Upgrade Development, Break-Fix Development	1	2021	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605080S / Defense Agencies Initiative (DAI) - Financial System
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	181.447	23.114	20.537	32.254	-	32.254	-	-	-	-	Continuing	Continuing
01: Defense Agencies Initiative - Financial System	181.447	23.114	20.537	32.254	-	32.254	-	-	-	-	Continuing	Continuing

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 0491

A. Mission Description and Budget Item Justification

The Defense Agencies Initiative (DAI) program, a Category I Defense Business System, is an Enterprise Resource Planning (ERP) based program that was originally created to solve Defense Agency financial management problems through standard end-to-end business processes delivered by commercial off-the-shelf (COTS) software. DAI's mission is to provide an auditable, Chief Financial Officer (CFO) Act compliant business environment for the Defense customer organizations with accurate, timely, and authoritative financial data. DAI supports continued development and fielding of its current Increment 3 baseline. Previous funding for DAI Increments 1 and 2 were documented in the Defense Enterprise Business Systems program element 50605070S00. Increment 3 will deliver new financial capabilities including Defense Working Capital Fund (DWCF) and Re-Sale accounting plus a major application upgrade.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	23.114	20.537	23.390	-	23.390
Current President's Budget	23.114	20.537	32.254	-	32.254
Total Adjustments	0.000	0.000	8.864	-	8.864
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	0.000			
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.393	-	-0.393
• Program Increase for DFAS and DISA	-	-	8.014	-	8.014
Working Capital Fund Accounts Migration					
• Program Increase for USMC Migration	-	-	1.243	-	1.243

Change Summary Explanation

FY 2021:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	PE 0605080S / <i>Defense Agencies Initiative (DAI) - Financial System</i>

-SBIR/STTR Transfer: Due to an error while coding FY21 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For DAI, the SBIR/STTR transfer is \$0.712M.

FY 2022:

- Provides \$8.014M for the DLA to migrate DFAS and DISA Working Capital Fund Accounts into the DAI.
- Provides \$1.243M to DLA to migrate the USMC into DAI, an Enterprise Resource Planning System.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0605080S / <i>Defense Agencies Initiative (DAI) - Financial System</i>				Project (Number/Name) 01 / <i>Defense Agencies Initiative - Financial System</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
01: <i>Defense Agencies Initiative - Financial System</i>	181.447	23.114	20.537	32.254	-	32.254	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 0491												

A. Mission Description and Budget Item Justification

DAI mission is to deliver an auditable, CFO Act compliant business environment for Defense customer organizations providing accurate, timely, authoritative financial data supporting the DoD goal of standardizing financial management practices, improving financial decision support, and supporting audit readiness. DAI has replaced multiple non-compliant financial management systems supporting diverse operational functions and the warfighter in decision-making and financial reporting. DAI currently provides the capability to produce timely, auditable reports as noted in four consecutive annual unmodified System and Organization Controls report (SOC-1).

The primary goal is to deploy a standardized system solution to improve overall financial management and comply with BEA, Standard Financial Information Structure (SFIS)/Standard Line of Accounting (SLOA), and Office of Federal Financial Management (OFFM) requirements. Common business functions within budget execution include the Department's BEA End to End (E2E) business processes: Cost Management; Budget to Report (B2R); Procure to Pay (P2P) with enhancements facilitating SFIS/SLOA and DoD procurement data standards and direct Treasury disbursing; Acquire to Retire (A2R) (real property lifecycle accounting only); Hire to Retire (H2R) (Time and Labor reporting and absence management only); Order to Cash (O2C); Proposal to Reward (P2R) (Grants financial management and accounting only; and a phased implementation of Governance, Risk, and Compliance (GCR) capabilities supporting audit readiness. Future Defense Working Capital Fund accounting, and Re-Sale Accounting (for Defense Commissary Agency (DeCA).

The DAI program modernizes the Defense Agencies' financial management processes by streamlining financial management capabilities, addressing financial reporting material weaknesses, and supporting financial statement auditability for the majority of agencies, field activities and non-Service organizations across the DoD. DAI supports a transformation of budget, finance, and accounting processes across participating defense agencies to help improve the quality of financial information, supporting financial auditability and decision-making. The DAI business solution, once fully implemented, will provide a near real-time, web-based system from a ".mil" environment of integrated business processes that will enable in excess of 84,000 Defense Agency financial managers, program managers, auditors, and Defense Finance and Accounting Service (DFAS) representatives to make sound financial business decisions.

The DAI implementation approach deploys a standardized system solution that is consistent with requirements in the Federal Financial Management Improvement Act (FFMIA) and the DoD Business Enterprise Architecture (BEA), while leveraging the out-of-the-box capabilities of the selected Commercial-Off-the-Shelf (COTS) product, Oracle e-Business Suite (EBS), Release 12.2.8 (R12). DAI implemented an Oracle Office of Management and Budget Financial Systems Integration Office (FSIO) qualified COTS financial management business solution with common business processes and data standards. The Program Management Office (PMO) will not develop any objects that are included in core COTS software or services (i.e. vendor data from Federal authoritative sources).

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605080S / <i>Defense Agencies Initiative (DAI) - Financial System</i>	Project (Number/Name) 01 / <i>Defense Agencies Initiative - Financial System</i>
<p>DAI supports the 2018 National Defense Strategy (NDS) Strategic Goal 3, “Reform the Department’s Business Practices for Greater Performance and Affordability as well as Strategic Objectives (SO) 3.1 “Improve and Strengthen business operations through a move to DoD-Enterprise or shared services; reduce administrative and regulatory burden” as well as SO 3.3 Undergo an audit, and improve the quality of budgetary and financial information that is most valuable in managing the DoD.</p> <p>DAI is currently implemented at 26 Defense organizations and the Office of the Under Secretary of Defense, Comptroller (OUSD(C)). The program office is also responsible for operational sustainment of the system. Funds are required for additional government and contractor support, licenses, maintenance, and hardware to accomplish the remaining capability developments and organizational implementations. In 2017, 2018, 2019, and 2020, DAI received unmodified audit opinions with no comments.</p> <p>The benefits of DAI are:</p> <ul style="list-style-type: none"> • Labor efficiencies (entering data once) and shared across all business processes (modules), workflows and lifecycle in a modern system; • Reduction in contractor support; • Financial visibility (Access to real-time financial data transactions); • Enabling agility and resilience in execution (No silos – anyone/anywhere can backfill and work continues); • Retiring legacy systems; • Shared common business processes and employment of Federal/DoD Enterprise data standards (i.e., SFIS, SLOA, Procurement Data Standard (PDS) and Procurement Request Data Standard (PRDS)); and United States Standard General Ledger (USSGL) Chart of Accounts to resolve DoD material weaknesses and deficiencies. • Reducing reliance on custom Reports, Interfaces, Conversions, Extensions, Forms and Workflows by leveraging application upgrades • Enhanced Internal controls to ensure accurate data, regulatory compliance and ensuring segregation of duties • Significantly reduced data reconciliation requirements; and • Enhanced analysis and decision support capabilities. <p>The DAI PMO also provides system integration services that include: acquisition/financial management, project management; configuration management; developing required Reports, Interfaces, Conversions, Extensions, Forms and Workflows (RICE-FW) objects; testing (cyber security, integration, functional, performance, conversion, user acceptance, operational); training (train the trainer/change management preparing the users for the cross functional skills and awareness needed to perform well with an integrated enterprise resource planning system); system deployment; data conversion; information assurance; database administration; as well as studies, coordination/analysis support.</p> <p>DLA provides the Milestone Decision Authority (MDA), DLA Acquisitions (J7), and DLA Information Operations provides the Program Executive Officer (PEO), program manager, and PMO staff. The DAI PMO relies on DLA Acquisitions for most contracting support. Defense Information Systems Agency (DISA) data centers provide production, test and development, as well as Continuity of Operations (COOP) hosting, and the Joint Interoperability Test Command (JITC) for interoperability and performance testing. The DAI PMO serves as systems integrator.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605080S / <i>Defense Agencies Initiative (DAI) - Financial System</i>	Project (Number/Name) 01 / <i>Defense Agencies Initiative - Financial System</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Title: Defense Agencies Initiative (DAI) - Financial System</p> <p>Description: In FY 2020, the DAI PMO accomplished:</p> <ul style="list-style-type: none"> • Obtained 4th consecutive annual Unmodified Opinion by an Independent Public Auditor (best outcome). • Deployed DAI Increment 3 Rel 2, an initial Defense Working Capital Fund (DWCF) capability, to a newly expanded/renamed Defense Counterintelligence and Security Agency. • Deployed DAI Time & Labor Release in a large agency to over 3,500 new personnel based on an Executive Order. • Developed/Tested DWCF and agency unique requirements and completed the study of 4th Estate common/core capabilities. • Studied Agency unique requirements for Joint Chiefs of Staff (JCS), National Defense University (NDU), DeCA and DCSA. • Developed necessary work instructions and training materials. • Supported the Financial Management (FM) & time/labor operations for over 53k users at 26 organizations. • Supported the DoD RMF process to support actions included in the Designated Authorizing Authority required Plan of Actions and Milestones including an independent FISCAM Test of Design/Test of Effectiveness to result in a DAA decision to award an Authority to Operate. • Continued to mature the GRC capabilities by expanding Enterprise controls: Configuration, Access, Prevention & Transactions supporting audit findings, recommendations & CAPs. • Maintained the technical operations including: application of DISA Security Technical Implementation Guides, hardware & software currency for servers operating systems, middleware & applications including patches; overseeing internal processes within the DECC enclaves; & the daily operation of several interfaces with external systems leveraging DLA Defense Automated Addressing System (DAAS), as well as established Federal Enterprise system web services. • Conducted regular adversarial assessments, RMF continuous monitoring including code scans, an independent Cyber Economic Vulnerability Assessment and a Cooperative Vulnerability and Penetration Assessment. • Obtained an interim Interoperability Certification or an Authority to Connect to the DoD Global Information Grid. • The Program also performed developmental, operational and Cyber security testing with independent third parties under Office of the Secretary of Defense oversight. The Defense Logistics Agency contracted for an independent public accounting firm to conduct the annual FFMIA and SSAE 18 assessments and conduct Cyber security assessments on the system. • Expand the utility of Robotic Process Automation to include repetitive PMO functions. <p>FY 2021 Plans: In FY 2021, the DAI PMO will:</p> <ul style="list-style-type: none"> • Field DAI Increment 3 Rel 3 accounting maturation to users at existing agencies plus DeCA, Joint Staff, National Defense University (over 4.5K users). • Development/Testing for DWCF and agency unique requirements and complete the study of US Marine Corps (USMC) and 4th Estate common/core capabilities. 	23.114	20.537	32.254

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605080S / <i>Defense Agencies Initiative (DAI) - Financial System</i>	Project (Number/Name) 01 / <i>Defense Agencies Initiative - Financial System</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> • Work instructions and training materials. • Mature the Financial Management (FM) & time/labor operations for over 90.1K users at over 26 organizations. • Develop updated work instructions and training materials. • Train 25K time and labor users and over 5K USMC financial users. • Support the DoD RMF process to support actions included in the Designated Authorizing Authority required Plan of Actions and Milestones including an independent FISCAM Test of Design/Test of Effectiveness to result in a DAA decision to award an Authority to Operate. • Continue to mature the GRC capabilities by expanding Enterprise controls: Configuration, Access, Prevention as well as Transactions supporting audit findings, recommendations & CAPs. • Mature the technical operations including: application of DISA Security Technical Implementation Guides, hardware & software currency for servers operating systems, middleware & applications including patches; overseeing internal processes within the DISA Data Center enclaves; & the daily operation of several interfaces with external systems leveraging DLA Defense Automated Addressing System (DAAS), as well as established Federal Enterprise system web services. • Study costs associated with hosting DAI in the Oracle Cloud. • Expand utility of Robotic Process Automation to include repetitive PMO functions. <p>FY 2022 Plans: In FY 2022, the DAI PMO will:</p> <ul style="list-style-type: none"> • Field DAI Increment 3 Rel 4 accounting maturation to users at existing agencies plus USMC (over 5K users). • Development/Testing for DFAS DWCF unique requirements and complete the study of a major application upgrade. • DAI will complete the development and deployment of G-Invoicing capabilities to meet the OSD & Treasury Mandates for Oct 1, 2022. • DAI will continue to develop Robotic Process Automations (RPA) to enhance timeliness & quality of Tier2 Helpdesk request, testing, demonstrations, and incident resolution. • DAI will support the planned Full Operational Capability (FOC) of the Identity, Credential and Access Management (ICAM) program to systemically transmit Access Control Information from Agencies and provide DAI provisioning information to the ICAM centralized repository. • DAI will continue to expand the utility of Advana with DAI data supporting OUSD(C) and using organizations. <p>FY 2021 to FY 2022 Increase/Decrease Statement: FY 2022 will be the first year that DAI will deploy financial capabilities to USMC and continue maturation of DWCF accounting capabilities necessary to meet Defense Finance and Accounting Service (DFAS) requirements. DAI projects supporting 123k users.</p>			
Accomplishments/Planned Programs Subtotals	23.114	20.537	32.254

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605080S / <i>Defense Agencies Initiative (DAI) - Financial System</i>	Project (Number/Name) 01 / <i>Defense Agencies Initiative - Financial System</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

DAI is developed and implemented using an evolutionary/incremental strategy including major annual software releases to accommodate upgrades as required by changes to the Department's BEA including new laws, regulations and policies as governed by its Functional Sponsor.

DAI Increments 1 and 2 are in sustainment. When Increment 3, Rel 1 went live in October 2018, it subsumed Increment 2; therefore, only one DAI production baseline exists at any point in time.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Logistics Agency **Date:** May 2021

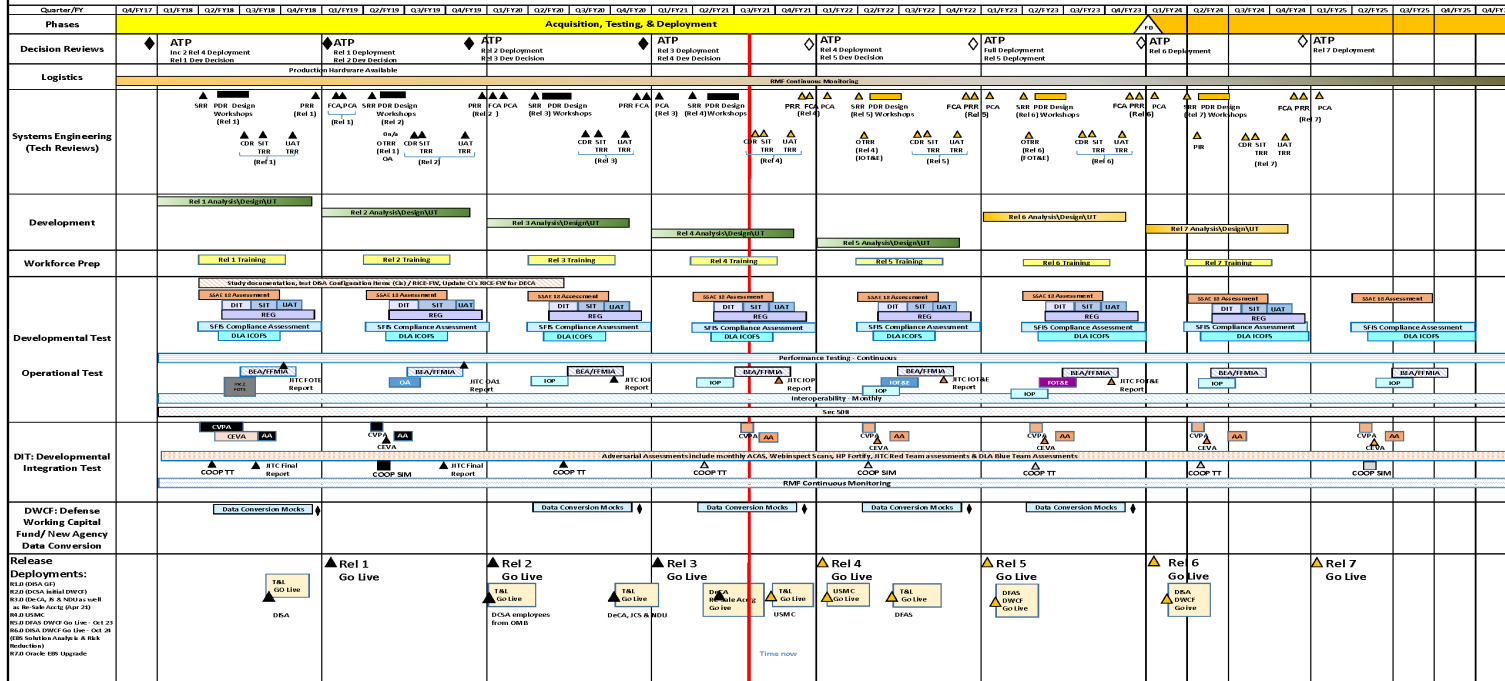
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605080S / Defense Agencies Initiative (DAI) - Financial System	Project (Number/Name) 01 / Defense Agencies Initiative - Financial System
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DAI Compliance Support	Option/CPIF	CACI Inc Federal : Chantilly, VA	31.280	5.854	Jun 2020	4.288	Jun 2021	5.345	Jun 2022	0.000		5.345	Continuing	Continuing	0.000
DAI Implementation Support	Option/CPIF	CACI Inc Federal : Chantilly, VA	28.402	5.496	Mar 2020	5.682	Mar 2021	6.100	Mar 2022	0.000		6.100	Continuing	Continuing	0.000
DAI Infrastructure Support	Option/CPIF	CACI ISS Inc : Fairfax, VA	14.476	4.000	May 2020	2.118	May 2021	3.010	May 2022	0.000		3.010	Continuing	Continuing	0.000
Global Model P2P Support	C/CPIF	IBM : TBD	3.418	2.408	Aug 2020	2.542	Aug 2021	3.766	Aug 2022	0.000		3.766	Continuing	Continuing	Continuing
Global Model A2R Support	C/CPIF	CACI, Inc : TBD	4.736	1.342	Apr 2020	2.336	Apr 2021	2.621	Apr 2022	0.000		2.621	Continuing	Continuing	Continuing
Requirements Management (RM) Support	MIPR	DISA : Fort Meade, MD	1.272	0.262	Oct 2019	0.256	Oct 2020	0.510	Oct 2021	0.000		0.510	Continuing	Continuing	Continuing
DCPDS/DAI Interface File Changes	MIPR	DLA Finance : Fort Belvoir, VA	0.037	0.008	Feb 2020	0.008	Feb 2021	0.193	Feb 2022	0.000		0.193	Continuing	Continuing	Continuing
Prior Year Contracts	Option/Various	MULTI : MULTI	68.289	0.000		0.000		0.000		0.000		0.000	0.000	68.289	54.057
Subtotal			151.910	19.370		17.230		21.545		0.000		21.545	Continuing	Continuing	N/A

Remarks
 Prior Year Contracts include: Global Model P2P C/FFP IBM: Bethesda, MD \$21.927 million; Global Model A2R C/CPFF CACI Inc Federal: Chantilly, VA \$10.146 million; DAI Data Conversion Support Option/FFP Terathink: Reston, VA \$2.857 million; Oracle Time & Labor Software License and Maintenance C/FP Mythics, Inc: Virginia Beach, VA \$1.020 million; Global Model CAD C/CPFF CSC: Falls Church, VA \$3.205 million; Jaws Professional Licenses C/FFP Immix: McLean, VA \$0.017 million; Oracle Advanced Compression Licenses \$1.622 million; Oracle Contract Lifecycle Management Licenses C/FFP Mythics Inc: Virginia Beach, VA \$7.408 million; Oracle Licenses MIPR DISA: Pensacola, FL \$5.446 million; Kurzweil 5000 508 Assistive Tech Licenses C/FFP Envision Technology Inc: Bethesda, MD \$0.008 million; Dragon Naturally Speaking 508 C/FFP Red River Computer Co: Claremont, NH \$0.007 million; DISA/DITCO Delinquent Balance MIPR DISA DITCO: Scott AFB, IL \$0.017 million; and DBTA Section 1553 MIPR DFAS:Columbus, OH \$0.377 million.

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Estimated SBIR/STTR:	TBD	TBD : TBD	2.789	0.864	Jun 2020	0.712	Jun 2021	1.118	Jun 2022	0.000		1.118	Continuing	Continuing	Continuing
Subtotal			2.789	0.864		0.712		1.118		0.000		1.118	Continuing	Continuing	N/A

DAI Increment 3



SOB: Section SOB/Enabling Test
AA: Adversarial Assessment
ACAS: Assured Compliance Assessment Solution
ATC: Authority to Operate (Includes Production & COOP)
ATP: Authority to Proceed Decision Review
BEA: Business Enterprise Architecture
CCM: Center for Countermeasures
CDD: Critical Design Review
CEVA: Cyber Economic Vulnerability Assessment
COOP: Continuity of Operations Testing
CVPA: Cooperative Vulnerability & Penetration Assessment
DCIA: Defense Counterintelligence and Security Agency
DECA: Defense Commissary Agency
DISA: Defense Information Security Agency
DT: Development Test
FCA: Functional Configuration Audit
FD: Full Deployment
FF: Full Financials
FFMFI: Federal Financial Management Information Act
FOE&E: Follow on Operational Test & Evaluation
GRC: Governance, Risk, and Compliance
IA: Information Assurance
ICD&E: Internal Controls over Financial Systems IOT&E: Initial Operational Test & Evaluation
JCS: Joint Chiefs of Staff
JITC: Joint Interoperability Test Command
MS: Milestone
OA: Operational Assessment
OTA: Operational Test Authority
OTRR: Operational TRR
P2P: Prepare to Pay
PCA: Physical Configuration Audit
PDR: Preliminary Design Review
PERF: Performance Test
PIR: Post Implementation Review
PRD: Production
R: Release
R2: Oracle E-Business Suite, Release 12
REG: Regression Test
RF: Risk Management Framework
SFS-CA: Standard Financial Information Structure - Compliance Assessment
SIM: Simulation
BMS: Risk Management Framework
SFS-CA: Standard Financial Information Structure - Compliance Assessment
SIM: Simulation
SIT: Systems Integration Test
SOB: Segregation of Duties
SRR: Software Requirements Review
SRAE 1&2: Statement of Standards for an Authorization Engagement
Std: Standards
T&D: Test and Development
T&L: Time and Labor
TRR: Test Readiness Review
TT: Tabletop
UAT: User Acceptance Testing
USMC: United States Marine Corps
USSS: United States Standard General Ledger
UT: Unit Test
WHS: Washington Headquarters Service

Updated May 4, 2021

*Note: WHS deployment included OSD Secretariat offices, Pentagon Force Protection Agency, Defense Test Resources Management Center (DTRMC), Defense Legal Services Agency (DLSA) & US Court of Appeals for Armed Services.

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605080S / <i>Defense Agencies Initiative (DAI) - Financial System</i>	Project (Number/Name) 01 / <i>Defense Agencies Initiative - Financial System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Defense Agencies Initiative (DAI)</i>				
DAI - - See schedule exhibit for more details	1	2018	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605090S / <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	55.905	6.368	1.638	0.000	-	0.000	-	-	-	-	Continuing	Continuing
01: <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>	55.905	6.368	1.638	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

DRAS2 was still under development when the program was terminated. Since the system was not complete, it did not reach its intended purpose of replacing the existing DRAS system. The DRAS2 Program Cancellation Acquisition Decision Memorandum is dated April 9, 2020.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	6.368	1.638	1.664	-	1.664
Current President's Budget	6.368	1.638	0.000	-	0.000
Total Adjustments	0.000	0.000	-1.664	-	-1.664
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.011	-	-0.011
• Under-execution	-	-	-0.723	-	-0.723
• Internal Realignment to LOG PE 0603712S	-	-	-0.930	-	-0.930

Change Summary Explanation

FY 2021:

-SBIR/STTR Transfer: Due to an error while coding FY21 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For DRAS, the SBIR/STTR transfer is \$0.060M.

FY 2022:

-Internal Realignment to LOG PE 0603712S: Moved baseline funding from DRAS2 to LOG. DRAS2 was still under development when the program was terminated. Since the system was not complete, it did not reach its intended purpose of replacing the existing DRAS system. The DRAS2 Program Cancellation Acquisition Decision Memorandum is dated April 9, 2020.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605090S / <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>	Project (Number/Name) 01 / <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
01: <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>	55.905	6.368	1.638	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Moved baseline funding from DRAS2 to LOG R&D PE 0603712S. DRAS2 was still under development when the program was terminated. Since the system was not complete, it did not reach its intended purpose of replacing the existing DRAS system. The DRAS2 Program Cancellation Acquisition Decision Memorandum is dated April 9, 2020.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Defense Retired and Annuitant Pay System 2 (DRAS2)	6.368	1.638	0.000
FY 2021 Plans: Funds will be realigned for higher DoD priorities. DRAS2 was still under development when the program was terminated. Since the system was not complete, it did not reach its intended purpose of replacing the existing DRAS system. The DRAS2 Program Cancellation Acquisition Decision Memorandum is dated April 9, 2020.			
FY 2022 Plans: Moved baseline funding from DRAS2 to LOG R&D PE 0603712S. DRAS2 was still under development when the program was terminated. Since the system was not complete, it did not reach its intended purpose of replacing the existing DRAS system. The DRAS2 Program Cancellation Acquisition Decision Memorandum is dated April 9, 2020.			
FY 2021 to FY 2022 Increase/Decrease Statement: Program's baseline was entirely moved to LOG R&D PE 0603712S. DRAS2 was still under development when the program was terminated. Since the system was not complete, it did not reach its intended purpose of replacing the existing DRAS system. The DRAS2 Program Cancellation Acquisition Decision Memorandum is dated April 9, 2020.			
Accomplishments/Planned Programs Subtotals	6.368	1.638	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605090S / <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>	Project (Number/Name) 01 / <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605090S / Defense Retired and Annuitant Pay System 2 (DRAS2)	Project (Number/Name) 01 / Defense Retired and Annuitant Pay System 2 (DRAS2)
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DRAS2 System Development and Integration	Option/IDIQ	CSRA : Chantilly, VA	27.915	5.568	Oct 2019	1.638		0.000		0.000		0.000	0.000	35.121	-
DRAS2 COTS License Purchase	Option/IDIQ	CSRA/Oracle : To be Determined	14.029	0.000		0.000		0.000		0.000		0.000	0.000	14.029	-
DISA Hosting	MIPR	Virtual Operating Environment : Mechanicsburg, PA	1.769	0.000		0.000		0.000		0.000		0.000	0.000	1.769	-
Transaction Services Interface Design	Option/IDIQ	Northrop Grumman DLA Transaction Services : Chambersburg, PA	4.202	0.000		0.000		0.000		0.000		0.000	0.000	4.202	-
Transaction Services Interface Development & Testing	Option/IDDQ	Northrop Grumman DLA Transaction Services : Chambersburg, PA	2.074	0.800	Jul 2020	0.000		0.000		0.000		0.000	0.000	2.874	-
DRAS2 System Development & Integration	Option/IDIQ	CSRA : Chantilly, VA	2.964	0.000		0.000		0.000		0.000		0.000	0.000	2.964	-
Interoperability Testing	MIPR	Joint Interoperability Test Command (JITC) : Fort Meade, MD	1.542	0.000		0.000		0.000		0.000		0.000	0.000	1.542	-
Training Effort	C/TBD	To be determined : To be determined	1.410	0.000		0.000		0.000		0.000		0.000	0.000	1.410	-
Subtotal			55.905	6.368		1.638		0.000		0.000		0.000	0.000	63.911	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		55.905	6.368	1.638	0.000	0.000	0.000	63.911	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Logistics Agency

Date: May 2021

Appropriation/Budget Activity
0400 / 5

R-1 Program Element (Number/Name)
PE 0605090S / Defense Retired and Annuitant Pay System 2 (DRAS2)

Project (Number/Name)
01 / Defense Retired and Annuitant Pay System 2 (DRAS2)



DRAS2 Schedule



Acquisition Life Cycle Activities	FY19				FY20				FY21				FY22			
	01		02		03		04		01		02		03		04	
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J
Phases																
Testing																
Agile Development	DP 1	DP2 Reduction in Staffing		Restart Development					Sprint Development							
Data Cleansing & Migration					Data Cleansing and Migration											
Training									Continual Training Program							
DISA Hosting Environment													Production Operating Environment Continuo			

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605090S / <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>	Project (Number/Name) 01 / <i>Defense Retired and Annuitant Pay System 2 (DRAS2)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Defense Retired and Annuitant Pay System 2</i>				
DRAS2	1	2014	2	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6:</i> <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605502S / <i>Small Business Innovative Research (SBIR)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	49.682	10.065	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
SBIR: <i>Small Business Innovative Research</i>	49.682	10.065	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Defense Logistics Agency's (DLA's) ability to deliver Americans the right logistics solution in every transaction requires more than successful management of the Agency's wholesale supplies and suppliers. It requires supply chain excellence. Our military's ability to generate and sustain combat readiness indefinitely, anywhere on the globe requires that DLA-managed materiel flow seamlessly and as needed from the nation's industrial base to where it is ultimately used.

DLA's Small Business Innovative Research (SBIR) program seeks to solicit innovative research and development proposals from the small business community to address DLA's strategic and operational requirements. All selections shall demonstrate and involve some technical risk with yet to be determined technical feasibility. Phase I proposals should demonstrate the feasibility of the proposed technology and provide a strong business case for Phase II investment for a prototype or at least a proof-of-concept demonstration. A favorable return on investment and commercialization potential have a strong influence on Phase II selections.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	10.065	0.000	0.000	-	0.000
Current President's Budget	10.065	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	0.000			

Change Summary Explanation

FY 2021 Small Business Innovation Research (SBIR) and Small Technology Transfer (STTR) taxes for DLA programs establish the baseline for this program element. Due to an error while coding FY 2021 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S.

DLA SBIR/STTR taxes are \$3.902M and Defense Microelectronics Agency (DMEA) are \$4.330M.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605502S / <i>Small Business Innovative Research (SBIR)</i>				Project (Number/Name) SBIR / <i>Small Business Innovative Research</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
SBIR: <i>Small Business Innovative Research</i>	49.682	10.065	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program explores innovative concepts pursuant to Public Law 106-554 (Small Business Reauthorization Act of 2000) and Public Law 107-50 (Small Business Technology Transfer Program Reauthorization Act of 2001), which mandates a two-phase competition for small businesses with innovative technologies with a defense application as well as a commercial value. The SBIR and Small Business Technology Transfer (STTR) programs will develop new dual-use technologies for possible future DLA operational and sustainment requirements. Dual-use means the technologies will be judged on their potential for future private sector investment both as a vehicle for reducing development time and cost, unit costs of new DLA technologies, and as a route to national economic growth through new commercial products. DLA will conduct the competition as well as award and manage the contracts.

The DLA's SBIR/STTR investments are divided into multiple Research Areas identified from within several DLA Elements:

J6 R&D

- Nuclear Modernization: The objectives under the nuclear modernization focus area, include: maintain nuclear systems readiness, qualify alternate sources of supply, improve quality of consumable parts; and increase materiel availability.
- Force Readiness and Lethality: The objectives under the force readiness and lethality focus area include: improve life cycle performance through technological advancement, innovation and reengineering; and mitigate single points-of-failure that threaten the readiness of weapons systems used by our Warfighters
- Supply Chain Innovation: The objectives under the supply chain innovation focus area, include: improve lead times, reduce lifecycle costs, maintain a secure and resilient supply chain; and provide opportunities for small business industrial base to enhance supply chain operations with technological innovations.
- Supply Chain Assurance: The objectives under the supply chain assurance focus area, include: secure the microelectronics supply chain, develop a domestic supply of rare earth elements; and adopt industrial base best practices associated with counterfeit risk reduction.

DMEA

- Advanced microelectronics concepts, technologies, and applications

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SBIR Accomplishments/Plans	10.065	0.000	-
FY 2021 Plans: DLA SBIR/STTR:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605502S / <i>Small Business Innovative Research (SBIR)</i>	Project (Number/Name) SBIR / <i>Small Business Innovative Research</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Continue execution of all active Phase I and Phase II SBIR/STTR Projects. Work with other R&D Programs and other divisions with DLA to identify requirements that meet DLA's long and short term Strategic Objectives. Provide adequate guidance and mentorship to Phase II to projects to increase the likelihood of transition into government programs of record or commercial ventures.</p> <p>DMEA SBIR/STTR: Continue to seek innovative technical solutions to DoD microelectronics research and development needs and increase private-sector commercialization of these innovations.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> FY 2021 Small Business Innovation Research (SBIR) and Small Technology Transfer (STTR) taxes for DLA programs establish the baseline for this program element. Due to an error while coding FY 2021 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S.</p> <p>DLA SBIR/STTR taxes are \$3.902M and Defense Microelectronics Agency (DMEA) are \$4.330M.</p> <p>SBIR and STTR tax amounts are based on enacted budgets so FY 2022 amounts have not been established.</p>			
Accomplishments/Planned Programs Subtotals	10.065	0.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

The SBIR acquisition process seeks to match projects with DLA's Strategic Focus Areas. The goal is to align SBIR/STTR developed technology with current and future DLA requirements. DLA solicits all new project execution work through the DoD SBIR Broad Agency Announcement (BAA). There are three separate solicitation periods throughout each year. (Jan-Feb, May-Jun, and Sep-Oct)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0708012S / <i>Pacific Disaster Center</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	10.903	1.705	1.785	1.799	-	1.799	-	-	-	-	Continuing	Continuing
03: <i>Pacific Disaster Center</i>	10.903	1.705	1.785	1.799	-	1.799	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Pacific Disaster Center (PDC) has been in operation since February 1996. The PDC is a public/private partnership managed by the University of Hawaii (UH) under a cooperative agreement with the Department of Defense. It is functionally within the organization of the Office of the Under Secretary of Defense (Acquisition and Sustainment) (OUSD(A&S)) and the Defense Logistics Agency (DLA). The PDC is a world-recognized authority and leader in science and information technology applications relating to humanitarian assistance and disaster relief (HA/DR). PDC develops new and innovative technologies to operate an (unclassified) integrated multi-hazard monitoring, early warning and decision support system, called RAPIDS, for the Department.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	1.705	1.785	1.821	-	1.821
Current President's Budget	1.705	1.785	1.799	-	1.799
Total Adjustments	0.000	0.000	-0.022	-	-0.022
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	0.000			
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.022	-	-0.022

Change Summary Explanation

FY 2021:

SBIR/STTR Transfer: Due to an error while coding FY21 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For PDC, the SBIR/STTR transfer is \$0.065M.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0708012S / <i>Pacific Disaster Center</i>				Project (Number/Name) 03 / <i>Pacific Disaster Center</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
03: <i>Pacific Disaster Center</i>	10.903	1.705	1.785	1.799	-	1.799	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The PDC has provided operational support for an (unclassified) integrated multi-hazard hazard monitoring, early warning and decision support system, called RAPIDS, for the department since 2007. The system, covering global hazard is frequently used by COCOMS, particularly PACOM and SOUTHCOM, for HA/DR missions and exercises, and was recently selected as one of the most effective systems in a position paper by the department, reviewing all unclassified information sharing systems. "Expanded use of RAPIDS across the DoD at the Combatant Commands, Joint Task Force, and by deployed units from the services" was identified as "a primary Joint Staff objective" in a memorandum dated July 6, 2017.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Pacific Disaster Center (PDC)	1.705	1.785	1.799
<p>Description: The USD(A&S) will become the Operational Sponsor and functional OSD Principal Staff Assistant (PSA) for the program. USD(A&S) will continue to provide acquisition oversight authority for the program.</p> <p>The PDC has been in operation since February 1996. The PDC is a public/private partnership managed by the University of Hawaii (UH) under a cooperative agreement with the Department of Defense. The Pacific Disaster Center (PDC) function, manpower, and budget resources transferred to the Office of the Under Secretary of Defense (Acquisition and Sustainment) (OUSD(A&S)) and the Defense Logistics Agency (DLA) in October 2011.</p> <p>The PDC is a world-recognized authority and leader in science and information technology applications relating to humanitarian assistance and disaster relief (HA/DR). PDC's applications and information products enhance preparedness, situational awareness, and civil-military communications for humanitarian missions worldwide, while its national-level socio-economic Risk and Vulnerability Assessments help inform strategies by measuring indicators for national resiliency using scientific methods.</p> <p>The DLA J32, Strategic Programs and Initiatives office will serve as the Program Manager for the PDC. The Program Manager primary responsibility is for management and stewardship of governmental funds provided in Defense Department appropriations for DoD missions associated with DoD CrM, HA/DR, Theater Security Cooperation, and Defense Support to Civil Authorities (DSCA). In doing this, the Program Office develops and provides policy, oversight and guidance, and jointly develops strategic guidelines, programmatic content and priorities with the UH and PDC. The PDC Program Office also serves as a support element of the Hawaii-based organization especially in the area of gaining Federal agency support and resources, as well as business opportunities.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708012S / <i>Pacific Disaster Center</i>	Project (Number/Name) 03 / <i>Pacific Disaster Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p><i>FY 2021 Plans:</i></p> <p>-Enhance the DisasterAWARE platform, and related applications and tools. 1). Modernization of DisasterAWARE and related applications for improving access, navigation, and performance; 2) Increase platform scalability, resiliency, stability, and security by further leveraging Enterprise-class cloud services and monitoring tools; and 3) Continue to improve Mobile DisasterAWARE capabilities.</p> <p>-Enhance automation and modeling services supporting comprehensive and integrated multi-hazard monitoring, situational awareness, notification/warning, exposure estimation, and impact modeling and assessments. 1) Enhance the integration of hazard and exposure assessment outputs into automated mapping products, situational awareness, and needs assessment reports; 2) Extend and improve thematic coverage and hazard monitoring capabilities, including automation of hazard detection, impact area estimation, and notification; 3) Gain efficiencies and scalability through full or partial automation of manual processes and explore use of Artificial Intelligence algorithms and tools to augment current practices; 4) Develop processes to help maintain effective documentation and devise sustainable processes for new modeling, automation, and related communications; and 5) Increase flexibility and responsiveness of automated solutions; 6) Enhance ability to simulate actual conditions results during testing and prototyping.</p> <p>-Advance analytical to better understand severity of impacts to population by characterizing the socio-economic, political, health, cultural, and environmental factors that are influencing risk and resilience. 1) Improve mechanisms for RVA automation, communication, versioning, and service delivery; 2) Expands PDC's analytic and risk product offerings through enhanced automation and availability of risk products, information, and services; 3) Incorporation new tools and emerging data capabilities for refined reporting; 4) Leverage risk index approach in new and innovative ways to better describe human terrain; and 5) Develop new indicators that enable predictive outlooks for current and extended range planning.</p> <p>-Manage and maintain the most robust global data sets and related services to directly support the DoD in meeting their interagency support requirements. 1) Administer PDC's Global Enterprise Data policies, standards, and resources for consistency across the Center and its applications; 2) Streamline and automate data content development, validation, maintenance, management, and deployment processes; 3) Continue to enhance Enterprise Data holdings with authoritative global information; and 4) Explore new approaches and technologies for improved performance, reliability, and scaling, as well as total lifecycle costs, of data service.</p> <p><i>FY 2022 Plans:</i></p> <p>The FY 2022 Annual Plan will be published and presented during the Program Management Review in December 2021. Continue to modernize and sustain the DisasterAWARE system to support the DoD's Risk Assessment, Planning and Incidents Decision Support (RAPIDS) as well as Emergency Management Operations (EMOPS) (supporting the Department's and it's partner's Humanitarian Assistance and Disaster Recovery (HA/DR) and Defense Support of Civil Authorities (DSCA) missions.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i></p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708012S / <i>Pacific Disaster Center</i>	Project (Number/Name) 03 / <i>Pacific Disaster Center</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
No significant change.			
Accomplishments/Planned Programs Subtotals	1.705	1.785	1.799

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

PDC projects beyond the baseline Situational Awareness & Decision Support Applications/Tools architecture (Atlas/EMOPS/RAPIDS) undertaken in support of the DoD Cooperative Agreement (CA) with the University of Hawaii (UH) are from PDC customers (e.g., DoD, NGOs, other nations, academia, and industry). The PDC prepares the public, disaster managers, governments, and others to mitigate the effects of disasters. The goal is to have people and technology work together to preserve life, safeguard livelihoods, protect property to foster disaster-resilient communities. Projects obtained and funded from this customer base serve as a means to determine PDC product and services relevancy.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708012S / Pacific Disaster Center	Project (Number/Name) 03 / Pacific Disaster Center
--	---	--

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PDC Disaster AWARE: Early Warning and Decision Support Applications	MIPR	University of Hawaii Systems : Honolulu, HI	10.903	1.705	Dec 2019	1.785	Dec 2020	1.799	Dec 2021	-		1.799	Continuing	Continuing	Continuing
Subtotal			10.903	1.705		1.785		1.799		-		1.799	Continuing	Continuing	N/A

Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract			
Project Cost Totals			10.903	1.705	1.785	1.799	-	1.799	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708012S / <i>Pacific Disaster Center</i>	Project (Number/Name) 03 / <i>Pacific Disaster Center</i>
--	--	---

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>Pacific Disaster Center</i>																												
Pacific Disaster Center (PDC)																												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0708047S / Defense Property Accountability System (DPAS)
---	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	6.631	3.545	7.301	6.390	-	6.390	-	-	-	-	Continuing	Continuing
ABC: DPAS	6.631	3.545	7.301	6.390	-	6.390	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Property Accountability System (DPAS) provides the Department an asset accountability system which is fully compliant with financial reporting regulations and has a clean audit history. With an integrated accountability, utilization, maintenance, and warehouse capability, DPAS provides the Department an enterprise solution for asset management.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	3.545	7.301	6.914	-	6.914
Current President's Budget	3.545	7.301	6.390	-	6.390
Total Adjustments	0.000	0.000	-0.524	-	-0.524
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation for Non-Pay/Non-Fuel Purchases	-	-	-0.078	-	-0.078
• Under-execution	-	-	-0.446	-	-0.446

Change Summary Explanation

FY 2021:

-SBIR/STTR Transfer: Due to an error while coding FY21 Enactment, the SBIR/STTR transfer is not reflected in the exhibit totals. Programs were indeed taxed and the funding was transferred to the SBIR PE 0605502S. For DPAS, the SBIR/STTR transfer is \$0.266M.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708047S / Defense Property Account ability System (DPAS)	Project (Number/Name) ABC / DPAS
--	---	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
ABC: DPAS	6.631	3.545	7.301	6.390	-	6.390	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The DPAS system provides accountability and management functionality of General Equipment, Real Property and Internal Use Software, to the Department. The budgeted projects will provide enhancements to the existing capability, ensure efficient operation, and provide solutions for process gaps as they are discovered. The greater enhancements to DPAS allow the DoD to sunset legacy systems as DPAS assimilates the legacy functionality into the overall operations.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: DPAS completed the migration of the Air Force Equipment Management System (AFEMS)</p> <p>Description: DPAS completed the migration of the AFEMS. This achieved two milestones. The migration to DPAS enables the Air Force to achieve their financial audit goals for General Equipment due to DPAS providing the functionality required to properly account and report financial data. It also permits the shutdown of the AFEMS legacy system saving the Air Force considerable costs of upgrading this system.</p>	3.545	-	-
<p>Title: Technical Refresh</p> <p>Description: During the Technical Refresh, changes to the system processes will be made so accounting transactions for equipment assets from the warehouse portion of the system will mirror the processes in the current Property Accountability. The processes to support the Army to field assets from the Program Executive Offices to their field units will also be in this version.</p> <p>FY 2021 Plans: Migration to the cloud. Technical Refresh to provide the users a new user interface and more efficient functionality to perform their mission. Implementation of JSF. Implementation of the Air Force Support Equipment Maintenance Activities and the Air Force Contractor Inventory Control Points for Government Furnished Material.</p> <p>FY 2022 Plans: Complete the Technical Refresh. Complete the Implementation of the Air Force Support Equipment Maintenance Activities and the Air Force Contractor Inventory Control Points for Government Furnished Material.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: No significant change.</p>	-	7.301	6.390
Accomplishments/Planned Programs Subtotals	3.545	7.301	6.390

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708047S / <i>Defense Property Account ability System (DPAS)</i>	Project (Number/Name) ABC / DPAS
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy N/A		

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Logistics Agency																		Date: May 2021					
Appropriation/Budget Activity 0400 / 7										R-1 Program Element (Number/Name) PE 0708047S / Defense Property Account ability System (DPAS)						Project (Number/Name) ABC / DPAS							

Fiscal Year	FY2021				FY2022				FY2023				FY2024				FY2025				FY2026			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Research																								
Design																								
Development																								
Testing																								
Implementation																								
Research																								
Design																								
Development																								
Testing																								
Implementation																								
Research																								
Design																								
Development																								
Testing																								
Implementation																								

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Logistics Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0708047S / <i>Defense Property Accountability System (DPAS)</i>	Project (Number/Name) ABC / DPAS

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Defense Property Accountability System (DPAS)</i>				
Defense Property Accountability System (DPAS)	1	2021	4	2026

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Defense Security Cooperation Agency

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Defense Security Cooperation Agency • Budget Estimates FY 2022 • RDT&E Program

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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

29 Apr 2021

Appropriation	FY 2020 Total	FY 2021 Total	FY 2022 Total
Research, Development, Test & Eval, DW	14,257	6,294	7,398
Total Research, Development, Test & Evaluation	14,257	6,294	7,398

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

29 Apr 2021

	FY 2020 Total	FY 2021 Total	FY 2022 Total
<u>Summary Recap of Budget Activities</u>			
Operational Systems Development	14,257	6,294	7,398
Total Research, Development, Test & Evaluation	14,257	6,294	7,398
<u>Summary Recap of FYDP Programs</u>			
Research and Development	14,257	6,294	7,398
Total Research, Development, Test & Evaluation	14,257	6,294	7,398

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

29 Apr 2021

Summary Recap of Budget Activities	FY 2020 Total	FY 2021 Total	FY 2022 Total
Operational Systems Development	14,257	6,294	7,398
Total Research, Development, Test & Evaluation	14,257	6,294	7,398
Summary Recap of FYDP Programs			
Research and Development	14,257	6,294	7,398
Total Research, Development, Test & Evaluation	14,257	6,294	7,398

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

29 Apr 2021

Appropriation	FY 2020 Total	FY 2021 Total	FY 2022 Total
-----	-----	-----	-----
Defense Security Cooperative Agency	14,257	6,294	7,398
Total Research, Development, Test & Evaluation	14,257	6,294	7,398

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

29 Apr 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Total	FY 2021 Total	FY 2022 Total	Sec
197	0605127T	Regional International Outreach (RIO) and Partnership for Peace Information Mana	07	1,947	1,986		U
198	0605147T	Overseas Humanitarian Assistance Shared Information System (OHASIS)	07	310	316		U
201	0607327T	Global Theater Security Cooperation Management Information Systems (G-TSCMIS)	07	12,000	3,992	7,398	U
Operational Systems Development				14,257	6,294	7,398	
Total Research, Development, Test & Eval, DW				14,257	6,294	7,398	

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Defense Security Cooperative Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

29 Apr 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Total	FY 2021 Total	FY 2022 Total	Sec
197	0605127T	Regional International Outreach (RIO) and Partnership for Peace Information Mana	07	1,947	1,986		U
198	0605147T	Overseas Humanitarian Assistance Shared Information System (OHASIS)	07	310	316		U
201	0607327T	Global Theater Security Cooperation Management Information Systems (G-TSCMIS)	07	12,000	3,992	7,398	U
Operational Systems Development				14,257	6,294	7,398	
Total Defense Security Cooperative Agency				14,257	6,294	7,398	

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Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
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203	07	0605147T	Overseas Humanitarian Assistance Shared Information System (OHASIS).....	Volume 5 - 467
206	07	0607327T	Global Theater Security Cooperation Management Information Systems (G-TSCMIS)..	Volume 5 - 473

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Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
Global Theater Security Cooperation Management Information Systems (G-TSCMIS)	0607327T	206	07.....	Volume 5 - 473
Overseas Humanitarian Assistance Shared Information System (OHASIS)	0605147T	203	07.....	Volume 5 - 467
Partner Outreach and Collaboration Support (POCS)	0605127T	202	07.....	Volume 5 - 459

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605127T / <i>Partner Outreach and Collaboration Support (POCS)</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	19.742	1.947	1.986	0.000	-	0.000	-	-	-	-	Continuing	Continuing
000204: <i>Partner Outreach and Collaboration Support</i>	19.742	1.947	1.986	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification

Partner Outreach and Collaboration Support (POCS) is an Office of the Secretary of Defense (OSD) initiative. The goal of the program is to provide a common information technology platform (GlobalNET) to improve international partner outreach and collaboration efforts in a federated environment. A federated environment – characterized by the capacity of Department of Defense (DoD) institutions and Partners to directly share participants and content across proprietary community websites - fostering networks of partner influencers and enabling better use of DoD resources through collaboration among the Regional Centers for Security Studies, Partnership for Peace (PfP) and international partners, and other DoD educational institutions and communities. GlobalNET currently supports over 80,000 users. The program uses spiral methodology to speed the delivery of open source collaboration technologies the user community. The Defense Security Cooperation Agency (DSCA) oversees execution of the research and development of the GlobalNET effort and its operations, and ensures that the program addresses DoD security cooperation requirements in the context of defense, interagency, and international information sharing and collaboration needs.

The GlobalNET effort focuses on improving collaboration, supporting outreach efforts, and enabling communication among the Regional Centers for Security Studies, the Combatant Commanders (COCOMs), the DSCA, Office of the Under Secretary of Defense for Policy (OUSD(P)), North Atlantic Treaty Organization’s (NATO) Military Partnerships Directorate (MPD), the PfP Consortium of Defense Academies, PfP Partner countries, and other DoD institutions and communities. It provides DoD and international partner security practitioners an unclassified secure platform to share information, communicate and collaborate globally 24/7, and supports administrative activities. It provides the ability to form collaborative communities of interest around security issues. GlobalNET facilitates information sharing and knowledge management concepts in accordance with U.S. policy. POCS implements the Congressional endorsement for the modernization of Defense capabilities in eligible PfP countries relative to their telecommunications infrastructure, and provides allies and partner countries the ability to team in critical cooperative activities that underpin the spirit of the PfP program. The program supports PfP coalition Initiatives through the development of distributive collaboration tools to assist U.S./NATO-approved PfP cooperative activities. This support is important to achieve the interoperability/integration outlined in the Guidance for the Employment of the Force. POCS additionally supports internet-based education, collaboration, exercise simulations, and training center requirements.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Security Cooperation Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605127T / <i>Partner Outreach and Collaboration Support (POCS)</i>
---	--

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	1.947	1.986	1.977	-	1.977
Current President's Budget	1.947	1.986	0.000	-	0.000
Total Adjustments	0.000	0.000	-1.977	-	-1.977
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	-	-	-1.977	-	-1.977

Change Summary Explanation

DSCA will have developed a product that meets the requirements of the user community and are moving into an operations and sustainment capacity.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Security Cooperation Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0605127T / <i>Partner Outreach and Collaboration Support (POCS)</i>				Project (Number/Name) 000204 / <i>Partner Outreach and Collaboration Support</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000204: <i>Partner Outreach and Collaboration Support</i>	19.742	1.947	1.986	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Partner Outreach and Collaboration Support (POCS) provides a common information technology platform (GlobalNET) for the Department of Defense (DoD) to improve international partner outreach and collaboration efforts in a federated environment. (characterized by the capacity of DoD institutions and Partners to directly share participants and content across proprietary community websites). The POCS initiative - fosters networks of partner influencers and enables better use of DoD resources through collaboration among the Regional Centers for Security Studies, Partnership for Peace (PfP) and international partners, and other DoD educational institutions and communities. GlobalNET currently supports over 80,000 users. The program uses spiral methodology to speed the delivery of open source collaboration technologies the user community. The Defense Security Cooperation Agency (DSCA) oversees execution of the research and development of the GlobalNET effort and its operations, and ensures that the program addresses DoD security cooperation requirements in the context of defense, interagency, and international information sharing and collaboration needs.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Partner Outreach and Collaboration Support (POCS)	1.947	1.986	0.000
FY 2021 Plans: Continue to update the GlobalNET implementation to the newest platform stable release - allowing greater functionality and better security across all members of the platform.			
Complete transfer to a Government-approved cloud platform, thus improving stability and security. Conduct the research and define the requirements for a gaming and exercise simulation module.			
FY 2022 Plans: There is no funding planned for FY22 due to having developed a product that meets the requirements of the user community and are moving into an operations and sustainment capacity.			
FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY21 to FY22 is due to having developed a product that meets the requirements of the user community and are moving into an operations and sustainment capacity.			
Accomplishments/Planned Programs Subtotals	1.947	1.986	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0605127T / <i>Partner Outreach and Collaboration Support (POCS)</i>	Project (Number/Name) 000204 / <i>Partner Outreach and Collaboration Support</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The GlobalNET effort employs a spiral acquisition strategy ensuring a well-defined model for each institution/community that can be exported globally. The program uses an organizational approach to ensure sustainable, and updated technology and information sharing procedures. By partnering with other U.S. Government activities, existing assets are leveraged to preserve U.S. investments, avoid duplication of effort between activities, and offer economically prudent solutions to improve information sharing and achieve U.S. security cooperation goals. Independent Operational Test teams are brought on to ensure that GlobalNET bears independent validation of the development team's effort.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Security Cooperation Agency													Date: May 2021		
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 0605127T / Partner Outreach and Collaboration Support (POCS)					Project (Number/Name) 000204 / Partner Outreach and Collaboration Support						
Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Security Cooperation Agency	MIPR	Civic Actions : Berkeley, CA	19.742	1.947	Jul 2020	1.986	Jul 2021	-		-		-	-	-	N/A
Subtotal			19.742	1.947		1.986		-		-		-	-	-	N/A
			Prior Years	FY 2020	FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			19.742	1.947		1.986		-		-		-	-	-	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0605127T / <i>Partner Outreach and Collaboration Support (POCS)</i>	Project (Number/Name) 000204 / <i>Partner Outreach and Collaboration Support</i>
--	--	--

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

GlobelNet Update	
Upgrade Core and Maintenance Releases	
Deploy to Other Institutions	

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

GlobelNet Update	
Upgrade Core and Maintenance Releases	
Deploy to Other Institutions	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0605127T / <i>Partner Outreach and Collaboration Support (POCS)</i>	Project (Number/Name) 000204 / <i>Partner Outreach and Collaboration Support</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>GlobelNet Update</i>				
Upgrade Core and Maintenance Releases	1	2016	4	2021
Deploy to Other Institutions	3	2014	4	2021

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605147T / <i>Overseas Humanitarian Assistance Shared Information System (OHASIS)</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	2.301	0.310	0.316	0.000	-	0.000	-	-	-	-	Continuing	Continuing
000204: <i>Overseas Humanitarian Assistance Shared Information System</i>	2.301	0.310	0.316	0.000	-	0.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Overseas Humanitarian Assistance Shared Information System (OHASIS) provides stakeholders of Department of Defense (DoD) Humanitarian Assistance (HA) programs, including embassy staff, the Combatant Commands (COCOMs), the Defense Security Cooperation Agency (DSCA), and a broad range of DoD and interagency partners, the capability to manage, support, and visualize Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) funded projects on a web-based map display, in addition to automating report generation, providing tools to coordinate with Interagency and partner nation stakeholders, and perform a variety of analyses.

Under the direction of DSCA, the U.S. Army Corps of Engineers, Army Geospatial Center (AGC) is responsible for the entire lifecycle--from system definition to development, support, training, and product improvement of OHASIS. The AGC has been responsible for the OHASIS system since 2005 and has evolved it to the present 2.5 system, which contains more than 17,000 active projects valued at more than \$2.5 billion, with a community of over 6,000 users. The OHASIS system is a critical and mission essential means for thousands of military and civilian users to develop, staff, coordinate, approve, fund, implement, manage, and evaluate projects intended to assist the COCOMs in accomplishing theater campaign plan objectives and achieve strategic ends states in support of U.S. national security and foreign policy interests.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.310	0.316	0.323	-	0.323
Current President's Budget	0.310	0.316	0.000	-	0.000
Total Adjustments	0.000	0.000	-0.323	-	-0.323
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	-	-	-0.323	-	-0.323

Change Summary Explanation

Decrease due to intent to phase HA program management from OHASIS to G-TSCMIS/Socium.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0605147T / Overseas Humanitarian Assistance Shared Information System (OHASIS)	Project (Number/Name) 000204 / Overseas Humanitarian Assistance Shared Information System
--	---	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000204: Overseas Humanitarian Assistance Shared Information System	2.301	0.310	0.316	0.000	-	0.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Overseas Humanitarian Assistance Shared Information System (OHASIS) provides stakeholders of Department of Defense (DoD) Humanitarian Assistance (HA) programs, including embassy staff, the Combatant Commands (COCOMs), the Defense Security Cooperation Agency (DSCA), and a broad range of DoD and interagency partners, the capability to manage, support, and visualize Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) funded projects on a web-based map display, in addition to automating report generation, providing tools to coordinate with Interagency and partner nation stakeholders, and perform a variety of analyses.

Under the direction of DSCA, the U.S. Army Corps of Engineers, Army Geospatial Center (AGC) is responsible for the entire lifecycle--from system definition to development, support, training, and product improvement of OHASIS. The AGC has been responsible for the OHASIS system since 2005 and has evolved it to the present 2.5 system, which contains more than 16,000 active projects (7,000 of which have been completed) valued at more than \$2.3 billion, with a community of over 6,000 users. The OHASIS system is a critical and mission essential means for thousands of military and civilian users to develop, staff, coordinate, approve, fund, implement, manage, and evaluate projects intended to assist the COCOMs in accomplishing theater campaign plan objectives and achieve strategic ends states in support of U.S. national security and foreign policy interests support of U.S. national security and foreign policy interests.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Overseas Humanitarian Assistance Shared Information System	0.310	0.316	0.000
FY 2021 Plans: Expand the format and availability of OHASIS to other O&M programs. Improve usability of project nomination and explore software optimization techniques to reduce load times and improve user experience.			
FY 2022 Plans: For FY2022, intent is to shift Humanitarian Assistance program management activities from OHASIS to SOCIUM			
FY 2021 to FY 2022 Increase/Decrease Statement: The \$316,000 decrease from FY2021 to FY2022 is due intention to shift HA program management from OHASIS to G-TSCMIS/Socium.			
Accomplishments/Planned Programs Subtotals	0.310	0.316	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0605147T / <i>Overseas Humanitarian Assistance Shared Information System (OHASIS)</i>	Project (Number/Name) 000204 / <i>Overseas Humanitarian Assistance Shared Information System</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

The program employs an incremental technology development and implementation strategy to ensure a desired capability is delivered in a relevant timeframe. This strategy also will continue to leverage industry standard technologies for web development, database technology, database modeling, geographic information systems, reporting, and documentation. As additional users require the system, it will continue to be developed with scalability and maintainability as key considerations. Additionally, this capability will help DoD better collaborate and support external agencies and their programs by leveraging the web services that have been designed in the initial baseline.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0605147T / Overseas Humanitarian Assistance Shared Information System (OHASIS)	Project (Number/Name) 000204 / Overseas Humanitarian Assistance Shared Information System

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

System Development and Compliance	
Infrastructure for CAC-enabled Capability	████████████████████
Update System and Database Compliance	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0605147T / <i>Overseas Humanitarian Assistance Shared Information System (OHASIS)</i>	Project (Number/Name) 000204 / <i>Overseas Humanitarian Assistance Shared Information System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>System Development and Compliance</i>				
Infrastructure for CAC-enabled Capability	4	2020	4	2021
Update System and Database Compliance	1	2021	4	2021

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Cooperation Management Information Systems (G-TSCMIS)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	27.475	12.000	3.992	7.398	-	7.398	-	-	-	-	Continuing	Continuing
000205: <i>Global Theater Security Cooperation Management Information Systems (G-TSCMIS)</i>	27.475	12.000	3.992	7.398	-	7.398	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Global Theater Security Cooperation Management Information System (G-TSCMIS) Program was initially an Office of the Secretary of Defense (OSD) initiative to develop and deploy a common web-based, centrally hosted Management Information System (MIS) that will serve as the information focus point for the Nation's Security Cooperation (SC) efforts by providing decision makers, SC planners and other users with the ability to view, manage, assess, and report SC activities and events. February 11, 2019, OSD assigned the Defense Security Cooperation Agency (DSCA) as the lead for G-TSCMIS and any successor comprehensive security management information system. G-TSCMIS was adopted from a theater specific system, originally developed in 1999, and has been updated at least three times. Nevertheless, it still lacks basic functionality that the SC enterprise, consisting of Geographical Combatant Commands (GCCs), Military Departments, and Defense Agencies, have called for since 2010, including but not limited to SC activity life-cycle management, alignment of activities to strategic guidance, institutionalizing a common operational picture, adaptability and scalability to encompass all SC organizations, and interfacing with other SC-relevant authoritative data sources. Additionally, the 2017 National Defense Authorization Act enacted a number of reforms to the Department of Defense's security cooperation (SC) enterprise, consolidating various security cooperation authorities under a single chapter in Title 10 to provide greater clarity to the scope of these programs and to improve management and oversight of these programs. Through these reforms the Department now manages more than 100,000 SC activities per year at a cost of more than \$10 billion, consisting of 40 distinct programs and support to dozens of different organizations and relies on an antiquated system, the G-TSCMIS to manage them. To meet the FY2017 NDAA requirements, DSCA is developing a successor system to replace G-TSCMIS after migrating the data.

DSCA requires an innovative prototype capable of meeting the needs of the SC enterprise and developing an enterprise-wide technology to facilitate and integrate planning, budgeting, collaboration, program design, assessment, monitoring, evaluation, and reporting in support of all U.S. security cooperation activities and. The successor system (Socium) prototype must perform each function in a manner that meets the mandate of the FY17 NDAA reforms including; Planning, Assessment, Monitoring, and Evaluation (AM&E) and Defense Institution Building.

For this effort, DSCA developed a new, innovative acquisition strategy for the successor system in consultation with the Defense Innovation Board and other IT acquisition experts. The strategy will increase competition, maximizing savings, and leverage flexible development approaches. DSCA is utilizing a phased approach to develop the successor system. The first phase, which is scheduled to be completed by September 2019, will gather industry driven solutions to develop a system that provides a modernized, versatile platform. DSCA, through Washington Headquarter Services, will then issue a competitive prototyping award for the second phase and is tentatively planned for completion in January 2020. The final phase will issue a production release that deploys the new solution to the SC enterprise in FY 2021.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Cooperation Management Information Systems (G-TSCMIS)</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	12.000	3.992	1.996	-	1.996
Current President's Budget	12.000	3.992	7.398	-	7.398
Total Adjustments	0.000	0.000	5.402	-	5.402
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	-	-	5.402	-	5.402

Change Summary Explanation

The FY 2021 budget was abnormally low due to the unknown direction of the G-TSCMIS program at the time of the submission. The G-TSCMIS program was stabilized with the development of Socium.

The FY 2022 request will be used incorporate initial feedback from users to add new capabilities and functional enhancements to Socium to improve user satisfaction.

The new capabilities and functional enhancements are critical to saving countless man hours for thousands of users (strategic, operational, and tactical) across the entire SC enterprise (Services, COCOMs, and Defense Agencies) by reducing data entry in disparate systems/applications, automating paper-based business processes, and reporting requirement burdens. Furthermore, they continue to enhance Socium's capability to maintain comprehensive, accessible information that enhances oversight and data-driven decision-making capability for strategic users and to allow leaders to align SC resources to the National Defense Strategy, Theater Campaign Plans, and Integrated Country Strategies. These funds will be used for continued engineering for defects, fixes, and evaluation.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Security Cooperation Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Co operation Management Information Systems (G-TSCMIS)</i>				Project (Number/Name) 000205 / <i>Global Theater Security Cooperation Management information Systems (G-TSCMIS)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000205: <i>Global Theater Security Cooperation Management information Systems (G- TSCMIS)</i>	27.475	12.000	3.992	7.398	-	7.398	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In February 2019, the Deputy Secretary of Defense designated the Defense Security Cooperation Agency (DSCA) as lead for the Global-Theater Security Cooperation Management Information System (G-TSCMIS) program. At that time, the G-TSCMIS program consisted of the G-TSCMIS application, which was responsible for creating, managing, and assessing DoD Security Cooperation (SC) activities. In consultation with the SC enterprise community, DSCA determined that the G-TSCMIS application was no longer able to fulfil its mission and could not meet the needs of the SC enterprise community. In FY 2020, DSCA, in consultation with the Defense Innovation Board, utilized a new, innovative acquisition strategy to develop two prototypes for the successor application. The strategy gathered industry driven solutions that increased competition, maximized savings, and leveraged flexible development approaches that developed an application with a modernized, versatile platform. In coordination with the SC enterprise, DSCA selected one prototype as the replacement to the G-TSCMIS application.

DSCA deployed the prototype as the Socium application, the fifth release of the G-TSCMIS program, in September 2020 and met the aggressive timeline required by the community. Socium is the DoD enterprise-wide technology to facilitate and integrate planning, budgeting, collaboration, design, management, assessment, monitoring, evaluation, and reporting in support of all U.S. security cooperation activities.

In FY 2021, DSCA will continue to add new capabilities and functional enhancements to Socium that includes new SC programs and processes, an expanded data model, refined AM&E capabilities, and two-way interfacing with other Authoritative Data Sources (ADSs). Some examples of new capabilities and enhancements for Socium in FY 2021 include deploying a SIPR Socium application and cross domain solution; building tailored workflows for all remaining permanent Title 10 security cooperation authorities; interfacing with the Overseas Humanitarian Assistance Shared Information System (OHASIS), Enterprise Freight Tracking System (EFTS), Security Cooperation Management Suite (SCMS), Command and Control Information Exchange (C2IE), Advance Analytics (ADVANA), and Reachback Engineer Data Integration (REDi); and improving the assessment, monitoring, and evaluation (AM&E) capabilities. Finally, the legacy G-TSCMIS application will be retired no later than the end of the first quarter of FY 2021. The G-TSCMIS application retirement plan includes transfer and integrating historical data into Socium.

The new capabilities and functional enhancements are critical to saving countless man hours for thousands of users (strategic, operational, and tactical) across the entire SC enterprise (Services, COCOMs, and Defense Agencies) by reducing data entry in disparate systems/applications, automating paper-based business processes, and reporting requirement burdens. Furthermore, they continue to enhance Socium's capability to maintain comprehensive, accessible information that enhances oversight and data-driven decision-making capability for strategic users and to allow leaders to align SC resources to the National Defense Strategy, Theater Campaign Plans, and Integrated Country Strategies.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Co operation Management Information Systems (G-TSCMIS)</i>	Project (Number/Name) 000205 / <i>Global Theater Security Cooperation Management information Systems (G-TSCMIS)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Title: Global Theater Security Cooperation Management Information System (G-TSCMIS)</p> <p>FY 2021 Plans: In FY 2021, DSCA will continue to add new capabilities and functional enhancements to Socium that includes new SC programs and processes, an expanded data model, refined AM&E capabilities, and two-way interfacing with other systems. Finally, the legacy G-TSCMIS application will be retired no later than the end of the first quarter of FY 2021. The G-TSCMIS retirement application plan includes transfer and integrating historical data into Socium.</p> <p>FY 2022 Plans: In FY 2022, DSCA will continue to add new capabilities and functional enhancements to Socium that includes new expanding workflows and data integration for SC activities under Title 14, 22, and 50 to ensure complimentary SC activity planning and execution across the whole of the U.S. government; continuing to interface with the other ADSs; and looking to retire other legacy systems that Socium can replace.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: In FY 2021, the successor system will have deployed a minimally viable product (MVP) to users to begin inputting data, which requires a substantial initial investment. The FY 2022 request will be used incorporate initial feedback from users to create a limited number of new features (a new functionality) and make software enhancements (existing functionality more user friendly) to the MVP and improve user satisfaction. Additionally, these funds will be used for continued engineering for defects, fixes, and evaluation.</p>	12.000	3.992	7.398
Accomplishments/Planned Programs Subtotals	12.000	3.992	7.398

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

DSCA conducted extensive market research. DSCA concluded that there is not a single Commercial Off-The-Shelf (COTS) or Government Off-The-Shelf (GOTS) solution that meets all of the SC enterprise needs. The two main challenges are: stitching together multiple software solutions into one application, and sophisticated customization. DSCA developed an innovative acquisition strategy for the successor system in consultation with the Defense Innovation Board and other IT acquisition experts and determined that utilizing an Other Transaction Agreement (OTA) through a Consortium is the best option. The strategy increased competition, maximized savings, and leveraged flexible development approaches. DSCA utilized a phased approach to develop the successor system. The first phase completed by September 2019, completes G-TSCMIS Release 3 as the final capability enhancements to G-TSCMIS. Phase II gathered industry driven solutions to develop a system that provides a modernized, versatile platform. Towards this goal, DSCA, through Washington Headquarter Services, issued a competitive prototyping award. DSCA

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Co operation Management Information Systems (G-TSCMIS)</i>	Project (Number/Name) 000205 / <i>Global Theater Security Cooperation Management information Systems (G-TSCMIS)</i>

will issue a production release that deploys the solution to the entire SC enterprise in FY 2022. The third phase will continue to add new capabilities and functional enhancements to the successor system that can include new SC programs and processes, an expanded data model, refined AM&E capabilities, and two-way interfacing with other systems.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Co operation Management Information Systems (G-TSCMIS)</i>	Project (Number/Name) 000205 / <i>Global Theater Security Cooperation Management information Systems (G-TSCMIS)</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering	MIPR	SSC LANT : Charleston, SC	21.894	0.100	Aug 2020	0.000		-		-		-	0.000	21.994	-
Systems Development	C/FFP	Production Development Base Year : Arlington, VA	1.824	5.250	Jun 2020	-		-		-		-	0.000	7.074	-
Systems Development	MIPR	AGC : Alexandria, VA	-	0.550	Apr 2020	0.550	Dec 2020	0.550	Oct 2021	-		0.550	Continuing	Continuing	-
Systems Development	C/FFP	Production Development Option Year 1 : Arlington, VA	0.000	6.100	Feb 2021	3.442	Feb 2021	-		-		-	0.000	9.542	-
Data Architecture	MIPR	Various : Arlington, VA	0.355	-		-		-		-		-	0.000	0.355	-
Business Process Mapping	MIPR	Various : Arlington, VA	1.066	-		-		-		-		-	0.000	1.066	-
Systems Development	C/FFP	Productin Development Option Year 2 : Arlington, VA	-	-		-		6.848	Feb 2022	-		6.848	Continuing	Continuing	-
Subtotal			25.139	12.000		3.992		7.398		-		7.398	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test & Evaluation	MIPR	SSC LANT : Charleston, SC	2.146	0.000	Aug 2020	0.000		-		-		-	0.000	2.146	-
Subtotal			2.146	0.000		0.000		-		-		-	0.000	2.146	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Security Cooperation Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607327T / Global Theater Security Co operation Management Information Systems (G-TSCMIS)	Project (Number/Name) 000205 / Global Theater Security Cooperation Management information Systems (G-TSCMIS)
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Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	MIPR	SSC LANT : Charleston, SC	0.190	0.000		0.000		-		-		-	0.000	0.190	-
Subtotal			0.190	0.000		0.000		-		-		-	0.000	0.190	N/A
Project Cost Totals			27.475	12.000		3.992		7.398		-		7.398	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Co operation Management Information Systems (G-TSCMIS)</i>	Project (Number/Name) 000205 / <i>Global Theater Security Cooperation Management information Systems (G-TSCMIS)</i>

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Phase I: G-TSCMIS Release 3 Deployment																												
Phase II: G-TSCMIS Successor System Research																												
Phase II: G-TSCMIS Successor Prototype Systems																												
Phase II: G-TSCMIS Successor Production System																												
Phase III: G-TSCMIS Successor System Operational Enhancements																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones																												
Phase I: G-TSCMIS Release 3 Deployment																												
Phase II: G-TSCMIS Successor System Research																												
Phase II: G-TSCMIS Successor Prototype Systems																												
Phase II: G-TSCMIS Successor Production System																												
Phase III: G-TSCMIS Successor System Operational Enhancements																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Security Cooperation Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607327T / <i>Global Theater Security Co operation Management Information Systems (G-TSCMIS)</i>	Project (Number/Name) 000205 / <i>Global Theater Security Cooperation Management information Systems (G-TSCMIS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Acquisition Milestones				
Phase I: G-TSCMIS Release 3 Deployment	1	2019	4	2019
Phase II: G-TSCMIS Successor System Research	3	2019	4	2019
Phase II: G-TSCMIS Successor Prototype Systems	1	2020	2	2020
Phase II: G-TSCMIS Successor Production System	2	2020	4	2020
Phase III: G-TSCMIS Successor System Operational Enhancements	1	2021	4	2026

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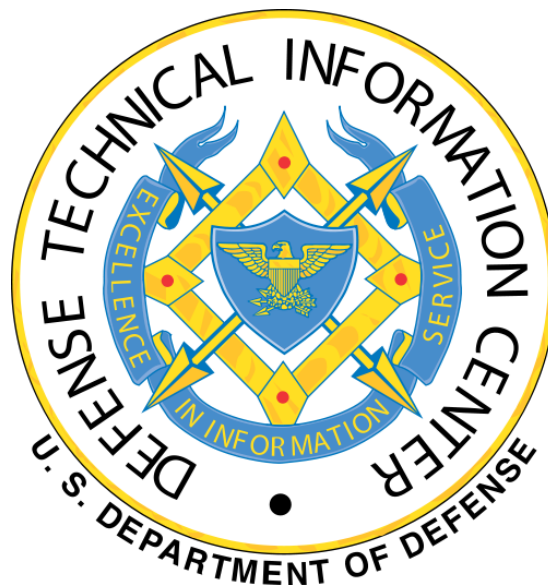
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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Defense Technical Information Center

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

<u>Appropriation</u>	<u>FY 2020</u> <u>Actual*</u>	<u>FY 2021</u> <u>Enacted**</u>	<u>FY 2022</u> <u>Request</u>
Research, Development, Test & Eval, DW	63,423	60,553	65,002
Total Research, Development, Test & Evaluation	63,423	60,553	65,002

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Management Support	63,423	60,553	65,002
Total Research, Development, Test & Evaluation	63,423	60,553	65,002
Summary Recap of FYDP Programs -----			
Research and Development	63,423	60,553	65,002
Total Research, Development, Test & Evaluation	63,423	60,553	65,002

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Defense Technical Information Center	63,423	60,553	65,002
Total Research, Development, Test & Evaluation	63,423	60,553	65,002

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
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173	0605801KA	Defense Technical Information Center (DTIC)	06	60,396	57,716	61,453	U
177	0605998KA	Management HQ - Defense Technical Information Center (DTIC)	06	3,027	2,837	3,549	U
		Management Support		63,423	60,553	65,002	
Total Research, Development, Test & Eval, DW				63,423	60,553	65,002	

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Defense Technical Information Center
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
173	0605801KA	Defense Technical Information Center (DTIC)	06	60,396	57,716	61,453	U
177	0605998KA	Management HQ - Defense Technical Information Center (DTIC)	06	3,027	2,837	3,549	U
		Management Support		63,423	60,553	65,002	
Total Defense Technical Information Center				63,423	60,553	65,002	

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Defense Technical Information Center • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

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177	06	0605998KA	Management HQ - Defense Technical Information Center (DTIC).....	Volume 5 - 515

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Defense Technical Information Center • Budget Estimates FY 2022 • RDT&E Program

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Management HQ - Defense Technical Information Center (DTIC)	0605998KA	177	06.....	Volume 5 - 515

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Technical Information Center **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	319.747	60.396	57.716	61.453	-	61.453	-	-	-	-	-	-
001: <i>Defense Technical Information Center</i>	285.360	55.380	52.700	56.437	-	56.437	-	-	-	-	-	-
002: <i>Information Analysis Centers</i>	34.387	5.016	5.016	5.016	-	5.016	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Defense Technical Information Center’s (DTIC) unique mission is to propel development of future generations of Warfighter capabilities through broad sharing of DoD’s research, innovations, and advances. The DoD’s investment in Science and Technology (S&T) is the basis of future warfighter capability. By capturing the results of today’s research and providing outlets for wide dissemination, DTIC increases the return on S&T investment. The funds requested in this program support DTIC efforts to aggressively transform distribution, enhance collection, perform initial analysis on content, and support management of research data sets. As the DoD RDT&E knowledge center, DTIC works across the Services and agencies to provide insight and awareness to all users:

- Visibility across Service and agency research activity for all users.
- Avoids the cost of redundant and potentially siloed Service systems.
- Comprehensive knowledge base enhances the promise of artificial intelligence (AI) and machine learning (ML).
- Drives research-focused, cross-component collaboration.

DTIC delivers a knowledge base of more than 4.6 Million information records to increase collaboration and cooperation within the DoD, with our industry partners, academia, inter-agency working groups, and citizen scientists. For 75 years, DTIC has been providing research results, lessons learned, where work is being performed and progress made. DTIC, a DoD Field Activity under the authority, direction and control of the Under Secretary of Defense for Research and Engineering (USD(R&E)), is the DoD’s executive agent and sole central source for DoD-funded scientific, technical, engineering, and industry-related information. DTIC develops and delivers information and services to share knowledge and enhance decision making.

This Program Element (PE) provides for DTIC mission operations, which are focused on three core efforts: Collection, Dissemination, and Information Analysis Centers (IACs):

- 1) Acquire and prepare results of DoD’s multi-billion annual investment as a foundation for future activity. Enable the community to build upon past work to avoid costly and time-delaying rework. Consolidate input systems and migrate users to electronic submission to improve quality of material and realign resources from manual processing to end user tools.
- 2) Enhance analysis tools to increase understanding of the S&T landscape and incorporate leading commercial analytic and search technologies to improve search results and provide users key information to provide a complete picture of activity and progress. By employing tools now accessible in the cloud, DTIC looks to move the burden and time consumption for initial analysis from the user by pre-processing and presenting information products that inform and answer questions using data drawn from multiple collections. Improve user self-service functions to refocus resources on information analysis and interrogation capabilities.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Technical Information Center Date: May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0605801KA / Defense Technical Information Center
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3) Operate the DoD Information Analysis Centers (IACs), which solve DoD technology challenges by providing rapid, flexible and low-cost research services. The IACs provide subject-matter experts to perform research, analysis and training, and an R&D contracting vehicle supporting PEO and PM insertion of technical innovation into systems of record.

Other priority DTIC mission activities are described below:

- 1) Bring communities together supporting collaboration between researchers, warfighters, industry, academia, Federal agencies, and allies.
- 2) Ensure information is protected: easily available to trusted users, and blocked from unauthorized access.
- 3) Develop and manage DoD's Science Technology Information Policy (STIP).
- 4) Maintain compliance with existing public law, regulations, and guidelines.
- 5) Continue progress on Congressionally-mandated programs, as directed within the FY 2019 National Defense Authorization Act (NDAA):
 - Innovators Information Repository (IIR): increase awareness of Small Business Innovation Research (SBIR)/ Small Business Technology Transfer (STTR) and other small business innovative technology capability and improve transition to systems of record. Add resources to the IIR, provide PEO's and PM's increased visibility on innovation. Work with the SBIR/STTR Office to identify impediments to tech transfer and work to increase the flow of information available to the acquisition community.
 - Global Research Watch (GRW) Program: In partnership with the Strategic Intelligence & Analysis Cell (SIAC), DTIC provides infrastructure for SIAC's decision-quality analysis of open source information on international research programs and capabilities. Building on FY 2020 results, DTIC will tailor the hosting environment based on SIAC feedback and evaluation of accuracy and utility of analysis.
 - Datasets and Data Repositories: PubDefense provides links to DoD funded data sets produced in extramural research linked to published journal articles. DTIC is leading DDR&E(R&T) chartered cross-Service Research Data Working Group.

In support of these mission operations, DTIC leases space and critical shared services (e.g., human resources (HR); financial management and accounting; contracting; cloud hosting; common-use IT services and security; communications; and civilian payroll services) from expert and efficient DoD and commercial service-providers.

DTIC MISSION RESULTS

The Department invests over \$14 Billion annually in S&T needed to protect and defend our nation. DTIC preserves the fruits of these key investments for reuse across DoD. DTIC has refocused and accelerated its efforts on state of the art search, analysis, and information product delivery, DTIC collects data and provides answers to researchers seeking state-of-the-art data relevant to their projects. DTIC accelerates innovation and prevents duplication of experiments, tests, and prototyping activities by allowing researchers to discover and build on what has been done and avoid following dead-end paths. Using DTIC-created forums, researchers, Warfighters, and industry partners can also collaborate across the DoD research and engineering (R&E) enterprise. Finally, DTIC provides a department-level map of R&D activity. This map gives decision-makers insight into current and past research, highlighting where progress is being made and by whom.

DTIC's Information Analysis Centers (IACs) drive innovation and technological development by anticipating and responding to the information needs of the defense and broader community. The IAC Program Management Office (IAC PMO) provides core funding, management and oversight of three IACs, which are chartered by DoD to collect, research, analyze, and disseminate S&T information in specialized fields to DoD researchers and acquisition professionals. In addition, the IAC PMO manages several multiple award contracts to make possible new research that builds on prior investments and incorporates the innovations of government, industry,

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Technical Information Center	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>
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and academia. For the last several years, competition inherent in the IAC model has produced savings of 10-16% under projected costs, while still delivering vetted technical expertise to address DoD's complex challenges. Providing DoD labs and program managers' access to thousands of industry subject matter experts, the IACs performed over \$2 Billion of customer-funded research and analysis in FY 2020. The results of the work are a rich source of new material in DTIC's technical repositories and are available to users across the Department. The IAC approach was identified as a "best practice" by the Director of Defense Pricing and Contracting and the then-Acting Assistant Secretary of Defense for Research and Engineering in a July 2018 memo wherein they recommended use of the IAC contracts across DoD as "vehicles of first choice."

SUMMARY

- DTIC actively supports the Secretary's priorities – defending the Nation, taking care of our people, and succeeding through teamwork.
- DTIC's plans reflect a strong commitment to address congressional and DoD priorities.
- Building on progress, DTIC's focus remains on growing the knowledge base, facilitating sharing, maintaining open repositories, and developing data analytics to advance discovery and understanding.
- To provide decision makers and Warfighters insight into the S&T research terrain, DTIC is adopting transformational technologies to enhance collection, distribution, analysis and research data sets.

B. Program Change Summary (\$ in Millions)	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	57.716	59.369	61.308	-	61.308
Current President's Budget	60.396	57.716	61.453	-	61.453
Total Adjustments	2.680	-1.653	0.145	-	0.145
• Congressional General Reductions	0.000	-			
• Congressional Directed Reductions	0.000	-1.653			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Changes	2.680	-	0.145	-	0.145

Change Summary Explanation

Program Change: The FY 2022 Base program increase (\$0.145 Million), as compared to the Previous President's Budget FY 2022 Base, reflects a net change resulting from the following adjustments:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>	
<p>1) Miscellaneous adjustments related to economic assumptions, inflation, and civilian payroll pricing.</p> <p>FY 2022 Service Requirements Review Board (SRRB) Reduction: The FY 2022 Base program includes a \$0.740 Million reduction in accordance with the Department's recent service contract downsizing effort.</p> <p>The FY 2022 Base program also includes a \$0.028 Million reduction attributable to Fourth Estate Information Technology (4E IT) Reform savings.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Inform</i> <i>ation Center</i>				Project (Number/Name) 001 / <i>Defense Technical Information Center</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
001: <i>Defense Technical Information Center</i>	285.360	55.380	52.700	56.437	-	56.437	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

DTIC is responsible for developing, coordinating and enabling a strong scientific and technical information (STINFO) program for the Office of the Under Secretary of Defense for Research and Engineering (OUSDR&E) and the DOD scientific and technical (S&T) enterprise. In this role, DTIC sets policy for scientific and technical information (STI) exchanges for the research and engineering (R&E) community. DTIC’s challenge is to maximize the availability and use of technical information and products resulting from Defense-funded technical activities while safeguarding national security, export control, and intellectual property rights. The Department conducts science and technology research via the following means: 60+ labs, Federally Funded Research and Development Centers (FFRDCs), DTIC’s Information Analysis Centers (IACs), and other contracts and grants. DTIC’s search and collaboration applications foster innovation, competition and identification of solutions in an access-controlled environment.

Within this budget project, DTIC’s organizational efforts are focused on the continued rework and modernization of Collection and Dissemination core mission areas, along with the following critical activities:

- 1) Search: Apply artificial intelligence/machine learning technologies to produce information products, and develop tailored search mechanisms that enable users to quickly discover useful information and ensure DTIC presents the most relevant information. Semantic (machine learning) mapping of information facilitates comprehensive and precise data retrieval, built on DTIC’s custom thesaurus (for use by DOD and allied partners).
- 2) Collaboration: Continue efforts to facilitate communication and coordination between S&T and the warfighting community. Consolidate collaboration tools focusing on DoDTechipedia wiki, open to all DoD users.
- 3) Access Identity and metrics: Develop custom information resources based on analysis of user activity, evaluate products and services to ensure performance goals are met. Model activity to identify anomalies that might indicate cyber issues.
- 4) Data Fusion/Analysis: DTIC applications permit the gathering of information from multiple data sources that fuse the disparate datasets into a single view of the life cycle of research, and present an overarching picture of research investment enabling decision-makers to employ resources to highest priority efforts and coordinate efforts across Services.
- 5) Cyber Security: DTIC continues to leverage state-of-the art technologies, processes and practices designed to protect DTIC networks, computers, programs and data from attack, damage or unauthorized access.
- 6) Controlled Unclassified Information (CUI): An ongoing effort to standardize the way the Executive Branch handles unclassified information under a new document-marking framework.
- 7) Public Access/Open Science (for articles and digital data): DTIC will work to complete issuance of policies in the Defense Federal Acquisition Regulation Supplement (DFARS), the Department of Defense Grant and Agreement Regulations (DoDGARs) and Instructions to enumerate open science initiatives and direction.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center	Date: May 2021
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Inform</i> <i>ation Center</i>	Project (Number/Name) 001 / <i>Defense Technical Information Center</i>
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8) FY 2019 NDAA Section 202 and Section 905 new mission activities: DTIC continues to execute dataset management, the Global Research Watch (GRW) program, and the Innovators Information Repository (IIR). With respect to datasets and Data Repositories created during research, DTIC is building out a searchable dataset directory to direct users to organizations holding relevant datasets. DTIC is linking datasets to completed and in-progress research.

SUPPORTING USER COMMUNITIES

DTIC supports user communities on the network where they work, i.e., NIPRNet, SIPRNet, and the public internet, and uniquely provides access controls within unclassified and classified material to protect intellectual property in our search, distribution, and collaboration tools.

- DoD's RDT&E Enterprise: As a Field Activity to the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)), DTIC's priority is the RDT&E enterprise, hosting information assets and tools on the NIPRNet, the primary network for the community.

- Warfighter: Improving coordination between the acquisition enterprise and warfighter communities, DTIC hosts information assets and tools on the SIPRNet. DTIC is actively working to expand the availability of science and technology (S&T) information, to include Independent Research and Development (IR&D), on the SIPRNet. DTIC continues its efforts to establish parity of information and capabilities on applications hosted on both NIPRNet and SIPRNet platforms.

- Industry, Academia, and Citizen Science via Public Internet: Engaging industry outside the NIPRNet firewall to support acquisition improvement initiatives and encourage the introduction of innovation, DTIC hosts unclassified public information and tools accessible to all users on the Internet. DTIC provides public access to DoD-funded journal articles and research data, and increases outreach to industry through DTIC's Defense Innovation Marketplace.

SUMMARY

DTIC is focused on the future, building new capabilities to mine the rich material produced from DoDs research community, and provide actionable products requiring minimal user time and expertise. DTIC works to ensure the results of DoD's investments in S&T research are available to inform the next generation of scientists, researchers, and engineers, empowering them to build on past accomplishments/what works and to avoid proven dead ends. In doing so the pace of innovation accelerates, the quality of science improves, and capability delivery to the warfighter is more rapid. DTIC provides the decision makers and technology consumers in the acquisition and warfighting communities' insight on S&T activity, what is being worked on, how many projects, where work is being performed, maturity of projects, and who to contact. DTIC is uniquely positioned to support and to ensure the value of DoD's R&D portfolio is fully realized.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Defense Technical Information Center	55.380	52.700	56.437
FY 2021 Plans:			
- Modernize DTIC capabilities by implementing commercial off the shelf (CoTS) machine learning (ML), analytics, and artificial intelligence (AI) tools to advance DTIC's capability to provide customers with knowledge analysis, advanced search, analysis and analytics.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>	Project (Number/Name) 001 / <i>Defense Technical Information Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> -- Partner with the USD (R&E) technical Joint Reserve Directorate (JRD) to develop a phased based approach for DTIC modernization. -- Modernize search based tools to help users understand DTIC data, and knowledge analysis on data. -- Implement commercial cloud based technologies that support ML and AI giving DTIC the technical infrastructure necessary to provide customers the ability to conduct analysis on DTIC data. -- Pilot ML, AI tool(s) that are approved for the Government cloud implementation. - Increase user self service capability in account management, and customization. - Consolidate DTIC Collection applications to improve and simplify customer submission experience providing improved data quality, ability to link information from active research to completed research and provide results that allow the customer to locate relevant information. -- Consolidation Goal for the year is completing the integration of the Research Projects collection. - Provide customers the understanding of the landscape of funded and developing technologies throughout the R&E community through new capabilities delivered to the DTIC Horizons application. Horizons provides the ability for customers to view and analyze DTIC data through graphical and visual displays and linking data through search results. -- Enhancements to the Horizons data analysis tool will include integrating contracts and awards data from Defense Pricing and Contract's (DPC) Procurement Business Intelligence Service (PBIS) database; make project-level data from budget justifications available for viewing; deploy additional links between budget justifications, grants, contracts, and research project summaries that will be available for exploration in the application. -- Compilation and linking of these data sources enables decision makers and analysts to follow funding allocations, see who is doing work, how much work is being done, and where work is being performed. Horizons visualizations, graphical displays and usability features increase customer's ability to track the life cycle of funding and outcomes of funded work while assisting customers to identify impacts of S&T investments. - Complete plan and initiate work to merge DTIC search capabilities to simplify customer's access to DTIC data, search, and analysis. - Implement a mobile-friendly customer login screen accessing DTIC products allowing customers to work within DTIC's products interchangeably between desktop and mobile. -- Initiate transition of DTIC products to support all mobile devices by integrating a new code base that has a responsive design ensuring similar user experiences across all mobile and desktop device types. -- Establish DTIC mobile presence within DISA's app store laying the foundation for the FY 2022 mobile modernization efforts that will focus on implementing a modern progressive web application that give the customer ease of access to all DTIC products regardless of device type. - Continue enhancement and maturing of DTIC's new Access and Identity Management (AIM) commercial off the shelf system (CoTS) implemented in FY20 and FY21. AIM ensures optimized delivery of DTIC information with all data protections in place. -- Simplify user access to DTIC tools, enhance cyber security, and support new ways for users to access DTIC tools securely. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>	Project (Number/Name) 001 / <i>Defense Technical Information Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> -- Improve support to growing and wider range of Public Key Infrastructure (PKI) credentials to ensure DTIC can support interagency usage and international partners. -- Implement features and capabilities providing user activity dashboards and advanced analytics on user behavior in products and services. These features and analytics will allow DTIC to fully understand user behavior and usage within DTIC products and services and adjust where necessary to meet customer needs. -- Consolidate registration applications for the IAC Basic Centers of Operations (BCOs) to DTIC's commercial off the shelf (CoTS) AIM system; consolidates platforms DTIC has to technically maintain, brings .gov and .mil IAC customers into directly into the wider selection of DTIC products and services available giving those users more resources to conduct their research and expand the overall DTIC customer base. -- Move from a service oriented model of customer support to a self-service customer capability improving customer's ability to answer questions and solve any issues through FAQs and other resources enabling user to get better results and quicker access to DTIC resources. - Collect and preserve material to ensure the work performed in the DoD labs and across the department isn't lost and remains available to the community to further research. The goal is to increase collection of final reports by 42K, increasing amount of final reports into the DTIC Collection for use by DOD and partners. -- Automate standard data fields, saving user time with collection submissions, by incorporating a submission of unique identifier for authors through the use of the Open Researcher and Contributor Identifier (ORCID) and making it available during search. This will result in a better search experience for DTIC customers. -- Incorporate unique identifiers for documents (DOI) with public collection submissions to create a persistent link for consistency and increased accuracy in the search experience. - Complete system requirements for changes due to the new categories in the Controlled Unclassified Information (CUI) federal marking framework. - Support DoD's public access effort; conduct outreach and educate intramural and extramural researchers on the requirement to submit journal articles, data management plans, and datasets to DTIC. -- Expand the access to open repositories by integrating workflows between DTIC's single submission system and PubDefense for public access journal articles and associated public datasets. - Continue R&E engagement and outreach by meeting with DoD labs, conducting site visits to R&E organizations, attending virtual conferences and attending conferences to further extend the use of DTIC resources and enabling the R&E community with the many products and services DTIC offers. - Improve IT Continuity of Operations (COOP) capabilities to provide critical information to customers during a crisis. -- Implement dynamic failover capabilities for critical applications that demand high availability and performance. -- Develop operations framework to minimize workload for ad hoc implementation of essential services in COOP environments. - Migrate 90 percent of traditional data center computing/storage capabilities with cloud services for more agile operations; complete IT modernization goal to migrate all mission applications within three years. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>	Project (Number/Name) 001 / <i>Defense Technical Information Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - The National Defense Authorization Act (NDAA-19) programs include: Innovators Information Repository (IIR), Global Research Watch (GRW) Program, and Datasets and Data Repositories. - Expand the Innovators Information Repository (IIR). <ul style="list-style-type: none"> -- Explore, in partnership with Services and CCMDs, the development of a capability for companies, academia, and startups to submit portfolios of innovation activities and company information. -- Link technical reports and research in progress reports to SBIR contract awards to track progression of technologies and innovations. -- Automate the process to update and maintain all SBIR and STTR contract award information in IIR. -- Complete the draft revision of DoD 3200.14 requiring the use of the IIR to determine whether technology exists or is in development before Department organizations initiate a Request for Information (RFI) or Request for Proposal (RFP). - Expand the Global Research Watch (GRW) Program. <ul style="list-style-type: none"> -- Complete the hosting of Strategic Intelligence Analysis Cell (SIAC) GRW analytics tools at DTIC. -- Expand the data available for GRW analytics tools to the international agreements, technology scouting reports, and DoD budget data. -- Explore language identification and translation capabilities of foreign research literature to facilitate the comparative analysis of foreign nations in relations to the research capabilities of the United States. -- Work with the SIAC to expand the GRW tools on the secret network. - Collect and preserve material to ensure the work performed in the DoD labs and across the department isn't lost and remains available to the community to further research. <ul style="list-style-type: none"> -- Collaborate with DoD Labs on DoD Dataset Directory, to promote completeness of records within the directory and encourage its use to provide consolidated location for discovering dataset associated with DoD-funded research. - Continue to publish the Journal of DoD Research and Engineering (JDRE) two times each year, and seek opportunities for special editions. <ul style="list-style-type: none"> -- Manage peer reviewers from across entire R&E community; manage vetting of restricted and classified articles submitted from across the entire R&E community. - Implement customer satisfaction benchmarks based on results and feedback from the Interactive Customer Evaluation (ICE). <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Continue efforts to modernize and enhance search and discovery of information in DTIC collections. <ul style="list-style-type: none"> -- Incorporate modern commercial cloud managed services to consolidate multiple search tools into the single R&E Gateway search (i.e., Amazon Web Services artificial intelligence/search technologies). -- Simplify information discovery using Natural Language Processing (NLP), Machine Learning (ML) and artificial intelligence (AI) techniques to process and analyze information. -- Complete capabilities for customers to conduct self-service analytics to discover linkages and trends across DTIC data. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>	Project (Number/Name) 001 / <i>Defense Technical Information Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Explore delivery of a single collaboration and knowledge management platform for DTIC customers. -- Pilot a consolidate collaboration tools to a single application open to all DTIC customers while still protecting data at varying customer credentialed levels. -- Facilitate communication and coordination between S&T and the warfighting community through consolidated platform reducing barriers to collaboration and data sharing. - Enhance DTIC's commercial off the shelf Access and Identity Management (AIM) and implement on SIPR products and services once products and services are migrated to the SIPR commercial cloud. -- Strengthen methods for user identity confirmation and authentication (i.e., CAC, PIV, etc.) to protect against data exfiltration and continue enhancing customer self-service registration capabilities. -- Implement user activity dashboards for products and services on SIPR to fully understand user behavior and usage within DTIC products and services. -- Enable authentication for mobile applications. - Continue transition of DTIC applications to support mobile devices while DTIC undergoes a product consolidation and modernization evolution. - Support the DTIC modernization by incorporation progressive web application features (mobile coding) into DTIC's application consolidation efforts. Using a mobile progressive web application ensures less maintenance with only one application code base and supports secure DTIC on mobile devices using the same authentication policies that the desktop application versions require. - Progressive mobile web applications implementation during this phase of DTIC's modernization will ensure users can begin their work on DTIC applications on a desktop device and resume on their mobile device. - Continue streamline of common submission system to support self-service submission of research progress and final reports from the DoD and partners. -- Expand usage of Open Researcher and Contributor Identifier (ORCID) unique identifier to retrieve author information to auto-populate, saving user time with collection submissions. This will result in improved data quality and a better search experience for DTIC customers. -- Explore self-service maintenance feature for trusted DoD users to update content submitted to DTIC common submission system. This will reduce latency in updates to the community. - Collect and preserve material to ensure the work performed in the DoD labs and across the department isn't lost and remains available to the community to further research. The goal is to increase collection of final reports by 40K, increasing amount of final reports into the DTIC Collection for use by DOD and partners. - Automate standard data fields, saving user time with collection submissions, by incorporating a submission of unique identifier for authors through the use of the Open Researcher and Contributor Identifier (ORCID) and making it available during search. This will result in a better search experience for DTIC customers. - Initiate system changes due to the new categories in the Controlled Unclassified Information (CUI) federal marking framework. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>	Project (Number/Name) 001 / <i>Defense Technical Information Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Continue R&E engagement and outreach by meeting with DoD labs, conducting site visits to R&E organizations, attending virtual conferences and attending conferences to further extend the use of DTIC resources and enabling the R&E community with the many products and services DTIC offers. - Bolster IT Continuity of Operations (COOP). -- Build in high availability and performance within Cloud environment. - Standardize and optimize Cloud based infrastructure environments to enhance security posture, improve metrics, meet DoD data center reduction goals, provide continuous monitoring, capabilities, quicker recovery from failure, and take full potential of cost savings. -- Focus on what Amazon is doing with Artificial Intelligence with Search Engines. - The National Defense Authorization Act (NDAA-19) Programs include: Innovators Information Repository (IIR), Global Research Watch (GRW) Program, and Datasets and Data Repositories. - Continue to maintain and expand the Innovators Information Repository (IIR). -- Integrate IIR capabilities into the R&E Gateway Search. -- Explore, in partnership with Services and CCMDs, the development of a capability for companies, academia, and startups to submit portfolios of innovation activities and company information. -- Complete the revision of DoD 3200.14 requiring the use of the IIR to determine whether technology exists or is in development before Department organizations initiate a Request for Information (RFI) or Request for Proposal (RFP). -- Continue outreach with Program Executive Offices (PEOs) to expand the use of IIR. - Continue to expand the Global Research Watch (GRW) Program. -- Incorporate additional datasets to identify foreign innovations and technologies. -- Explore pilot language identification and translation capabilities of foreign research literature to facilitate the comparative analysis of foreign nations in relations to the research capabilities of the United States. -- Explore expansion the GRW tools on the secret network. -- Explore partnering with the Services, DoD Agencies, and Intelligence Communities to identify and incorporate Classified foreign research and technologies. - Collect and preserve material to ensure the work performed in the DoD labs and across the department isn't lost and remains available to the community to further research. -- Collaborate with DoD Labs on DoD Data set Directory, to promote completeness of records within the directory and encourage its use to provide consolidated location for discovering dataset associated with DoD-funded research. - Continue to publish the Journal of DoD Research and Engineering (JDRE) two times each year, and seek opportunities for special editions. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Inform ation Center</i>	Project (Number/Name) 001 / <i>Defense Technical Information Center</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>-- Manage peer reviewers from across entire R&E community; manage vetting of restricted and classified articles submitted from across the entire R&E community.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> In the FY 2018 President's Budget, the Department recapitalized DTIC across the FYDP. The \$3.737 Million increment in the current FY 2022 PB builds upon FY 2018-21 activities and progress towards meeting urgent operational mission and modernization requirements. Funding requested in this program supports DTIC efforts to aggressively transform distribution, enhance collection, perform initial analysis on content, and support management of research data sets:</p> <ul style="list-style-type: none"> - Improvements to DoD search tools. - Identity management and information protection. - Re-establishment of an IT COOP. - Parity of services on SIPRNet. - Migration to cloud services. - Support of Public Access/citizen science. - Address technology shortfalls in user interface and the continuing migration of users to mobile devices. - The Department's implementation of Controlled Unclassified Information (CUI) marking. - Implement, expand, and mature programs directed by the National Defense Authorization Act (NDAA-19), to include: Innovators Information Repository (IIR), Global Research Watch (GRW) Program, and Data sets and Data Repositories. <p>DTIC's investment in new tools and capabilities will address customer needs and underwrite the innovation and modernization necessary to support DoD's enduring mission to provide combat-ready military forces to deter war and protect the security of our nation.</p>			
Accomplishments/Planned Programs Subtotals	55.380	52.700	56.437

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>				Project (Number/Name) 002 / <i>Information Analysis Centers</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
002: <i>Information Analysis Centers</i>	34.387	5.016	5.016	5.016	-	5.016	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

DoD Information Analysis Centers (IACs), established under DoD Instruction 3200.14, serve as a vital resource in providing timely, relevant information directly to users when and where it is needed. IACs serve as a bridge between the warfighter and the Acquisition/Research community, providing essential technical analysis and data support to a diverse customer base, to include the Combatant Commands (CCMDs), the Office of the Secretary of Defense, Defense Agencies, and the Military Services. IACs actively partner and collaborate with Defense Research and Engineering (R&E) focus groups and communities of interest in areas of specialized fields or specific technologies. The IACs create and maintain comprehensive knowledge analysis centers that include historical, technical, scientific, and other data and information collected worldwide. They are staffed with scientists, engineers and information specialists to provide research and analysis to customers with diverse, complex and challenging requirements. IAC operations, in concert with National Defense Strategy objectives, directly support the warfighter, and play an ongoing and critical role in solving key CCMD operational issues such as cyber security, unmanned aerial vehicle visual/audible signature reduction, and improvements to the ballistic resistance of body armor.

The IAC Program Management Office at DTIC performs contract acquisition, program management, and operational support for IAC contract operations and the technical information that is generated as a result of research and studies. In a time of shrinking budgets and increasing responsibility, IACs are a valuable resource for accessing scientific and technical information culled from efforts to solve new and historic challenges. Direct IAC customer support activities, such as Task Order processing, Basic Center of Operations (BCO) support, Defense Finance and Accounting Service (DFAS) activities, contracting/acquisition related activities, etc., are funded in part through partnerships with the Defense R&E community and the annual collection of customer reimbursements for their share of direct costs, in accordance with the IAC Reimbursable Review Board (IRRB) recommendations. This represents the maximum cost-sharing with IAC customers allowable, per guidance from the OSD Office of General Counsel. Annual IAC efforts and accomplishments are dependent on the level of participation and collaboration by the R&E community at large.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Information Analysis Centers	5.016	5.016	5.016
FY 2021 Plans:			
- Of the 42,000+ documents collected by DTIC, the IACs will collect provide a minimum of 12,000 new technical reports to DTIC for DoD use, increasing collection efforts over the previous year.			
- In order to support the exchange of information among members of the operational and technical communities, answer approximately 3,600 technical inquiries with timely and in-depth science and technology (S&T) analysis; create and provide STI results via three IAC websites; capture scientific and technical information (STI) products from new/on-going analysis tasks.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Information Center</i>	Project (Number/Name) 002 / <i>Information Analysis Centers</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Provide research services to the DoD by awarding, managing, and supporting at least 50 new Technical Area Tasks (TATs) ordered by the DoD and non-DoD customers; provide program strategy and ensure alignment with Department goals/direction. - Ensure the IAC Multiple Award Contract (MAC) is meeting the needs of DoD researchers by assessing the second year of contract usage. - Support DoD research objectives by providing research services to new DoD customers, ensuring that new users exceed departing customers, and support research in new technologies as needed to align to USD(R&E) priorities. - Expand support of DoD research & development by increasing the number of registered users of the IAC program by at least 1,500. - Monitor and reduce the time-to-award for new research task orders by eliminating or reducing unnecessary reviews or processes. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - In order to streamline IAC research services, complete transition of Basic Center of Operations (BCO) contracts from three to one contract performer, while still retaining three external facing operations: Cyber Security, Defense Systems, and Homeland Defense. - Of the 42,000+ documents collected by DTIC, the IACs will collect provide a minimum of 10,000 new technical reports to DTIC for DoD use, increasing collection efforts over the previous year. - In order to support the exchange of information among members of the operational and technical communities, answer approximately 3,000 technical inquiries with timely and in-depth science and technology (S&T) analysis; create and provide STI results via three IAC websites; capture scientific and technical information (STI) products from new/on-going analysis tasks. - Provide research services to the DoD by awarding, managing, and supporting at least 65 new Technical Area Tasks (TATs) ordered by the DoD and non-DoD customers; provide program strategy and ensure alignment with Department goals/direction. - Ensure the IAC Multiple Award Contract (MAC) is meeting the needs of DoD researchers by assessing the third year of contract usage. - Support DoD research objectives by providing research services to new DoD customers, ensuring that new users exceed departing customers, and support research in new technologies as needed to align to USD(R&E) priorities. - Expand support of DoD research & development by increasing the number of registered users of the IAC program by at least 1,200. - Assist in the progress of DoD S&T research by expanding outreach to DoD laboratories and other Basic Research facilities and venues. <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p> <ul style="list-style-type: none"> - There is no change in the FY 2022 Base, as compared to the FY 2021 Base. 			
Accomplishments/Planned Programs Subtotals	5.016	5.016	5.016

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605801KA / <i>Defense Technical Inform ation Center</i>	Project (Number/Name) 002 / <i>Information Analysis Centers</i>

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Technical Information Center **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605998KA / <i>Management HQ - Defense Technical Information Center (DTIC)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	12.711	3.027	2.837	3.549	-	3.549	-	-	-	-	-	-
001: <i>Management HQ - Defense Technical Information Center (DTIC)</i>	12.711	3.027	2.837	3.549	-	3.549	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element (PE) provides funding for the Management Headquarters (HQ) element of the Defense Technical Information Center (DTIC), a DoD Field Activity assigned to the Under Secretary of Defense for Research and Engineering (USD(R&E)). The PE supports personnel compensation for HQ-assigned civilians, along with related administrative support costs. DTIC's second RDT&E PE, established in FY 2017, is designed to track activities deemed as headquarters functions, with no operational efficiencies or enhancement to mission.

The PE supports the following HQ functions and mission essential activities critical to the success of DTIC's business operations, and mandated by law or regulation:

- Activity leadership, strategic planning, and Front Office support staff.
- The front office staff represents a small component of this PE. Most of the specialized functions and skill-sets described below are centralized activities within the PE, yet support the larger organization and its employees. These activities were consolidated as a means to improve efficiencies throughout DTIC, and are essential to the operation of DTIC's primary PE 0605801KA.
- Financial Management and Comptroller. Provides integrated resource management at the Agency level to obtain, control, and execute budget and manpower authorities to support the organization's mission requirements. Develops and prepares agency budget documents and exhibits for submission to both OSD and Congress.
- Accounting support to DTIC's mission operations; partners with the Defense Finance and Accounting Service to present accurate financial reporting and Fund Balance with Treasury.
- Financial Improvement and Audit Remediation (FIAR) activities and oversight in compliance with the Department's audit goals, objectives, and milestones.
- Human Resources (HR) Liaison Support. Provides the DTIC enterprise with payroll processing and "Hire to Retire" mission support; oversees and organizes employee training, professional development, and staff certification programs (e.g., Acquisition, Financial Management, and IT programs).
- Coordinates recruitment placement and classification action for the mission areas; liaison to the Defense Finance and Accounting Service for HR servicing and the Defense Logistics Agency (DLA) for Equal Employment Opportunity (EEO) program maintenance.
- Mandatory Records Management compliance activities and administration programs.
- Chief Information Officer (CIO). Collects, analyzes, and reports information necessary to effectively and efficiently manage enterprise IT resources; CIO functions are performed in compliance with DoD-CIO guidance, instructions and mandates.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Technical Information Center	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605998KA / <i>Management HQ - Defense Technical Information Center (DTIC)</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	3.027	2.837	3.504	-	3.504
Current President's Budget	3.027	2.837	3.549	-	3.549
Total Adjustments	0.000	0.000	0.045	-	0.045
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Change	-	-	0.045	-	0.045

Change Summary Explanation

Program Change: In comparing the Current President's Budget FY 2022 Base program against the Previous President's Budget FY 2022 PB Base, there is a nominal increase (\$.045M) for economic adjustment related to civilian payroll.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Title: Management HQ - Defense Technical Information Center	3.027	2.837	3.549
FY 2021 Plans: - Execute the program, activities and functions as described above in Section A, Mission Description of PE 0605998KA.			
FY 2022 Plans: - Execute the program, activities and functions as described above in Section A, Mission Description of PE 0605998KA.			
FY 2021 to FY 2022 Increase/Decrease Statement: The change between FY 2021 and the FY 2022 Base (a net increase of \$0.712 Million in FY 2022) reflects the Department's restoration (a net add of four) in the number of civilian full-time equivalents (FTEs) aligned to the Management Headquarters element of DTIC. The restoration of the FTEs supports financial management, Human Resources, business information analysis, and the Department's ongoing Financial Improvement and Audit Remediation (FIAR) efforts.			
Accomplishments/Planned Programs Subtotals	3.027	2.837	3.549

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Technical Information Center		Date: May 2021
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605998KA / <i>Management HQ - Defense Technical Information Center (DTIC)</i>	
E. Acquisition Strategy N/A		

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Defense Threat Reduction Agency

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Defense Threat Reduction Agency • Budget Estimates FY 2022 • RDT&E Program

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**Exhibit R-1, RDT&E Programs
Defense Threat Reduction Agency
Fiscal Year (FY) 2022 Budget Estimates**

Appropriation: RDT&E, Defense-Wide

Date: May 2021

OVERVIEW

The Defense Threat Reduction Agency (DTRA) is the Department of Defense's (DoD) principle Research, Development, Test & Evaluation (RDT&E) program for combating and countering the danger posed by foreign weapons of mass destruction (WMD) and emerging threats. These threats present an immediate, persistent, and evolving risk to our nation's security. Detecting, deterring, and defeating these threats is a DoD priority, and DTRA's mission. Driven by overarching National, Departmental, and Agency level strategic policy, DTRA's RDT&E portfolio addresses these threats. This RDT&E portfolio aligns with and remains appropriately risk balanced to support the strategic objectives of the National Defense Strategy (NDS) and Nuclear Posture Review (NPR). The portfolio addresses complex WMD threat problems for the Warfighter, including understanding the environment, threats and vulnerabilities; controlling, defeating, disabling, and disposing of threats; and enhancing DoD's ability to safeguard the force and manage consequences and outcomes. DTRA accomplishes this through three thrust areas:

- Understand the Environment, Threats, and Vulnerabilities: Provides the technical underpinnings to anticipate, detect, identify, locate, characterize, and assess WMD. DTRA's portfolio will prioritize capabilities that enable U.S. forces for more effective operations in environments where their traditional strengths in battlespace awareness are being actively countered.
- Control, Defeat, Disable, and Dispose of Threats: Provides the technical underpinnings to counter WMD proliferation and emerging threats. DTRA's portfolio will prioritize innovative capabilities that permit warfighters to defeat, interrupt, or otherwise render useless WMD and emerging threats well ahead of actual threat employment.
- Safeguard the Force and Manage Consequences and Outcomes: Support operating forces capability to monitor and respond to chemical, biological, radiological, or nuclear incidents; mitigate hazards and their effects; and allow military personnel and other mission-critical personnel to continue operating effectively. Operating forces must be prepared to recover casualties, decontaminate personnel and equipment, and establish a protective posture. In response to these emerging and other enduring challenges, the portfolio supports developing and transitioning innovative and evolving technologies to protect mission-essential personnel, capabilities and associated control and support systems.

DTRA's enduring mission is to enable DoD, the USG, and International Partners to detect, deter, and defeat weapons of mass destruction and emerging threats including those that pose risk to a credible and effective U.S. nuclear deterrent. Our RDT&E programs develop and field CWMD capabilities for the Joint Force, while at the same time exploring potential technologies to identify, characterize, and counter emerging threats. The FY 2022 request reflects realignments to more effectively support Combatant Commands and Military Departments. This includes the realignment of resources to develop cross-cutting innovative and agile new technologies that more effectively counter the full spectrum of WMD, by anticipating new threats while responding to current and evolving threats.

Footnotes

FY 2020 Actuals: Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted: Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

06 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	708,056	594,138	634,930
Total Research, Development, Test & Evaluation	708,056	594,138	634,930

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Basic Research	25,359	14,617	11,828
Applied Research	165,278	177,920	197,011
Advanced Technology Development	375,168	360,520	399,362
Advanced Component Development & Prototypes	113,590	19,931	7,166
System Development & Demonstration	28,661	21,150	19,563
Total Research, Development, Test & Evaluation	708,056	594,138	634,930
 Summary Recap of FYDP Programs -----			
Research and Development	708,056	594,138	634,930
Total Research, Development, Test & Evaluation	708,056	594,138	634,930

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Basic Research	25,359	14,617	11,828
Applied Research	165,278	177,920	197,011
Advanced Technology Development	375,168	360,520	399,362
Advanced Component Development & Prototypes	113,590	19,931	7,166
System Development & Demonstration	28,661	21,150	19,563
Total Research, Development, Test & Evaluation	708,056	594,138	634,930
Summary Recap of FYDP Programs -----			
Research and Development	708,056	594,138	634,930
Total Research, Development, Test & Evaluation	708,056	594,138	634,930

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

06 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Defense Threat Reduction Agency	708,056	594,138	634,930
Total Research, Development, Test & Evaluation	708,056	594,138	634,930

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se c
1	0601000BR	DTRA Basic Research	01	25,359	14,617	11,828	U
		Basic Research		25,359	14,617	11,828	
11	0602134BR	Improvised Threat Reduction Applied Research	02	1,677	3,699		U
22	0602718BR	Counter Weapons of Mass Destruction Applied Research	02	163,601	174,221	197,011	U
		Applied Research		165,278	177,920	197,011	
30	0603134BR	Counter Improvised-Threat Simulation	03	49,528	3,861		U
31	0603160BR	Counter Weapons of Mass Destruction Advanced Technology Development	03	325,640	356,659	399,362	U
		Advanced Technology Development		375,168	360,520	399,362	
100	0604134BR	Counter Improvised-Threat Demonstration, Prototype Development, and Testing	04	105,480	19,931		U
107	0604551BR	Catapult	04	8,110		7,166	U
		Advanced Component Development & Prototypes		113,590	19,931	7,166	
131	0605000BR	Counter Weapons of Mass Destruction Systems Development	05	15,332	15,650	14,063	U
140	0605141BR	Mission Assurance Risk Management System (MARMS)	05		5,500	5,500	U
143	0605502BR	Small Business Innovation Research	05	13,329			U
		System Development & Demonstration		28,661	21,150	19,563	
Total Research, Development, Test & Eval, DW				708,056	594,138	634,930	

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Defense Threat Reduction Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

06 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
1	0601000BR	DTRA Basic Research	01	25,359	14,617	11,828	U
		Basic Research		25,359	14,617	11,828	
11	0602134BR	Improvised Threat Reduction Applied Research	02	1,677	3,699		U
22	0602718BR	Counter Weapons of Mass Destruction Applied Research	02	163,601	174,221	197,011	U
		Applied Research		165,278	177,920	197,011	
30	0603134BR	Counter Improvised-Threat Simulation	03	49,528	3,861		U
31	0603160BR	Counter Weapons of Mass Destruction Advanced Technology Development	03	325,640	356,659	399,362	U
		Advanced Technology Development		375,168	360,520	399,362	
100	0604134BR	Counter Improvised-Threat Demonstration, Prototype Development, and Testing	04	105,480	19,931		U
107	0604551BR	Catapult	04	8,110		7,166	U
		Advanced Component Development & Prototypes		113,590	19,931	7,166	
131	0605000BR	Counter Weapons of Mass Destruction Systems Development	05	15,332	15,650	14,063	U
140	0605141BR	Mission Assurance Risk Management System (MARMS)	05		5,500	5,500	U
143	0605502BR	Small Business Innovation Research	05	13,329			U
		System Development & Demonstration		28,661	21,150	19,563	
Total Defense Threat Reduction Agency				708,056	594,138	634,930	

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Defense Threat Reduction Agency • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

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1	01	0601000BR	DTRA Basic Research.....	Volume 5 - 543

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
11	02	0602134BR	Counter Improvised-Threat Advanced Studies.....	Volume 5 - 547
22	02	0602718BR	Counter Weapons of Mass Destruction Applied Research.....	Volume 5 - 553

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
30	03	0603134BR	Counter Improvised-Threat Simulation.....	Volume 5 - 567
31	03	0603160BR	Counter Weapons of Mass Destruction Advanced Technology Development.....	Volume 5 - 571

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Defense Threat Reduction Agency • Budget Estimates FY 2022 • RDT&E Program

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
100	04	0604134BR	Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing.....	Volume 5 - 587
107	04	0604551BR	Catapult.....	Volume 5 - 615

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
131	05	0605000BR	Counter Weapons of Mass Destruction Systems Development.....	Volume 5 - 623
140	05	0605141BR	Mission Assurance Risk Management System (MARMS).....	Volume 5 - 643
143	05	0605502BR	Small Business Innovation Research.....	Volume 5 - 649

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Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
Catapult	0604551BR	107	04.....	Volume 5 - 615
Counter Improvised-Threat Advanced Studies	0602134BR	11	02.....	Volume 5 - 547
Counter Improvised-Threat Simulation	0603134BR	30	03.....	Volume 5 - 567
Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	0604134BR	100	04.....	Volume 5 - 587
Counter Weapons of Mass Destruction Advanced Technology Development	0603160BR	31	03.....	Volume 5 - 571
Counter Weapons of Mass Destruction Applied Research	0602718BR	22	02.....	Volume 5 - 553
Counter Weapons of Mass Destruction Systems Development	0605000BR	131	05.....	Volume 5 - 623
DTRA Basic Research	0601000BR	1	01.....	Volume 5 - 543
Mission Assurance Risk Management System (MARMS)	0605141BR	140	05.....	Volume 5 - 643
Small Business Innovation Research	0605502BR	143	05.....	Volume 5 - 649

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ACRONYMS

AD	Agent Defeat
ANTS	Attack the Network Tool Suite
ATAC	Advanced Targeting Assessment Capability
ATAK	Android Tactical Assault Kit
ATD	Advanced Technology Development
BAA	Broad Agency Announcement
CBRNE	Chemical, Biological, Radiological, Nuclear, and High-yield Explosives
CCDR	Combatant Commander
CCMD	Combatant Command
C-IED	Counter-Improvised Explosive Device
COE	Consequence of Execution
CoE-NI	Consequence of Execution – Nuclear Integration

CONOPS	Concept of Operations
CONUS	Continental United States
C-sUAS	Counter-Small Unmanned Aerial Systems
CTBT	Comprehensive Nuclear Test Ban Treaty
CT/CP	Counterterrorism / Counterproliferation
CTS	Component Test Structure
C-UAS	Counter-Unmanned Aerial System
CWMD	Countering Weapons of Mass Destruction
CWMD-T	Combating Weapons of Mass Destruction –Terrorism
DAPSS	Denied Area Persistent Sensor System
DEL	DTRA Experimentation Lab
DIAMONDS	Defense Integration and Management of Nuclear Data Services
DIOCC/DIA	Defense Intelligence Operations Coordination Center/Defense Intelligence Agency
DITEC	DTRA Integration Technical Experimentation Center
DoD	Department of Defense

DO	DISCREET OCULUS
DPPG	Defense Policy and Planning Guidance
DRDC	Defense Research and Development Canada
DSCS	Defense Satellite Communications System
DTRA	Defense Threat Reduction Agency
DTRIAC	Defense Threat Reduction Information Analysis Center
DT&E	Development, Test, and Evaluation
ECA	Enhanced Consequence Analysis
ECBC	Edgewood Chemical Biological Center
EM-1	Capabilities of Nuclear Weapons: Effects Manual Number 1
EMP	Electromagnetic Pulse
EMREP	Electromagnetic Reliability and Effects Predictions
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
FEFLO	Finite Element Flow Solver

FFRDC	Federally Funded Research and Development Center
FOC	Full Operational Capability
FREAK	Force-on-Force Evaluation and Analysis of Key Performance Parameters
FYDP	Future Years Defense Program
HDBT	Hard and Deeply Buried Target
HPC	High Performance Computing
IED	Improvised Explosive Device
IIRM	Interaction of Ionizing Radiation with Matter
IMAAC	Interagency Modeling and Atmospheric Assessment Center
IMEA	Integrated Munitions Effects Assessment
IMS	International Monitoring System
IoT	Internet of Things
IR	Infrared
ISS	Integrated Sensor System
IT	Information Technology

JWICS	Joint Worldwide Intelligence Communications System
LAMP	Loop-mediated Isothermal Amplification
LLE	Laboratory for Laser Energetics
LLNL	Lawrence Livermore National Laboratory
MACS	Modular Autonomous Countering WMD System
MAGICS	Modular Airborne Gaseous Isotope Collection System
MDA	Missile Defense Agency
M&S	Modeling and Simulation
MSEE	Materials Science in Extreme Environments
NACT	Nuclear Arms Control Technology
NLAN	Non-Classified Local Area Network
NuCS	Nuclear Capabilities Services
NWE	Nuclear Weapons Effects
sUAS	Small Unmanned Aerial Systems
TXL	Transportable Xenon Laboratory

UAS	Unmanned Aerial Systems
UCP	Unified Command Plan
UGF	Underground Facility
UGT	Underground Test
UK	United Kingdom
USANCA	U.S. Army Nuclear and Combating WMD Agency
USEUCOM	U.S. European Command
USFK	U.S. Forces Korea
USG	United States Government
USNORTHCOM	U.S. Northern Command
USPACOM	U.S. Pacific Command
USSOCOM	U.S. Special Operations Command
USSTRATCOM	U.S. Strategic Command
UTAS	Underground Targeting and Analysis System
VAPO	Vulnerability Assessment Protection Option

VEO	Violent Extremist Organization
VIRTUS	Virtual Radiation Training through Ubiquity System
VMS	Virtual Management System
V&V	Verification and Validation
WEP	Weapon Effects Phenomenology
WMD	Weapons of Mass Destruction
WSMR	White Sands Missile Range

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 1: <i>Basic Research</i>					R-1 Program Element (Number/Name) PE 0601000BR / <i>DTRA Basic Research</i>							
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	361.455	25.359	14.617	11.828	-	11.828	-	-	-	-	-	-
RU: <i>Basic Research for Countering WMD</i>	361.455	25.359	14.617	11.828	-	11.828	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Basic Research for Countering Weapons of Mass Destruction (CWMD) project, as the nation's primary basic research portfolio dedicated to combating threats posed by chemical, biological, or nuclear weapons and is a core strategic investor in future scientific and technological progress across the full spectrum of the Defense Threat Reduction Agency's (DTRA) mission areas. This project concentrates on high risk, high-payoff basic research, leveraging world-class expertise in academia, government, and industry, to increase the foundational body of scientific knowledge supporting DTRA's Applied Research and Advanced Technology Development projects.

This project aligns with DTRA's strategic objectives that support policy and planning guidance from the Executive Office of the President, the Department of Defense (DoD), and the broader WMD threat reduction and consequence management communities. The portfolio addresses this through fundamental research focused on making revolutionary scientific discoveries relevant to emerging and future CWMD challenges. Program managers drive interdisciplinary portfolios primarily drawing from physics, chemistry, biology, mathematics, and information and network sciences to: train the next-generation workforce; advance the fundamental knowledge and understanding in the sciences; promote university research to support the CWMD mission; and facilitate transition of research to support our warfighters.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	26.000	14.617	11.488	-	11.488
Current President's Budget	25.359	14.617	11.828	-	11.828
Total Adjustments	-0.641	0.000	0.340	-	0.340
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.641	-			
• Realignment	-	-	0.340	-	0.340

Change Summary Explanation

The increase in FY 2022 from the previous President's Budget is due to the realignment of funding from cross cutting research and development activities in PE 0603160BR to fund additional basic research grants as part of a portfolio rebalancing.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 1					R-1 Program Element (Number/Name) PE 0601000BR / DTRA Basic Research				Project (Number/Name) RU / Basic Research for Countering WMD			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RU: <i>Basic Research for Countering WMD</i>	361.455	25.359	14.617	11.828	-	11.828	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Basic Research for Countering WMD project, as the nation's primary basic research portfolio dedicated to countering weapons of mass destruction (CWMD), is a core strategic investor in future scientific and technological progress across the full spectrum of the Defense Threat Reduction Agency's (DTRA) mission areas. This project concentrates on high risk, high-payoff basic research, leveraging world-class expertise in academia, government, and industry, to increase the foundational body of scientific knowledge supporting DTRA's Applied Research and Advanced Technology Development projects.

This project aligns with DTRA's strategic objectives that support policy and planning guidance from the Executive Office of the President, the DoD, and the broader WMD threat reduction community. The portfolio addresses this guidance through capability enhancements, projects, and Science and Technology (S&T) investments that support CWMD and reduce global nuclear dangers. Specifically, they include: accelerating the development of standoff radiological/nuclear detection capabilities; researching countermeasures and defenses to non-traditional agents; securing vulnerable materials; developing an in-depth understanding of the capabilities, values, intent, and decision making of potential adversaries, whether they are states, networks, or individuals; defeating WMD agents; researching biologically-based and inspired materials for DoD applications; and leveraging science, technology, and innovation through domestic and international partnerships and agreements.

This project solicits, coordinates, and conducts research to build a robust, forward-looking fundamental research portfolio targeting strategic, mission-focused, basic research with high potential impact for CWMD. The research projects are selected for scientific merit, technical quality, and the potential for innovation. Each research project offers opportunities to expand the knowledge base to help the warfighter, to bring to bear new science solutions with a fresh approach, or to leverage revolutionary approaches to technical surprise, building a foundation for future CWMD solutions. This research will enable new capabilities to: better understand the environment, threats and vulnerabilities; control, defeat, disable, and/or dispose of WMD threats; and safeguard the force by managing consequences.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Project RU: Basic Research for Countering WMD	25.359	14.617	11.828
Description: Project RU funds the exploration and discovery of fundamental scientific knowledge related to DTRA's CWMD mission by research performers from academia, government, and industry. DTRA's Basic Research University Research Alliance (URA) program conducts revolutionary CWMD scientific research with broad applicability across multiple mission areas. DTRA's basic research sets conditions for disruptive gains in the future effectiveness of technology-enabled concepts of operation not possible through evolutionary research. In FY 2021, DTRA established two URAs; Materials Science in Extreme Environments (MSEE) and Interaction of Ionizing Radiation with Matter (IIRM).			
FY 2021 Plans: - Establish Initial Program Plans with the two university partnerships to map the first 12 months of research in the areas of: Material Science in Extreme Environments; and Interaction of Ionizing Radiation with Matter			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 1	R-1 Program Element (Number/Name) PE 0601000BR / <i>DTRA Basic Research</i>	Project (Number/Name) RU / <i>Basic Research for Countering WMD</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Address basic research gaps and warfighters' emerging technical needs. - Support the long-term development of a world-class STEM workforce focused on CWMD research. - Promote university research to support Counter Weapons of Mass Destruction and Improvised Threat Network (CWMDITN) challenges. <p><i>FY 2022 Plans:</i></p> <ul style="list-style-type: none"> - Enable new methods to disrupt WMD attacks, enhance conventional nuclear integration, and improve enhanced consequence analysis. This Materials Science in Extreme Environments (MSEE) is a URA of 18 institutions from across the nation led by Johns Hopkins University. - Enhance capabilities to counter nuclear threat networks, enhance WMD survivability, and improve understanding the WMD environment. Interaction of Ionizing Radiation with Matter (IIRM) URA is 15 institutions nationwide led by Penn State University. <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease from FY 2021 to FY 2022 is due to the residual impact of decreased investment in this project as part of a portfolio rebalancing to fund higher priority RDT&E programs.</p>			
Accomplishments/Planned Programs Subtotals	25.359	14.617	11.828

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Procurement methods include competitive selection awards through university partnerships, DTRA's Broad Agency Announcement, and collaborative funding through other organizations.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 2: Applied Research</i>	R-1 Program Element (Number/Name) PE 0602134BR / <i>Counter Improvised-Threat Advanced Studies</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	1.677	3.699	0.000	-	0.000	-	-	-	-	-	-
JC: <i>Enable Rapid Capability Delivery</i>	0.000	0.502	2.500	0.000	-	0.000	-	-	-	-	-	-
JS: <i>Assist Situational Understanding</i>	0.000	1.175	1.199	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Defense Threat Reduction Agency (DTRA) Counter Improvised - Threat Advanced Studies program element (PE) funds technology outreach to produce studies that will drive earlier understanding of technologies and scientific theories for future programs to enhance the Department of Defense's ability to effectively counter asymmetric threats. Asymmetric threats are characterized by an environment in which an adversary employs a combination of conventional weapons, irregular tactics, and/or terrorism to obtain their objectives. The end-state of the PE is to evaluate the feasibility and practicality of research projects, taking the most promising proposals and translating them into practical prototypes for use against asymmetric threats.

Activities within this PE are driven by efforts to understand, anticipate, illuminate, isolate, and enable timely research that hastens the development of new capabilities for countering global asymmetric threats and emerging technologies.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	1.677	3.699	7.340	-	7.340
Current President's Budget	1.677	3.699	0.000	-	0.000
Total Adjustments	0.000	0.000	-7.340	-	-7.340
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Realignments	0.000	0.000	-7.340	-	-7.340

Change Summary Explanation

The decrease in FY 2022 from the previous President's Budget is due to 1) the realignment of RDT&E resources from Project JC - Enable Rapid Capability Delivery to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR for technology-driven CWMD capability development and evaluation activities to develop cross-cutting innovative and agile new technologies that more effectively counter the full spectrum of WMD by anticipating new

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 2: <i>Applied Research</i>	PE 0602134BR / <i>Counter Improvised-Threat Advanced Studies</i>

threats while responding to current and constantly evolving threats, and 2) the realignment of resources from Project JS - Assist Situational Understanding to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR for strategic research and dialogues program activities in support of National Defense Strategy priorities, 3) the realignment of resources from Project JC - Enable Rapid Capability Delivery to O&M for advisory services in support of cross-cutting research and development activities.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 2					R-1 Program Element (Number/Name) PE 0602134BR / Counter Improvised-Threat Advanced Studies				Project (Number/Name) JC / Enable Rapid Capability Delivery			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JC: Enable Rapid Capability Delivery	0.000	0.502	2.500	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Defense Threat Reduction Agency (DTRA) takes a deliberate, structured, and proactive approach to meet future capability gaps and requirements through continuous study. DTRA enables DoD, the U.S. Government, and International Partners to counter and deter Weapons of Mass Destruction and emerging threats. The mission is embodied in three capability areas: understand the environment, threats, and vulnerabilities; control, defeat, disable, and dispose of WMD and asymmetric threats; and safeguard the force and manage consequences.

Activities within this project are driven by current and anticipated asymmetric threats. The applied research enables the understanding and shaping of new theories and development of new technologies in support of Combatant Commands and the DoD. The applied research will drive programmatic action to anticipate, illuminate, isolate, and mitigate asymmetric threats.

This project will investigate emerging threat technologies as well as developing analysis support tools that identify emergent capability requirements and associated gaps. It provides timely acquisition and delivery of solutions to address evolving threats.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: JC: Enable Rapid Capability Delivery	0.502	2.500	0.000
Description: This project will assess current and emerging technologies that address the evolving asymmetric threat environment.			
FY 2021 Plans: - Support the three U.S. Military Service Academies' CAPSTONE research efforts, through guidance, mentoring, and funding projects associated with evolving asymmetric threats to foster next-generation research against these threats. - Support and facilitate exploration of progressive technology innovations in three to five white papers that address key asymmetric threats that directly support Combatant Commanders' requirements and grow the pipeline of potential capabilities to counter asymmetric threat networks.			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY 2021 to FY 2022 is due to 1) the realignment of resources from this project to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR for technology-driven CWMD capability development and			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602134BR / <i>Counter Improvised-Threat Advanced Studies</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
evaluation activities to develop organizationally cross-cutting innovative and agile new technologies that more effectively counter the full spectrum of WMD, by anticipating new threats while responding to current and constantly evolving threats, and 2) the realignment of RDT&E resources to O&M for advisory services in support of cross-cutting research and development activities to operationalize forecasting methodologies.			
Accomplishments/Planned Programs Subtotals	0.502	2.500	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 30/0603134BR/JC: <i>Counter Improvised-Threat Simulation</i>	49.528	3.861	0.000	-	0.000	-	-	-	-	-	-
• 100/0604134BR/JC: <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	103.793	11.491	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy
Competitive selection of most appropriate performers to fulfill science and technology development needs.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602134BR / Counter Improvised-Threat Advanced Studies	Project (Number/Name) JS / Assist Situational Understanding
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JS: Assist Situational Understanding	0.000	1.175	1.199	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project sponsors innovative studies that leverage expertise from academia and world-class research institutions in government and industry. It cultivates research community partnerships and is forward-looking to: help understand the environment, threats and vulnerabilities; anticipate and plan for emerging improvised threats; and leverage innovative approaches for future Counter Improvised Threat (C-IT) solutions to prevent or mitigate battlefield operational surprise in support of Combatant Commands (CCMDs) and deployed Warfighters.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: JS: Assist Situational Understanding	1.175	1.199	0.000
Description: This project conducts analytical research studies to counter emerging improvised threats.			
FY 2021 Plans: - Conduct up to five research studies to support countering WMD and improvised threat networks. - Support collaborative relationships with the analytical community. - Conduct annual project reviews to ensure progress toward study objectives. - Assess the focus and scope of C-IT challenges within our internal portfolio and across the broader analytic community to synchronize efforts and ensure successful partnerships. - Focus on identifying and closing gaps in U.S. and Allies' technology vulnerabilities, developing methodologies to counter emerging threat networks, and in forming material solution investments.			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY 2021 to FY 2022 is due to the realignment of resources from this project to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR for strategic research and dialogues program activities in support of National Defense Strategy priorities.			
Accomplishments/Planned Programs Subtotals	1.175	1.199	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602134BR / Counter Improvised-Threat Advanced Studies	Project (Number/Name) JS / Assist Situational Understanding

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 100/0604134BR/JS: Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	1.687	8.440	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Competitive selection of most appropriate performers to fulfill analytical development needs. Performer base includes best-of-breed researchers across the Department of Defense and other government agency laboratories, academia, industry, and international partner organizations.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 2: Applied Research</i>	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	592.968	163.601	174.221	197.011	-	197.011	-	-	-	-	-	-
RA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	301.322	45.359	40.615	48.112	-	48.112	-	-	-	-	-	-
RD: <i>Nuclear Technologies and Capabilities Development</i>	64.448	81.198	92.492	101.229	-	101.229	-	-	-	-	-	-
RG: <i>Counter WMD Technologies and Capabilities Development</i>	113.570	20.958	22.958	29.359	-	29.359	-	-	-	-	-	-
RR: <i>CWMD Test and Evaluation</i>	113.628	16.086	18.156	18.311	-	18.311	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Defense Threat Reduction Agency (DTRA) Counter Weapons of Mass Destruction (CWMD) Applied Research program element funds the application and advancement of basic scientific knowledge to develop novel materials, devices, systems, and methods supporting next generation concepts and technologies, to include advances in Weapons of Mass Destruction (WMD) surveillance, detection, defeat, prevention, nonproliferation, counterproliferation, consequence management, and treaty verification.

This Applied Research portfolio is aligned with strategic planning objectives and Science and Technology (S&T) investment direction established annually by DTRA, which directly support policy and planning guidance from the Executive Office of the President, the Department of Defense (DoD), and the broader WMD threat reduction community.

The portfolio advances DTRA's CWMD mission by balancing the following: invest in DTRA's applied research capabilities and increase the CWMD technology base to maximize future pay-off; capitalize on opportunities to deliver innovative, cost-effective solutions to technical challenges that must be resolved prior to system-specific technology investigations and development; and ensure applied research efforts are directly aligned to the mission-specific capability requirements of DTRA, the Military Departments, Combatant Commanders, other DoD and federal agencies, and international partners.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 2: Applied Research</i>	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	174.096	174.571	174.915	-	174.915
Current President's Budget	163.601	174.221	197.011	-	197.011
Total Adjustments	-10.495	-0.350	22.096	-	22.096
• Congressional General Reductions	-	-0.350			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-6.268	-			
• SBIR/STTR Transfer	-4.227	-			
• Realignments	-	-	22.096	-	22.096

Change Summary Explanation

The increase in FY 2022 from the previous President's Budget is due to the net impact of 1) the realignment of resources from Project JC - Enable Rapid Capability Delivery in PE 0602134BR and PE 0604134BR to Project RA - CWMD Cross-Cutting Technical and Information Sciences for technology-driven CWMD capability development and evaluation activities to develop organizationally cross-cutting innovative and agile new technologies that more effectively counter the full spectrum of WMD, by anticipating new threats while responding to current and constantly evolving threats, 2) the realignment of resources from Project JS - Assist Situational Understanding in PE 0602134BR to Project RA - CWMD Cross-Cutting Technical and Information Sciences for strategic research and dialogues program activities in support of National Defense Strategy priorities, 3) the realignment and integration of nuclear data analysis applications including operations analysis, modeling & simulation, hazard effects, and Integrated WMD Toolset (IWMDT) from Project RA - CWMD Cross-Cutting Technical and Information Sciences into Project RD - Nuclear Technologies and Capabilities Development in PE 0603160BR to support cloud-ready, cross-cutting platforms, supporting a fuller spectrum of nuclear operations, wargaming, and assessments, 4) Increased investment in Project RD - Nuclear Technologies and Capabilities Development for nuclear survivability priorities, and 5) a downward adjustment for revised economic assumptions (inflation).

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 2					R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>				Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	301.322	45.359	40.615	48.112	-	48.112	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The CWMD Cross-Cutting Technical and Information Sciences project develops concepts and technologies in the areas of high-speed information processing, modeling and simulation, signal detection, and data-driven decision analysis in support of the Defense Threat Reduction Agency's (DTRA's) technical reach-back teams. This project develops and maintains continuously improving collaborative architectures and Weapons of Mass Destruction (WMD) modeling and simulation codes that drive an integrated suite of decision support tools serving the Combatant Commands, other Department of Defense (DoD) agencies, and national and international Countering WMD (CWMD) partners. This effort also funds research activities that benefit the public through analysis and engagement to reduce and counter threats posed by WMD via the Strategic Trends Research Initiative (STRI). STRI cultivates national and international research community partnerships across domains, bringing scientific, technical, and social science experts together to help understand and anticipate WMD capabilities and threats.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RA: CWMD Cross-Cutting Technical and Information Sciences	45.359	40.615	48.112
Description: Project RA develops concepts and technologies in the areas of high - speed information processing, modeling and simulation, signal detection, and data-driven decision analysis.			
FY 2021 Plans:			
<ul style="list-style-type: none"> - Support select NATO nations' access to a shared WMD and explosives modeling capability as requested by individual nations through the Partnership of Cooperation agreements. - Enhance Force-on-Force Evaluation and Analysis of Key Performance Parameters (FREAK) cloud architecture to increase availability of chemical/biological personnel casualty and detector models that support Course of Action Analysis, Concept of Operations Development, and Sensor Performance Prediction. - Provide software releases to include DoD customer detector requests for Virtual Radiation Training through Ubiety System (VIRTUS), which provides a mobile phone-based radiation sensor emulator for search training. - Provide stand-alone modeling capability for Android Tactical Assault Kit (ATAK), which incorporates CWMD capabilities into a mobile phone-based tactical common operating picture, to support new, emerging and updated modeling and simulation requirements. 			
FY 2022 Plans:			
- Develop and sustain advanced information technology capabilities enabling CWMD situational understanding and leverage advanced data science techniques to improve threat analysis to better inform operational planning.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Transition new data science solutions to improve real-time threat analysis into regular operational use. - Leverage non-traditional acquisition means to develop and deliver technical capabilities responsive to urgent, emergent theater requirements in support of critical strategic partners. - Deliver timely technical capabilities in response to COCOM emergent needs that would otherwise not be met in the required timeline. - Provide integrated support for effective transition to advanced development partners by leveraging an overarching assessment approach to capability development efforts to identify promising efforts for potential transition, will improve transition effectiveness rate. - Assist in transition of additional projects that may otherwise not transition effectively to a sustainable partnership. - Utilize new and emergent advanced modeling and simulation tools and development activities to develop two new, integrated CWMD modeling capabilities to support in theater operational planning. - Generate timely and actionable recommendations on mitigation of anticipated future challenges based upon assessment/analysis of foreign and domestic CBRN trends. - Develop timely and relevant table top exercises and refine strategic dialogues/symposia/fora to accommodate year-upon-year learning and advancement on anticipated future battlespace challenges. - Refine strategic research projects to improve tangible outcomes and achievable recommendations for future activities to counter WMD development and use. - Continue developing quarterly updates to forecasted changes/developments in geopolitical landscapes and the intersection of CBRN and WMD employment systems. - Leverage CBRN community resources to provide in-depth and expert analysis to current and future WMD problem sets. <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase from FY 2021 to FY 2022 is due to the net impact of realigning resources from Project JC - Enable Rapid Capability Delivery in PE 0602134BR and PE 0604134BR to this project for technology-driven CWMD capability development and evaluation activities to develop organizationally cross-cutting innovative and agile new technologies that more effectively counter the full spectrum of WMD, by anticipating new threats while responding to current and constantly evolving threats, 2) realigning resources from Project JS - Assist Situational Understanding in PE 0602134BR to this project for strategic research and dialogues program activities in support of National Defense Strategy priorities, 3) realigning nuclear data analysis applications including operations analysis, modeling & simulation, hazard effects, and Integrated WMD Toolset (IWMDT) from Project RA - CWMD Cross-Cutting Technical and Information Sciences into Project RD - Nuclear Technologies and Capabilities Development to support cloud-ready, cross-cutting platforms, supporting a fuller spectrum of nuclear operations, wargaming, and assessments, 4) realigning WMD counterforce technologies from Project RA - CWMD Cross-Cutting Technical and Information Sciences to Project RG – Counter WMD Technologies and Capabilities Development for advanced analytics activities to increase capabilities</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
for DTRA developed characterization and defeat options for this evolving threat technology, and 5) a downward adjustment for revised economic assumptions (inflation).			
Accomplishments/Planned Programs Subtotals	45.359	40.615	48.112

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 31/0603160BR: <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	61.317	46.837	84.660	-	84.660	-	-	-	-	-	-
• 107/0604551BR: <i>Catapult</i>	8.110	0.000	7.166	-	7.166	-	-	-	-	-	-
• 143/0605502BR: <i>Small Business Innovation Research</i>	13.329	0.000	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Competitive selection of most appropriate performers to fulfill science and technology development needs.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 2					R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>				Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RD: <i>Nuclear Technologies and Capabilities Development</i>	64.448	81.198	92.492	101.229	-	101.229	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Nuclear Technologies and Capabilities Development encompasses the following related areas:

1. Research, development, test, and evaluation (RDT&E) to identify, develop, and exploit signatures associated with nuclear threats in support of U.S. capabilities that detect and interdict such threats; and locate, identify, and track special nuclear material and improve detection factors such as range, time, sensitivity, and accuracy to enhance Service and Special Mission Unit capabilities. These efforts support Department of Defense (DoD) requirements for countering terrorism, counterproliferation, nonproliferation, countering rogue states, and homeland defense.
2. RDT&E to systematically study signatures associated with adversary nuclear programs and nuclear detonations to gain knowledge or understanding necessary to: determine technical capabilities needed to improve DoD contingency planning activities; improve DoD situational awareness on the nuclear battlefield; and improve capabilities to attribute the source of a nuclear detonation.
3. Research and develop innovative technologies for the protection of mission-essential personnel, critical military and national defense capabilities, and associated control and support systems during a nuclear event. Research under this project supports the mission critical systems identified under DoD Instruction 3150.09, Chemical, Biological, Radiological, and Nuclear Survivability Policy. System vulnerability research develops nuclear assessment capabilities to support operational planning, weapons effects predictions, and strategic system design. This activity also provides the DoD's nuclear design and protection standards for new and existing systems, e.g., command and control facilities and aircraft. Key systems include the Nuclear Command and Control System, the net-centric thin-line, and both military and civilian satellites and associated support systems. Experimental capabilities research provides the warfighter with unique x-ray, gamma ray, and electromagnetic pulse (EMP) test capabilities in support of system survivability development, certification, and sustainment. These efforts also support international collaboration, user groups, case study reviews, and the Joint Atomic Information Exchange Group. The human survivability effort conducts research to develop and validate mortality and morbidity models associated with radiological and nuclear weapon effects.
4. Research and development modeling tools to support military operational planning, weapons effects predictions, and strategic system design decisions; consolidate validated modeling tools for integrated functionality; predict system responses to nuclear and radiological weapons producing electromagnetic, thermal, blast, shock, and radiation environments; provide detailed adversary nuclear infrastructure characterization to enhance counterforce operations and hazard effects; and, develop foreign nuclear weapon outputs.
5. Delivers integrated applications, data analysis, and AI-enhanced capabilities in cloud-ready, cross-cutting platform supporting full spectrum of nuclear operations, wargaming, and assessments. Provides timely electronic access to Nuclear Testing Archives supporting validation of the effectiveness of the Nuclear Deterrent and survivability of US military assets without a return to nuclear testing.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Title: RD: Nuclear Technologies and Capabilities Development</p> <p>Description: Project RD develops direct and indirect technologies for the detection of radiation and non- radiative signatures associated with nuclear threats, and advances warfighter capabilities to rapidly locate, characterize, and counter such threats.</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> - Enhance existing contamination avoidance capabilities. - Develop an additional new radiation signature test device (RSTD) to expand test capabilities and detector evaluation. - Evaluate the performance of novel materials (e.g. CLLBC (Cs₂LiLa(Br,Cl)₆:Ce, Dual-sided micro-structured semiconductor neutron detectors (DSMSNDs)) as a replacement for both high energy resolution gamma-ray detectors and high pressure Helium-neutron detectors. - Further develop detailed studies to systematically identify new nuclear threat signatures, breaking down the problem geographically to distinguish between allies and foes, and to determine assets and coverage. - Generate additional tools for pre-detonation diagnostics, leveraging high spatial resolution nuclear imagers, multiplicity algorithms, trace analysis tools, and high-fidelity test objects to increase capability to characterize threats. - Support transitioning those technologies that demonstrate exceptional capabilities in radiation and nuclear threat detection to advanced technology development. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Sponsor/host one trial nuclear wargame with current Mission Impact of Nuclear Effects Software (MINES) capabilities; advance nuclear wargaming research to include other nuclear weapon effects and incorporate into MINES development. - Develop prototype sensors using novel materials (e.g. CLLBC (Cs₂LiLa(Br,Cl)₆:Ce, Dual-sided micro- structured semiconductor neutron detectors (DSMSNDs)) for evaluation of military applications. - Develop improved nuclear weapons outputs models that correctly account for radioactive debris, improving estimates of fallout-induced casualties and impacts on space and missile forces. - Develop improved nuclear weapons induced fire ignition models that correctly account for thick fuels, improving estimates of battle and collateral damages from nuclear plans. - Conduct test at the U.S. Army White Sands Missile Range (WSMR) Large Blast Thermal Simulator (LBTS) to quantify combined airblast and thermal effects, improving estimates of impacts to ground maneuver forces operating on a nuclear battlefield. - Integrate toolsets in cloud platform for nuclear planning, NCBRE assessments, and advanced analytics in support of Service and Combatant Command planning and assessments and Conventional Nuclear Integration situational awareness - includes tool development to synthesize necessary modeling data for tool sets. - Provide integration support for nuclear technology programs; support international activities, user groups, nuclear survivability program, and case study reviews. Also utilizes the Nuclear Science and Engineering Research Center to leverage DoD Degree Granting Institutions to develop new capabilities and advance DTRA's mission to support the warfighter. 	81.198	92.492	101.229

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Publish updates to nuclear survivability military standards for aircraft, ships, missiles and interceptor. - Support nuclear modernization through the certification of strategic materials and the upgrade of nuclear effects testing and diagnostics. - Provide nuclear survivability operational support through analyses, vulnerability assessments, and the review of mission critical systems. - Deliver enhanced cloud platform with integrated toolsets for nuclear planning, Nuclear, Chemical, Biological, Radiological, and high Explosive (NCBRE) assessments, and advanced analytics for warfighter and Conventional-Nuclear Integration (CNI) situational awareness. - Deliver integrated improved nuclear physics and effects model in theater nuclear planning tool, improving accuracy of nuclear planning capability for US Army and CCMDs. - Provide advanced search and discovery AI/ML algorithms for improved media retrieval capability documents (20%), photographs (2%), and films (.5%), enabling nuclear survivability and effects programs with higher fidelity data. <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase from FY 2021 to FY 2022 is due to the realignment and integration of nuclear data analysis applications including operations analysis, modeling & simulation, hazard effects, and IWMDT from Project RA - CWMD Cross-Cutting Technical and Information Sciences into this project to support cloud-ready, cross-cutting platforms, supporting a fuller spectrum of nuclear operations, wargaming, and assessments.</p>			
Accomplishments/Planned Programs Subtotals	81.198	92.492	101.229

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 31/0603160BR/RD: <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	62.407	50.816	50.417	-	50.417	-	-	-	-	-	-
• 131/0605000BR/RD: <i>Counter Weapons of Mass Destruction Systems Development</i>	9.870	15.650	14.063	-	14.063	-	-	-	-	-	-

Remarks

D. Acquisition Strategy
Competitive selection of most appropriate performers to fulfill science and technology development needs.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 2					R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>				Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RG: <i>Counter WMD Technologies and Capabilities Development</i>	113.570	20.958	22.958	29.359	-	29.359	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Counter WMD Technologies and Capabilities Development encompasses the following areas.

1. Defeat Technologies develops innovative kinetic and non-kinetic weapon technologies to expand traditional and asymmetric options available to Combatant Commanders to deny, disrupt, and defeat adversarial use of WMD, while minimizing collateral effects. Technology development focuses on the physical or functional defeat of WMD threat materials, an adversary's ability to deliver the same, and the physical and nonphysical support networks enabling both. It does so through the systematic identification and maturation of technologies capable of defeating WMD agents or agent-based processes and selecting technologies for integration into weapons, delivery systems, or rapid WMD elimination capabilities. This effort includes developing specific WMD agent/agent-based process simulants, sub-scale test infrastructure, and sampling capability required for effective development, testing, and evaluation of next-generation CWMD capabilities. The project places a high priority on understanding, characterizing, and validating potential weapon effects within mathematical confidence as it relates to the unintended release of hazardous threat materials. Technologies with the potential for weapon and capability integration are transitioned to Budget Activity (BA) 3, Advanced Technology Development (ATD) efforts. On a limited basis, technology test data is shared with coalition partners.

2. WMD counterforce technologies research develops weapons effects modeling algorithms, full and sub-scale test series required to investigate CWMD weapon effects and sensor performance, and visualization and situational awareness tools to support the next generation Technical Reachback cell. These activities are critical enablers for the development of advanced CWMD planning tools. Energetics research develops materials and weapon design technology providing defeat capabilities for engaging hard and deeply buried targets that are beyond current high explosive blast/fragmentation warhead technology.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RG: Counter WMD Technologies and Capabilities Development	20.958	22.958	29.359
Description: Project RG develops innovative kinetic and non-kinetic weapons technologies to expand traditional and asymmetric options available to Combatant Commanders to deny, disrupt, and defeat adversarial use of WMD while minimizing collateral effects.			
FY 2021 Plans:			
- Develop offensive counter-proliferation, counter-WMD technologies in support of Combatant Command requirements.			
- Develop WMD pathway defeat technologies and threat-specific test articles and analyses.			
- Develop lighter, smaller, more effective breaching capabilities.			
- Develop next generation WMD detection technology applications.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>	Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Develop advanced data analytics and technical capabilities to rapidly capture, catalogue and illuminate nefarious activities to counter WMD threat networks and provide WMD situational awareness. - Build analytic capabilities that enhance the Fusion Analysis Development Effort (FADE)/Multi- Intelligence Spatial Temporal (MIST) tool suite for geospatial predictive analytics, and pattern of life and anomaly detection. This fusion of sources provides a central, tailorable asset for CWMD mission planning, mission execution, and supports CONPLAN 7599 for identifying and assessing threats. - Deliver mobile phone-based tactical common operating picture to U.S. Forces, to support new, emerging and updated modeling and simulation requirements. - Conduct biocide testing at larger scale to analyze prompt and persistent effects, improving capability to neutralize or destroy biological weapons or agents. - Develop environmental monitors for identification and characterization of CBRN production. - Develop CWMD weapon effects modeling algorithms and scaled test series for attack planning to investigate CWMD weapon effects enhance WMD defeat modeling and simulation planning tools and assess new WMD defeat mechanisms. - Conduct small scale testing of structural reactive materials and advanced thermal agent defeat devices to improve the capability to defeat and/or neutralize CWMD-related targets. - Research and investment in application of basic and applied research initiatives and support test and evaluation of emerging autonomous technologies to support future and emerging threat requirements. - Develop offensive counter-proliferation, counter-WMD technologies in support of Combatant Command requirements. - Initiate studies on novel next generation agent defeat warhead fills and design. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Initiate Next Generation Access Denial capability based on studies conducted in FY 2021. - Develop and transition next generation agent defeat capabilities utilizing enhanced energetics, advanced manufacturing techniques and tactics that improve performance and lethality and reduce production time and cost. - Complete Coalition Warfare Program-Autonomous Tunnel Exploitation with RoK. - Explore operationalizing nontraditional data; Transition WMDpedia. - Complete independent review of forecasting tactics, techniques, and procedures (TTPs), improve regional assessments, validate effectiveness of forecasting TTPs. - Program, plan, and manage Explosive Ordnance Disposal (EOD) diagnostics and defeat projects and deliver technologies. - Program, plan, and manage low-visibility and breaching projects and deliver technologies. - Provide Systems Engineering and Integration support for both internal DTRA programs and provide subject matter expertise to external organizations with efforts related to CWMD and hard and deeply buried target (HDBT) defeat. - Support CCMD operational planning activities while identifying warfighting capability gaps. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>	Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
- Deliver Targeting Recommendation Packages and conduct training activities as requested by the CCMDs. - Support weapons effects testing programs and weapons development activities.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase from FY 2021 to FY 2022 is due to the realignment of WMD counterforce technologies from Project RA - CWMD Cross-Cutting Technical and Information Sciences in this PE for advanced analytics activities to increase capabilities for DTRA developed characterization and defeat options for this evolving threat technology.			
Accomplishments/Planned Programs Subtotals	20.958	22.958	29.359

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 31/0603160BR/RG: <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	201.756	259.006	259.762	-	259.762	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Competitive selection of most appropriate performers to fulfill science and technology development needs.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 2					R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>				Project (Number/Name) RR / <i>CWMD Test and Evaluation</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RR: <i>CWMD Test and Evaluation</i>	113.628	16.086	18.156	18.311	-	18.311	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Countering WMD Test and Evaluation project provides a unique national test capability for simulated WMD facilities and processes. This capability provides structured and systematic end-to-end test event planning, preparation, management, execution, and data analysis. It also offers test instrumentation (data acquisition systems and optics), scientific analysis and predictions, test article construction, test article/test bed remediation, tunnel mining, architectural and engineering design, systems engineering and integration, and test data management. The project leverages 50 years of expertise in investigating weapons effects and target response across the spectrum of hostile environments that could be created by proliferant nations or terrorist organizations with access to advanced conventional weapons or WMD. Subject matter experts design full and sub-scale testing strategies focusing on weapon-target interaction with fixed soft and hardened facilities to include above ground facilities, cut-and-cover facilities, and deep underground tunnels. This capability does not exist anywhere else within the DoD and supports the counterproliferation pillar of the National Strategy to Counter WMD.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RR: Countering WMD Test and Evaluation	16.086	18.156	18.311
Description: Project RR provides a unique national test bed capability for the study of weapon-target interaction, simulated WMD facility characterization and defeat testing, and evaluation of asymmetric threats observed in theater, to evaluate the implications of WMD and other special weapon use against U.S. military and civilian assets. Additionally, Project RR develops instrumentation and identifies unique threat signatures that can support early detection and development of countermeasures to support Combatant Command needs.			
FY 2021 Plans:			
- Conduct modernization and reconstitution of CWMD testing and evaluation instrumentation and diagnostics in support of contemporary threats US Forces and interests abroad.			
- Develop additional diagnostics, instrumentation, and explosives handling research in support of evolving threat testing and compliance initiatives.			
- Replicate, test, and evaluate identified threat WMD systems and use tactics, techniques, and procedures to support the development of WMD detection, characterization, and countermeasures documented in CCMD requirements.			
- Develop identification, characterization, and defeat technologies, tools, and capabilities for signature characterization in support of Combatant Command Counter-Threat Test and Evaluation programs that leverage the Nevada National Security Site, as well as other CONUS testbeds.			
Design and build testbeds in small-, mid-, and large-scale environments capable of capturing data needed to improve and validate high-fidelity modeling and simulation tools used to predict US weapon and adversary threat effects on facilities of interest.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / <i>Counter Weapons of Mass Destruction Applied Research</i>	Project (Number/Name) RR / <i>CWMD Test and Evaluation</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Provide a complete capability to characterize and evaluate the threat introduced by automated and autonomous systems when combined with WMD, as well as a means to evaluate the effectiveness of detection, identification, and countermeasures tools developed elsewhere in the DoD. - Develop the system engineering infrastructure to employ the transportable Data Architecture system that supports all DTRA research and development test and evaluation activities. - Develop tools and data analytics for delivery to CCMDs in direct response to existing capability gaps. - Continue the data architecture implementation to enable interagency partnerships at multiple classification levels. - Complete development of portals for all identified external collaborations at a classified and unclassified level. - Perform two data analytics demonstrations and deliver two tools to the CCMDs. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Continue to modernize and evolve instrumentation and diagnostics capability to support test and evaluation activities across the WMD spectrum, as well as develop new methods to address the evolving threats - Replicate, test, and evaluate identified threat WMD systems and use tactics, techniques, and procedures to support the development of WMD detection, characterization, and countermeasures documented in CCMD requirements. - Perform threat-relevant test and evaluation activities to document unique signatures that identify, characterize, and determine the effectiveness of defeat techniques for WMD proliferation and production facilities, leveraging the Nevada National Security Site, as well as a novel transportable capability that can replicate specific threats of interest to the CCMDs. - Design and build testbeds in small-, mid-, and large-scale environments capable of capturing data needed to improve and validate high-fidelity modeling and simulation tools used to predict US weapon and adversary threat effects on facilities of interest. - Employ the capability developed in FY2021 to support the characterization and evaluation of observed automated and autonomous threat systems with WMD elements, and demonstrate progress in the development of algorithms to support the early detection and countermeasures development. - Complete the development of the data architecture, transportable data collection system, and portals to enable data acquisition for all DTRA research and development activities, and the interagency sharing of data at multiple classification levels. - Demonstrate advancement in data analysis techniques, data analytics, and signature-based algorithms to support the development of deliverable tools to the combatant commands. <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase from FY 2021 to FY 2022 is due to inflation.</p>			
Accomplishments/Planned Programs Subtotals	16.086	18.156	18.311

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 0602718BR / Counter Weapons of Mass Destruction Applied Research	Project (Number/Name) RR / CWMD Test and Evaluation
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 31/0603160BR: Counter Weapons of Mass Destruction Advanced Technology Development	0.160	0.000	4.523	-	4.523	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Competitive selection of most appropriate performers to fulfill science and technology development needs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603134BR / <i>Counter Improvised-Threat Simulation</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	37.014	49.528	3.861	0.000	-	0.000	-	-	-	-	-	-
JC: <i>Enable Rapid Capability Delivery</i>	37.014	49.528	3.861	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Defense Threat Reduction Agency (DTRA) advanced technology development program element funds the assessment, analysis, experimentation, evaluation, and testing of systems to counter asymmetric threats to determine feasibility for prototyping, spiral development, Program of Record investment and potential for immediate fielding.

Understanding asymmetric threats is the driving force behind DTRA's deliberate, structured, and proactive approach to understanding, anticipating, illuminating, isolating, and/or mitigating threats through identified needs. DTRA is working to bring concepts and theories forward to assist and hasten the development of subsystems and components along with integration into prototypes for field experiments and/or laboratory tests.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	49.528	3.861	59.179	-	59.179
Current President's Budget	49.528	3.861	0.000	-	0.000
Total Adjustments	0.000	0.000	-59.179	-	-59.179
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Realignment	0.000	0.000	-59.179	-	-59.179

Change Summary Explanation

The decrease in FY 2022 from the previous President's Budget is due to 1) the realignment of resources from Project JC - Enable Rapid Capability Delivery in this program element to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0603160BR for technology-driven CWMD capability development and evaluation activities to develop cross cutting innovative and agile new technologies that more effectively counter the full spectrum of weapons of mass destruction, by anticipating new threats while responding to current and constantly evolving threats, 2) the realignment of resources from Project JC - Enable Rapid Capability Delivery to Project RG - Counter WMD Technologies and Capabilities Development in PE 0603160BR to enable rapid capability delivery activities, and 3) the realignment of resources from Projects JC - Enable Rapid Capability Delivery to Project RR - Counter WMD Test and Evaluation in PE

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603134BR / <i>Counter Improvised-Threat Simulation</i>	
0603160BR to more effectively align Agency support of COCOM and Military Department testing and evaluation (T&E) efforts and to facilitate the transition of CWMD capabilities into the next stage of development.		

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603134BR / Counter Improvised-Threat Simulation				Project (Number/Name) JC / Enable Rapid Capability Delivery			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JC: Enable Rapid Capability Delivery	37.014	49.528	3.861	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project is driven by current and projected threat activities. It enables the timely validation, resourcing, applied research and prototype development and delivery to counter threats that continue to impact US forces. The project supports the evaluation of integrated technologies or prototype systems in a realistic environment to counter asymmetric threats.

DTRA performs experiments and modeling and simulations in the pursuit of advanced technology development. The outcomes of these experiments are incorporated into new or existing prototypes to enhance system performance while reducing cost.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: JC: Enable Rapid Capability Delivery	49.528	3.861	0.000
Description: This project employs technology development, modeling-and-simulation, and analysis support tools to meet Combatant Command requirements and anticipated threats. DTRA provides timely acquisition and delivery of solutions that respond to asymmetric threat requirements and gaps.			
FY 2021 Plans:			
- Develop 12 acquisition threat signal packages for databases with hardware and software implementation plans to update current capabilities across the Combatant Commands, ensuring a more robust capability response to asymmetric threats.			
- Conduct two evaluation events to verify and analyze threat signal inputs to improve ability of capabilities to counter asymmetric threat networks.			
FY 2022 Plans:			
N/A			
FY 2021 to FY 2022 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603134BR / <i>Counter Improvised-Threat Simulation</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
The decrease from FY 2021 to F Y2022 is due to the realignment of resources from Project JC - Enable Rapid Capability Delivery to Projects RA - CWMD Cross-Cutting Technical and Information Sciences, RG - Counter WMD Technologies and Capabilities Development, and RR - Counter WMD Test and Evaluation in PE 0603160BR.			
Accomplishments/Planned Programs Subtotals	49.528	3.861	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 11/0602134BR/JC: <i>Counter Improvised-Threat Advanced Studies</i>	0.502	2.500	0.000	-	0.000	-	-	-	-	-	-
• 100/0604134BR/JC: <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	103.793	9.841	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Competitive selection to determine the optimal performer who can produce a viable deliverable within schedule and budget constraints.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	371.009	325.640	356.659	399.362	-	399.362	-	-	-	-	-	-
RA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	86.940	61.317	46.837	84.660	-	84.660	-	-	-	-	-	-
RD: <i>Nuclear Technologies and Capabilities Development</i>	86.139	62.407	50.816	50.417	-	50.417	-	-	-	-	-	-
RG: <i>Counter WMD Technologies and Capabilities Development</i>	197.930	201.756	259.006	259.762	-	259.762	-	-	-	-	-	-
RR: <i>CWMD Test and Evaluation</i>	0.000	0.160	0.000	4.523	-	4.523	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Advanced Technology Development portfolio is aligned with strategic planning objectives as well as with Science and Technology (S&T) investment direction established annually by the Defense Threat Reduction Agency (DTRA). The objectives directly support policy and planning guidance from the Executive Office of the President, the Department of Defense (DoD), and the broader Weapons of Mass Destruction (WMD) threat reduction community.

The portfolio advances the Countering WMD (CWMD) mission by selecting advanced technology development initiatives that meet the following criteria: (1) efforts are clearly defined and directly linked to mission-specific capability requirements of DTRA, the Military Departments, Combatant Commanders, other DoD and federal agencies, and international partners; (2) preliminary assessments of subsystems and components offer the highest potential for technological feasibility, operability, and producibility upon transition out of S&T research; (3) activities demonstrate cost effectiveness or cost reduction potential of technologies during field testing or simulation at scale.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	330.065	366.659	340.184	-	340.184
Current President's Budget	325.640	356.659	399.362	-	399.362
Total Adjustments	-4.425	-10.000	59.178	-	59.178
• Congressional General Reductions	-	-15.000			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.713	-			
• SBIR/STTR Transfer	-8.138	-			
• Realignment	-	-	59.178	-	59.178

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: RG: *Counter WMD Technologies and Capabilities Development*

Congressional Add: *Strategic Systems Defeat*

	FY 2020	FY 2021
	0.000	5.000
Congressional Add Subtotals for Project: RG	0.000	5.000
Congressional Add Totals for all Projects	0.000	5.000

Change Summary Explanation

The increase in FY 2022 from the previous President's Budget is due to 1) the realignment of resources from Project JC - Enable Rapid Capability Delivery in PEs 0603134BR and 0604134BR to Project RA - CWMD Cross-Cutting Technical and Information Sciences for Technology-Driven CWMD Capability Development and Evaluation activities to develop cross-cutting innovative and agile new technologies that more effectively counter the full spectrum of WMD by anticipating new threats while responding to current and evolving threats, 2) the realignment of resources from Project JC - Enable Rapid Capability Delivery in PE 0603134BR to Project RR - CWMD Test and Evaluation to more effectively align Agency support of COCOM and Military Department testing and evaluation (T&E) efforts to facilitate transition of CWMD development capabilities into the next stage of development, 3) the realignment of resources from Project JC - Enable Rapid Capability Delivery in PE 0603134BR to Project RG - Counter WMD Technologies and Capabilities Development, 4) the realignment of resources to O&M for specialized counter-terrorism activities to operationalize forecasting methodologies, and 5) a downward adjustment for revised economic assumptions (inflation). In FY 2021, there was a congressional add for Strategic Systems Defeat in this project.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603160BR / Counter Weapons of Mass Destruction Advanced Technology Development				Project (Number/Name) RA / CWMD Cross-Cutting Technical and Information Sciences			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RA: CWMD Cross-Cutting Technical and Information Sciences	86.940	61.317	46.837	84.660	-	84.660	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The CWMD Cross-Cutting Technical and Information Sciences project provides technical expertise through continuous reach-back and quick reaction support to the United States and its allies across the Countering Weapons of Mass Destruction (CWMD) mission space. The project performs continuous modeling of ad hoc computational analyses on the consequences of Weapons of Mass Destruction (WMD) in consultation with military and civilian planners, warfighters, and first responders, and leverages research performed by the Project on Advanced Systems and Concepts for CWMD at the Naval Postgraduate School. The project also supports international CWMD cooperation by developing technologies and concepts suitable for foreign release.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RA: CWMD Cross-Cutting Technical and Information Sciences	61.317	46.837	84.660
Description: Project RA develops modeling and simulation capabilities and provides technical reachback support to maintain and increase decision advantage for the United States and its allies through improved situational understanding across the complete CWMD mission space.			
FY 2021 Plans:			
- Develop processes, capabilities and expertise in order to deliver rapid responses to Requests for Information as DOD's only resource providing 24/7/365 WMD subject matter expertise and analyses to customers across the full spectrum of Chemical, Biological, Radiological, Nuclear, and high yield Explosives (CBRNE) in support of Combatant Command (CCMD) plans and operations.			
- Develop the global synthetic population and activity database for modeling infectious disease propagation and impacts of population behaviors and movement after a WMD event in support of CCMD force health protection and consequence management planning.			
- Utilize acquisition expertise, innovation tools, and agile contract solutions to deliver capabilities to the warfighter as urgent operational requirements emerge; transition material and non-material developmental technologies to fielded solutions as rapidly as possible.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>- Provide expanded/enhanced CWMD information sharing and data analysis to meet increasing CCMD and interagency demand for support.</p> <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Conduct Research and Development to maintain DTRA's cutting edge 24/7 technical reach back assistance capability, decision support and planning support to CCMDs, Services, interagency and other government customers in support of immediate missions and operational environments. - Provide critical training support in CWMD-relevant models to strategic partner community. - Provide Quick Reaction Capability to urgent Warfighter requirements based on new or emerging gaps. - Provide best-of-breed applied research from elsewhere in the portfolio to develop prototypes for fielding with unique strategic customers to meet requirements aligned with the National Defense Strategy (NDS). - Apply AI/ML technology advances (from academia, industry, and other government organizations) to CWMD/ Counter Threat Network (CTN)-specific problem sets. - Provide CCMDs with operational prototypes of tools for CWMD data integration, analysis, and visualization. - Develop and sustain advanced information technology capabilities enabling CWMD situational understanding and leverage advanced data science techniques to improve threat analysis to better inform operational planning. <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase from FY 2021 to FY 2022 is due to the net impact of the realignment of resources from Projects JC - Enable Rapid Capability Delivery and JS - Assist Situational Understanding in PEs 0603134BR and 0604134BR to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR for technology-driven CWMD capability development and evaluation activities to develop organizationally cross cutting innovative and agile new technologies to more effectively counter the full spectrum of weapons of mass destruction, by anticipating new threats while responding to current and evolving threats, 2) the realignment of CENTCOM counter threat technologies from RG - Counter WMD Technologies and Capabilities Development to this project. These realignments are designed to provide more agile and integrated counter-threat support capability development support to CCMDs, for urgent for emergent theater needs, with a focus on advanced enrichment and conversion analysis, data storage & analysis, detector design, wide area search capability development, defeat pathways, and critical test site technical advancements, and 3) a downward adjustment due to economic assumptions for inflation.</p>			
Accomplishments/Planned Programs Subtotals	61.317	46.837	84.660

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 22/0602718BR: <i>Counter Weapons of Mass Destruction Applied Research</i>	45.359	40.615	48.112	-	48.112	-	-	-	-	-	-
• 107/0604551BR: <i>Catapult</i>	8.110	0.000	7.166	-	7.166	-	-	-	-	-	-
• 143/0605502BR: <i>Small Business Innovative Research</i>	13.329	0.000	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Assessment and selection of best performer for developmental requirements to meet specific military capability needs

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RD: <i>Nuclear Technologies and Capabilities Development</i>	86.139	62.407	50.816	50.417	-	50.417	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

1. Research, development, test, and evaluation (RDT&E) to identify, develop, and exploit signatures associated with nuclear threats in support of U.S. capabilities that detect and interdict such threats; and locate, identify, and track special nuclear material and improve detection factors such as range, time, sensitivity, and accuracy to enhance Service and Special Mission Unit capabilities. These efforts support Department of Defense (DoD) requirements for countering terrorism, counterproliferation, nonproliferation, countering rogue states, and homeland defense.

2. RDT&E to systematically study signatures associated with adversary nuclear programs and nuclear detonations to gain knowledge or understanding necessary to: determine technical capabilities needed to improve DoD contingency planning activities; improve DoD situational awareness on the nuclear battlefield; and improve capabilities to attribute the source of a nuclear detonation.

3. Research and develop innovative technologies for the protection of mission-essential personnel, critical military and national defense capabilities, and associated control and support systems during a nuclear event. Research under this project supports the mission critical systems identified under DoD Instruction 3150.09, Chemical, Biological, Radiological, and Nuclear Survivability Policy. System vulnerability research develops nuclear assessment capabilities to support operational planning, weapons effects predictions, and strategic system design. This activity also provides the DoD's nuclear design and protection standards for new and existing systems, e.g., command and control facilities and aircraft. Key systems include the Nuclear Command and Control System, the net-centric thin-line, and both military and civilian satellites and associated support systems. Experimental capabilities research provides the warfighter with unique x-ray, gamma ray, and electromagnetic pulse (EMP) test capabilities in support of system survivability development, certification, and sustainment. These efforts also support international collaboration, user groups, case study reviews, and the Joint Atomic Information Exchange Group. The human survivability effort conducts research to develop and validate mortality and morbidity models associated with radiological and nuclear weapon effects.

4. Research and development modeling tools to support military operational planning, weapons effects predictions, and strategic system design decisions; consolidate validated modeling tools for integrated functionality; predict system responses to nuclear and radiological weapons producing electromagnetic, thermal, blast, shock, and radiation environments; provide detailed adversary nuclear infrastructure characterization to enhance counterforce operations and hazard effects; and, develop foreign nuclear weapon outputs.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RD: Nuclear Technologies and Capabilities Development	62.407	50.816	50.417

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: Project RD develops, integrates and transitions radiation detection technologies, as well as systems, tools, techniques, and procedures that take advantage of non-radiation based signatures, in order to advance warfighter capabilities to rapidly detect, localize, characterize, and interdict nuclear and radiological threats.</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> -- Develop improved contamination identification and avoidance capabilities into Service sensor networks and command and control systems - Provide Long Dwell Spectrometer (LDS) with utility assessment for transition to Technical Support Group - Develop and evaluate a modern replacement for the Alpha Beta detector more suited to support DoD's mission - Evaluate the performance of prototype for use as a replacement for high-pressure Helium-3 tubes for neutron detection in support of the development of modern, novel detector solutions - Provide prototype next generation cadmium zinc telluride (CZT) high-resolution (0.5%) detectors with 200% increase in size - Provide prototype, novel neutron multiplicity detectors that are not Helium-3 based but meet or exceed the performance of Helium-3 based neutron detectors - Provide automated/autonomous system that combines 3D Light Detection and Ranging (LIDAR) mapping with radiation hazard detection and identification of point and wide area hazards for operational utility assessment - Provide improved aerial search/long dwell capabilities integrated into Mission Design Tool. - Provide novel, low profile, low power photomultiplier that can offer a significant reduction in size, weight and power requirements for radiation detectors -- Conduct Technology Demonstrations of an integrated sensor network able to rapidly identify and map a radiological contaminated area using mobile, unmanned, manned and unattended sensors - Conduct test and evaluation and utility assessments to inform acquisition decisions for selection of radiation imagers to support DoD missions. Develop and test prototype test articles for the integration of the Vehicle Integrated Platform Enhanced Radiac (VIPER) into Army Combat vehicles (Abrams Main Battle Tank). - Develop and test the radiological components of and integrated Chemical, Biological, Radiological, Nuclear rapid reconnaissance capability for U.S. Air Force - Further develop situational awareness and decision support tools with applications that include deployed integrated CBRN sensors, effects calculator, contamination avoidance/monitoring, and other RN related sensors/tools for the Warfighter. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Develop Synthetic Aperture Radar (SAR) Sensor Characterization Device capability, data analysis and algorithm development, and other Combatant Command countering nuclear threat network (CNTN) capabilities. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Support the design and operation of at least four DoD nuclear wargames and exercises with subject matter expertise, existing tools, and integrated initial MINES software capabilities. - Test and evaluate the Integration of improved contamination identification and avoidance capabilities into Service sensor networks and command and control systems. - Provide prototype electromagnetic pulse (EMP) sensor(s) for use on the battlefield enabling warfighter situational awareness of EMP effects. - Conduct technical demonstration of integrated sensor network capable of detecting, identifying and providing early warning of radiological hazards. - Develop and test prototype test articles for the integration of the Vehicle Integrated Platform Enhanced Radiac (VIPER) into Army Combat vehicles (Army Multipurpose Vehicle Platform). - Develop prototype Vehicle Integrated Platform Enhanced Radiac for aviation platforms. - Demonstrate tools that predict nuclear weapons effects on petroleum and transportation networks, improving nuclear planning and targeting decisions. - Demonstrate improved tool to predict non-ideal nuclear weapons airblast effects on ground maneuver forces, improving operational planning for conventional and nuclear battlefield. - Enhance cloud platform for integrated toolsets for nuclear planning, Nuclear, Chemical, Biological, Radiological, and high Explosive (NCBRE) assessments, and advanced analytics in support of Service and Combatant Command planning and assessments and Conventional Nuclear Integration situational awareness. - Support the DoD Atomic Veteran program by determining radiation exposure levels and managing the Atomic Veterans Service Certificate recognition. - Perform nuclear survivability modeling for effects on humans. <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease from FY 2021 to FY 2022 is due to the net impact of 1) the realignment of resources from nuclear detection activities in this project to nuclear survivability activities in Project RD - in PE 0602718BR, and 2) the realignment of modeling and simulation and information sciences and applications activities from Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR.</p>			
Accomplishments/Planned Programs Subtotals	62.407	50.816	50.417

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 22/0602718BR/RD: <i>Counter Weapons of Mass Destruction Applied Research</i>	81.198	92.492	101.229	-	101.229	-	-	-	-	-	-
• 131/0605000BR/RD: <i>Counter Weapons of Mass Destruction Systems Development</i>	9.870	15.650	14.063	-	14.063	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Assessment and selection of best performer for developmental requirements to meet specific military capability needs.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>RG: Counter WMD Technologies and Capabilities Development</i>	197.930	201.756	259.006	259.762	-	259.762	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Counter WMD Technologies and Capabilities Development encompasses the following areas.

1. Defeat Technologies develops, integrates, demonstrates, and transitions innovative kinetic and non-kinetic weapon capabilities to expand traditional and asymmetric options available to Combatant Commanders to deny, disrupt, and defeat Weapons of Mass Destruction (WMD) while minimizing collateral effects.

2. Technology development focuses on the physical or functional defeat of (1) chemical, biological, nuclear, and radiological threat materials, (2) an adversary's ability to deliver the same, as well as (3) the physical and non-physical support networks enabling both. This program achieves these goals through the systematic identification and maturation of technologies capable of defeating WMD agents or agent-based processes, then integrating them into weapons, delivery systems, or rapid WMD elimination capabilities. This effort includes developing specific WMD agent/agent-based process simulants, test infrastructure, and sampling capability required for effective development, testing, and evaluation of next generation capabilities to ensure optimum weapon solutions are achieved. Requirements are delineated in Agency Priority Lists for lethal and non-lethal Countering WMD (CWMD) capability. Based on specified requirements, weapons and capabilities are transitioned to a Service program of record for system acquisition.

3. Counter-terrorism technologies research develops and transitions a full spectrum of new technologies to counter emergent WMD threats. This research supports the U.S. Special Operations Command (USSOCOM) in two areas: (1) counter proliferation research is a collaborative effort to develop advanced, warfighter-unique technologies to defeat terrorist WMD development and acquisition pathways, to include defeat of the devices themselves, while minimizing risks to U.S. forces; and (2) counterterrorism concepts and technologies to integrate and synchronize activities that prevent terrorists and rogue nation states from developing, acquiring, proliferating, or using WMD. This effort supports Commander, USSOCOM responsibilities under the Chairman, Joint Chiefs of Staff Unified Command Plan.

4. Counterforce technologies research develops, integrates, demonstrates, and transitions capabilities to find, characterize, assess, and plan for the defeat of WMD threats. This research is focused in three areas: (1) WMD battlespace awareness provides warfighters with tools to find, characterize, and assess WMD threats; (2) weapons effects research provides modernized, fast-running, validated CWMD planning tools and integrates modeling and simulation software to optimize the execution of WMD and associated hard target defeat operations; and (3) innovative engineering of select promising technologies discovered under fundamental and basic research to increase the effectiveness of weapons against blast doors and other underground structures for functional defeat of Underground Facilities (UGFs), WMD, and their delivery systems.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>

5. DTRA provides a unique national test bed capability for simulated weapons of mass destruction (WMD) facility characterization, weapon-target interaction, and WMD facility defeat testing. This test bed is capable of responding to operational needs outside of DTRA's research portfolio and is used by the DoD, Military Services, Combatant Commanders, and other Federal Agencies to evaluate the implications of WMD, conventional weapons, and other special weapons used against U.S. military or civilian systems and targets.

6. Target assessment technologies research develops, integrates, tests, demonstrates, and transitions processes and technologies providing advanced capabilities in the areas of WMD target assessment, automated advanced targeting development (A2TD), facility defeat, and full dimensional defeat. This research develops analytical tools and processes required to: (1) find and characterize WMD targets and associated hard and deeply buried targets (HDBTs); and (2) assess the results of physical and functional defeat mechanisms (such as direct attack). The A2TD initiative seeks to apply emerging computer assisted technologies to automate target characterization for hard targets and WMD targets. The end result will be faster and more efficient characterization of important hard targets and WMD targets. The facility defeat project develops, validates and employs processes and software for characterization and defeat of command specified hard targets in conjunction with DIA analysis. The full dimensional defeat project aims to develop an enterprise capability for finding and identifying a facility, characterizing its function and physical layout, determining current or future vulnerabilities to available defeat mechanisms, planning and executing an attack, assessing damage, and denying reconstitution efforts. The dynamic capabilities encompassed in this effort provide Combatant Commands and the intelligence community tools and processes needed to hold at risk high value hard targets and WMD targets possessed by adversaries.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: RG: Counter WMD Technologies and Capabilities Development</p> <p>Description: Project RG develops advanced technologies and weapon concepts and validates their applicability to CWMD.</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> - Deliver a streamlined Underground Facility (UGF) characterization tool incorporating Automated Advanced Targeting Development (A2TD) automation. - Deliver Full Dimensional Defeat Enterprise (FDDE) planning visualization tool for mobile deployment - Achieve Initial Operational Capability of System of Systems Facility Defeat Methods for Combatant Command Course of Action development. - Deliver Advanced Solid Mechanics computational tools in support of Combatant Command requirements. - Begin development of second-generation HPC software tools for DPOE, leveraging capabilities of high performance computing to improve automated analytics to more accurately and quickly identify events, actors and threats. - Integrate new models into DPOE to assess adversarial groups' intent to conduct chemical or biological weapon attacks. - Develop and integrate advanced capabilities and refine an operational framework to enhance warfighter capabilities to search for, detect, and identify WMD threats prior to release. - Extend WMD-pedia capabilities to support CWMD Mission Planning incorporating semi-supervised and active machine learning. - Maintain cooperative CWMD project technical exchange with the United Kingdom (UK) in support of US/UK Project Agreement 	201.756	254.006	259.762

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Conduct material science development and applications development to provide advanced materials for use in chemical and biological agent defeat. - Develop, demonstrate, and transition a ground sensor with multiple modalities for signature detection, classification, and localization for strategic systems defeat. - Develop and transition four high explosive prototype fills to the Army. - Develop, integrate and demonstrate advanced CWMD sensing payloads for both unmanned and remote sensing missions. - Develop machine learning neural networks trained to optimize conventional weapon strikes against hardened and WMD facilities. - Develop new and enhanced capabilities for defensive vulnerability assessment and offensive WMD defeat modeling and simulation planning tools. - Investigate, develop, and integrate new technologies for enhancement and protection of autonomous capabilities to provide joint solutions in a multi-domain environment. - Develop CWMD weapon effects modeling algorithms and conduct scaled test series leveraging machine learning and optimization to investigate CWMD weapon effects for enhancing WMD defeat modeling and simulation planning tools and assessing new WMD defeat mechanisms . - Conduct full-scale prototype demonstration of novel access denial technology in an operational environment. - Complete Coalition Warfare Program Agreement with Republic of Korea for advancement of autonomous tunnel exploitation technologies. - Develop offensive counter-proliferation, counter-WMD technologies in support of Combatant Command requirements. - Develop WMD pathway defeat technologies, as well as threat-specific test articles and analyses. - Develop lighter, smaller, more effective breaching capabilities. - Develop and test structural, reactive materials and advanced agent defeat concepts to improve the capability to defeat and/or neutralize WMD-related targets. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Develop and transition next generation agent defeat capabilities utilizing enhanced energetics, advanced manufacturing techniques and tactics that improve performance and lethality and reduce production time and cost. - Program, plan, and manage EOD diagnostics and defeat projects and deliver technologies. - Program, plan, and manage low-visibility and breaching projects and deliver technologies. - Provide capability to rapidly support technical requirements through RDT&E of current and emerging WMD threats to operational forces. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>- Conduct research and development of dual-use threat components for test and evaluation in support of COCOMs, network disruption capability, and RDT&E of current and emerging WMD threats to operational force.</p> <p>- Develop quick reaction capabilities (QRCs) in support of geographic Combatant Commands (CCMD) and in collaboration with Other Governmental Agencies (OGA) to detect, locate, track, characterize and counter threats in the areas of counter proliferation (CP) and counter weapons of mass destruction (CWMD).</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase from FY 2021 to FY 2022 is due to the net impact of 1) the realignment of resources from Projects JC - Enable Rapid Capability Delivery in PE 0603134BR this project to enable rapid capability delivery activities, 2) the realignment of CENTCOM counter threat technologies from this project to Project RA - CWMD Cross-Cutting Technical and Information Sciences as part of an organizational integration to focus more cost effectively on CWMD support to CCMDs and the military departments, and 3) the realignment of RDT&E resources to O&M for advisory services in support of cross-cutting research and development activities to operationalize forecasting methodologies, and O&M for operational activities of the Targeting and Weaponizing Analysis Cell and Hard Target Research and Analysis Center (HTRAC). In FY 2021, there was a congressional add for Strategic Systems Defeat in Project RG - Counter WMD Technologies and Capabilities Development.</p>			
Accomplishments/Planned Programs Subtotals	201.756	254.006	259.762

	FY 2020	FY 2021
Congressional Add: Strategic Systems Defeat	0.000	5.000
FY 2020 Accomplishments: N/A		
<p>FY 2021 Plans: - Design, develop, test, and deliver five (5) Hand Emplaced Form Factor (HEFF) sensors that can perform a classified Combatant Command mission identified in an approved and validated Joint Staff Joint Emergent Operational Needs Statement (JEON) for a Combatant Command as well as a new, emergent classified requirement from a second Combatant Command.</p> <p>- Design, develop, and assess "brassboard" prototyping efforts for next-gen SSD sensing capabilities leveraging DARPA developed technologies, and for participation in Missile Defense Agency's Left-to-Right-of-Launch (LTRI) wargame campaign.</p>		
Congressional Adds Subtotals	0.000	5.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RG / <i>Counter WMD Technologies and Capabilities Development</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 22/0602718BR/RG: <i>Counter Weapons of Mass Destruction Applied Research</i>	20.958	22.958	29.359	-	29.359	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Assessment and selection of best performer for developmental requirements to meet specific military capability needs.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RR / <i>CWMD Test and Evaluation</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RR: <i>CWMD Test and Evaluation</i>	0.000	0.160	0.000	4.523	-	4.523	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Countering WMD Test and Evaluation project provides a unique national test capability for simulated WMD facilities and processes. This capability provides structured and systematic end-to-end test event planning, preparation, management, execution, and data analysis. It also offers test instrumentation (data acquisition systems and optics), scientific analysis and predictions, test article construction, test article/test bed remediation, tunnel mining, architectural and engineering design, systems engineering and integration, and test data management. The project leverages 50 years of expertise in investigating weapons effects and target response across the spectrum of hostile environments that could be created by proliferant nations or terrorist organizations with access to advanced conventional weapons or WMD. Subject matter experts design full and sub-scale testing strategies focusing on weapon-target interaction with fixed soft and hardened facilities to include above ground facilities, cut-and-cover facilities, and deep underground tunnels. This capability does not exist anywhere else within the DoD and supports the counterproliferation pillar of the National Strategy to Counter WMD.

Project RR CWMD Test and Evaluation, was added to this Program Element in FY 2022. Project RR is not a new start effort. These funds were realigned within Budget Activity (BA) 3, from PE 0603134BR, Project JC - Enable Rapid Capability Delivery to more effectively align Agency support of COCOM and Military Department testing and evaluation (T&E) efforts, and to facilitate transition of CWMD development capabilities into the next stage of development.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RR: CWMD Test and Evaluation	0.160	0.000	4.523
Description: This project employs technology development, modeling-and-simulation, and analysis support tools to meet Combatant Command requirements and anticipated threats. DTRA provides timely acquisition and delivery of solutions that respond to asymmetric threat requirements and gaps.			
FY 2021 Plans: N/A			
FY 2022 Plans: -Conduct two test events that incorporate WMD threats on unmanned systems across multiple domains (land, air, sea) that further incorporate automated and autonomous capabilities. - Document unique signatures of threat unmanned systems operating at different levels of automation and autonomy and make available through DTRA's data architecture system to the broader USG community.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603160BR / <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	Project (Number/Name) RR / <i>CWMD Test and Evaluation</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
- Integrate algorithms developed in FY2021 to develop a multi-phenomenology-based tool deliverable to a CCMD as a means for future development of early detection and countermeasures for specific threats in their AOR.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase from FY 2021 to FY 2022 is due to the realignment of resources from Project JC - Enable Rapid Capability Delivery in PE 0603134BR to more effectively align Agency support of COCOM and Military Department testing and evaluation (T&E) efforts, and to facilitate transition of CWMD development capabilities into the next stage of development.			
Accomplishments/Planned Programs Subtotals	0.160	0.000	4.523

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 21/0602718BR: <i>Counter Weapons of Mass Destruction Applied Research</i>	16.086	18.156	18.311	-	18.311	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	303.913	105.480	19.931	0.000	-	0.000	-	-	-	-	-	-
JC: Enable Rapid Capability Delivery	276.300	103.793	11.491	0.000	-	0.000	-	-	-	-	-	-
JS: Assist Situational Understanding	27.613	1.687	8.440	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element supports the development, demonstration, and testing of technologies to advance the analytical infrastructure, methods, and tools to enhance asymmetric countermeasure solutions. Advancements in analytics include the production of tools that leverage machine learning and artificial intelligence, increasing our ability to expedite the understanding of emerging threats and accompanying activities. This investment also enables development and delivery of capabilities to understand, anticipate, illuminate, isolate, and/or mitigate asymmetric threats and their effects.

DTRA expedites technology transition from the laboratory to operational use to reduce risk within the acquisition process. This is done by evaluating integrated technologies or prototype systems in a high quality and realistic operating environment.

B. Program Change Summary (\$ in Millions)	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	113.590	19.931	39.432	-	39.432
Current President's Budget	105.480	19.931	0.000	-	0.000
Total Adjustments	-8.110	0.000	-39.432	-	-39.432
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Realignments	-8.110	0.000	-39.432	-	-39.432

Change Summary Explanation

The decrease in FY 2022 from the previous President's Budget is due to 1) the realignment of resources from Project JC - Enable Rapid Capability Delivery to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR and PE 0603160BR for technology-driven CWMD capability development and evaluation activities to develop organizationally cross-cutting innovative and agile new technologies that more effectively counter the full spectrum of weapons of mass destruction, by anticipating new threats while responding to current and constantly evolving threats, 2) the realignment of resources

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>
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from Project JS – Assist Situational Understanding to O&M funding for technology transformation sustainment and combatant command embedded analytical support and 3) the realignment of resources from Project JS – Assist Situational Understanding to the new PE 0604551BR to better reflect the nature of enduring activities in support of Catapult. Although not reflected in this PE, in FY 2020, \$8.110 million was appropriately executed in PE 0604134BR for the Catapult Program of Record. Within the exhibit, execution is reflected in PE 0604551BR which was newly established for Catapult beginning in FY 2022.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JC / Enable Rapid Capability Delivery
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JC: Enable Rapid Capability Delivery	276.300	103.793	11.491	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DTRA delivers counter asymmetric threats materiel solutions in support of joint and combined forces, effectively addressing changes to threat tactics, techniques, and procedures (TTPs). DTRA responds to asymmetric threats identified by the forward deployed warfighter as well as academia and industry.

This project builds prototypes and tests and evaluates existing industry systems to meet Combatant Command capability gaps and emerging asymmetric threats. DTRA also provides solutions to prevent or mitigate battlefield operational surprise.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: JC: Enable Rapid Capability Delivery	103.793	11.491	0.000
Description: This project delivers materiel solutions to counter asymmetric threats in support of joint and combined forces supporting contingency operations, effectively addressing changes to threat tactics, techniques, and procedures (TTPs).			
FY 2021 Plans:			
- Develop two user-friendly technologies to inform and evaluate the autonomous systems and energetics focus areas.			
- Develop an aviation sensor fabrication prototype to address detection and identification capability gaps (Split Aces and Hyper Spectral Imaging).			
- Provide two to three models and simulations in support of Counter Asymmetric Systems activities.			
- Conduct one theater support/ capabilities test in support of asymmetric threats.			
- Conduct one vendor demonstration and validate system performance capabilities for asymmetric threats.			
FY 2022 Plans:			
N/A			
FY 2021 to FY 2022 Increase/Decrease Statement:			
The decrease from FY 2021 to FY 2022 is due to the realignment of resources from Projects JC - Enable Rapid Capability Delivery to Project RA - CWMD Cross-Cutting Technical and Information Sciences in PE 0602718BR and PE 0603160BR for technology-driven CWMD capability development and evaluation activities to develop organizationally cross cutting innovative and			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
agile new technologies that more effectively counter the full spectrum of weapons of mass destruction, by anticipating new threats while responding to current and constantly evolving threats.			
Accomplishments/Planned Programs Subtotals	103.793	11.491	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 11/0602134BR/JC: <i>Counter Improvised-Threat Advanced Studies</i>	0.502	2.500	0.000	-	0.000	-	-	-	-	-	-
• 30/0603134BR/JC: <i>Counter Improvised-Threat Simulation</i>	49.528	3.861	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Assess and select best performer for developmental requirements to meet specific military capability needs. Performer base includes research developers across DoD and other Government agency laboratories, academia, and industry.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JC / Enable Rapid Capability Delivery
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Anti-Armor IED (AAIED)	C/FFP	Battelle : Idaho Falls, ID	9.556	7.052	Nov 2019	-		-		-		-	0.000	16.608	16.608
Booby Trapped Structures (BTS)	C/FFP	Shield AI : San Diego, CA	10.486	4.251	May 2020	-		-		-		-	0.000	14.737	14.737
Buried IED	C/CPFF	Naval Research Lab : Washington, DC	7.553	2.299	Nov 2019	-		-		-		-	0.000	9.852	9.852
Home-Made Explosives (HME)	C/CPFF	Manufacturing Techniques, Inc. (MTEQ) HQ : Lorton, VA	26.781	5.002	Mar 2020	-		-		-		-	0.000	31.783	31.783
Network	C/FFP	John Hopkins : Baltimore, MD	32.084	12.875	Apr 2020	-		-		-		-	0.000	44.959	44.959
Person-Born IED (PBIED)	C/FFP	MIT Lincoln Laboratory (MIT-LL) : Lexington, MA	13.704	5.752	May 2020	-		-		-		-	0.000	19.456	19.456
Radio Controlled IED (RCIED)	C/CPFF	Rampart Technologies, Colorado Springs, CO : Sericore, Hanover, MD	3.015	0.500	Nov 2019	-		-		-		-	0.000	3.515	3.515
RDT&E Technology Enablers	C/CPFF	Various : Various	42.114	12.662	Jan 2020	-		-		-		-	0.000	54.776	54.776
Sensitive Integration Office (SIO) Programs	C/CPFF	Various : Various	33.771	10.000	Nov 2019	-		-		-		-	0.000	43.771	43.771
Tunnel	C/FFP	ERDC: Vicksburg, MS : MIT Lincoln Labs: Boston, MA	10.208	0.000		-		-		-		-	0.000	10.208	10.208
Unmanned Aerial Systems (UAS)	C/FFP	Technology Service Corporation (TSC) Fairfax, VA : BAE Systems, Fridley, MN	16.642	17.005	May 2020	-		-		-		-	0.000	33.647	33.647

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JC / Enable Rapid Capability Delivery
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Vehicle-Attached IED (VAIED)	C/CPFF	Various : TBD	2.770	0.000		-		-		-		-	0.000	2.770	2.770
Vehicle-Borne IED (VBIED)	C/CPFF	Naval Surface Warfare Center (NSWC) Dahlgren : King George County, VA	19.315	5.249	May 2020	-		-		-		-	0.000	24.564	24.564
Water-Borne IED (WBIED)	C/FFP	Various : Various	5.027	0.000		-		-		-		-	0.000	5.027	5.027
Integrated Signatures Program (ISP)	MIPR	Indian Head Explosive Ordnance Technology Division : Indian Head, MD	-	-		4.000	Jul 2021	-		-		-	0.000	4.000	4.000
Split Aces 4.0	MIPR	Naval Air Systems Command PM263 : Patuxent River, MD	-	-		2.841	Jul 2021	-		-		-	0.000	2.841	2.841
Data Science for Emerging Threats	C/CPAF	Massachusetts Institute of Technology : Boston, MA	-	-		1.081	Jul 2021	-		-		-	0.000	1.081	1.081
Image Recognition Proof-of-Concept	SS/T&M	Carnegie Mellon University : Pittsburgh, PA	-	-		0.202	May 2021	-		-		-	0.000	0.202	0.202
Subtotal			233.026	82.647		8.124		-		-		-	0.000	323.797	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Advisory for Strategic and Emergent Technologies	C/CPAF	Mission Technology Reston : Reston, VA	-	-		0.367	Mar 2021	-		-		-	0.000	0.367	0.367
Subtotal			-	-		0.367		-		-		-	0.000	0.367	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation (T&E) 6.4	MIPR	Naval Air Weapons Station : China Lake, CA	22.882	13.637	Nov 2019	-		-		-		-	0.000	36.519	36.519
T&E Threat Support 6.4	MIPR	Intelligence and Information Warfare Directorate (I2WD), Communications-Electronics Research, Development and Engineering Center (CERDEC) : Aberdeen Proving Ground, MD	14.430	7.509	Nov 2019	-		-		-		-	0.000	21.939	21.939
C-sUAS Test & Evaluation	MIPR	Naval Air Warfare Center Weapons Division : China Lake, CA	4.720	-		3.000	Jul 2021	-		-		-	0.000	7.720	7.720
SETA Capability Research Architecture Cell (CRAC)	C/CPAF	Zel Technologies : Reston, VA	1.242	-		-		-		-		-	0.000	1.242	1.242
Subtotal			43.274	21.146		3.000		-		-		-	0.000	67.420	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		276.300	103.793	11.491	-	-	0.000	391.584	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency		Date: May 2021
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	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Anti-Armor IED (AAIED)																												
Explosive Form Projectile (EFP) Detect - High Resolution Electro-Optical Infrared Camera (HREIOR)																												
Explosive Form Projectile (EFP) Detect - Stalker																												
Explosive Form Projectile (EFP) Detect Spiral																												
Non-Linear Junction Tech																												
EFP Detection & Defeat																												
Booby Trapped Structures (BTS)																												
Iron Horse																												
Buried IED																												
Microwave Frequency Oscillator (MFO) - Mineroller																												
Spectral Polarmetric Instrument Data Analysis (SPIDA)																												
SPIDA Spiral (Automated Change Detection)																												
Home-Made Explosives (HME)																												
Mini Hyper Spectral Imaging Group 3																												
Standoff Portable Isotopic Neutron Spectroscopy (SPINS)																												
Improvised Threat Device Replication																												
T&E Threat Support																												
Network																												
Cobalt Doom																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JC / Enable Rapid Capability Delivery
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	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Explosives attribution and exploitation (EA2)																												
Improved National Technical Means (NTM) Integration																												
North Wind																												
Gold Bloom																												
Sensitive Integration Office Programs																												
Tough Luck																												
ISP																												
Person-Born IED (PBIED)																												
Atomic Magnetometer																												
PBIED Sensor Integration (Tiger Paw)																												
Radio Controlled IED (RCIED)																												
Songbird (Whistler Spiral)																												
RDT&E Technology Enablers																												
Technical Outreach BA 4																												
Counter-small Unmanned Aerial Systems (C-sUAS)																												
C-sUAS Test and Evaluation																												
GroundTaker																												
Microwave Frequency Oscillator (MFO) C-sUAS																												
Mobile C-sUAS Airborne Platform Suite (MCAPS) Spiral																												
Multi vs. Multi Airborne Dispersed																												
Multi vs. Multi Dismounted Deployed																												
Pike on Reaper																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>
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FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Tech Exploitation Tech Red Device Coordination	
Split Aces 4.0	
Test & Eval	
Test & Evaluation Support	
Vehicle-Borne IED (VBIED)	
Supernova Spiral	
C-IED	
Travel	
UK Joint Tech Development	
VBIED Detection Sensor Integration	
Global Data Integration	
Data Science for Emerging Threats	
Image Recognition Proof-of-Concept	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Anti-Armor IED (AAIED)	
Explosive Form Projectile (EFP) Detect - High Resolution Electro-Optical Infrared Camera (HREIOR)	
Explosive Form Projectile (EFP) Detect - Stalker	
Explosive Form Projectile (EFP) Detect Spiral	
Non-Linear Junction Tech	

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JC / Enable Rapid Capability Delivery
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
EFP Detection & Defeat	█																											
Booby Trapped Structures (BTS)																												
Iron Horse	█																											
Buried IED																												
Microwave Frequency Oscillator (MFO) - Mineroller	█	█																										
Spectral Polarimetric Instrument Data Analysis (SPIDA)	█	█	█																									
SPIDA Spiral (Automated Change Detection)			█	█																								
Home-Made Explosives (HME)																												
Mini Hyper Spectral Imaging Group 3	█	█	█																									
Standoff Portable Isotopic Neutron Spectroscopy (SPINS)	█	█																										
Improvised Threat Device Replication																												
T&E Threat Support	█	█	█																									
Network																												
Cobalt Doom	█	█	█																									
Explosives attribution and exploitation (EA2)	█	█	█																									
Improved National Technical Means (NTM) Integration	█	█	█																									
North Wind	█	█	█																									
Gold Bloom	█	█	█																									
Sensitive Integration Office Programs	█	█	█																									
Tough Luck	█	█	█																									
ISP					█	█	█																					
Person-Born IED (PBIED)																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Atomic Magnetometer	████████																											
PBIED Sensor Integration (Tiger Paw)	████████																											
Radio Controlled IED (RCIED)																												
Songbird (Whistler Spiral)	████████																											
RDT&E Technology Enablers																												
Technical Outreach BA 4	████████																											
Counter-small Unmanned Aerial Systems (C-sUAS)																												
C-sUAS Test and Evaluation	████████				████████																							
GroundTaker	████████																											
Microwave Frequency Oscillator (MFO) C-sUAS	████████																											
Mobile C-sUAS Airborne Platform Suite (MCAPS) Spiral	████████																											
Multi vs. Multi Airborne Dispersed	████████				████████				████████																			
Multi vs. Multi Dismounted Deployed	████████																											
Pike on Reaper	████████																											
Tech Exploitation Tech Red Device Coordination	████████																											
Split Aces 4.0	████████				████████																							
Test & Eval																												
Test & Evaluation Support	████████																											
Vehicle-Borne IED (VBIED)																												
Supernova Spiral	████████																											
C-IED																												
Travel	████████																											

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

UK Joint Tech Development																												
VBIED Detection Sensor Integration																												
<i>Global Data Integration</i>																												
Data Science for Emerging Threats																												
Image Recognition Proof-of-Concept																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Anti-Armor IED (AAIED)				
Explosive Form Projectile (EFP) Detect - High Resolution Electro-Optical Infrared Camera (HREIOR)	1	2020	4	2020
Explosive Form Projectile (EFP) Detect - Stalker	1	2020	4	2020
Explosive Form Projectile (EFP) Detect Spiral	1	2020	4	2020
Non-Linear Junction Tech	1	2019	4	2020
EFP Detection & Defeat	1	2020	1	2020
Booby Trapped Structures (BTS)				
Iron Horse	3	2019	1	2020
Buried IED				
Microwave Frequency Oscillator (MFO) - Mineroller	1	2019	2	2020
Spectral Polarimetric Instrument Data Analysis (SPIDA)	1	2019	4	2020
SPIDA Spiral (Automated Change Detection)	3	2020	4	2020
Home-Made Explosives (HME)				
Mini Hyper Spectral Imaging Group 3	4	2018	4	2020
Standoff Portable Isotopic Neutron Spectroscopy (SPINS)	3	2019	2	2020
Improvised Threat Device Replication				
T&E Threat Support	1	2020	4	2020
Network				
Cobalt Doom	1	2018	4	2020
Explosives attribution and exploitation (EA2)	1	2019	4	2020
Improved National Technical Means (NTM) Integration	4	2019	4	2020

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JC / <i>Enable Rapid Capability Delivery</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
North Wind	4	2015	4	2020
Gold Bloom	2	2013	4	2020
Sensitive Integration Office Programs	1	2015	4	2020
Tough Luck	2	2014	4	2020
ISP	1	2021	4	2021
Person-Born IED (PBIED)				
Atomic Magnetometer	2	2019	3	2020
PBIED Sensor Integration (Tiger Paw)	1	2018	2	2020
Radio Controlled IED (RCIED)				
Songbird (Whistler Spiral)	1	2020	4	2020
RDT&E Technology Enablers				
Technical Outreach BA 4	1	2016	4	2020
Counter-small Unmanned Aerial Systems (C-sUAS)				
C-sUAS Test and Evaluation	1	2019	4	2021
GroundTaker	3	2018	4	2020
Microwave Frequency Oscillator (MFO) C-sUAS	4	2016	4	2020
Mobile C-sUAS Airborne Platform Suite (MCAPS) Spiral	2	2019	4	2020
Multi vs. Multi Airborne Dispersed	1	2020	4	2022
Multi vs. Multi Dismounted Deployed	1	2020	4	2020
Pike on Reaper	4	2019	4	2020
Tech Exploitation Tech Red Device Coordination	1	2019	4	2020
Split Aces 4.0	1	2020	4	2021
Test & Eval				
Test & Evaluation Support	1	2020	4	2020
Vehicle-Borne IED (VBIED)				

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Supernova Spiral	4	2019	4	2020
<i>C-IED</i>				
Travel	1	2018	4	2020
UK Joint Tech Development	1	2019	4	2020
VBIED Detection Sensor Integration	3	2019	4	2020
<i>Global Data Integration</i>				
Data Science for Emerging Threats	3	2021	3	2022
Image Recognition Proof-of-Concept	3	2021	3	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>				Project (Number/Name) JS / <i>Assist Situational Understanding</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
JS: <i>Assist Situational Understanding</i>	27.613	1.687	8.440	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification

This project enables DTRA’s Catapult Information System Program to design, develop, test, and deliver mission capabilities that support the ability to aggregate, and analyze data and information on global improvised threats and threat networks. Catapult and DTRA’s Mission Information Technology (MIT) capability allows DTRA to rapidly develop, engineer, test and deploy analytical tools, threat models and simulations, data science methodologies, and software applications in support of the Warfighter. Catapult and its associated Attack the Network Tool Suite (ANTS) integrates data sources that support the detection and identification of improvised threats, threat networks and actors, command and control, operations, intelligence, and engagement for neutralizing, attacking, and defeating both current and emerging improvised threats and threat networks.

DTRA’s MIT capability, with its embedded Combatant Command (CCMD) capability, data integrators, and reachback staff work continuously to create capabilities requested by users from the DoD, the Intelligence Community (IC), interagency partners, and the Whole of Government to ingest, fuse, analyze, and present mission relevant data and information. These capabilities reside in Catapult, a cloud technology-based data analytics platform developed and being delivered by DTRA that provides an extensible, continuously augmented, real-time repository of intelligence on improvised threats and worldwide threat actors and networks. Catapult is fully operational and accredited on the Secret Internet Protocol Router Network (SIPRNet) and Joint Worldwide Intelligence Communications System (JWICS). The Catapult architecture pulls from more than 850 data sources on SIPRNet and more than 170 data sources on JWICS. Catapult uses a set of more than 100 tools (ANTS) and services to provide national-level capabilities for data and information capture, discovery, access, aggregation, correlation, visualization, analysis, sharing, and distribution for users from the strategic level to the tactical edge.

In addition to Catapult, the DTRA MIT created and deployed a significant capability called Voltron. Voltron provides analysts access to signals intelligence (SIGINT) data within a secure and IC-accredited software developer environment. Voltron provides users a single interface to query more than 25 data sources and combines results into dynamic visualizations and exports. Voltron captures analytics techniques and provides a constantly growing toolbox providing analysts with continuously new models in support of analysis and operations. Voltron provides analysts access to methodologies involving multi-INT fusion in an easy to use interface. These methods are based on years of experience supporting the tactical targeting environment and built in collaboration with other teams across the IC. There are currently more than 75 models in Voltron available to the user community.

DTRA’s authorities and mission have enabled a unique, Secure Development Operations (DevSecOps) “Path-to-Production” to rapidly develop and deploy mission-driven IT solutions. This unique development environment includes an integrated Cyber Security Assessment and Authorization process, an in-house collateral

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JS / <i>Assist Situational Understanding</i>
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Authorizing Official for SIPRNet and DIA-approved Authorization to Operate on JWICS, creating a strong partnership between technologists and intelligence analysts working real-world problems, and a collaborative and innovative culture that launches practical software solutions rapidly.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: JS: Assist Situational Understanding</p> <p>Description: This project enables DTRA to design, develop, test, and deliver mission capabilities that support the ability to collect, aggregate, and analyze intelligence data on global improvised threats and threat networks. The project allows DTRA to rapidly develop, engineer, test, and deploy analytical tools, threat models and simulations, data science methodologies, and software applications in support of the Warfighter. Catapult and its associated Attack the Network Tool Suite (ANTS) integrates data sources that support the detection and identification of improvised threats, threat networks and actors, command and control, operations, intelligence, and engagement for neutralizing, attacking, and defeating both current and emerging improvised threats and threat networks.</p> <p>Provides testing and engineering support for COTS and GOTS intelligence analysis application and software and systems that operate on the mission enclave. Supports cybersecurity testing and security engineering of new or upgraded software and systems prior to authorization to operate on production enclaves.</p> <p>Sandia / SETA Capability Research Architecture Cell (CRAC) identifies, investigates, explores, evaluates, and tests prototypes of emerging and cutting edge information technology that provides superior advantage to analysts and warfighters. Sandia / CRAC builds partnerships with mission partners in DoD, IC, IA, Academia, National Labs and Industry to support, develop and integrate plans, programs, requirements, resources, technology and innovations across the mission spectrum for DTRA. Facilitates innovation, acceleration of programs, rapid response to emerging events, and rapid development and operationalization of new technologies.</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> - Develop predictive Data Science models through supervised and unsupervised Machine Learning against current and emerging threats; including fusion of multi-INT data across unclassified and classified data sets to identify networks and locations of interest to DTRA and its mission partners. - Create a new development environment to enable “technology at the edge” to support real-time development of new Data Science models/algorithms at mission partner sites to enhance existing or future Catapult Machine Learning models. Implement role-based access control and dynamic query analytics across Catapult data through Elastic Search to enable users to quickly retrieve known affiliates, family members, contacts, aliases, email addresses and other information about entities and enemy threat networks without running additional queries. - Create “Functions as a Service” by commoditizing common used functions and analytics across the ANTS to 	1.687	8.440	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JS / <i>Assist Situational Understanding</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>enable scalability and elasticity across the tool suite allowing ANTS capabilities to execute analytics against larger and more diverse data sets.</p> <ul style="list-style-type: none"> - Extend Catapult architecture to allow for shared services across Whole of Government to enable MIT developed analytics to be re-used in other platforms and tools across various IC and DoD organizations. - Develop Active Learning interface and pipeline to enable crowdsourced input for training and tagging data to feed new Data Science machine learning models. - Modularize Catapult's Data Processing Framework to enable targeted data transformation based on data source, artifact mime type, artifact size, or any number of other source specific properties; Add better processing support for structured data, imagery, financial, SIGINT, Measurement and Signature Intelligence (MASINT), Internet of Things (IoT), and cyber data to broaden the scope of the Catapult Analytics stack. - Enable collaborative VR capabilities to assist mission planning and force protection by extending existing VR capabilities to enable multi-user support and shared walkthroughs of 3D models. - Determine the best techniques to shrink neural network algorithms to work on low power and small computer platforms such as cameras or SUASs (Real-time Processing at the Edge wrapping up in early FY 2021). - Determine the capabilities that go beyond simple content identification and labeling, and move toward understanding the story and context of the video or image (Computer Vision for Improvised Threats). - Determine unsupervised and supervised techniques to cluster relevant information and enable accurate insight for analysts to improve the understanding of (1) themes, (2) intent of extracted text, (3) topics, (4) authenticity, etc. within the given data set(s) (Natural Language Processing – Understanding and Context). - Improve processing with alternative hardware (neuromorphic processors, Field Programmable Gate Arrays, etc.) by determining the best next generation hardware designed to maximize the runtime efficiency, accuracy, and limited space/power consumption of select AI/ML solutions. <p>FY 2022 Plans: N/A</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY 2021 to FY 2022 is due to the realignment of resources from Project JS - Assist Situational Understanding to O&M funding for technology transformation sustainment and combatant command embedded analytical support teams, and 2) the realignment of resources to the new PE 0604551BR to better reflect the nature of these ongoing and enduring activities in support of Catapult.</p>			
Accomplishments/Planned Programs Subtotals	1.687	8.440	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JS / <i>Assist Situational Understanding</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 11/0602134BR/JS: <i>Counter Improvised-Threat Advanced Studies</i>	1.175	1.199	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Assessment and selection of best performer to provide contractual services to develop and operationalize requirements through the new Enterprise Acquisition Strategy Initiative (EASI) at the least risk, optimal cost and proven technically. Performer base selection includes research developers across DoD and other Government agency laboratories, academia, and industry.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JS / Assist Situational Understanding
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	C/CPAF	Booz Allen Hamilton : Reston, VA	2.435	0.000		-		-		-		-	-	-	-
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	C/CPAF	Booz Allen Hamilton : Reston, VA	3.653	0.000		-		-		-		-	-	-	-
Sandia	MIPR	Sandia National Laboratories : Reston, VA	0.063	0.040	Oct 2019	-		-		-		-	-	-	-
IRTM	MIPR	Office of Naval Research : Arlington, VA	0.257	-		-		-		-		-	-	-	-
Network	C/FFP	John Hopkins : Baltimore, MD	1.815	-		-		-		-		-	-	-	-
Vehicle-Borne IED (VBIED)	C/CPFF	Naval Surface Warfare Command : Dahlgren, VA	8.500	-		-		-		-		-	-	-	-
Catapult Information System	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		5.374	Aug 2021	-		-		-	-	-	-
Subtotal			16.723	0.040		5.374		-		-		-	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JS / Assist Situational Understanding
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	C/CPAF	Booz Allen Hamilton : Reston, VA	0.812	-		-		-		-		-	-	-	-
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	C/CPAF	Booz Allen Hamilton : Reston, VA	1.217	0.000		-		-		-		-	-	-	-
QRC IT Network (OIR)	C/CPAF	Booz Allen Hamilton : Reston, VA	1.366	0.090	Mar 2020	-		-		-		-	-	-	-
QRC IT Network (RS)	C/CPAF	Booz Allen Hamilton : Reston, VA	0.258	0.090	Mar 2020	-		-		-		-	-	-	-
Sandia	MIPR	Sandia National Laboratories : Reston, VA	0.226	0.120	Oct 2019	-		-		-		-	-	-	-
Carnegie Mellon University-Software Engineering Institute (CMU-SEI)	MIPR	Carnegie Mellon University/SEI : Hanscomb AFB, MA	0.215	0.000		-		-		-		-	-	-	-
Catapult Information System Support	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		0.515	Aug 2021	-		-		-	-	-	-
Subtotal			4.094	0.300		0.515		-		-		-	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing	Project (Number/Name) JS / Assist Situational Understanding
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	C/CPAF	Booz Allen Hamilton : Reston, VA	0.812	0.000		-		-		-		-	-	-	-
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	C/CPAF	Booz Allen Hamilton : Reston, VA	1.217	0.639		-		-		-		-	-	-	-
QRC IT Network (OIR)	C/CPAF	Booz Allen Hamilton : Reston, VA	1.078	0.234	Mar 2020	-		-		-		-	-	-	-
QRC IT Network (RS)	C/CPAF	Booz Allen Hamilton : Reston, VA	1.030	0.234	Mar 2020	-		-		-		-	-	-	-
Sandia	MIPR	Sandia National Laboratories : Reston, VA	0.378	0.240	Oct 2019	-		-		-		-	-	-	-
SETA Capability Research Architecture Cell (CRAC)	C/CPAF	Zel Technologies : Reston, VA	2.281	0.000		-		-		-		-	-	-	-
Catapult Information System	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		0.944	Aug 2021	-		-		-	-	-	-
SETA Capability Research Architecture Cell (CRAC)	C/CPAF	Zell Technologies : Reston, VA	-	-		1.607	Sep 2021	-		-		-	-	-	-
Subtotal			6.796	1.347		2.551		-		-		-	-	-	N/A
Project Cost Totals			27.613	1.687		8.440		-		-		-	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency							Date: May 2021		
Appropriation/Budget Activity 0400 / 4			R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>			Project (Number/Name) JS / <i>Assist Situational Understanding</i>			

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JS / <i>Assist Situational Understanding</i>

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Assist Situational Understanding																												
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support																												
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)																												
QRC IT Network (OIR)																												
QRC IT Network (RS)																												
Sandia																												
SETA Capability Research Architecture Cell (CRAC)																												
Catapult / CTN Tool Suite Program of Record Support																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Assist Situational Understanding																												
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support																												
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)																												
QRC IT Network (OIR)																												
QRC IT Network (RS)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / <i>Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing</i>	Project (Number/Name) JS / <i>Assist Situational Understanding</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Assist Situational Understanding</i>				
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	4	2016	4	2019
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	4	2016	4	2019
QRC IT Network (OIR)	2	2017	2	2021
QRC IT Network (RS)	2	2017	2	2021
Sandia	1	2020	4	2021
SETA Capability Research Architecture Cell (CRAC)	4	2016	4	2021
Catapult / CTN Tool Suite Program of Record Support	4	2016	4	2021

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	8.110	0.000	7.166	-	7.166	-	-	-	-	-	-
RA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	-	8.110	0.000	7.166	-	7.166	-	-	-	-	-	-

Note

Catapult activities were previously justified under program element 0604134BR, Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing were realigned to this program element to better reflect the nature of these ongoing and enduring activities.

A. Mission Description and Budget Item Justification

This program element designs, develops, tests, and delivers mission capabilities that support the ability to aggregate, and analyze data on global emerging threats and expedites DTRA's technology transition from the laboratory to operational use to reduce risk within the acquisition process. This is done by evaluating integrated technologies or prototype systems in a high quality and realistic operating environment.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	8.110	0.000	7.166	-	7.166
Total Adjustments	8.110	0.000	7.166	-	7.166
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Realignment	8.110	-	7.166	-	7.166

Change Summary Explanation

The increase in FY 2022 from the previous President's Budget is due to the realignment of Catapult and TACEON RDT&E resources from PE 0604134BR to this new PE 0604551BR to better reflect the nature of these ongoing and enduring activities. In FY 2020, \$8.110 million was appropriately executed in PE 0604134BR for the Catapult Program of Record. Within the exhibit, execution is reflected in PE 0604551BR which was newly established for Catapult beginning in FY 2022.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>				Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	-	8.110	0.000	7.166	-	7.166	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project enables DTRA's Catapult Information System Program to design, develop, test, and deliver mission capabilities that support the ability to aggregate, and analyze data on global emerging threats. Catapult allows DTRA to rapidly develop, engineer, test and deploy analytical tools, data science methodologies, and software applications in support of the Warfighter. Catapult and its associated Attack the Network Tool Suite (ANTS) integrates data sources that support the detection and identification of improvised threats, threat networks and actors, command and control, operations, intelligence, and engagement for neutralizing, attacking, and defeating both current and emerging improvised threats and threat networks.

DTRA's Mission Information Technology (MIT) capability, with its embedded Combatant Command (CCMD), Capability Data Integrators (CDIs), and reachback staff work continuously to create capabilities requested by users from the DoD, the Intelligence Community (IC), interagency partners, and the Whole of Government to ingest, fuse, analyze, and present mission-relevant data and information to users of their customized, mission-oriented tools and services. These capabilities reside in Catapult, a cloud technology-based data analytics platform developed and being delivered by DTRA that provides an extensible, continuously augmented, real-time repository of data on improvised threats and worldwide threat actors. Catapult is fully operational and accredited on the Secret Internet Protocol Router Network (SIPRNet) and Joint Worldwide Intelligence Communications System (JWICS). The Catapult architecture pulls from more than 850 data sources on SIPRNet and more than 170 data sources on JWICS. Catapult uses a set of more than 100 tools (ANTS) and services to provide national-level capabilities for data and information capture, discovery, access, aggregation, correlation, visualization, analysis, sharing, and distribution for users from the strategic level to the tactical edge.

This project also funds the Team for Analysis of Cyber Enterprise Operations and Networks (TACEON), which conducts market research as well as evaluates and coordinates commercially available or government-owned data technologies that can provide DTRA and its mission partners with an information advantage. TACEON will be used as an enterprise resource and not only provide services to the IT Directorate but also to other Agency IT stakeholders as well as mission partners in DTRA's quest to hone our data, information and knowledge technologies for worldwide mission support. TACEON will help with our evolution from a data to information and eventually to a knowledge centric organization.

The project achieves transformational mission capabilities and postures the Agency to meet emerging mission requirements through innovative technology solutions and service upgrades, Knowledge Management (KM) and Business Intelligence (BI) solutions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	8.110	0.000	7.166

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: This Project enables DTRA's Catapult Information System Program to design, develop, test, and deliver mission capabilities that support the ability to aggregate, and analyze data on global emerging threats. Catapult allows DTRA to rapidly develop, engineer, test and deploy analytical tools, data science methodologies, and software applications in support of the Warfighter.</p> <p>This project also funds the SETA Capability Research Architecture Cell (CRAC) which identifies, investigates, explores, evaluates, and tests prototypes of emerging and cutting edge information technology that provides superior advantage to analysts and warfighters. CRAC builds partnerships with mission partners in DoD, IC, IA, Academia, National Labs and Industry to support, develop and integrate plans, programs, requirements, resources, technology and innovations across the mission spectrum for DTRA.</p> <p>The project achieves transformational mission capabilities and postures the Agency to meet emerging mission requirements through innovative technology solutions and service upgrades, Knowledge Management (KM) and Business Intelligence (BI) solutions.</p> <p>FY 2021 Plans: N/A</p> <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Develop predictive Data Science models through supervised and unsupervised Machine Learning against current and emerging threats; including fusion of multi-INT data across unclassified and classified data sets to identify networks and locations of interest to DTRA and its mission partners. - Create a new development environment to enable "technology at the edge" to support real-time development of new Data Science models/algorithms at mission partner sites to enhance existing or future Catapult Machine Learning models. Implement role-based access control and dynamic query analytics across Catapult data through Elastic Search to enable users to quickly retrieve known affiliates, family members, contacts, aliases, email addresses and other information about entities and enemy threat networks without running additional queries. - Create "Functions as a Service" by commoditizing common used functions and analytics across the ANTS to enable scalability and elasticity across the tool suite allowing ANTS capabilities to execute analytics against larger and more diverse data sets. - Extend Catapult architecture to allow for shared services across Whole of Government to enable analytics to be re-used in other platforms and tools across various IC and DoD organizations. - Develop Active Learning interface and pipeline to enable crowdsourced input for training and tagging data to feed new Data Science machine learning models. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>- Modularize Catapult’s Data Processing Framework to enable targeted data transformation based on data source, artifact mime type, artifact size, or any number of other source specific properties; Add better processing support for structured data, imagery, financial, SIGINT, Measurement and Signature Intelligence (MASINT), Internet of Things (IoT), and cyber data to broaden the scope of the Catapult Analytics stack.</p> <p>- Determine the capabilities that go beyond simple content identification and labeling, and move toward understanding the story and context of the video or image (Computer Vision for Improvised Threats).</p> <p>- Determine unsupervised and supervised techniques to cluster relevant information and enable accurate insight for analysts to improve the understanding of (1) themes, (2) intent of extracted text, (3) topics, (4) authenticity, etc. within the given data set(s) (Natural Language Processing – Understanding and Context).</p> <p>- Improve processing with alternative hardware (neuromorphic processors, Field Programmable Gate Arrays, etc.) by determining the best next generation hardware designed to maximize the runtime efficiency, accuracy, and limited space/power consumption of select AI/ML solutions.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase from FY 2021 to FY 2022 is due to the realignment of Catapult and TACEON resources from Project PE 0604134BR to this new PE 0604551BR to better reflect the nature of these ongoing and enduring activities.</p>			
Accomplishments/Planned Programs Subtotals	8.110	0.000	7.166

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 22/0602178BR: <i>CWMD Applied Research</i>	45.359	40.615	48.112	-	48.112	-	-	-	-	-	-
• 31/0603160BR: <i>CWMD Advanced Technology Development</i>	61.317	46.837	84.660	-	84.660	-	-	-	-	-	-
• 143/0605502BR: <i>Small Business Innovative Research</i>	13.329	0.000	0.000	-	0.000	-	-	-	-	-	-

Remarks
N/A

D. Acquisition Strategy
Assessment and selection of best performers to provide contractual services to develop and operationalize requirements through the new future contract vehicle (IMAX) at the least risk, optimal cost and proven technically. Performer base selection includes research developers across DoD and other Government agency laboratories, academia, and industry.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Catapult Information System	C/CPAF	TBD : TBD	-	5.218	Aug 2020	-		5.969	Aug 2022	-		5.969	Continuing	Continuing	-
Subtotal			-	5.218		-		5.969		-		5.969	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Catapult Information System	C/CPAF	Booz Allen Hamilton : Reston, VA	-	0.917	Aug 2020	-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.917		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Catapult Information System	C/CPAF	TBD : TBD	-	0.500	Mar 2020	-		0.963	Aug 2022	-		0.963	Continuing	Continuing	-
Team for Analysis of Cyber Enterprise Operations and Networks (TACEON)	C/CPAF	TBD : TBD	-	-		-		0.234	Sep 2022	-		0.234	Continuing	Continuing	-
SETA - Capability Research Architecture Cell (CRAC)	C/CPAF	Zel Technologies : Reston, VA	-	1.475	Jan 2020	-		-		-		-	Continuing	Continuing	-
Subtotal			-	1.975		-		1.197		-		1.197	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		-	8.110	0.000	7.166	-	7.166	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>
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	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks	
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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Catapult and Technology Analysis</i>	
Catapult / CTN Tool Suite Program of Record Support	
Team for Analysis of Cyber Enterprise Operations and Networks (TACEON)	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604551BR / <i>Catapult</i>	Project (Number/Name) RA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Catapult and Technology Analysis</i>				
Catapult / CTN Tool Suite Program of Record Support	4	2022	4	2026
Team for Analysis of Cyber Enterprise Operations and Networks (TACEON)	4	2022	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	15.332	15.650	14.063	-	14.063	-	-	-	-	-	-
MA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	0.000	5.462	0.000	0.000	-	0.000	-	-	-	-	-	-
RD: <i>Nuclear Technologies and Capabilities Development</i>	0.000	9.870	15.650	14.063	-	14.063	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Counter Weapons of Mass Destruction (CWMD) Systems Development program element supports the development and demonstration of technologies and systems for the CWMD mission, including modeling and simulation (M&S) capabilities, verification and monitoring technologies, and decision support systems.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	13.100	15.650	14.803	-	14.803
Current President's Budget	15.332	15.650	14.063	-	14.063
Total Adjustments	2.232	0.000	-0.740	-	-0.740
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.232	-			
• SBIR/STTR Transfer	-	-			
• Realignments	-	-	-0.740	-	-0.740

Change Summary Explanation

The decrease in FY 2022 from the previous President's Budget is due to re-phasing of funding from FY 2022 to FY 2023 and FY 2024 to better align funding to mission requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>				Project (Number/Name) MA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
MA: <i>CWMD Cross-Cutting Technical and Information Sciences</i>	0.000	5.462	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In an October 29, 2018 memorandum, the Deputy Secretary of Defense directed the transfer of Mission Assurance Risk Management System (MARMS) program management responsibilities from the Department of Defense Chief Information Officer (DoD CIO) to the Defense Threat Reduction Agency (DTRA), in light of DTRA's role in conducting Joint Mission Assurance Assessments. Prior to FY 2020, funding for MARMS is captured in program element 0605170D8Z; beginning in FY 2021 funding for MARMS is captured in a newly established program element, 0605141BR.

A. Mission Description and Budget Item Justification

The Mission Assurance Risk Management System (MARMS) is a Department of Defense (DoD) risk management system that directly supports the Secretary of Defense's Mission Assurance (MA) responsibilities as defined in the DoD Directive (DoDD) 3020.40, Mission Assurance, with the objectives of creating resilience and supporting critical processes to enable the protection of assets and ensuring defense critical missions. MARMS will function as an integration framework spanning multiple security domains that will support risk-informed decision-making, resource investment, and improved synchronization at different levels within DoD. MARMS supports multiple Joint Capability Areas (JCA): Command and Control, Logistics, and Protection. MARMS is an acquisition category (ACAT) III software program and has a "high" impact value for each of the three security objectives (confidentiality, integrity, and availability) in accordance with DoD Instruction (DoDI) 8510.01 and the Committee on National Security Systems Instruction (CNSSI) 1253.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: MA - Mission Assurance Risk Management System	5.462	0.000	0.000
Description: MARMS Requirements Definition Package (RDP)-1 defines multiple spirals of major technological improvements. Each spiral is comprised of multiple Capability Drops (CD) that defined specific capabilities. RDP-1 defines seven (7) capability drops focusing on the collection, analysis, warehousing, sharing, protection, and accessing of Defense Critical Infrastructure (DCI) and AntiTerrorism (AT) data supporting multiple types and levels of trusted users.			
FY 2021 Plans: N/A			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) MA / CWMD Cross-Cutting Technical and Information Sciences

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
No change from the previous President's Budget.			
Accomplishments/Planned Programs Subtotals	5.462	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 140/0605141BR: <i>Mission Assurance Risk Management System</i>	0.000	5.500	5.500	-	5.500	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) MA / CWMD Cross-Cutting Technical and Information Sciences
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CD1 - Information Sharing and Lead Integration	MIPR	U.S. Army Futures Command : Picatinny Arsenal, NJ	-	2.629	Feb 2020	-		-		-		-	0.000	2.629	-
CD2 - Assessment Capability	C/CPFF	Alion Science & Technology : McLean, VA	-	0.690	Feb 2020	-		-		-		-	0.000	0.690	-
CD3 - Existing System Upgrades	MIPR	Naval Surface Warfare Center : Dahlgren, VA	-	0.700	Feb 2020	-		-		-		-	0.000	0.700	-
CD3 - Existing System Upgrades	MIPR	U.S Strategic Command (STRATCOM) : Offutt, NE	-	0.400	Feb 2020	-		-		-		-	0.000	0.400	-
CD4 - Workspace/Viewer on Secret Internet Protocol Router Network (SIPR) and CD5 - Workspace/Viewer on Joint Worldwide Intelligence Communications System (JWICS)	C/CPFF	TBD : TBD	-	0.560	Feb 2020	-		-		-		-	0.000	0.560	-
CD5 - Workspace/Viewer on Joint Worldwide Intelligence Communications System (JWICS)	C/CPFF	Institute for Defense Analysis : Washington, DC	-	0.390	Feb 2020	-		-		-		-	0.000	0.390	-
MARMS Hosting	MIPR	Acquisition, Logistics, and Technology Enterprise Systems and Services (ALTESS) : Radford, VA	-	0.093	Jan 2020	-		-		-		-	0.000	0.093	-
Subtotal			-	5.462		-		-		-		-	0.000	5.462	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency										Date: May 2021	
Appropriation/Budget Activity 0400 / 5				R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development				Project (Number/Name) MA / CWMD Cross-Cutting Technical and Information Sciences			
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	-	5.462	0.000	-	-	-	0.000	5.462	N/A		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) MA / CWMD Cross-Cutting Technical and Information Sciences

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Capability Drop 1: Information Sharing																												
Development																												
Modernization and Integration																												
Capability Drop 2: Assessment Capability																												
Development																												
Modernization and Integration																												
Capability Drop 3: System Upgrades																												
Development																												
Capability Drop 4: Workspace/Viewer on SIPR																												
Development																												
Capability Drop 5: Workspace/Viewer on JWICS																												
Development																												
Capability Drop 6: Cross Domain Solution - Low to High																												
Development																												

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Capability Drop 1: Information Sharing																												
Development																												
Modernization and Integration																												
Capability Drop 2: Assessment Capability																												
Development																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) MA / CWMD Cross-Cutting Technical and Information Sciences
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Modernization and Integration	[REDACTED]																											
Capability Drop 3: System Upgrades																												
Development	[REDACTED]																											
Capability Drop 4: Workspace/Viewer on SIPR																												
Development	[REDACTED]																											
Capability Drop 5: Workspace/Viewer on JWICS																												
Development	[REDACTED]																											
Capability Drop 6: Cross Domain Solution - Low to High																												
Development	[REDACTED]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>	Project (Number/Name) MA / <i>CWMD Cross-Cutting Technical and Information Sciences</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Capability Drop 1: Information Sharing				
Development	4	2017	3	2019
Modernization and Integration	1	2020	4	2020
Capability Drop 2: Assessment Capability				
Development	1	2018	3	2019
Modernization and Integration	1	2020	4	2020
Capability Drop 3: System Upgrades				
Development	1	2018	4	2020
Capability Drop 4: Workspace/Viewer on SIPR				
Development	2	2018	4	2020
Capability Drop 5: Workspace/Viewer on JWICS				
Development	1	2019	4	2020
Capability Drop 6: Cross Domain Solution - Low to High				
Development	1	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development				Project (Number/Name) RD / Nuclear Technologies and Capabilities Development			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RD: Nuclear Technologies and Capabilities Development	0.000	9.870	15.650	14.063	-	14.063	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the development of capabilities for the Defense Threat Reduction Agency (DTRA) to counter proliferation and weapons of mass destruction (WMD) and to model the consequences of the use of nuclear weapons and integrate these capabilities for Combatant Command use.

DTRA's Enhanced Consequence Analysis (ECA) program performs Research, Development, Test, and Evaluation (RDT&E) to improve the reliability and effectiveness of capabilities related to the consequence of execution of a nuclear weapon. This program delivers nuclear weapon effects (NWE) decision support tools for use during strategic and operational planning. The ECA program directly supports U.S. and allied warfighter planning requirements, including the Integrated Strategic Planning and Analysis Network Increment 5 (ISPAN Inc 5), an acquisition category (ACAT) 1A Major Automated Information System (MAIS) that supports developing nuclear and conventional force application plans.

DTRA's Nuclear Arms Control Technologies (NACT) program performs Research, Development, Test, and Evaluation (RDT&E) to improve the sustainability, reliability, and effectiveness of capabilities related to its operational mission to install, operate, maintain, and sustain the waveform and radionuclide nuclear detonation detection stations and a radionuclide analysis laboratory comprising the majority of the U.S. portion of the International Monitoring System (IMS). This system delivers data continuously to the U.S. monitoring and verification community supporting warfighter and interagency nuclear-event response in support of U.S. and Department of Defense (DoD). The NACT program directly supports U.S. and allied warfighter and national technical monitoring requirements and provides vital data used by the treaty monitoring community, warfighter planners, DoD, other U.S. Government agencies, and international agencies.

The Nuclear Capabilities Services (NuCS) project performs RDT&E to improve capabilities to model nuclear weapon effects (NWE) environments and simulate the response of systems and networks to these effects. Starting with NWE modeling & simulation (M&S) capabilities rooted in the DoD nuclear testing program, NuCS augments these legacy codes through integration of higher-fidelity reduced-order models built by DTRA applied research efforts that combine first-principle science & technology M&S and experimental research. Through technology updates to legacy codes and integration of new models, NuCS provide a standard source of NWE M&S capabilities for all DoD users. The Enhanced Consequence Analysis (ECA) project integrates NuCS capabilities and integrates these modeling and simulation (M&S) capabilities with operational databases and systems and works with end-users to provide a user experience specifically designed for nuclear planning. Together, these programs support of United States and allied planning and decision making in the event of nuclear weapon use.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RD - Nuclear Technologies and Capabilities Development	9.870	15.650	14.063

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: Project RD supports the NuCS, NACT, and ECA projects conducting RDT&E to support U.S. and allied nuclear planning and decision-making requirements.</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> - Leverage and conduct conventional high explosive test events to evaluate U.S. IMS performance and validate geophysical models. - Continue to integrate data from IMS infrastructure and upgrade IMS technologies in support of DoD and Interagency nuclear-event response missions and treaty compliance. - Integrate IMS into appropriate DoD and interagency exercises to ensure stakeholder involvement in system optimization and to leverage, to the fullest extent possible, all IMS data streams in informing partner exercise activities. - Develop new and upgraded treaty-monitoring capabilities that will support nuclear-event response and strategic DoD missions. - Participate in international and interagency-sponsored technology development exchanges to ensure IMS research and engineering activities remain current and relevant. - Establish baseline of integrated nuclear weapon effects modeling and simulation capabilities that have completed V&V (document verification and validation activities and develop training materials for operators and subject-matter experts who develop and use planning and decision-making systems). - Deliver initial solution for calculating nuclear weapon effects to be integrated into existing planning and decision-support systems at U.S. and allied commands. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Improve and expand the NWE M&S capabilities available to be integrated in the NuCS and ECA programs for delivery to end-user programs. - Demonstrate newly-integrated NWE M&S capabilities and establish priorities for improving and delivering these capabilities through early user assessment engagements with end-users. - Continue to integrate improved NWE M&S capabilities into U.S. and allied planning and decision support systems in support of DoD nuclear planning requirements. - Conduct Research and Development in support of U.S. IMS sites globally. - Provide upgrades to U.S. IMS sites globally, as required. <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY 2021 to FY 2022 is due to reduced investment in nuclear and radiological effects enhanced consequence management in this program element.</p>			
Accomplishments/Planned Programs Subtotals	9.870	15.650	14.063

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 22/0602718BR/RD: <i>Counter Weapons of Mass Destruction Applied Research</i>	81.198	92.492	101.229	-	101.229	-	-	-	-	-	-
• 31/0603160BR/RD: <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	62.407	50.816	50.417	-	50.417	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Assess government, academic, and industrial performers and make selections based upon a "best fit for task" criteria. Common government awardees include DoD Service Laboratories and the Department of Energy National Laboratories.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) RD / Nuclear Technologies and Capabilities Development
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Enhanced Consequence Analysis (ECA) capability development	C/CPFF	Booz Allen Hamilton : McLean, VA	-	-		-		2.100	Nov 2021	-		2.100	Continuing	Continuing	-
Nuclear Capabilities Service (NuCS) nuclear weapon effects models and integration development	C/CPFF	Applied Research Associates : Raleigh, NC	-	-		-		0.300	Nov 2021	-		0.300	Continuing	Continuing	-
Nuclear Capabilities Service (NuCS) nuclear weapon effects models and integration development	TBD	TBD : TBD	-	-		-		1.100	Mar 2022	-		1.100	Continuing	Continuing	-
TBD	C/CPAF	TBD : TBD	-	2.555		-		-		-		-	Continuing	Continuing	-
Subtotal			-	2.555		-		3.500		-		3.500	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Radionuclide sensor, station, laboratory and network improvements	FFRDC	Pacific Northwest National Laboratory : Richland, WA	-	1.550	Jan 2020	1.212	Jan 2021	1.236	Jan 2022	-		1.236	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	FFRDC	Sandia National Laboratory : Albuquerque, NM	-	1.850	Jan 2020	1.350	Jan 2021	1.377	Jan 2022	-		1.377	Continuing	Continuing	-
Radionuclide sensor, station, and network Improvements	MIPR	Air Force Technical Application Center : Patrick AFB, FL	-	0.500	Dec 2019	0.390	Feb 2021	0.398	Feb 2022	-		0.398	Continuing	Continuing	-
Radionuclide sensor, station, laboratory and network improvements	C/CPFF	General Dynamics Mission Systems, Inc. : Fairfax, VA	-	0.435	Nov 2019	0.446	Nov 2020	0.455	Nov 2021	-		0.455	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) RD / Nuclear Technologies and Capabilities Development
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Station, and network Improvements	C/CPFF	Leidos Innovations Corp : Alexandria, VA	-	0.200	Apr 2020	0.240	Nov 2020	0.245	Nov 2021	-		0.245	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements	C/CPFF	Pennsylvania State University : State College, PA	-	0.400	Feb 2020	0.450	Jan 2021	0.459	Jan 2022	-		0.459	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements	C/CPFF	University of Alaska Fairbanks : Fairbanks, AK	-	0.143	Mar 2020	0.000		0.000		-		0.000	Continuing	Continuing	-
IMEA Software Development	C/CPFF	Applied Research Associates, Inc : Alexandria, VA	-	0.200	Jan 2020	0.200	Feb 2021	0.204	Feb 2022	-		0.204	Continuing	Continuing	-
IMS Gas Background Analysis	FFRDC	Argonne National Laboratory : Argonne, IL	-	0.200	Dec 2019	0.000		0.000		-		0.000	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	C/TBD	TBD : TBD	-	0.160	Mar 2020	0.500	Mar 2021	0.510	Mar 2022	-		0.510	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements	MIPR	US Army Corps of Engineers : Vicksburg, MS	-	0.100	Dec 2019	0.300	Jan 2021	0.306	Jan 2022	-		0.306	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements	MIPR	Missile Defense Agency : Fort Belvoir, VA	-	0.650	Mar 2020	0.000		0.000		-		0.000	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements	C/TBD	University of Alaska : Fairbanks, AK	-	0.500	Feb 2020	0.500	Feb 2021	0.510	Feb 2022	-		0.510	Continuing	Continuing	-
Radionuclide sensor, station, and network Improvements	FFRDC	Savannah River National Laboratory : Savannah River Site Aiken, SC	-	0.404	Apr 2020	0.750	Mar 2021	0.765	Mar 2022	-		0.765	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) RD / Nuclear Technologies and Capabilities Development
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Seismic and Infrasound sensor, station, and network Improvements	MIPR	DIA/MSIC : TBD	-	-		0.250	Mar 2021	0.255	Mar 2022	-		0.255	Continuing	Continuing	-
Seismic and Infrasound sensor, station, and network Improvements; validation and verification testing	FFRDC	Lawrence Livermore National Laboratory : Livermore, CA	-	-		0.950	Jan 2021	0.969	Jan 2022	-		0.969	Continuing	Continuing	-
Nuclear weapon effects models and integrated NuCS core architecture development	C/CPFF	Applied Research Associates : Raleigh, NC	-	-		3.000	Jul 2021	0.000		-		0.000	Continuing	Continuing	-
Enhanced consequence analysis initial capability	C/CPFF	TBD : TBD	-	-		5.000	Jul 2021	0.000		-		0.000	Continuing	Continuing	-
Subtotal			-	7.292		15.538		7.689		-		7.689	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ECA T&E	C/CPFF	Booz Allen Hamilton : McLean, VA	-	-		-		1.200	Nov 2021	-		1.200	Continuing	Continuing	-
NuCS T&E	C/CPFF	Applied Research Associates : Raleigh, NC	-	-		-		0.500	Nov 2021	-		0.500	Continuing	Continuing	-
NuCS T&E	TBD	TBD : TBD	-	-		-		1.060	Mar 2022	-		1.060	Continuing	Continuing	-
Subtotal			-	-		-		2.760		-		2.760	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>
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Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	Reqn	Various : Various	-	0.023	Nov 2019	0.112	Nov 2020	0.114	Nov 2021	-		0.114	Continuing	Continuing	-
Subtotal			-	0.023		0.112		0.114		-		0.114	Continuing	Continuing	N/A
			Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	9.870		15.650		14.063		-		14.063	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / Counter Weapons of Mass Destruction Systems Development	Project (Number/Name) RD / Nuclear Technologies and Capabilities Development
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Enhanced Consequence Analysis (ECA)																												
Assessment of software readiness, strategic and operational planning networks, and DoD and Allied requirements																												
Development of initial ECA decision support capability and establishment of software development pipeline for future capability enhancements																												
Test and evaluation of ECA integrated nuclear weapon effects models in preparation for deployment on strategic and operational planning networks																												
Deployment of ECA decision support tools on DoD and Allied strategic and operational planning networks																												
Update ECA decision support tools and integrate new nuclear weapon effects models once mature and available to meet DoD and Allied planning requirements																												
Train users on the employment, assumptions, and limitation of ECA nuclear weapon decision support tools																												
Nuclear Capabilities Services (NuCS)																												
Release initial cloud-compatible capabilities																												
Develop and deliver capabilities planned for 2022 production release																												
Demonstrate modeling and simulation capabilities and enable early user assessment for 2022 production release																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Testing, verification, and validation activities and documentation development for 2022 production release																												
Develop training materials for 2022 production release																												
Develop and deliver capabilities planned for 2023 production release																												
Demonstrate modeling and simulation capabilities and enable early user assessment for 2023 production release																												
Testing, verification, and validation activities and documentation development for 2023 production release																												
Update and deliver training on released capabilities																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Enhanced Consequence Analysis (ECA)</i>				
Assessment of software readiness, strategic and operational planning networks, and DoD and Allied requirements	1	2020	4	2021
Development of initial ECA decision support capability and establishment of software development pipeline for future capability enhancements	3	2020	2	2021
Test and evaluation of ECA integrated nuclear weapon effects models in preparation for deployment on strategic and operational planning networks	4	2020	1	2025
Deployment of ECA decision support tools on DoD and Allied strategic and operational planning networks	1	2021	1	2023
Update ECA decision support tools and integrate new nuclear weapon effects models once mature and available to meet DoD and Allied planning requirements	2	2021	1	2025
Train users on the employment, assumptions, and limitation of ECA nuclear weapon decision support tools	4	2021	1	2025
<i>Nuclear Capabilities Services (NuCS)</i>				
Release initial cloud-compatible capabilities	1	2021	2	2021
Develop and deliver capabilities planned for 2022 production release	2	2021	2	2022
Demonstrate modeling and simulation capabilities and enable early user assessment for 2022 production release	1	2021	4	2022
Testing, verification, and validation activities and documentation development for 2022 production release	1	2021	4	2022
Develop training materials for 2022 production release	1	2021	4	2022
Develop and deliver capabilities planned for 2023 production release	2	2022	2	2023
Demonstrate modeling and simulation capabilities and enable early user assessment for 2023 production release	2	2022	3	2026

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605000BR / <i>Counter Weapons of Mass Destruction Systems Development</i>	Project (Number/Name) RD / <i>Nuclear Technologies and Capabilities Development</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Testing, verification, and validation activities and documentation development for 2023 production release	2	2022	3	2026
Update and deliver training on released capabilities	2	2022	3	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605141BR / <i>Mission Assurance Risk Management System (MARMS)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	5.500	5.500	-	5.500	-	-	-	-	-	-
MA: <i>Mission Assurance Risk Management System</i>	0.000	0.000	5.500	5.500	-	5.500	-	-	-	-	-	-

Note

In an October 29, 2018 memorandum, the Deputy Secretary of Defense directed the transfer of Mission Assurance Risk Management System (MARMS) program management responsibilities from the Department of Defense Chief Information Officer (DoD CIO) to the Defense Threat Reduction Agency (DTRA), in light of DTRA's role in conducting Joint Mission Assurance Assessments. Prior to FY 2020, funding for MARMS is captured in program element 0605170D8Z; beginning in FY 2021 funding for MARMS is captured in this program element.

A. Mission Description and Budget Item Justification

MARMS is a Department of Defense (DoD) risk management system that directly supports the Secretary of Defense's Mission Assurance (MA) responsibilities as defined in the DoD Directive (DoDD) 3020.40, Mission Assurance, with the objectives of creating resilience and supporting critical processes to enable the protection of assets and ensuring defense critical missions. MARMS will function as an integration framework spanning multiple security domains that will support risk-informed decision-making, resource investment, and improved synchronization at different levels within DoD. MARMS supports multiple Joint Capability Areas (JCA): Command and Control, Logistics, and Protection. MARMS is an acquisition category (ACAT) III software program and has a "high" impact value for confidentiality and integrity, and "medium" for the availability security objectives in accordance with DoD Instruction (DoDI) 8510.01 and the Committee on National Security Systems Instruction (CNSSI) 1253.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	0.000	5.500	5.500	-	5.500
Current President's Budget	0.000	5.500	5.500	-	5.500
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

No change since the previous President's Budget.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0605141BR / Mission Assurance Risk Management System (MARMS)				Project (Number/Name) MA / Mission Assurance Risk Management System			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
MA: Mission Assurance Risk Management System	0.000	0.000	5.500	5.500	-	5.500	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

MARMS is a Department of Defense (DoD) risk management system that directly supports the Secretary of Defense's Mission Assurance (MA) responsibilities as defined in the DoD Directive (DoDD) 3020.40, Mission Assurance, with the objectives of creating resilience and supporting critical processes to enable the protection of assets and ensuring defense critical missions. MARMS will function as an integration framework spanning multiple security domains that will support risk-informed decision-making, resource investment, and improved synchronization at different levels within DoD. MARMS supports multiple Joint Capability Areas (JCA): Command and Control, Logistics, and Protection. MARMS is an acquisition category (ACAT) III software program and has a "high" impact value for confidentiality and integrity, and "medium" for the availability security objective in accordance with DoD Instruction (DoDI) 8510.01 and the Committee on National Security Systems Instruction (CNSSI) 1253.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: MA - Mission Assurance Risk Management System	0.000	5.500	5.500
Description: MARMS is a multi-year program that encompasses a family of systems that will be integrated as part of the MARMS Requirements Definition Package (RDP)-1. The RDP-1 defines multiple spirals of major technological improvements. Each spiral is comprised of multiple Capability Drops (CD) that define specific capabilities. RDP-1 defines seven (7) capability drops focusing on the collection, analysis, warehousing, sharing, protection, and accessing of Defense Critical Infrastructure (DCI) and Anti-Terrorism (AT) data to support risk-informed decision making, resource investment and improve synchronization across Mission Assurance-related programs.			
FY 2021 Plans:			
- Continue to improve capability of the Information Sharing Data Registry (CD1) and Mission Assurance Assessments (CD2)			
- Modernize and Integrate with additional assessment capabilities (CD2 and CD3)			
-Continue to improve capability of the existing systems and the Mission Assurance Viewer and Analysis Portal on SIPR (CD3 & CD4)			
-Start development of the Mission Assurance Viewer and Analysis Portal on JWICS and enterprise cross domain solution (CD5 and CD6) toward initial capability fielding in 4th Quarter FY 2022.			
- Plan for the development effort of the Cross Domain Solutions (CDS) –JWICS to SIPR (CD7) to start in 1st Quarter FY 2022.			
FY 2022 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605141BR / <i>Mission Assurance Risk Management System (MARMS)</i>	Project (Number/Name) MA / <i>Mission Assurance Risk Management System</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
- Continue to improve the capability of the Information Sharing Registry (CD1) toward overall program initial capability fielding of antiterrorism and DCI risk data at the end of FY2022. - Modernize and integrate assessment capabilities, existing systems, and the Mission Assurance Viewer and Analysis Portal on SIPR (CD2, CD3, and CD4). - Begin modernization and integration of the Mission Assurance Viewer and Analysis Portal on JWICS (CD5) toward initial capability fielding in 4th Quarter FY 2022. - Begin modernization and integration of Cross Domain Solution – SIPR to JWICS (CD6) in 1st Quarter FY 2022 and JWICS to SIPR (CD7) in 1st Quarter FY2023.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> No change since the previous President's Budget.			
Accomplishments/Planned Programs Subtotals	0.000	5.500	5.500

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 131/0605000BR: <i>Counter Weapons of Mass Destruction Systems Development</i>	5.462	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605141BR / Mission Assurance Risk Management System (MARMS)	Project (Number/Name) MA / Mission Assurance Risk Management System
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CD1 - Information Sharing	MIPR	U.S. Army Future Command (AFC) : Picatinny Arsenal, NJ	-	-		2.795	Nov 2020	2.795	Nov 2021	-		2.795	Continuing	Continuing	-
CD2 - Assessment Capability	MIPR	USAF : Washington, DC	-	-		0.500	Feb 2021	0.500	Feb 2022	-		0.500	Continuing	Continuing	-
CD3 - Existing System Upgrades	MIPR	Naval Surface Warfare Center (NSWC) : Dahlgren	-	-		0.640	Feb 2021	0.640	Feb 2022	-		0.640	Continuing	Continuing	-
CD3 - Existing System Upgrades	MIPR	USSTRATCOM : Omaha, NE	-	-		0.250	Nov 2020	0.250	Nov 2021	-		0.250	Continuing	Continuing	-
CD4 - Workspace/Viewer on Secret Internet Protocol Router Network (SIPR)	C/CPFF	TBD : TBD	-	-		0.420	Feb 2021	0.420	Feb 2022	-		0.420	Continuing	Continuing	-
CD5 - Workspace/Viewer on Joint Worldwide Intelligence Communications System (JWICS)	C/CPFF	TBD : TBD	-	-		0.420	Feb 2021	0.420	Feb 2022	-		0.420	Continuing	Continuing	-
CD6 - Cross Domain Solution SIPR to JWICS	C/CPFF	TBD : TBD	-	-		0.350	Feb 2021	0.475	Feb 2022	-		0.475	Continuing	Continuing	-
CD7 - CD6 - Cross Domain Solution JWICS to SIPR	C/CPFF	TBD : TBD	-	-		0.125	Feb 2021	-		-		-	Continuing	Continuing	-
Subtotal			-	-		5.500		5.500		-		5.500	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	5.500	5.500	-	5.500	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605141BR / Mission Assurance Risk Management System (MARMS)	Project (Number/Name) MA / Mission Assurance Risk Management System	

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Capability Drop 1: Information Sharing	
Development	
Modernization and Integration	
Capability Drop 2: Assessment Capability	
Development	
Modernization and Integration	
Capability Drop 3: System Upgrades	
Development	
Modernization and Integration	
Capability Drop 4: Workspace/Viewer on SIPR	
Development	
Modernization and Integration	
Capability Drop 5: Workspace/Viewer on JWICS	
Development	
Modernization and Integration	
Capability Drop 6: Cross Domain Solution - Low to High	
Development	
Modernization and Integration	
Capability Drop 7: Cross Domain Solution - High to Low	
Development	
Modernization and Integration	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605141BR / <i>Mission Assurance Risk Management System (MARMS)</i>	Project (Number/Name) MA / <i>Mission Assurance Risk Management System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Capability Drop 1: Information Sharing				
Development	1	2020	4	2021
Modernization and Integration	1	2022	4	2026
Capability Drop 2: Assessment Capability				
Development	1	2020	3	2021
Modernization and Integration	4	2021	4	2026
Capability Drop 3: System Upgrades				
Development	1	2020	3	2021
Modernization and Integration	4	2021	4	2026
Capability Drop 4: Workspace/Viewer on SIPR				
Development	1	2020	4	2021
Modernization and Integration	1	2022	4	2026
Capability Drop 5: Workspace/Viewer on JWICS				
Development	1	2021	3	2022
Modernization and Integration	4	2022	4	2026
Capability Drop 6: Cross Domain Solution - Low to High				
Development	1	2021	4	2021
Modernization and Integration	1	2022	4	2026
Capability Drop 7: Cross Domain Solution - High to Low				
Development	1	2021	4	2022
Modernization and Integration	1	2023	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605502BR / <i>Small Business Innovation Research</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	82.167	13.329	0.000	0.000	-	0.000	-	-	-	-	-	-
RA: <i>Information Sciences and Applications</i>	82.167	13.329	0.000	0.000	-	0.000	-	-	-	-	-	-

Note

Funding for the SBIR Program is consolidated in this program element during the year of execution. SBIR/STTR program funding was executed in Budget Activity 6 and, therefore, does not require an R-3 or an R-4.

A. Mission Description and Budget Item Justification

The Small Business Innovative Research (SBIR) and the Small Business Technology Transfer (STTR) programs provide the means for stimulating technological innovation in the private sector, strengthens the role of small business in meeting the Department of Defense (DoD) research and development needs; fosters and encourages participation of minority and disadvantaged businesses in technological innovation; and increases the commercial application of the DoD supported research and development results. These efforts are responsive to Public Law 106-554.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	13.329	0.000	0.000	-	0.000
Total Adjustments	13.329	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	13.329	-			

Change Summary Explanation

Funding for the SBIR Program is consolidated in this program element during the year of execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605502BR / <i>Small Business Innovation Research</i>	Project (Number/Name) RA / <i>Information Sciences and Applications</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
RA: <i>Information Sciences and Applications</i>	82.167	13.329	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

*Funding is not allocated until the year of execution. Program Element 0605502BR "Small Business Innovative Research (SBIR)" is used to report year-end obligations.

A. Mission Description and Budget Item Justification

The Small Business Innovative Research (SBIR) and the Small Business Technology Transfer (STTR) programs provide the means for stimulating technological innovation in the private sector and strengthens the role of small business in meeting the Department of Defense (DoD) research and development needs. These programs foster and encourage participation of minority and disadvantaged businesses in technological innovation and increase the commercial application of DoD supported research and development results. These efforts are responsive to Public Law 106-554 Small Business Act (15 U.S.C. 638).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: RA: Information Sciences and Applications	13.329	-	-
Description: This project provides the means for stimulating technological innovation in the private sector, strengthens the role of small business in meeting the DoD research and development needs; fosters and encourages participation of minority and disadvantaged businesses in technological innovation; and increases the commercial application of the DoD supported research and development results. These efforts are responsive to Public Law 106-554.			
Accomplishments/Planned Programs Subtotals	13.329	-	-

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 22/0602718BR/RA: <i>Counter Weapons of Mass Destruction Applied Research</i>	45.359	40.615	48.112	-	48.112	-	-	-	-	-	-
• 31/0603160BR/RA: <i>Counter Weapons of Mass Destruction Advanced Technology Development</i>	61.317	46.837	84.660	-	84.660	-	-	-	-	-	-
• 107/0604551BR: <i>Catapult</i>	8.110	0.000	7.166	-	7.166	-	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605502BR / <i>Small Business Innovation Research</i>	Project (Number/Name) RA / <i>Information Sciences and Applications</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605502BR / <i>Small Business Innovation Research</i>	Project (Number/Name) RA / <i>Information Sciences and Applications</i>

Remarks

N/A - SBIR/STTR program funding was executed in Budget Activity 6 and, therefore, does not require an R-3.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605502BR / <i>Small Business Innovation Research</i>	Project (Number/Name) RA / <i>Information Sciences and Applications</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

N/A	[REDACTED]																											
-----	------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Defense Threat Reduction Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605502BR / <i>Small Business Innovation Research</i>	Project (Number/Name) RA / <i>Information Sciences and Applications</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
N/A	1	2020	1	2020

Note

N/A - SBIR/STTR program funding was executed in Budget Activity 6 and, therefore, does not require an R-4 or an R-4a.

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



DoD Human Resources Activity

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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DoD Human Resources Activity • Budget Estimates FY 2022 • RDT&E Program

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

Appropriation	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
-----	-----	-----	-----
Research, Development, Test & Eval, DW	36,843	37,919	27,509
Total Research, Development, Test & Evaluation	36,843	37,919	27,509

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
System Development & Demonstration	7,295	7,287	7,205
Management Support	29,548	30,632	20,304
Total Research, Development, Test & Evaluation	36,843	37,919	27,509
Summary Recap of FYDP Programs			
Intelligence and Communications		1,112	853
Research and Development	36,743	36,707	25,967
Training Medical and Other	100	100	689
Total Research, Development, Test & Evaluation	36,843	37,919	27,509

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

Summary Recap of Budget Activities	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request

System Development & Demonstration	7,295	7,287	7,205
Management Support	29,548	30,632	20,304
Total Research, Development, Test & Evaluation	36,843	37,919	27,509
Summary Recap of FYDP Programs			

Intelligence and Communications		1,112	853
Research and Development	36,743	36,707	25,967
Training Medical and Other	100	100	689
Total Research, Development, Test & Evaluation	36,843	37,919	27,509

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

05 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Defense Human Resources Activity	36,843	37,919	27,509
Total Research, Development, Test & Evaluation	36,843	37,919	27,509

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Sec
133	0605021SE	Homeland Personnel Security Initiative	05	7,295	7,287	7,205	U
		System Development & Demonstration		7,295	7,287	7,205	
174	0605803SE	R&D in Support of DoD Enlistment, Testing and Evaluation	06	29,448	29,420	18,762	U
187	0303140SE	Information Systems Security Program	06		1,112	853	U
196	0808709SE	Defense Equal Opportunity Management Institute (DEOMI)	06	100	100	689	U
		Management Support		29,548	30,632	20,304	
Total Research, Development, Test & Eval, DW				36,843	37,919	27,509	

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 5, 2021 at 12:32:28

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Defense Human Resources Activity
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

05 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Sec
133	0605021SE	Homeland Personnel Security Initiative	05	7,295	7,287	7,205	U
		System Development & Demonstration		7,295	7,287	7,205	
174	0605803SE	R&D in Support of DoD Enlistment, Testing and Evaluation	06	29,448	29,420	18,762	U
187	0303140SE	Information Systems Security Program	06		1,112	853	U
196	0808709SE	Defense Equal Opportunity Management Institute (DEOMI)	06	100	100	689	U
		Management Support		29,548	30,632	20,304	
Total Defense Human Resources Activity				36,843	37,919	27,509	

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DoD Human Resources Activity • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
133	05	0605021SE	Homeland Personnel Security Initiative.....	Volume 5 - 669

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
174	06	0605803SE	R&D in Support of DOD Enlistment, Testing and Evaluation.....	Volume 5 - 687
187	06	0303140SE	DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation.....	Volume 5 - 705
196	06	0808709SE	Defense Equal Opportunity Management Institute (DEOMI).....	Volume 5 - 713

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DoD Human Resources Activity • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation	0303140SE	187	06.....	Volume 5 - 705
Defense Equal Opportunity Management Institute (DEOMI)	0808709SE	196	06.....	Volume 5 - 713
Homeland Personnel Security Initiative	0605021SE	133	05.....	Volume 5 - 669
R&D in Support of DOD Enlistment, Testing and Evaluation	0605803SE	174	06.....	Volume 5 - 687

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>					PE 0605021SE / <i>Homeland Personnel Security Initiative</i>							
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	5.189	7.295	7.287	7.205	-	7.205	-	-	-	-	-	-
01: <i>Homeland Security Presidential Directive (HSPD-12) Initiative</i>	5.189	0.295	0.295	0.300	-	0.300	-	-	-	-	-	-
02: <i>Enterprise Data Services (EDS)</i>	0.000	4.200	4.195	0.000	-	0.000	-	-	-	-	-	-
03: <i>Identity Credential Management (ICM)</i>	0.000	2.800	2.797	6.905	-	6.905	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Department of Defense Human Resources Activity (DHRA) is a DoD-wide Field Activity chartered to support the Under Secretary of Defense for Personnel and Readiness (USD (P&R)). RDT&E funds are applied to continue the development of Mission Partner Identity, Credential and Access Management (ICAM) services such as the Mission Partner Registry, Multi-Factor Authentication Credential Registry and Backend Attribute Exchange to facilitate the registration and sponsorship of DoD Mission Partner's and their externally issued credentials and the associated attribute exchange service to facilitate Mission Partner access to DoD Assets. Funding is also used to research security and standards compliance improvements for the CAC and the USID card, which provides identification for personnel not eligible for the CAC. Funding for the Identity Credential Management (ICM) program supports the DoD Chief Information Officer's Identity, Credential and Access Management (ICAM) initiatives.

B. Program Change Summary (\$ in Millions)

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	7.295	7.287	7.297	-	7.297
Current President's Budget	7.295	7.287	7.205	-	7.205
Total Adjustments	0.000	0.000	-0.092	-	-0.092
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments for inflation rates.	-	-	-0.092	-	-0.092

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>
--	--

Change Summary Explanation

No change.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / Homeland Personnel Security Initiative	Project (Number/Name) 01 / Homeland Security Presidential Directive (HSPD-12) Initiative
--	---	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
01: Homeland Security Presidential Directive (HSPD-12) Initiative	5.189	0.295	0.295	0.300	-	0.300	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Homeland Security Presidential Directive (HSPD-12) Initiative: HSPD-12 and the Federal Information Processing Standard (FIPS) Special Publication 201 require Federal Agencies to issue a Personal Identification Verification (PIV) card to enable rapid electronic authentication for all Government employees, uniformed service members, and contractors. Real-time Automated Personnel Identification System (RAPIDS) is the DoD enterprise capability that issues the Common Access Card (CAC) (DoD's implementation of the PIV card) and enables updates to DEERS, thus providing an enterprise-wide credential for both physical and logical access to DoD facilities and networks.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Defense Enrollment Eligibility Reporting System/HSPD-12	0.295	0.295	0.300
Description: HSPD-12 requires rapid electronic authentication for all Government employees, uniformed individuals and contractors.			
FY 2021 Plans: HSPD-12: FY 2021 HSPD-12 RDT&E funds will be used to continue improved standards compliance and security of the CAC.			
FY 2022 Plans: HSPD-12: FY 2022 HSPD-12 RDT&E funds will be used to continue progress made in FY 2021 to comply with the improved standards and to ensure the security of the CAC.			
FY 2021 to FY 2022 Increase/Decrease Statement: HSPD-12: No change.			
Accomplishments/Planned Programs Subtotals	0.295	0.295	0.300

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 01 / <i>Homeland Security Presidential Directive (HSPD-12) Initiative</i>

D. Acquisition Strategy

HSPD-12: Existing contract vehicles in place/General Services Administration for Commercial Off The Shelf (COTS).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / Homeland Personnel Security Initiative	Project (Number/Name) 01 / Homeland Security Presidential Directive (HSPD-12) Initiative
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Homeland Personnel Security Directive (HSPD-12) Initiative	C/IDIQ	Gulf Coast Enterprise : Pensacola, FL	5.189	0.295	Dec 2019	0.295	Dec 2020	0.300		-		0.300	Continuing	Continuing	-
Subtotal			5.189	0.295		0.295		0.300		-		0.300	Continuing	Continuing	N/A

Remarks
HSPD-12: RDT&E funds in HSPD-12 will extend through the FYDP and be applied to research and investigation of improved standards compliance and security of the CAC.

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.189	0.295	0.295	0.300	-	0.300	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 01 / <i>Homeland Security Presidential Directive (HSPD-12) Initiative</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Homeland Security Presidential Directive (HSPD-12)</i>	
HSPD-12	██████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 01 / <i>Homeland Security Presidential Directive (HSPD-12) Initiative</i>
--	--	---

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Homeland Security Presidential Directive (HSPD-12)</i>				
HSPD-12	1	2021	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / Homeland Personnel Security Initiative	Project (Number/Name) 02 / Enterprise Data Services (EDS)
--	---	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
02: Enterprise Data Services (EDS)	0.000	4.200	4.195	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project 2: Enterprise Data Services - supports the DoD CIO Identity, Credential and Access Management initiative to implement end-to-end digital services for person entities in support of DoD cybersecurity, interoperability, and secure information sharing across the Department and with mission partners. The enhancements to the Defense Manpower Data Center (DMDC) data repositories will implement a data centric approach to collect, verify, maintain, and share identity and other attributes. The development of new data attributes and services will enable authentication to DoD networks and resources through common standards, shared services and federation.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enterprise Data Services	4.200	4.195	0.000
Description: Enterprise Data Services funding will update the data structures and attributes collected to secure trusted environments across the DoD so people can securely access all authorized resources based on mission need. These updates will also ensure DoD CIO has visibility of who and what is on the network at any point in time.			
FY 2021 Plans: Finish development and testing on the back-end attribute exchange and implement solutions to deploy full operation capability. FY 2021 RDT&E funds will be used to develop and field the initial operating capability of the back-end attribute exchange in support of authentication for mission partners to access DoD networks and resources.			
FY 2022 Plans: None.			
FY 2021 to FY 2022 Increase/Decrease Statement: Realigned program capability and funding to Identity Credential Management (ICM).			
Accomplishments/Planned Programs Subtotals	4.200	4.195	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 02 / <i>Enterprise Data Services (EDS)</i>

D. Acquisition Strategy
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 02 / <i>Enterprise Data Services (EDS)</i>
--	--	--

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Enterprise Data Services	C/IDIQ	DHRA : TBD	-	4.200	Jul 2020	4.195	Jul 2021	0.000		-		0.000	-	-	-
Subtotal			-	4.200		4.195		0.000		-		0.000	-	-	N/A
Project Cost Totals			-	4.200		4.195		0.000		-		0.000	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 02 / <i>Enterprise Data Services (EDS)</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Enterprise Data Services	
Enterprise Data Services	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 02 / <i>Enterprise Data Services (EDS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Enterprise Data Services</i>				
Enterprise Data Services	2	2020	2	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / Homeland Personnel Security Initiative	Project (Number/Name) 03 / Identity Credential Management (ICM)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
03: Identity Credential Management (ICM)	0.000	2.800	2.797	6.905	-	6.905	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Identity Credential Management establishes DHRA/Defense Manpower Data Center (DMDC) as the Enterprise Identity and Credential Registration Service Provider for the Department of Defense; in this role, DMDC will develop improved identity federation solutions including the implementation of multi-factor authentication registration services, attribute assertion services, centralized enterprise credential registry service, and a mission partner registration/sponsorship service.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Identity Credential Management	2.800	2.797	6.905
Description: Identity Credential Management establishes DHRA/DMDC as the Enterprise Identity and Credential Registration Service Provider for the Department of Defense; in this role, DMDC will develop improved identity federation solutions including the implementation of multi-factor authentication registration services, attribute assertion services, centralized enterprise credential registry service, and a mission partner registration/sponsorship service.			
FY 2021 Plans: FY 2021 RDT&E funds will be used to develop and deploy an initial operating capability for mission partner registration services.			
FY 2022 Plans: FY 2022 RDT&E funds will be used to develop the full operating capability of the mission partner registration services and multi-factor authentication registration services. Develop and test a proof of concept to enhance self-service capabilities for the issuance of the Uniformed Services Identification Card (USID) card.			
FY 2021 to FY 2022 Increase/Decrease Statement: In FY 2022 the scope of the mission partner registration services expands to include the ability to support additional credentials and mission partner types in support of the establishment of a zero-trust environment. Program funding realigned to ICM from Enterprise Data Services (EDS).			
Accomplishments/Planned Programs Subtotals	2.800	2.797	6.905

C. Other Program Funding Summary (\$ in Millions)

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 03 / <i>Identity Credential Management (ICM)</i>

C. Other Program Funding Summary (\$ in Millions)

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 03 / <i>Identity Credential Management (ICM)</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Identity Credential Management</i>	
Identity Credential Management	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0605021SE / <i>Homeland Personnel Security Initiative</i>	Project (Number/Name) 03 / <i>Identity Credential Management (ICM)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Identity Credential Management</i>				
Identity Credential Management	1	2020	4	2021

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	59.961	29.448	29.420	18.762	-	18.762	-	-	-	-	-	-
1: Identity Credential Management (ICM)	0.000	0.000	4.116	2.892	-	2.892	-	-	-	-	-	-
2: Office of People Analytics (OPA), Testing and Assessment	7.657	4.350	4.761	3.935	-	3.935	-	-	-	-	-	-
3: Personnel Accountability (PA)	13.048	1.429	2.095	0.000	-	0.000	-	-	-	-	-	-
4: Personnel Security Assurance (PSA)	11.219	4.352	0.000	0.000	-	0.000	-	-	-	-	-	-
05: Federal Voting Assistance Program (FVAP)	1.564	0.678	0.692	0.791	-	0.791	-	-	-	-	-	-
6: Enterprise Data Services (EDS)	4.812	12.684	17.088	10.577	-	10.577	-	-	-	-	-	-
7: Defense Sexual Assault Incidents Database (DSAID)	7.236	2.551	0.668	0.000	-	0.000	-	-	-	-	-	-
08: Personnel Accountability and Security (PAS)	0.000	0.000	0.000	0.567	-	0.567	-	-	-	-	-	-
10: Enterprise Human Resource Infor System(EHRIS)	14.425	3.404	0.000	0.000	-	0.000	-	-	-	-	-	-

Note
 PSA funding for the Defense Information System for Security (DISS) mission transferred to the Defense Counterintelligence and Security Agency (DCSA) beginning in FY 2021.

In accordance with the directive from the Office of the Under Secretary of Defense regarding identifying cyber-related funding, DHRA has established a Program Element (PE) for Cyber - 0303140SE. The following programs, EDS, EHRIS, PA, and PSA have transferred funding to that PE for FY 2021 and FY 2022 and are included in a separate R2 exhibit, with the exception of PSA. The Cyber funding portion for PSA will be transferred to the Defense Counterintelligence and Security Agency (DCSA) along with the non-cyber funding for the Defense Information System for Security (DISS) mission and is not seen on the R2 for the 0303140SE PE. The remaining PSA funding, along with all PA funding, will be moved into a new program, Personnel Accountability and Security (PAS) starting in FY 2022.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity Date: May 2021

Appropriation/Budget Activity R-1 Program Element (Number/Name)
0400: Research, Development, Test & Evaluation, Defense-Wide / BA 6: PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation
RDT&E Management Support

A. Mission Description and Budget Item Justification

The Department of Defense Human Resources Activity (DHRA) is a DoD-wide Field Activity chartered to support the Under Secretary of Defense for Personnel and Readiness (USD(P&R)). This PE includes application of R&D to expedite prototype development and mission support efforts to sustain and/or modernize operations required for general RDT&E.

Project 1: Identity Credential Management (ICM). The Defense Manpower Data Center (DMDC) executes DHRA's responsibility to provide a central source of identification and authorization of people throughout their affiliation with DoD for identity protection, security, and entitlements and benefits verification. This funding will support the evaluation and testing of emerging technologies that will develop more robust and secure capabilities for the Department's ICM program. ICM will also research capabilities such as improved self-service solutions, and micro-services that will enable more efficient credential delivery.

Project 2: Office of People Analytics (OPA) Testing and Assessment Division administers testing programs, which enable the Armed Services to select highly qualified military recruits. The DoD uses a single test, the Armed Services Vocational Aptitude Battery (ASVAB), to determine eligibility of military applicants and students (high school and post-secondary) and to report recruit quality data to Congress. High quality recruits are obtained from administering the ASVAB annually to approximately 600,000 applicants for Military Service as part of the DoD Enlistment Testing program, and over 750,000 students in the ASVAB career exploration program. Each Service also uses ASVAB test forms developed in this program as part of their in-service testing programs. This allows DoD to make measurement improvements as well as decreasing the likelihood of test compromise. Ongoing RDT&E efforts include development and evaluation of procedures which (1) reduce or eliminate threats to the validity of the ASVAB test scores generated; (2) improve the efficiency of the test development, calibration, and validation process; and (3) improve selection and classification decisions made by each Service through more effective use of test score information. In addition, periodic assessments are required to provide DoD manpower planners and Congress with information on aptitude trends in the population from which recruits are drawn.

Project 3: This program will transfer to Personnel Accountability and Security program as of FY 2022. The Personnel Accountability (PA) program is comprised of several systems undergoing development and testing, including the Synchronized Pre-deployment Operational Tracker Enterprise Suite (SPOT-ES) and Suite of Systems. The PA family of systems represents end-to-end tracking, reconciliation and reporting of DoD personnel location and movements, to include military, DoD affiliated civilians, DoD, DoS and USAID contractors and U.S. citizens. This data includes DoD travel, contracts, and contractor personnel tracking in support of military operations, contingencies, military readiness, reporting of locations at the unit and person level, accountability of DoD personnel during (and after) natural or man-made disasters and accountability and visibility of noncombatant evacuees. This program will transfer to Personnel Accountability and Security program as of FY 2022.

Project 4: Personnel Security Assurance (PSA). The Defense Information System for Security (DISS) program transferred to Defense Counterintelligence Security Agency (DCSA) beginning in FY 2021.

Project 5: The Federal Voting Assistance Program (FVAP) administers many of the federal responsibilities of the Uniformed and Overseas Citizens Absentee Voting Act (UCAVA) of 1986 and other federal military voter registration and assistance laws. FVAP works to ensure Service members, their eligible family members and overseas citizens are aware of their right to vote and have the tools and resources to successfully do so - from anywhere in the world. FVAP works to increase the level of awareness of available DoD voting assistance resources among Active Duty Members, in order to increase the likelihood of returning their absentee ballots. FVAP

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605803SE / <i>R&D in Support of DOD Enlistment, Testing and Evaluation</i>
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conducts voting research projects with States, local election jurisdictions and private entities to assist UOCAVA voters to register to vote and submit their absentee ballot and improve federal, State and local election processes and procedures.

Project 6: Enterprise Data Management (EDS) is addressing two critical projects in FY 2022: 1) JOM and 2) EDDIE. The Joint Officer Management (JOM) modernization initiative supports improvements in the Joint Manpower Information System’s (JMIS) automation, reliability, accuracy, and system interoperability to enable the Department to more effectively comply with Title 10 management requirements of Joint Duty Officers in the Active and Reserve forces, and improve the sight picture of joint officer personnel capabilities and readiness for the SECDEF and the Chairman, Joint Chiefs of Staff (CJCS). JMIS is the DoD’s sole IT system to inform the SECDEF and CJCS on their operational joint personnel officer readiness capability. The system is used to track joint duty billets and the officers assigned to them. It also tracks joint duty experiences, education, training, and qualifications for facilitation of joint duty officer assignments and promotions. The legacy system was built in the 1990’s and is no longer agile enough to support today’s mission. This modernization project will bring JOM into the 21st century and address critical cybersecurity, legislative, and policy compliance issues.

The Enterprise Data to Decisions Information Environment (EDDIE) introduces a streamlined way to provide person-based “data as a service” and “analytics as a service” to all of DoD and other Federal Agencies and will continue to expand DHRA data asset holding within the Advana platform. It enables and improves all types of analytics from standard reporting to more emergent and embedded predictive/prescriptive analytics. EDDIE will assist decision makers in forming relevant questions, retrieving pertinent information, and informing policy and program changes.

Project 7: Defense Sexual Assault Incident Database (DSAID). DSAID serves as the Department’s only centralized, case-level database for the collection and maintenance of information regarding sexual assaults involving Service members, via both Unrestricted and Restricted Reporting options. Also, DSAID accommodates a variety of uses, including the tracking of sexual assault victim support services, as well as supporting sexual assault prevention and response (SAPR) program administration, congressional reporting requirements, and data analysis. DSAID will also facilitate reports to Congress on claims of retaliation in connection with an Unrestricted Report of sexual assault made by or against a member of the Armed Forces, and serve as a repository for documents necessary for future victim support. Service Sexual Assault Response Coordinators (SARCs) use the system to track support to victims of sexual assault throughout the lifecycle of support requirements that facilitate sexual assault case transfer between SARCs and Services.

The DoD SAPR Office and Service headquarters-level users access the system as a management tool for statistical analysis, tracking, congressional and ad-hoc reporting, evaluating program effectiveness, conducting research, and case and business management. The system can easily export data for analysis in statistical applications, such as Statistical Package for the Social Sciences (SPSS) to facilitate analysis at the DoD-level. DSAID includes safeguards to shield personally identifiable information (PII) from unauthorized disclosure and stringent user access control in place.

Project 8: Personnel Accountability and Security (PAS) is a new program that subsumes the Personnel Accountability (PA) program with the remaining Personnel Security Assurance (PSA) program.

The Personnel Accountability and Security (PAS) program is comprised of several systems undergoing development and testing, including: Synchronized Pre-Deployment Operational Tracker Enterprise Suite (SPOT-ES). The PA family of systems represents end-to-end tracking, reconciliation and reporting of DoD personnel location and movements, to include military, DoD affiliated civilians, DoD, DoS and USAID contractors and U.S. citizens. This data includes DoD travel, contracts, and

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605803SE / <i>R&D in Support of DOD Enlistment, Testing and Evaluation</i>
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contractor personnel tracking in support of military operations, contingencies, military readiness, reporting of locations at the unit and person level, accountability of DoD personnel during (and after) natural or man-made disasters and accountability and visibility of noncombatant evacuees.

Project 10: Enterprise Human Resources (HR) Information Systems (EHRIS) funding transferred to Identity Credential Access Management (ICAM) beginning in FY 2021. EHRIS is comprised of the Defense Civilian Personnel Data System (DCPDS), Civilian HR IT Managed Services, Civilian HR IT Enterprise Services, and Civilian HR IT Program Planning and Management. In compliance with a 2018 Reform Management Group decision, the Defense Manpower Data Center (DMDC) began migrating the Human Resources Core and Performance Management (PM/Goal Management) capabilities onto a Software-as-a-Service (SaaS) offering.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	29.448	29.420	21.446	-	21.446
Current President's Budget	29.448	29.420	18.762	-	18.762
Total Adjustments	0.000	0.000	-2.684	-	-2.684
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment for underexecution.	-	-	-2.522	-	-2.522
• Adjustment for inflation.	-	-	-0.262	-	-0.262
• Adjustment for restoration of FVAP.	-	-	0.100	-	0.100

Change Summary Explanation

FY 2022 adjusted for under execution, inflation changes, and restoration of FVAP.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation				Project (Number/Name) 1 / Identity Credential Management (ICM)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
1: Identity Credential Management (ICM)	0.000	0.000	4.116	2.892	-	2.892	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Manpower Data Center (DMDC) executes DHRA's responsibility to provide a central source of identification and authorization of people throughout their affiliation with DoD for identity protection, security, and entitlements and benefits verification. This funding will support the evaluation and testing emerging technologies that will develop more robust and secure capabilities for the Department's ICM program. In FY 2022, ICM will enter phase 2 of its modernization initiative. In phase 2, ICM will develop and test a proof of concept for the issuance of the Uniformed Services Identification Card (USID) card. In addition, this investment funding will be used to evaluate the feasibility to adopt micro-services, and to implement a web-based architecture to replace the legacy Real-time Automated Personnel Identification System and the Common Access Card (RAPIDS/CAC) infrastructure.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Identity Credential Management (ICM)	0.000	4.116	2.892
Description: DMDC executes DHRA's responsibility to provide a central source of identification and authorization of people throughout their affiliation with DoD for identity protection, security, and entitlements and benefits verification. This funding will support the evaluation and testing emerging technologies that will develop more robust and secure capabilities for the Department's ICM program. ICM will also research capabilities such as improved self-service solutions, and micro-services that will enable more efficient credential delivery.			
FY 2021 Plans: Complete in-depth study of identity management and credentialing improvement opportunities with feasibility analysis including high level functional requirements and cost estimates.			
FY 2022 Plans: Develop architecture for enterprise identity management solutions for all eligible populations across all relevant identity products. Prioritize project solutions, phases, and complete full requirement documents. Research and evaluate micro-services as a means to modernize the Real-time Automated Personnel Identification System and the Common Access Card (RAPIDS/CAC) solution.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 1 / Identity Credential Management (ICM)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
The budget is being re-phased to allow for better obligation rate execution. Execution of funds was in Q4 but has been re-phased to allow earlier execution in FY 2023.			
Accomplishments/Planned Programs Subtotals	0.000	4.116	2.892

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 2 / Office of People Analytics (OPA), Testing and Assessment
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2: Office of People Analytics (OPA), Testing and Assessment	7.657	4.350	4.761	3.935	-	3.935	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The primary mission of OPA Testing and Assessment is to test and implement more accurate methods of assessing aptitudes required for military enlistment, success in training, and performance on the job. Also, it includes implementing methods that are useful in the identification of persons with the high aptitudes required by today's smaller and more technically demanding military.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Office of People Analytics (OPA), Testing and Assessment	4.350	4.761	3.935
FY 2021 Plans: Continue FY 2020 initiatives.			
FY 2022 Plans: These funds will be used to begin/continue the following efforts: to (1) conduct studies to aid in the evaluation of the differential validity of the current ASVAB, (2) develop a comprehensive ASVAB validity argument focused on classification uses, (3) provide guidance and recommendations for ways in which the ASVAB could be modernized with regard to the content and format of existing subtests, constructs being measured, and technical approaches to test administration and scoring, (4) provide a monitoring plan for the implementation of a new platform that expands the reach of ASVAB by making it available on a variety of mobile devices, (5) conduct research on new non-verbal measures (e.g., Complex Reasoning) being developed for possible inclusion on the ASVAB battery, and (6) conduct research with the goal of improving recruitment efficiency by making use of available social media data to predict performance on ASVAB and other relevant military entrance standards.			
FY 2021 to FY 2022 Increase/Decrease Statement: The funding requirements for some ASVAB studies are slightly reduced in FY 2022 as they begin but will ramp back up as the research accelerates in FY 2023 and beyond.			
Accomplishments/Planned Programs Subtotals	4.350	4.761	3.935

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / <i>R&D in Support of DOD Enlistment, Testing and Evaluation</i>	Project (Number/Name) 2 / <i>Office of People Analytics (OPA), Testing and Assessment</i>

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 3 / Personnel Accountability (PA)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3: Personnel Accountability (PA)	13.048	1.429	2.095	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The PA program is comprised of two sub-programs: Synchronized Pre-deployment and Operational Tracker (SPOT) and Joint Personnel Accountability Reconciliation and Reporting (JPARR). This family of systems represents end-to-end tracking, reconciliation and reporting of DoD personnel location and movements, to include military, DoD affiliated civilians, DoD, DOS and USAID contractors, and U.S. citizens. This includes DoD contracts, and contractor personnel tracking in support of military operations, contingencies, military readiness, reporting of locations at the unit and person level, accountability of DoD personnel during (and after) natural or man-made disasters, and accountability and visibility of noncombatant evacuees. SPOT is the DoD, DOS and USAID system of record for accountability and visibility of contracts and contractor personnel authorized to operate in contingency and military operations.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Personnel Accountability (PA)	1.429	2.095	0.000
FY 2021 Plans: Evaluate and develop reconfiguration options for systems and services that will enable continuation at lower cost.			
FY 2022 Plans: None.			
FY 2021 to FY 2022 Increase/Decrease Statement: Personnel Accountability (PA) will transfer to Personnel Accountability and Security (PAS).			
Accomplishments/Planned Programs Subtotals	1.429	2.095	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation				Project (Number/Name) 4 / Personnel Security Assurance (PSA)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
4: Personnel Security Assurance (PSA)	11.219	4.352	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Personnel Security Assurance (PSA) provides comprehensive capabilities to perform processing and verification of security clearances for all DoD military personnel, civilians and contractors including the technology and processes that need to be addressed in order to implement Continuous Evaluation. Funds within this program will support the Defense Information System for Security (DISS). The DISS mission is to consolidate the DoD personnel security mission into an enterprise adjudicative case management system that will automate the implementation of improved national investigative and adjudicative standards to eliminate costly and inefficient work processes and increase information collaboration across the community.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Personnel Security Assurance	4.352	0.000	0.000
FY 2021 Plans: PSA funding for the Defense Information System for Security (DISS) mission transferred to the Defense Counterintelligence and Security Agency (DCSA) beginning in FY 2021.			
FY 2022 Plans: None.			
FY 2021 to FY 2022 Increase/Decrease Statement: No change.			
Accomplishments/Planned Programs Subtotals	4.352	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 05 / Federal Voting Assistance Program (FVAP)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
05: Federal Voting Assistance Program (FVAP)	1.564	0.678	0.692	0.791	-	0.791	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FVAP administers many of the federal responsibilities of the Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) of 1986 and other federal military voter registration and assistance laws. FVAP works to ensure Service members, their eligible family members and overseas citizens are aware of their right to vote and have the tools and resources to successfully do so – from anywhere in the world. FVAP works to increase the likelihood of interested Active Duty Members to use available FVAP resources to increase their level of awareness of available DoD voting assistance resources, which will increase the likelihood of returning their absentee ballot. FVAP conducts voting research projects with States, local election jurisdictions and private entities to assist UOCAVA voters to register to vote and submit their absentee ballot and improve federal, State and local election processes and procedures.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Federal Voting Assistance Program	0.678	0.692	0.791
Description: Federal Voting Assistance Program (FVAP) requires a research and analysis policy clearinghouse program that continues to research and present the value of key policy and technology topics that connects to the successful return of absentee balloting materials from military and overseas citizen voters pursuant to the Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA).			
FY 2021 Plans: The Federal Voting Assistance Program (FVAP) will re-baseline RDT&E funding for analytical support of voter registration and participation rates.			
FY 2022 Plans: The Federal Voting Assistance Program (FVAP) will continue to utilize RDT&E funding for analytical support of voter registration and participation rates based on re-baselined funding amount.			
FY 2021 to FY 2022 Increase/Decrease Statement: Reductions restored to original FY 2022 RDT&E funding line.			
Accomplishments/Planned Programs Subtotals	0.678	0.692	0.791

C. Other Program Funding Summary (\$ in Millions)

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / <i>R&D in Support of DOD Enlistment, Testing and Evaluation</i>	Project (Number/Name) 05 / <i>Federal Voting Assistance Program (FVAP)</i>

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation				Project (Number/Name) 6 / Enterprise Data Services (EDS)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
6: Enterprise Data Services (EDS)	4.812	12.684	17.088	10.577	-	10.577	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Supports research and development efforts on two critical projects, JOM and EDDIE. The Joint Officer Management (JOM) modernization initiative supports improvements in the Joint Manpower Information System's (JMIS) automation, reliability, accuracy, and system interoperability of the program that tracks and manages joint personnel officer readiness capability. The Enterprise Data to Decisions Information Environment (EDDIE) introduces a streamlined way to provide person based "data as a service" and "analytics as a service" to all of DoD and other Federal Agencies.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enterprise Data Services (EDS)	12.684	17.088	10.577
<p>Description: Enterprise Data Management (EDS) is addressing two critical projects in FY 2022: 1) JOM and 2) EDDIE; as well as a Next Generation Data Delivery prototype. The Joint Officer Management (JOM) modernization initiative supports improvements in the Joint Manpower Information System's (JMIS) automation, reliability, accuracy, and system interoperability to enable the Department to more effectively comply with Title 10 management requirements of Joint Duty Officers in the Active and Reserve forces, and improve the sight picture of joint officer personnel capabilities and readiness for the SECDEF and the Chairman, Joint Chiefs of Staff (CJCS). And EDDIE introduces a streamlined way to provide person based "data as a service" and "analytics as a service" to all of DoD and other Federal Agencies.</p> <p>FY 2021 Plans: Continue JOM technical implementation Provide JOM configuration management support Deploy JOM to internal/user testing and Production Environments Install, configure, and integrate software and middleware to host EDDIE. Implement EDDIE architecture and migrate data assets for inclusion in the pilot implementation. Create the software workflows and data governance processes necessary to store candidate data assets in the EDDIE system. Extend EDDIE self-service capability to selected user communities.</p> <p>FY 2022 Plans: Redesign and consolidation of the new JOM mission environment, based on increased scale and usage throughout FY 2022. Confirmation and expansion of the COTS access management solution. Development of complex ad-hoc reporting models.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 6 / Enterprise Data Services (EDS)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Develop API between Advana reporting capability and external data services. Expand DHRA asset data holdings within the Advana platform Integrate reporting application capabilities from stand-alone systems into ADVANA. Finalize the Civilian Personnel data warehouse. Next Generation Data Delivery prototype will begin requirements analysis and solution design. <i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The EDS project decreases from FY 2021 to FY 2022 supports decreased levels of effort for both the JOM modernization project and the EDDIE project. JOM modernization will reach IOC in FY 2021, and will be continuing production fielding and interface integration efforts through FY 2022. This agile delivery method will address any critical changes to reach JOM FOC. EDDIE development in FY 2022 will move into the 3rd and final phase of implementation, requiring a reduced level of effort.			
Accomplishments/Planned Programs Subtotals	12.684	17.088	10.577

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 7 / Defense Sexual Assault Incidents Database (DSAID)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>7: Defense Sexual Assault Incidents Database (DSAID)</i>	7.236	2.551	0.668	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Sexual Assault Incident Database (DSAID) is the integrated sexual assault prevention and response data collection and reporting system that accommodates a variety of uses, including the tracking of sexual assault victim support services, supports program administration, congressional reporting requirements and ad-hoc queries, and data analysis.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Defense Sexual Assault Incidents Database (DSAID)	2.551	0.668	-
FY 2021 Plans: The 2019 DoD Inspector General (DoDIG) Report requires the Department to develop and institute a process or system that documents consults or contacts with victims of sexual assault and any resulting referrals to victim support services if those contacts do not result in a formal sexual assault report. SAPRO will add required data elements as a new module in DSAID.			
FY 2021 to FY 2022 Increase/Decrease Statement: RDT&E funding profile was set to complete in FY 2020, a residual amount was carried into FY 2021 in order to execute restorals provided for in FY 2020. The following requirements will be completed with funding in FY 2020 and FY 2021. Implement or update interfaces with the Service Investigative Agencies, Family Advocacy and Sexual Harassment Programs. Add Service interface (e.g. Navy & USMC Resiliency Management system) to the Enhanced Reporting Capability Module. Create additional Legal Officer (LO) Modules for Regional Judge Advocates, Academies, the National Guard Bureau (NGB), and the Coast Guard.			
Accomplishments/Planned Programs Subtotals	2.551	0.668	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation				Project (Number/Name) 08 / Personnel Accountability and Security (PAS)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
08: Personnel Accountability and Security (PAS)	0.000	0.000	0.000	0.567	-	0.567	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The PAS program is comprised of the following sub-programs: Defense Personnel Accountability Systems, (), Noncombatant Evacuation Operations (NEO) Tracking System (NTS). Joint Personnel Accountability Reconciliation and Reporting (JPARR), and Synchronized Pre-deployment and Operational Tracker (SPOT)), Defense Travel System (DTS), and personnel security and law enforcement investigations support. Personnel Accountability systems support end-to-end tracking, reconciliation and reporting of DoD personnel location and movements, to include military, DoD affiliated civilians, DoD, DOS and USAID contractors, and U.S. citizens. This includes DoD contracts, and contractor personnel tracking in support of military operations, contingencies, military readiness, reporting of locations at the unit and person level, accountability of DoD personnel during (and after) natural or man-made disasters, and accountability and visibility of noncombatant evacuees. SPOT is the DoD, DOS and USAID system of record for accountability and visibility of contracts and contractor personnel authorized to operate in contingency and military operations. JPARR is a SIPR only application that provides daily person-level location reporting. JPARR receives feeds for Service and Agency deployment systems, reconciles the data, and provides various reports at unit level detail. NTS is a certified and accredited DoD tracking system that accounts for, and sustains visibility of noncombatant evacuees during evacuations. The Defense Travel System supports booking, reimbursements, and audits for all DoD-affiliated travel world-wide. The Defense Manpower Data Center (DMDC) security program provides data services in support of personnel security and law enforcement investigations and reporting for all DoD military and civilian personnel.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Personnel Accountability and Security (PAS)	0.000	-	0.567
Description: Established new program, "Personnel Accountability and Security (PAS) which incorporates the prior Personnel Accountability and Personnel Security programs.			
FY 2022 Plans:			
-Develop capabilities for SPOT to allow for subsequent deployments / Letter of Authorization to be staged in SPOT for rapid approval upon contract option year awards.			
- Develop capabilities for SPOT to allow for bulk updates of key dynamic data fields to increase SPOT data quality.			
- NTS: Develop and enhance the current software to address new and emerging evacuation and tracking requirements by Combatant Commands, other federal agencies, and stakeholders.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 08 / Personnel Accountability and Security (PAS)		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Complete the SPOT and JAMMS Joint Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, Facilities, & Policy (DOTmLPF-P) Change Recommendation for Operational Contract Support enhancements.				
FY 2021 to FY 2022 Increase/Decrease Statement: Realigned program funding from Personnel Accountability (PA). FY 2022 funds were decreased and re-phased to FY 2023 and FY 2024 to support program timelines.				
Accomplishments/Planned Programs Subtotals		0.000	-	0.567
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605803SE / R&D in Support of DOD Enlistment, Testing and Evaluation			Project (Number/Name) 10 / Enterprise Human Resource Infor System(EHRIS)				
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
10: Enterprise Human Resource Infor System(EHRIS)	14.425	3.404	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Enterprise Human Resources (HR) Information Systems (EHRIS) is responsible for developing and maintaining the Information Technology (IT) systems that support Civilian Personnel processes across DoD. In compliance with a 2018 Reform Management Group (RMG) decision, the Defense Manpower Data Center (DMDC) began migrating the Defense Civilian Personnel Data System (DCPDS) capabilities onto a Software-as-a-Service (SaaS) offering. SaaS solutions require configuration instead of research and development, so this project has been realigned to a new project line below (Identity Credential Access Management (ICAM)), which provides much of the underlying identification and authorization activities for Department personnel.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enterprise Human Resource Infor System (EHRIS)	3.404	-	-
Accomplishments/Planned Programs Subtotals	3.404	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303140SE / <i>DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	1.112	0.853	-	0.853	-	-	-	-	-	-
1: <i>Enterprise Data Services (EDS)</i>	0.000	0.000	0.774	0.853	-	0.853	-	-	-	-	-	-
2: <i>Identity Credential Management (ICM)</i>	0.000	0.000	0.262	0.000	-	0.000	-	-	-	-	-	-
3: <i>Personnel Accountability (PA)</i>	0.000	0.000	0.076	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Department of Defense Human Resources Activity (DHRA) is a DoD-wide Field Activity chartered to support the Under Secretary of Defense for Personnel and Readiness (USD (P&R)). This PE includes application of R&D to support cybersecurity improvements across the DHRA enterprise.

Project 1: Enterprise Data Services (EDS). Supports the cybersecurity activities related to the Defense Manpower Data Center's (DMDC's) EDS mission. In FY 2022, EDS is addressing a critical project to modernization the Joint Officer Management (JOM) system. The legacy system JOM system was built in the 1990s and requires extensive redevelopment to resolve existing security issues and ensure new development complies with Department cybersecurity policies. This funding will be used to obtain support from cybersecurity experts during development.

Project 2: Identity Credential Management (ICM). DMDC executes DHRA's responsibility to provide a central source of identification and authorization of people during and after their affiliation with DoD for identity protection, security, entitlements, and benefits verification. This funding will support the evaluation and testing emerging technologies that will develop more robust and secure capabilities for the Department's ICM program, including the analysis of the security posture of these technologies. This project ends in FY 2021.

Project 3: Personnel Accountability (PA). This program is comprised of several systems, including: Synchronized Pre-Deployment Operational Tracker Enterprise Suite (SPOT-ES), Joint Personnel Accountability Reconciliation and Reporting (JPARR), Defense Travel System (DTS)/Defense Travel System Modernization and Noncombatant Evacuation Operations (NEO) Tracking System (NTS). This family of systems represents end-to-end tracking, reconciliation and reporting of DoD personnel location and movements, to include military, DoD affiliated civilians, DoD, DoS and USAID contractors and U.S. citizens. This includes DoD travel, contracts, and contractor personnel tracking in support of military operations, contingencies, military readiness, reporting of locations at the unit and person level, accountability of DoD personnel during (and after) natural or man-made disasters and accountability and visibility of noncombatant evacuees. This funding will be used to obtain support from cybersecurity experts during the modernization of these systems. This project ends in FY 2021.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303140SE / <i>DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	1.112	0.856	-	0.856
Current President's Budget	0.000	1.112	0.853	-	0.853
Total Adjustments	0.000	0.000	-0.003	-	-0.003
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment for inflation change.	-	-	-0.003	-	-0.003

Change Summary Explanation

The increase from FY 2021 to FY 2022 supports the JOM cyber requirements including finalizing the production ATO.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0303140SE / DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 1 / Enterprise Data Services (EDS)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
1: Enterprise Data Services (EDS)	0.000	0.000	0.774	0.853	-	0.853	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Supports cybersecurity research and development efforts on the Joint Officer Management (JOM) modernization initiative. The JOM modernization initiative will support cybersecurity improvements to the program that tracks and manages joint personnel officer readiness capability.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Enterprise Data Services (EDS)	-	0.774	0.853
Description: Supports cybersecurity research and development efforts on two critical projects, the Joint Officer Management (JOM) modernization initiative and Enterprise Data to Decisions Information Environment (EDDIE).			
FY 2021 Plans: FY 2021 Plans: Provide cybersecurity support for JOM implementation. Provide cybersecurity support for the initial development efforts of EDDIE.			
FY 2022 Plans: Revise JOM Risk Management Framework assessment and audit for Authority to Operate. Complete revised JOM Privacy Impact Assessment and System of Records Notice.			
FY 2021 to FY 2022 Increase/Decrease Statement: The FY 2021 funding represents the cyber portion of the effort for both the JOM modernization project and the EDDIE project. The EDDIE cybersecurity support for development will be completed in FY 2021. The JOM cyber will increase in FY 2022 to support the integration of multiple hosting platforms and finalize production ATO.			
Accomplishments/Planned Programs Subtotals	-	0.774	0.853

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0303140SE / <i>DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation</i>	Project (Number/Name) 1 / <i>Enterprise Data Services (EDS)</i>

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0303140SE / DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 2 / Identity Credential Management (ICM)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2: Identity Credential Management (ICM)	0.000	0.000	0.262	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Manpower Data Center (DMDC) executes DHRA's responsibility to provide a central source of identification and authorization of people during and after their affiliation with DoD for identity protection, security, entitlements, and benefits verification. This funding will support the evaluation and testing emerging technologies that will develop more robust and secure capabilities for the Department's ICM program, including the analysis of the security posture of these technologies.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Identity Credential Management (ICM)	-	0.262	0.000
Description: DMDC executes DHRA's responsibility to provide a central source of identification and authorization of people during and after their affiliation with DoD for identity protection, security, entitlements, and benefits verification. This funding will support the evaluation and testing emerging technologies that will develop more robust and secure capabilities for the Department's ICM program, including the analysis of the security posture of these technologies.			
FY 2021 Plans: Provide cybersecurity support to identity proofing pilot.			
FY 2022 Plans: None. This project will be completed in FY 2021.			
FY 2021 to FY 2022 Increase/Decrease Statement: This project will be completed in FY 2021.			
Accomplishments/Planned Programs Subtotals	-	0.262	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0303140SE / DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation	Project (Number/Name) 3 / Personnel Accountability (PA)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3: Personnel Accountability (PA)	0.000	0.000	0.076	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Personnel Accountability program is comprised of several systems, including: Synchronized Pre-Deployment Operational Tracker Enterprise Suite (SPOT-ES), Joint Personnel Accountability Reconciliation and Reporting (JPARR), Defense Travel System (DTS)/Defense Travel System Modernization and Noncombatant Evacuation Operations (NEO) Tracking System (NTS). This funding will be used to obtain support from cybersecurity experts during the modernization of these systems.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Personnel Accountability (PA)	-	0.076	0.000
Description: The Personnel Accountability program is comprised of several systems, including: Synchronized Pre-Deployment Operational Tracker Enterprise Suite (SPOT-ES), Joint Personnel Accountability Reconciliation and Reporting (JPARR), Defense Travel System (DTS)/Defense Travel System Modernization and Noncombatant Evacuation Operations (NEO) Tracking System (NTS). This funding will be used to obtain support from cybersecurity experts during the modernization of these systems.			
FY 2021 Plans: Provide cybersecurity expertise during the development of enhancements to the SPOT, JAMMS and NTS systems to include additional online capabilities as required by the Joint DOTmLPF-P Change Recommendation for Operational Contract Support.			
FY 2022 Plans: None. This project will be complete in FY 2021 and the program has been realigned to the newly established "Personnel Accountability and Security."			
FY 2021 to FY 2022 Increase/Decrease Statement: This project will be completed in FY 2021.			
Accomplishments/Planned Programs Subtotals	-	0.076	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0303140SE / <i>DHRA Cyber - R&D in Support of DOD Enlistment, Testing and Evaluation</i>	Project (Number/Name) 3 / <i>Personnel Accountability (PA)</i>

D. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0808709SE / <i>Defense Equal Opportunity Management Institute (DEOMI)</i>
--	--

COST (\$ in Millions)	Prior Years ⁽⁺⁾	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	0.100	0.100	0.689	-	0.689	-	-	-	-	-	-
1: <i>Defense Equal Opportunity Management Institute (DEOMI)</i>	0.000	0.100	0.100	0.689	-	0.689	-	-	-	-	-	-

⁽⁺⁾ The sum of all Prior Years is \$0.000 million less than the represented total due to several projects ending

A. Mission Description and Budget Item Justification

DEOMI's mission is to develop and deliver innovative education, training, research and collaborative solutions to optimize total force readiness.

To accomplish this mission, DEOMI uses RDT&E funds to support the management of both basic and applied research initiatives/programs. This includes:

- The research, development, testing, evaluation, and transition of new DEOMI training and curriculum, advanced technologies, human relations job-aids, research publications and recommendations. Studies on a broad array of human relations topics to include on how leadership, human relations, culture, and other related topics impact individuals, units, families, organizations and their performance both positively and negatively. In addition DEOMI will seek to understand the role of inclusive behaviors has on well-being and performance.
- Policy, program, and strategy development support to the Diversity Management Operations Center (DMOC), the Office of Diversity Equity and Inclusion (ODEI), DHRA, and the Office of Force Resilience (OFR), the Services, and other DoD organizations.
- DEOMI's Summer Faculty Research Program, Summer STEM internship program, and other formal and informal collaborations with external academic, research, government agencies across the world.

Together, these initiatives ensure DEOMI fields up-to-date training programs and deploys cutting edge training and support technologies / materials across the DoD. This is required by Executive Orders 13111 and 13218, which mandate all federal agencies to take full advantage of technological advances to educate and train the workforce, to ensure employees acquire the skills and learning needed to succeed in a changing workplace, and to report on the training technologies used.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0808709SE / <i>Defense Equal Opportunity Management Institute (DEOMI)</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.100	0.100	0.100	-	0.100
Current President's Budget	0.100	0.100	0.689	-	0.689
Total Adjustments	0.000	0.000	0.589	-	0.589
• Congressional General Reductions	0.000	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustment for restoral to DEOMI.	-	-	0.590	-	0.590
• Adjustment for inflation rates.	-	-	-0.001	-	-0.001

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 1: *Defense Equal Opportunity Management Institute (DEOMI)*

Congressional Add: *None*

	FY 2020	FY 2021
Congressional Add Subtotals for Project: 1	0.000	-
Congressional Add Totals for all Projects	0.000	-

Change Summary Explanation

DEOMI is transitioning to become the Defense Culture Institute and as such is taking on expanded mission areas with respect to supporting the DoD's Culture, Diversity, Inclusion, and Equity needs. As such, an increased amount of RDT&E is needed. The research will inform policy, training, education, programs, and operations that rely so heavily on a diverse total force of military, civilian, and contractors.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0808709SE / Defense Equal Opportunity Management Institute (DEOMI)	Project (Number/Name) 1 / Defense Equal Opportunity Management Institute (DEOMI)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
1: Defense Equal Opportunity Management Institute (DEOMI)	0.000	0.100	0.100	0.689	-	0.689	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Transfer from the U.S. Air Force

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Defense Equal Opportunity Management Institute (DEOMI)	0.100	0.100	0.689
Description: DEOMI's mission is to develop and deliver world-class human relations education, training, research and innovative solutions to enhance total force readiness.			
FY 2021 Plans: Continued support and development of the outlined FY 2020 initiatives.			
FY 2022 Plans: FY 2022 program continues with its mission to develop and deliver world-class human relations education, training, research and innovative solutions to enhance total force readiness.			
FY 2021 to FY 2022 Increase/Decrease Statement: The Increase in funding is needed due to an expansion of DEOMI's mission area into culture, and Diversity and Inclusion and key research and development activities are required in support of policy, training, education, technologies, and operational support.			
Accomplishments/Planned Programs Subtotals	0.100	0.100	0.689

	FY 2020	FY 2021
Congressional Add: None	0.000	-
FY 2020 Accomplishments: Transfer from the U.S. Air Force to DHRA.		
Congressional Adds Subtotals	0.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 DoD Human Resources Activity		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0808709SE / <i>Defense Equal Opportunity Management Institute (DEOMI)</i>	Project (Number/Name) 1 / <i>Defense Equal Opportunity Management Institute (DEOMI)</i>

C. Other Program Funding Summary (\$ in Millions)

Remarks

DEOMI transferred to DHRA in FY 2020 from the U.S. Air Force.

D. Acquisition Strategy

N/A

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Operational Test & Eval, Defense	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	227,700	257,120	216,591

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Management Support	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	227,700	257,120	216,591
 Summary Recap of FYDP Programs -----			
Research and Development	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	227,700	257,120	216,591

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Management Support	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	227,700	257,120	216,591
Summary Recap of FYDP Programs -----			
Research and Development	227,700	257,120	216,591
Total Research, Development, Test & Evaluation	227,700	257,120	216,591

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0460D Operational Test & Eval, Defense

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se c
1	0605118	OTE Operational Test and Evaluation	06	93,291	100,021	105,394	U
2	0605131	OTE Live Fire Test and Evaluation	06	69,172	70,933	68,549	U
3	0605814	OTE Operational Test Activities and Analyses	06	65,237	86,166	42,648	U
		Management Support		227,700	257,120	216,591	
Total Operational Test & Eval, Defense				227,700	257,120	216,591	

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Operational Test and Evaluation, Defense • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0460: Operational Test and Evaluation, Defense

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2	06	0605131OTE	Live Fire Test and Evaluation (LFT&E).....	Volume 5 - 735
3	06	0605814OTE	Operational Test Activities and Analyses.....	Volume 5 - 751

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Operational Test and Evaluation, Defense • Budget Estimates FY 2022 • RDT&E Program

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460: <i>Operational Test and Evaluation, Defense / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605118OTE / <i>Operational Test and Evaluation (OT&E)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	85.685	93.291	100.021	105.394	-	105.394	-	-	-	-	-	-
000310: <i>OT&E</i>	85.685	93.291	100.021	105.394	-	105.394	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Director, Operational Test and Evaluation (DOT&E) was created by Congress in 1983. The Director is responsible under title 10 for policy and procedures for all aspects of Operational Test and Evaluation (OT&E) within the Department of Defense (DoD). Particular focus is given to OT&E that supports major weapon system production decisions for acquisition programs included on the Office of Secretary of Defense Test and Evaluation Oversight List that is prepared and approved annually. Generally, there are about 235 programs on the oversight list including all Major Defense Acquisition Programs (MDAP) and Major Automated Information Systems (MAIS). MDAPs may not proceed beyond low-rate initial production (BLRIP) until OT&E of the program is complete. DOT&E is involved early in the planning phase of each program to ensure adequate testing is planned and executed. Key elements of DOT&E's oversight authority include:

- The approval of component Test and Evaluation Master Plans (TEMPS).
- The approval of component OT&E Test Plans (TPs).
- Oversight of Military Department preparation and conduct of field operational tests; analysis and evaluation of the resultant test data; the assessment of the adequacy of the executed test and evaluation programs; and assessment of the operational effectiveness and suitability of the weapon systems.
- Reporting results of OT&E that support BLRIP decisions to the Secretary of Defense and Congress, as well as providing an annual report summarizing all OT&E activities and the adequacy of test resources within DoD during the previous fiscal year.
- The review and development of recommendations to the Secretary of Defense on all budgetary and financial matters related to OT&E, including operational test facilities, resources, and ranges.

DOT&E also oversees and resources OT&E community efforts to plan and execute joint operational evaluations of information assurance and interoperability (IA and IOP) of fielded systems and networks during major Combatant Command (CCMD) and Service exercises, and reports the trends and findings in the annual report. DOT&E is also involved in increasing the capacity to access realistically advanced cyber warfighting capabilities to keep pace with heightened demand for those capabilities, advancing technologies and the growing cyber threat.

This Program Element includes funds to obtain Federally Funded Research and Development Center (FFRDC) support in performing the described tasks, travel funds to carry out oversight of the OT&E and IA and IOP programs, funds for Service teams performing information assurance and interoperability assessments during exercises, administrative support services, DFAS support, and engineering and technical support services related to the conduct of OT&E and exercise assessments.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Operational Test and Evaluation, Defense	Date: May 2021
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Appropriation/Budget Activity 0460: <i>Operational Test and Evaluation, Defense / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605118OTE / <i>Operational Test and Evaluation (OT&E)</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	93.291	100.021	95.979	-	95.979
Current President's Budget	93.291	100.021	105.394	-	105.394
Total Adjustments	0.000	0.000	9.415	-	9.415
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation/Travel adjustment	-	-	-2.585	-	-2.585
• Other Adjustments	-	-	12.000	-	12.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605118OTE / <i>Operational Test and Evaluation (OT&E)</i>	Project (Number/Name) 000310 / <i>OT&E</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000310: <i>OT&E</i>	85.685	93.291	100.021	105.394	-	105.394	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Director, Operational Test and Evaluation (DOT&E) was created by Congress in 1983. The Director is responsible under title 10 for policy and procedures for all aspects of Operational Test and Evaluation (OT&E) within the Department of Defense (DoD). Particular focus is given to OT&E that supports major weapon system production decisions for acquisition programs included on the Office of Secretary of Defense Test and Evaluation Oversight List that is prepared and approved annually. Generally, there are about 235 programs on the oversight list including all Major Defense Acquisition Programs (MDAP) and Major Automated Information Systems (MAIS). MDAPs may not proceed beyond low-rate initial production (BLRIP) until OT&E of the program is complete. DOT&E is involved early in the planning phase of each program to ensure adequate testing is planned and executed. Key elements of DOT&E's oversight authority include:

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- Oversight of Military Department preparation and conduct of field operational tests; analysis and evaluation of the resultant test data; the assessment of the adequacy of the executed test and evaluation programs; and assessment of the operational effectiveness and suitability of the weapon systems.
- Reporting results of OT&E that support BLRIP decisions to the Secretary of Defense and Congress, as well as providing an annual report summarizing all OT&E activities and the adequacy of test resources within DoD during the previous fiscal year.
- The review and development of recommendations to the Secretary of Defense on all budgetary and financial matters related to OT&E, including operational test facilities, resources, and ranges.

DOT&E also oversees and resources OT&E community efforts to plan and execute joint operational evaluations of information assurance and interoperability (IA and IOP) of fielded systems and networks during major Combatant Command (CCMD) and Service exercises, and reports the trends and findings in the annual report. DOT&E is also involved in increasing the capacity to access realistically advanced cyber warfighting capabilities to keep pace with heightened demand for those capabilities, advancing technologies and the growing cyber threat.

This Program Element includes funds to obtain Federally Funded Research and Development Center (FFRDC) support in performing the described tasks, travel funds to carry out oversight of the OT&E and IA and IOP programs, funds for Service teams performing information assurance and interoperability assessments during exercises, administrative support services, DFAS support, and engineering and technical support services related to the conduct of OT&E and exercise assessments.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Title: Operational Test and Evaluation	93.291	100.021	105.394
FY 2021 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605118OTE / <i>Operational Test and Evaluation (OT&E)</i>	Project (Number/Name) 000310 / <i>OT&E</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Operational Test and Evaluation (OT&E) Oversight This effort is in direct support of the Director’s Title 10 responsibilities and is a continuing effort. Funding for Fiscal Year (FY) 2021 provides OT&E inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary Reports for those programs designated for oversight by DOT&E and OUSD(A&S). Key elements of DOT&E oversight authority are identified in Calendar Year 2021 Office of the Secretary of Defense Test and Evaluation Oversight List.</p> <p>Cyber Evaluations DOT&E is sponsoring approximately 30 Combatant Command (CCMD) and Service cybersecurity assessments and Cyber Readiness Campaign (CRC) events in FY 2021, each including “Find-Fix-Verify” efforts to facilitate the remediation of identified vulnerabilities and verify that solutions and mitigations improve warfighter mission assurance. These numbers are lower due to coronavirus (COVID-19) pandemic challenges that cancelled many events. DOT&E is continuing to work with the CCMDs and Services to develop multiyear plans for exercise cyber assessments and CRC events. To support threat representative assessments, and to facilitate improvement of DoD’s cybersecurity posture, DOT&E is continuing efforts with U.S. Cyber Command to implement the Global Persistent Cyber Opposing Force (PCO) capability with authorities to perform year round and long-duration assessments of all CCMDs and Services. Primary objectives for DOT&E’s assessments in FY 2021 include the portrayal of advanced nation-state cyber threats and the assessment of operational missions during realistic cyber attacks, and any corresponding response actions to adversary attacks. DOT&E is continuing to assess Cyber Protection Teams and Cyber Mission Teams when they participate during PCO, CRC, or exercise events. DOT&E is continuing to develop techniques to efficiently and effectively assess offensive cyber capabilities, conduct timely evaluations of these capabilities, and consider the development of a potential cyber variant of the Joint Munition Effectiveness Manual. DOT&E transmits critical findings to DoD leadership along with recommended actions to improve DoD’s cybersecurity posture. FY 2021 evaluations include trend analyses across prior year results, both within and across CCMDs.</p> <p>In FY 2021, DOT&E is investing \$5.0 Million in digital modernization (e.g., automated software and cybersecurity testing, digital engineering, etc.) to engineer and drive pilots designed to move the operational test community into next generation digital technologies and analytic methods at scale.</p> <p>FY 2022 Plans: Operational Test and Evaluation (OT&E) Oversight This effort is in direct support of the Director’s title 10 responsibilities and is a continuing effort. Funding for FY 2022 provides OT&E inputs for Test and Evaluation Master Plans, Test Plans, System Acquisition Reports, Defense Acquisition Executive Summary Reports for those programs designated for oversight by DOT&E and OUSD(A&S). Key elements of DOT&E oversight authority will be identified in Calendar Year 2022 Office of the Secretary of Defense Test and Evaluation Oversight List.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605118OTE / <i>Operational Test and Evaluation (OT&E)</i>	Project (Number/Name) 000310 / <i>OT&E</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Cyber Evaluations</p> <p>DOT&E plans to sponsor approximately 50 CCMD and Service cybersecurity assessments and CRC events in FY 2022. Each assessment will continue to include "Find-Fix-Verify" efforts to facilitate the remediation of identified vulnerabilities and verify that solutions and mitigations improve warfighter mission assurance. DOT&E plans to continue working with the CCMDs and Services to develop multiyear plans for exercise cyber assessments and CRC events. These plans will focus on assessing the CCMD's or Service's ability to complete missions and be resilient in a contested cyber environment. DOT&E will perform year-round and long duration assessments of all CCMDs and Services with Global PCO authorities. Objectives for DOT&E assessments in FY 2022 will include the portrayal of advanced nation-state cyber threats and the assessment of operational missions during realistic cyber attacks, with supporting offensive fires and cyber-range events included in the evaluation. DOT&E will assess Cyber Protection Teams and Cyber Mission Teams when they participate during PCO, CRC, or exercise events. DOT&E will continue assessments of offensive cyber capabilities. DOT&E will transmit critical findings to DoD leadership along with recommended actions to improve DoD's cybersecurity posture. FY 2022 evaluations will include trend analyses across prior year results, both within and across CCMDs.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i></p> <p>The change in funding from FY 21 to FY 22 includes reductions for inflation and travel and the expiration of funding for Cyber Enhanced Red Teams. The change also includes an increase for mid-tier acquisition to support congressionally mandated test and evaluation oversight of all middle tier of acquisition and rapid prototyping programs. This includes the development of independent T&E concepts for such programs, review of programs' test and evaluation strategies, observation of relevant test events to ensure compliance with test plans, independent data analysis and development of reports to Secretary of Defense and Congress on all matters related to test adequacy and demonstrated operational effectiveness, suitability, survivability and lethality.</p>			
Accomplishments/Planned Programs Subtotals	93.291	100.021	105.394

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460: <i>Operational Test and Evaluation, Defense / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605131OTE / <i>Live Fire Test and Evaluation (LFT&E)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	64.332	69.172	70.933	68.549	-	68.549	-	-	-	-	-	-
000311: <i>LFT&E</i>	64.332	69.172	70.933	68.549	-	68.549	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This Program Element consists of three programs: Live Fire Test and Evaluation (LFT&E), Joint Aircraft Survivability Program (JASP), and Joint Technical Coordinating Group for Munitions Effectiveness (JTCCG/ME).

This Program Element directly supports the Congressional statutory requirements for oversight of LFT&E. The primary objective of LFT&E is to assure that the vulnerability and survivability of Department of Defense (DoD) crew-carrying platforms and the lethality of our conventional munitions are known and acceptable before entering full-rate production. LFT&E encompasses realistic tests involving actual United States (U.S.) and foreign threat hardware or, if not available, acceptable surrogate threat hardware. The objective is to identify and correct design deficiencies early in the development process. A completed LFT&E program and test report is required before programs proceed beyond low-rate initial production (BLRIP). LFT&E also includes realistic modeling and simulation (M&S) to examine survivability and lethality attributes not assessed during testing.

This Program Element also supports DoD's Joint Live Fire (JLF) Program and other LFT&E related initiatives. JLF was initiated in 1984 under an Office of the Secretary of Defense charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their lethality against their respective targets. Funds are also used to support other initiatives related to quick reaction requests from theater and other areas of personnel survivability.

The Joint Aircraft Survivability Program is the DoD's focal point for joint service enhancement of military aircraft non-nuclear survivability. The JASP is chartered by the commanders of the U.S. Navy Naval Air Systems Command, U.S. Army Aviation and Missile Command, and U.S. Air Force Life Cycle Management Center to increase the affordability, readiness, and effectiveness of Tri-Service aircraft through joint coordination and development of survivability technologies, design tools and assessment methodologies. The JASP coordinates and conducts RDT&E to improve military aircraft survivability, develop and standardize aircraft survivability modeling and simulation (M&S), facilitate information exchange on aircraft survivability, and support aircraft survivability education for the DoD and U.S. aircraft community. Each chartering command provides a senior aircraft survivability expert for the JASP Principal Members Steering Group (PMSG), which guides the program and approves projects for funding. The JASP assesses and reports on combat damage incidents through the Joint Combat Assessment Team (JCAT) and is the Executive Agent for the Joint Live Fire Aircraft Systems Program managed by the Live Fire Test office of DOT&E.

The Joint Technical Coordinating Group for Munitions Effectiveness (JTCCG/ME) was chartered 50 years ago to serve as Department of Defense's (DoD's) focal point for munitions effectiveness information. The JTCCG/ME produces Joint Munitions Effectiveness Manuals (JMEMs) that are the sole source for all Joint Service Authenticated non-nuclear weapons effectiveness data and methodology for DoD. The JMEMs are the "how to" manuals for putting ordnance on target and as such, directly impacts combat readiness, effectiveness, and survivability. JMEMs are used by the warfighters in operational weaponeering and collateral damage estimation calls in direct support of operations, mission planning, and training; by the DoD, Joint, and Service planners in force-on-force modeling, mission area analysis, requirements studies and weapon procurement planning; and by the service acquisition community in performance assessment, analysis of alternatives and survivability enhancement

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Operational Test and Evaluation, Defense	Date: May 2021
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Appropriation/Budget Activity 0460: <i>Operational Test and Evaluation, Defense / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605131OTE / <i>Live Fire Test and Evaluation (LFT&E)</i>
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studies. The JTCG/ME continually evolves weapons effectiveness and target vulnerability data, standards, methodologies, and processes based on the strategic environment for better munitions effectiveness evaluation and support to a more lethal force. JTCG/ME also increases efficiency by leveraging ongoing Department efforts and supporting the Department's intent to complement U.S. interest and capabilities by providing weaponizing and targeting capability to Coalition partners. The JMEM requirements and development processes are driven by operational lessons learned (Inherent Resolve, Resolute Support and Freedom Sentinel), Joint Staff Data Call and the needs of Combatant Commands (CCMDs), Services, Military Targeting Committee (MTC) guided by Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5140.01, Munitions Requirements Process (MRP) - DoD Instruction (DoDI) 3000.04 and Operational Users Working Groups (OUWGs) input for specific weapon-target pairings and methodologies. Considerable effort goes into these user forums to establish warfighter requirements for current and future JTCG/ME products, as well as continued training events and day-to-day support -- all with the goal of enabling greater force lethality, strengthening partner capabilities, and optimal use of resources.

This program element also includes funds to obtain Federally Funded Research and Development Center (FFRDC) expertise in performing analyses in support of described Live Fire Test and Evaluation tasks, as well as travel funds to carry out the LFT&E, JASP, and JTCG/ME programs.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	69.172	70.933	70.297	-	70.297
Current President's Budget	69.172	70.933	68.549	-	68.549
Total Adjustments	0.000	0.000	-1.748	-	-1.748
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation/Travel adjustment	-	-	-1.748	-	-1.748

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605131OTE / <i>Live Fire Test and Evaluation (LFT&E)</i>	Project (Number/Name) 000311 / <i>LFT&E</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000311: <i>LFT&E</i>	64.332	69.172	70.933	68.549	-	68.549	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This Program Element consists of three programs: Live Fire Test and Evaluation (LFT&E), Joint Aircraft Survivability Program (JASP), and Joint Technical Coordinating Group for Munitions Effectiveness (JTCEG/ME).

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This Program Element also supports DoD's Joint Live Fire (JLF) Program and other LFT&E related initiatives. JLF was initiated in 1984 under an Office of the Secretary of Defense charter to test fielded front-line combat aircraft and armor systems for their vulnerabilities as well as fielded weapons, both U.S. and foreign, for their lethality against their respective targets. Funds are also used to support other initiatives related to quick reaction requests from theater and other areas of personnel survivability.

The Joint Aircraft Survivability Program is the DoD's focal point for joint service enhancement of military aircraft non-nuclear survivability. The JASP is chartered by the commanders of the U.S. Navy Naval Air Systems Command, U.S. Army Aviation and Missile Command, and U.S. Air Force Life Cycle Management Center to increase the affordability, readiness, and effectiveness of Tri-Service aircraft through joint coordination and development of survivability technologies, design tools and assessment methodologies. The JASP coordinates and conducts RDT&E to improve military aircraft survivability, develop and standardize aircraft survivability modeling and simulation (M&S), facilitate information exchange on aircraft survivability, and support aircraft survivability education for the DoD and U.S. aircraft community. Each chartering command provides a senior aircraft survivability expert for the JASP Principal Members Steering Group (PMSG), which guides the program and approves projects for funding. The JASP assesses and reports on combat damage incidents through the Joint Combat Assessment Team (JCAT) and is the Executive Agent for the Joint Live Fire Aircraft Systems Program managed by the Live Fire Test office of DOT&E.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense	Date: May 2021
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Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605131OTE / <i>Live Fire Test and Evaluation (LFT&E)</i>	Project (Number/Name) 000311 / <i>LFT&E</i>
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studies. The JTTCG/ME continually evolves weapons effectiveness and target vulnerability data, standards, methodologies, and processes based on the strategic environment for better munitions effectiveness evaluation and support to a more lethal force. JTTCG/ME also increases efficiency by leveraging ongoing Department efforts and supporting the Department’s intent to complement U.S. interest and capabilities by providing weaponeering and targeting capability to Coalition partners. The JMEM requirements and development processes are driven by operational lessons learned (Inherent Resolve, Resolute Support and Freedom Sentinel), Joint Staff Data Call and the needs of Combatant Commands (CCMDs), Services, Military Targeting Committee (MTC) guided by Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5140.01, Munitions Requirements Process (MRP) - DoD Instruction (DoDI) 3000.04 and Operational Users Working Groups (OUWGs) input for specific weapon-target pairings and methodologies. Considerable effort goes into these user forums to establish warfighter requirements for current and future JTTCG/ME products, as well as continued training events and day-to-day support -- all with the goal of enabling greater force lethality, strengthening partner capabilities, and optimal use of resources.

This program element also includes funds to obtain Federally Funded Research and Development Center (FFRDC) expertise in performing analyses in support of described Live Fire Test and Evaluation tasks, as well as travel funds to carry out the LFT&E, JASP, and JTTCG/ME programs.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Live Fire Test and Evaluation</p> <p>FY 2021 Plans: Live Fire Test and Evaluation (LFT&E) of Major Department of Defense (DoD) Acquisition Programs</p> <p>The Fiscal Year (FY) 2021 budget enables the LFT&E Deputate to assess the adequacy of LFT&E strategies/plans and generate new LFT&E policies to support systems’ acquisitions and rapid fielding. The FY 2021 budget ensures an adequate execution of the agreed upon LFT&E plans and subsequently ability to conduct independent analysis of survivability and lethality test and Modelling and Simulation (M&S) data in support of the development of Office of the Secretary of Defense (OSD) LFT&E reports to Congress.</p> <p>Joint Live Fire (JLF) Programs and LFT&E Initiatives</p> <p>The FY 2021 JLF budget supports at least 18 projects (tentatively 10 new efforts and 8 projects continuing from previous FYs). Project’s objectives directly support National Defense Strategy (NDS) objectives to include building a more lethal force, new partnerships, or DoD business reforms.</p> <p>Build a More Lethal Force</p> <p>In FY 2021, JLF continues to increase the accuracy and capability of critical modeling and simulation tools to support test and evaluation efficiency and ensure credibility of DoD assessments and weaponeering tools.</p>	69.172	70.933	68.549

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605131OTE / <i>Live Fire Test and Evaluation (LFT&E)</i>	Project (Number/Name) 000311 / <i>LFT&E</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>- For example one effort updates the weaponeering methods needed to estimate Multiphase Blast Explosive (MBX) effects used in low-collateral-damage munitions such as BLU-129/B to combine very low collateral damage with increased (nearfield) lethality on a target.</p> <p>- Another effort consolidates ongoing efforts to expedite the development and fielding of credible tools needed to evaluate ship vulnerabilities to kinetic threat engagements while also enabling operational users to accurately/timely plan strike missions against adversary surface ships.</p> <p>JLF efforts also continue to leverage new technologies and test methods to improve Survivability/Lethality/Vulnerability evaluation efficiency and credibility.</p> <p>-For example, one effort aligns the DoD, Department of Energy, and industry experts to improve pedigree of weapons data, provide uncertainty quantification for M&S validation, demonstrate operational and warfighter support for credible weapon effects, and enhance LFT&E acquisition life-cycle by accelerating weapon development timelines and reducing cost.</p> <p>-JLF is addressing test and evaluation shortfalls needed to adequately evaluate emerging hypersonic weapons by enabling optical characterization of fragment dispersion in flight tests.</p> <p>Reform the Department for greater performance and affordability to accelerate DOT&E initiatives and priorities, enabling policy and procedure improvements while also directly supporting the warfighter requirements.</p> <p>In coordination with established service activities JLF is developing a framework capable of consolidating available and future LFT&E data in support of a range of data mining and data analytics intended to more effectively inform requirements, performance evaluations and development of evaluation/test tools. JLF is focusing on application of scientific methods to standardize efficient validation, verification, and accreditation processes for LFT&E/Joint Munition Effectiveness Manuals (JMEM) M&S tools to accurately outline M&S capabilities, limitations, uncertainty quantification, and statistical confidence in predicted outcomes.</p> <p>JLF is also continuing to lead innovation in LFT&E methods to increase LFT&E efficiency and support rapid fielding.</p> <p>- JLF continues to enhance an M&S capability that will enable efficient evaluation of active protection systems integrated with ground combat vehicles</p> <p>- JLF is developing and optimizing machine learning and M&S tools to improve the ability to identify, quantify and project DoD system vulnerabilities to cyber effects.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Joint Aircraft Survivability Program (JASP)</p> <p>In FY 2021 the JASP is continuing work on 26 multi-year RDT&E projects and initiating 19 new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. The JASP is supporting the NDS objective to 'Build a More Lethal Force' by developing measures to defeat near-peer adversary radio frequency (RF) and infrared guided threats coupled with quantifiable improvements in digital and hardware-in-the-loop modeling and simulation capability and credibility. Improve aircraft force protection by advancing system hardening against rocket-propelled grenade, small-arms, and high-energy laser threats and increasing threat and flight environmental situational awareness. Reform the DoD for Greater Performance and Affordability by funding the development of more efficient M&S tools and threat models to enable more effective aircraft survivability capability development, test and evaluation against kinetic and non-kinetic threats.</p> <p>The Joint Combat Assessment Team (JCAT) is continuing to support the Air Force, Army, Marine Corps and Navy by assessing combat damage incidents, training operators on threat effects and combat damage assessment, and reporting their findings to combatant commanders and the DoD science and technology and acquisition communities. The JASP is continuing to support aircraft survivability education and information exchange through internet sites (restricted access and classified), by publishing the Aircraft Survivability Journal, developing educational materials and conducting training for the DoD and their contractors. The JASP is initiating, continuing, and completing other projects as approved by the JASP Principal Members Steering Group and OSD/DOT&E.</p> <p>Joint Technical Coordinating Group for Munitions Effectiveness (JTTCG/ME)</p> <p>In FY 2021, JTTCG/ME efforts are assisting the DOT&E, OSD in supporting the NDS lines of effort of enabling greater force lethality, strengthening partner capabilities, and optimal use of resources through efficiency.</p> <p>JTTCG/ME is:</p> <ul style="list-style-type: none"> -Developing, enhancing, and standardizing data/methodologies for evaluating munitions effectiveness. This includes target vulnerability characterization, munitions lethality, weapon system accuracy, and specific weapon-target pairings driven primarily from current operational lessons learned, Joint Staff Data Calls, and Combatant Commands' (CCMDs) needs. -Fielding and continuing to enhance future versions of its kinetic JTTCG/ME Joint Munitions Effectiveness Manual (JMEM) products to include the JMEM Weaponeering System (JWS), Joint Antiair Combat Effectiveness (J-ACE) / Joint Anti-Air Model (JAAM), Digital Precision Strike Suite (DPSS) Collateral Damage Estimation (DCiDE) tool, Risk Estimation Distances (REDs) and the Digital Imagery Exploitation Engine (DIEE). 			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>-Developing and fielding non-kinetic JMEMs capability to include Cyber Operations Lethality and Effectiveness (COLE) and Joint Laser Weaponizing Software (JLaWS) products, as well as High Power Microwave (HPM) and Electromagnetic Spectrum (EMS) Fires data/tool sets.</p> <p>-Supporting specialized solutions to address operational needs to include direct analytical support to operations, Probability of kill (Pk) Lookup Tools, Quick Weaponizing Tool (QWT), RED, Collateral Damage Estimation (CDE) analysis and tables, and air-to-surface and surface-to-surface weaponizing guides.</p> <p>-Continuing to execute a multi-year test program to enhance weaponizing/collateral damage estimation in complex environments.</p> <p>-Improving the utilization of Battle Damage Assessment (BDA) data to more effectively and efficiently estimate munition expenditure rates and mitigate stockpile stress, while improving CCMDs' force effects.</p> <p>-Continuing to maintain and strengthen relationships with the Warfighter, operational users, and coalition partners to establish requirements for current and future products, through forums, training, foreign military sales, and reachback operational support.</p> <p>The objective is to provide support to meet CCMD current and future needs for agility and greater lethality in a more dynamic combined operational environment.</p> <p>-Increasing efficiency by leveraging ongoing Department efforts and support the Department's intent to complement U.S. interest and capabilities by providing weaponizing, targeting, and collateral damage estimation (prevent civilian casualties) capability to Coalition partners through foreign military sales.</p> <p>-Continuing to build and implement the next JTCG/ME JMEM product lines on a foundation of effects libraries using software frameworks enabling quicker development, flexibility, leveraging, and tailoring.</p> <p>-Investigating and implementing the use of machine learning and data analytics to improve quality of existing solutions, decrease computation time of applications, and answer questions previously not possible.</p> <p>Specifically in FY 2021, JTCG/ME is:</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>-Fielding and sustaining JWS v2.4 and JWS v2.4.x (as needed), which provide enhanced data, Fast Integrated Structural Tool (FIST), and connectivity capabilities, while maximizing the final JWS v2.x product line as the future weaponeering product line is developed/completed. Specific highlights include interim enhanced database capabilities with updated data sets to include CCMD's high priority calculated, refreshed, and surrogated targets. The enhanced database capabilities allow accelerated, out of production cycle weapons and target data updates, tailored product versions for releasability, and more effective, focused testing. New capabilities include Hard Target Void Sensing Fuze and trajectory model updates, as well as FIST v2.4 with several expanded methodologies for structural target response variables. These capabilities enable more options to the weaponeer and improve the underlying phenomenology representation in JWS.</p> <p>- Developing and delivering JWS v3.0 Technical Preview (TP) 4 through 7, which provide scene-based weaponeering and targeting solutions by implementing an agile software delivery process. FY 2021 focus is to develop a JWS v3.0 Minimal Viable Product (MVP) to include weaponeering capabilities for Buildings, Bunkers, Precision Munition Planning Tool (PMPT), Penetration and Cratering (PC) Effects, Personnel, Maritime/Ships, and Probability of Kill Look-up Tool (PKLuT).</p> <p>-Delivering Joint Effects Library (JEL) v1.0 (Spiral 1 - Personnel and Structure Targets) capabilities to complete JWS v3.0 MVP and DIEE v3.0 initial interfaces. JEL Spiral 1 capabilities include new/updated trajectory modeling, new weapon/targets database designs/data and user interfaces, enhanced structural target response and prediction, personnel vulnerability methods, Application Program Interface (API) to DIEE, JEL processes, JEL model Smart Book, and EF training to solidify institutional EF development knowledge.</p> <p>-Facilitating coalition interoperability and information exchange forums. JTCG/ME is continuing to deliver JWS version releases (Australia, Canada, United Kingdom, and Republic of Korea (ROK)) and standalone Pk Lookup tools to multiple key coalition partners in support of current operations under FMS agreements, as well as migrate to new processes via the JEL/JWS v3.x concept. These FMS deliveries complement U.S. interest and capabilities by providing weaponeering and targeting capability to Coalition partners.</p> <p>-Continuing to hold information exchange forums via International Exchange Annex (IEA) 1858 (United Kingdom) and IEA 0585 (ROK). These exchanges facilitate collaboration on methodologies and efforts of mutual interest in the area of weapons effectiveness/collateral damage estimation.</p> <p>-Developing and enhancing processes to supply target vulnerability data, weapons characterization data, weapons effectiveness methodology to operational and acquisition communities. The JTCG/ME develops and improves data and methodology used as tri-service standards. A focus of FY 2021 efforts is to continue to migrate data and methodology utilized through the Joint Analysis Repository and Visual Interface System (JARVIS) and the Joint Effects Library (JEL).</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>JTCG/ME continues to support and host technical working groups in targets, weapons, and methodology, as forums to share knowledge and build partnerships for greater leveraging, performance, and affordability. Leveraging existing technologies and partnerships have the potential to reduce the number of weapon test articles required and remove labor-intensive activities from weapon testing.</p> <p>-Updating and executing strategic roadmaps for underlying vulnerability / lethality models used as standards by the tri-service community to better support JMEMs and LFT&E. These roadmaps align JTCG/ME funded and related tasks by other services and programs to facilitate leveraging. In addition, the roadmaps provide a tool for future investment planning to support modeling / simulation validation and resolution of capability gaps.</p> <p>-Developing and accrediting CER Reference Tables in accordance with the latest Joint Chiefs of Staff Instruction (CJCSI) 3160.01, "No-Strike and the CDE Methodology" for air-to-surface and surface-to-surface weapons, which are the basic data that support the CDE methodology implemented in DCiDE and DIEE.</p> <p>-Maintaining and supporting fielded DIEE v2.3 and v2.3.1 versions. DIEE is an Office of the Under Secretary of Defense for Intelligence (OUSDI) enterprise targeting solution that provides both seamless planning, linkage to various mission planning systems and tools in operational units. It is a Government off the Shelf (GOTS) product for advanced target development that integrates Target Coordinate Mensuration (TCM), CDE, Weaponing, and data basing functions.</p> <p>- Continuing to develop future DIEE versions (v2.x/v3.x) with JWS 3.x linkage through the development of API. Focused FY 2021 efforts continue to maintain/improve connectivity to community tools, implement interface with JEL emerging capabilities, transition battle damage assessment workflow and data capabilities from BDA analytical efforts, and maintain awareness of policy changes to applicable CJCSIs.</p> <p>-Supporting and delivering reach-back analysis packages for collateral damage mitigation, post-forensic, and force protection analyses packages to operational Users for high value targets in current operations. These efforts directly assist Combatant Commands to meet commander's intent and minimize collateral damage.</p> <p>- Continuing the Enhanced Weaponing and CDE Program, a multi-year test program focused on enhancing and validating JTCG/ME CDE tools. This program supports improvements in weaponing methodology to minimize risk to mission and risk to forces, while not increasing risk of collateral damage by providing foundational data for the development of higher fidelity predictive tools. Specific efforts generate buried ordnance characterization data based upon usage statistics from CCMD Expenditure reports, and area of responsibility specific building debris data to enhance and validate current weaponing/ collateral damage estimation methodologies required by Strike Approval Authorities. FY 2021 efforts are leveraging six FY 2020</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>testing events and multiple collaboration forums. FY 2021 efforts include approximately four buried ordnance and four building debris characterization tests, as well as analyzing and transitioning data and findings from previous tests to weaponeering and CDE tools.</p> <p>-Continuing to implement the BDA of Deliberate and Dynamic Strikes analysis. The effort is a multi-year task to analyze ongoing strikes required to update JMEM capabilities. The overall objective and intent is to ensure effective and efficient munition expenditure rates and mitigate the stockpile stress, while improving CCMDs' force effects. In essence, improve the warfighter's ability to get the right weapon on the right target, achieve the desired effect, and minimize collateral damage while optimizing scarce resources. FY 2021 efforts include: continued extraction of new strike data events, further refine strike analysis methodologies to increase cloud-based automation, further development of new analysis tools obtain end user feedback on new tools / User interfaces, integrate BDA analysis tools with existing JTCG/ME weaponeering applications, and shape BDA reporting standards.</p> <p>-Sustaining/supporting fielded versions of J-ACE, which includes multiple training and user forums for the fielded product. These forums are pivotal for J-ACE developers to understand requirements and align development with other external debrief and analytical capabilities that use J-ACE as the underlying analytical engine to underpin results.</p> <p>-Fielding final J-ACE v5.x product capabilities, which includes updated weapons and aircraft data in JAAM, new cross platform BROWSE module, which contains descriptive information for each player (weapon, aircraft). In addition, J-ACE v5.4 includes a new EM module that simulates terminal effects of the weapon lethality and target vulnerability. The faster EM has improved speed of new fuze model and refined graphic display data generation, and includes more weapon lethality-target vulnerability data sets. Other capabilities include Time-Space-Position Information (TSPI) file updates and filtering/error identification, aircraft maneuver updates, new input/output control options for a "war room summary sheet, and initial Air-to-Surface Weapon (ASW) fly out model.</p> <p>-Integration of Air Combat Effects Library (ACEL) v1.0 capabilities in J-ACE v6.0/6.x. FY 2021 efforts include finishing the review/approval of threshold capabilities, and continued integration and generation of standalone J-ACE application. ACEL v1.0/J-ACE v6.0 threshold capabilities include transitioned v5.x capabilities, unmanned aerial system features, enhanced weapon engagement zone methodology, new graphical displays, refined terrain masking options, and auto-generated test reports for each product player. Other efforts include finishing the development and starting the review/integration of J-ACE v6.0 objective capabilities into ACEL 1.x and J-ACE v6.0 respectfully. These capabilities include enhanced air-to-air missile modeling capability, more ASW fly outs, updated/new surface-to-air models, updated Enhanced Surface-to-Air Missile Simulation (ESAMS) capability with more counter measures, and target detection capability leveraging National Air and Space Intelligence Center (NASIC) RF models/data. Begin to integrate longer lead development items into ACEL v1.x for future J-ACE v6.x product to include infrared detection/track, red surface-to-air gun modeling in EM, rotary wing aero performance modeling, and enhanced chaff modeling.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>- Continuing Cyber JMEM development capabilities with continued execution of multiyear plan to develop the COLE tool. FY 2021 efforts focus on completion of CD 3, 4, 5, and 6 that includes automated fusion of multi-domain estimates, correlation of foundational data to support Operational Environment Model (OEM) generation, preliminary artificial intelligence-based decision support system, OEM analysis and attack planning support, refined integration with other JTCG/ME toolsets, and quantitative comparisons. Similar to other JMEMs, User feedback is critical. FY 2021 includes multiple Operational Users Working Groups (OUWGs) to review development with operators and preparation for fielding products in future FYs.</p> <p>-Continuing to mature Directed Energy (DE) JMEM capabilities to include High Energy Laser (HEL) and HPM weapons. FY 2021 DE HEL efforts includes continuing HEL lethality testing/target vulnerability analysis/data modeling for verification and validation (V&V) on service specific target sets, field testing, continuing target vulnerability characterization and modeling to provide inputs to JLaWS tool, and conducting the accreditation of HEL JLaWS tool and collateral risk estimation Probabilistic Risk Assessment (PRA) tool. FY 2021 DE HPM JMEM development efforts include continuing HPM lethality testing/target vulnerability analysis/data collection for V&V on service-specific target sets, field-testing, target vulnerability characterization and modeling to provide inputs to JMEM models, finalizing HPM tool development, and completing the HPM PRA Tool.</p> <p>-Continuing to develop/mature EMS Fires JMEM program and capabilities. FY 2021 efforts build upon outputs of FY 2020 efforts (mission analysis assessment to define model, data, BDA and EW conversion) and include execution of developed long-term strategy. FY 2021 includes efforts along JMEM development lines of effort to include: 1) Users interaction/requirements management, 2) Target vulnerability/threat characterization collection, standardization, and Tri-Service approval, 3) EMS Fire weapon characterization collection, standardization, and Tri-Service approval, 4) Effects Methodology development, standardization, and Tri-Service approval, 5) JMEM development management, integration, data management, Verification, Validation, and Accreditation (VV&A), and external interface, and 6) Lab/field testing to support data/ methodology gaps and VV&A.</p> <p>FY 2022 Plans: Live Fire Test and Evaluation (LFT&E) of Major Department of Defense (DoD) Acquisition Programs</p> <p>The FY 2022 budget will enable the LFT&E Deputate to assess the adequacy of LFT&E strategies/plans and generate new LFT&E policies to support systems' acquisitions and rapid fielding. The FY 2022 budget will ensure an adequate execution of the agreed upon LFT&E plans and subsequently ability to conduct independent analysis of survivability and lethality test and M&S data in support of the development of OSD Live Fire Test and Evaluation reports to Congress.</p> <p>JLF Programs and LFT&E Initiatives</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>The FY 2022 budget will support a more lethal force by increasing the accuracy and capability of critical M&S tools to support T&E efficiency and ensure credibility of DoD assessments and weaponizing tools. The FY 2022 program will continuously focus on multi-year initiatives such as VV&A standardization, warhead characterization, blast, and hypersonics. JLF efforts will also resolve survivability and lethality related system design challenges of currently fielded U.S. systems. Finally, JLF will continue to lead innovation in LFT&E methods to increase LFT&E efficiency and support rapid fielding.</p> <p>JASP</p> <p>In FY 2022 the JASP will continue work on at least 32 multi-year RDT&E projects and initiate new projects approved by the JASP Principal Members Steering Group and OSD/DOT&E. The JASP will support the NDS objective to 'Build a More Lethal Force' by developing measures to defeat near-peer adversary RF and infrared guided threats coupled with quantifiable improvements in digital and hardware-in-the-loop M&S capability and credibility. Improve aircraft force protection by advancing system hardening against rocket-propelled grenade, small-arms, and high-energy laser threats and increasing threat and flight environmental situational awareness. Reform the DoD for Greater Performance and Affordability by funding the development of more efficient M&S tools and threat models to enable more effective aircraft survivability capability development, test and evaluation against kinetic and non-kinetic threats.</p> <p>The JCAT will continue to support the Air Force, Army, Marine Corps and Navy by assessing combat damage incidents, training operators on threat effects and combat damage assessment, and reporting their findings to combatant commanders and the DoD science and technology and acquisition communities. The JASP will continue supporting aircraft survivability education and information exchange through internet sites (restricted access and classified), by publishing the Aircraft Survivability Journal, developing educational materials and conducting training for the DoD and their contractors. The JASP will initiate, continue and complete other projects as approved by the JASP Principal Members Steering Group and OSD/DOT&E.</p> <p>Joint Technical Coordinating Group for Munitions Effectiveness</p> <p>JTCG/ME will:</p> <p>-Develop, enhance, and standardize data/methodologies for evaluating munitions effectiveness. This includes target vulnerability characterization, munitions lethality, weapon system accuracy, and specific weapon-target pairings driven primarily from current operational lessons learned, Joint Staff Data Calls, and CCMDs' needs.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>-Field and continue to enhance future versions of its major JTCG/ME Joint Munitions Effectiveness Manual (JMEM) products, the JWS, J-ACE, DIEE, COLE, and JLaWS.</p> <p>- Develop non-kinetic JMEMs capability to include High Power Microwave (HPM) and EMS Fires data/tool sets.</p> <p>-Support specialized solutions to address operational needs to include direct analytical support to operations, Pk Lookup Tools, CDE analysis and tables, and munitions weaponeering guides.</p> <p>-Continue to execute a multi-year test program to enhance weaponeering/collateral damage estimation in contested environments.</p> <p>-Develop BDA analysis tool to determine more effectively and efficiently estimate munition expenditure rates and mitigate stockpile stress, while improving CCMDs' force effects.</p> <p>-Continue to maintain and strengthen relationships with the Warfighter, operational users, and coalition partners to establish requirements for current and future products, through forums, training, foreign military sales, and day-to-day operational support. The objective is to provide efficient and effective support to meet CCMD current and future needs for agility and greater lethality in a more dynamic combined operational environment.</p> <p>-Increase efficiency by leveraging ongoing Department efforts and support the Department's intent to complement U.S. interest and capabilities by providing weaponeering, targeting, and collateral damage estimation (prevent civilian casualties) capability to Coalition partners through foreign military sales.</p> <p>- Continue to build and implement the next JTCG/ME JMEM product lines on a foundation of effects libraries using software frameworks enabling quicker development, flexibility, leveraging, and tailoring.</p> <p>- Implement the use of machine learning and data analytics to improve quality of existing solutions, decrease computation time of applications, and answer question previously not possible.</p> <p>Specifically in FY 2022, JTCG/ME plans to:</p> <p>-Develop and field JWS v3.0, which use the Model-View-View Model (MVVM) software architecture in scene based environment. The new JWS v3.0 design allows a DIEE API or any other APIs to call directly into the calculations engine to support Advanced Target Development (ATD)/Weaponeering functions at Combatant Command (CCMD) level.</p> <p>-Deliver JEL v2.0 (Spiral 2) capabilities to develop/complete JWS v3.1 and DIEE v3.0 interfaces. JEL Spiral 2 capabilities include new/updated trajectory modeling, new weapon/targets database designs/data and user interfaces, enhanced structural target response and prediction, personnel and ground mobile vulnerability methods, Application Program Interface (API) to DIEE, and JEL model Smart Book. FY 2022 efforts will include continued development of Spiral 2 capabilities, which include collateral effects radii tables, enhanced collateral damage mitigation, new ground mobile target capability and data, and new maritime operational weaponeering tool, new infrastructure targets (tunnels and bridges).</p> <p>-Support requirements collection by hosting JMEM training sessions, Operational Users Working Groups (OUWG), and User help desk via the JPIAS. JTCG/ME will support approximately 30 training sessions anticipating about 500 students annually.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>These training sessions allow users to optimize use of JMEM capabilities, while providing JTCG/ME with critical input for future development. In addition, direct forward support to Combatant Commanders/Task Forces will be provided to enable target materiel development, weaponeering, and CDE solution development. JTCG/ME will collect User requirements and product use cases, to process and codify in capability needs statements used for planning and JMEM product development. Additionally, FY22 will deliver the new JTCG/ME requirement management tool that will: track requirements lifecycle through development and completion; provide context to leadership, analysts and developers without breaking flow: and align Requirements activities with current DEVSECOPS guidance.</p> <p>-Facilitate coalition interoperability and information exchange forums. JTCG/ME will continue to deliver JWS version releases (ROK JWS v1.3, JWS v2.4.1 for ACGU) and standalone Pk Lookup tools to multiple key coalition partners in support of current operations under FMS agreements, as well as migrate to new processes via the JEL/JWS v3.x concept. These FMS deliveries complement U.S. interest and capabilities by providing weaponeering and targeting capability to Coalition partners.</p> <p>- Continue to hold information exchange forums under IEA agreements (US-UK IEA 1858 and US-ROK IEA 0585). These exchanges facilitate collaboration on methodologies and efforts of mutual interest in the area of weapons effectiveness/collateral damage estimation for both kinetic and non-kinetic weapons.</p> <p>-Develop and fully exercise the JARVIS and JEL processes to supply target vulnerability data, weapons characterization data, weapons effectiveness methodology to operational and acquisition communities. The JTCG/ME develops and improves data and methodology used as tri-service standards. A focus of FY 2022 efforts is to continue to migrate data and methodology utilized through the JARVIS and the JEL.</p> <p>-JTCG/ME will continue to support and host technical working groups in targets, weapons, and methodology, as forums to share knowledge and build partnerships for greater leveraging, performance, and affordability. Leveraging existing technologies and partnerships have the potential to reduce the number of weapon test articles required and remove labor-intensive activities from weapon testing.</p> <p>-Update and execute strategic roadmaps for underlying vulnerability / lethality models used as standards by the tri-service community to better support JMEMs and LFT&E. These roadmaps align JTCG/ME funded and related tasks by other services and programs to facilitate leveraging. In addition, the roadmaps provide a tool for future investment planning to support modeling / simulation validation and resolution of capability gaps.</p> <p>-Develop and accredit Collateral Effects Radii (CER) Reference Tables in accordance with the latest CJCSI 3160.01, "No-Strike and the CDE Methodology" for air-to-surface and surface-to-surface weapons, which are the basic data that support the CDE methodology implemented in DCiDE and DIEE.</p> <p>-Maintain and support fielded DIEE v2.4 and v3.0 versions. Continue to evolve DIEE as an enterprise targeting solution that provides both seamless planning, linkage to various mission planning systems and tools in operational units.</p> <p>- Continue to develop future DIEE version v3.x with JWS 3.x linkage through the development of API. Focused FY 2022 efforts will continue to maintain/improve connectivity to community tools, implement interface with JEL, Integrated Munitions Effects Assessment (IMEA), and Collateral Effects Library (CEL) emerging capabilities. In addition, establish connectivity with Android,</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Link-16, Variable Message Format (VMF) in support of Dynamic Operations, transition battle damage assessment workflow and data capabilities from BDA analytical efforts, and maintain awareness of policy changes to applicable CJCSIs.</p> <ul style="list-style-type: none"> -Continue to support and deliver reachback analysis packages for collateral damage mitigation, post-forensic, and force protection analyses packages to operational Users for high value targets in current operations. These efforts directly assist Combatant Commands to meet commander's intent and minimize collateral damage. - Continue the Enhanced Weaponneering and CDE Program, a multi-year test program focused on enhancing and validating JTTCG/ME CDE tools. This program will support improvements in weaponneering and CDE methodology to minimize risk to mission and risk to forces, while not increasing risk of collateral damage by providing foundational data for the development of higher fidelity predictive tools. Specific efforts will generate buried ordnance characterization data based upon usage statistics from CCMD Expenditure reports, and area of responsibility specific building debris data to enhance and validate current weaponneering/collateral damage estimation methodologies required by Strike Approval Authorities. FY 2022 efforts will leverage eight FY 2021 testing events and multiple collaboration forums. FY 2022 efforts will include approximately four buried ordnance and three building debris characterization tests, as well as analyzing and transitioning data and findings from previous tests to weaponneering and CDE tools. -Continue to implement the BDA of Deliberate and Dynamic Strikes analysis. The effort is a multi-year task to analyze ongoing strikes required to update JMEM capabilities. The overall objective and intent is to ensure effective and efficient munition expenditure rates and mitigate the stockpile stress, while improving CCMDs' force effects. In essence, improve the warfighter's ability to get the right weapon on the right target, achieve the desired effect, and minimize collateral damage while optimizing scarce resources. FY 2022 efforts include: continued extraction of new strike data events, further refine strike analysis methodologies to increase automation, further development of new analysis tools obtain end user feedback on new tools / User interfaces, integrate BDA analysis tools with existing JTTCG/ME weaponneering applications, and shape BDA reporting standards. -Sustain/support fielded versions of J-ACE v5.x, which includes multiple training and user forums for the fielded product. These forums are pivotal for J-ACE developers to understand requirements and align development with other external debrief and analytical capabilities that use J-ACE as the underlying analytical engine to underpin results. -Continue integration of ACEL v1.0 capabilities in J-ACE v6.0, which includes Survivability and Lethality of Aircraft in Tactical Environments (SLATE) capabilities for Rotary Wing and Low Altitude Combat Weapons. - Continue Cyber JMEM development capabilities with continued execution of multiyear plan to develop / enhance the COLE tool. FY 2022 efforts will focus on completion of CD 8, 9, and 10 that will include automated fusion of multi-domain estimates, correlation of foundational data to support OEM generation, preliminary artificial intelligence-based decision support system, OEM analysis and attack planning support, refined integration with other JTTCG/ME toolsets, and quantitative comparisons. Similar to other JMEMs, User feedback is critical. -Develop and field JLaWS tool v2.0 including JTTCG/ME Endgame Framework integration and HPM Weapon Systems (HPMWS) beta version include continuing HPM lethality testing/target vulnerability analysis/data collection for V&V on service-specific target sets, field-testing, target vulnerability characterization and modeling to provide inputs to JMEM models. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605131OTE / <i>Live Fire Test and Evaluation (LFT&E)</i>	Project (Number/Name) 000311 / <i>LFT&E</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
-Continue to develop/mature EMS Fires JMEM program and capabilities. FY 2022 efforts will enhance Electronic Attack Effectiveness capability including standardization of data and methods (e.g., approved effectiveness library/services) for EA (Offensive Jamming) Effectiveness for use by the Joint force within Operational tools and develop capability to determine Weaponneering effects due to The Global Positioning System (GPS) Denial.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The decrease from FY 2021 to FY 2022 is due to inflation adjustments and travel reductions.			
Accomplishments/Planned Programs Subtotals	69.172	70.933	68.549

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460: <i>Operational Test and Evaluation, Defense / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>
--	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	226.984	65.237	86.166	42.648	-	42.648	-	-	-	-	-	-
000920: <i>OTA&A</i>	226.984	65.237	86.166	42.648	-	42.648	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); and Center for Countermeasures (CCM).

Joint Test and Evaluation (JT&E) projects are test and evaluation activities conducted in a joint military environment that develop process improvements. These multi-Service projects, chartered by the Office of the Secretary of Defense and coordinated with the Joint Staff, appropriate combatant commanders, and the Services, provide non-materiel solutions that improve: joint interoperability of Service systems, technical and operational concepts, joint operational issues, development and validation of joint test methodologies, and test data for validating models, simulations, and test beds. New projects are also encouraged to align their efforts to supporting the 2018 National Defense Strategy. The JT&E projects address relevant joint war fighting issues in a joint test and evaluation environment by developing and providing new tactics, techniques, and procedures to improve joint capabilities and methodologies.

Threat Systems, based on a memorandum of agreement between the Director, Operational Test and Evaluation (DOT&E) and the Defense Intelligence Agency, provides DOT&E support in the areas of threat resource analysis, intelligence support and threat systems investments. As DOT&E's agent, Threat Systems provides threat resource analyses on the availability, capabilities and limitations of threat representations (threat simulators, targets, models, U.S. surrogates, and foreign materiel) and analysis of test resources used for operational testing to support DOT&E's assessment of the adequacy of testing for those programs designated for oversight by DOT&E and the Office of the Under Secretary of Defense Acquisition and Sustainment (OUSD (A&S)). Threat Systems provides DOT&E action officers and other DOT&E activities with program specific threat intelligence support. Threat Systems also funds management, oversight, and the actual development of common-use threat specifications for threat simulators, threat representative targets, and digital threat models used for test and evaluation.

The Center, a Joint Service Countermeasure (CM) Test & Evaluation (T&E) Activity, directs, coordinates, supports, and conducts independent countermeasure/counter-countermeasure (CCM) T&E activities of U.S. and foreign weapon systems, subsystems, sensors, and related components. The Center accomplishes this work in support of DOT&E, Deputy Assistant Secretary of Defense (DASD) for Developmental Test and Evaluation (DT&E), weapon system developers, and the Services. The Center's testing and analyses directly supports operational effectiveness and suitability evaluations of CM/CCM systems, such as missile warning and aircraft survivability equipment (ASE), used on rotary-wing and fixed-wing aircraft. The Center develops unique CM/CCM test equipment to support testing in operationally realistic environments. The Center determines the effectiveness of precision-guided weapon (PGW) systems and subsystems when operating in an environment degraded by CMs. Analysis and recommendations on CM/CCM effectiveness are provided to Service Program Offices, DOT&E, DASD (DT&E), and the Services. The Center also supports Service member exercises, training, and pre-deployment activities with expertise on CM/CCM technology and capabilities.

This Program Element includes funds to obtain Federally Funded Research and Development support and travel funds.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460: <i>Operational Test and Evaluation, Defense I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605814OTE I <i>Operational Test Activities and Analyses</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	65.237	39.136	43.526	-	43.526
Current President's Budget	65.237	86.166	42.648	-	42.648
Total Adjustments	0.000	47.030	-0.878	-	-0.878
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	47.030			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Inflation /Travel Decreases	-	-	-0.878	-	-0.878

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 000920: *OTA&A*

Congressional Add: *Program increase - DWR joint test and evaluation program restoral*

Congressional Add: *Program increase - mid-tier acquisitions/rapid prototyping oversight*

Congressional Add Subtotals for Project: 000920

Congressional Add Totals for all Projects

	FY 2020	FY 2021
	-	22.030
	-	25.000
Congressional Add Subtotals for Project: 000920	-	47.030
Congressional Add Totals for all Projects	-	47.030

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>	Project (Number/Name) 000920 / OTA&A
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
000920: OTA&A	226.984	65.237	86.166	42.648	-	42.648	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); and, the Center for Countermeasures (CCM).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Operational Test Activities and Analyses	65.237	39.136	42.648
FY 2021 Plans: Threat Systems			
<p>In FY 2021, Threat Systems is continuing to test planning working group participation and perform technical analyses to identify threat shortfalls; aligns with the National Defense Strategy (NDS) requirements; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisitions based on the availability of funding. Threat Systems is:</p> <ul style="list-style-type: none"> - Supporting the reduction in acquisition and test timelines while increasing test capabilities against Great Power threats. - Fostering rapid technological advancements in the areas of threat representation for Test and Evaluation (T&E) and threat test resources by incorporating innovative technologies from the intelligence community into threat test assets to provide improved test fidelity and performance with cost savings. - Identifying initiatives to improve cyberspace threat representation and prediction, cyber-economic threats to DoD systems and scalable cyberspace threat test environments that can interface with cyber test networks. - Identifying initiatives to conduct offensive cyber operations (OCO) and defensive cyber operations (DCO) without significant effects to critical operational capabilities. - Continuing to understand and address Great Power threats (to include cyber) via testing with artificial intelligence (AI), machine learning (ML), and neural networks. - Continuing to support the US warfighter by providing threat intelligence relevant to emerging threats such as artificial intelligence, autonomy, robotics, directed energy, hypersonic and biotechnology to ensure operational and developmental testing occurs against realistic threat representations, including (but not limited to) threats from both revisionist powers such as China and Russia, but also threats from rogue regimes such as North Korea, Iran and non-state actors. - Continuing to conduct threat intelligence investigations that support use of innovative technologies in the areas of AI, autonomy, robotics, ML, quantum computing, lasers, nanotechnology, chemical and biological, directed energy, hypersonic and 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>	Project (Number/Name) 000920 / <i>OTA&A</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>biotechnology being developed by nation states to improve threat representation in the contested domain of air, land, sea, space and cyberspace.</p> <ul style="list-style-type: none"> - Supporting development of an Advanced Satellite Navigation Receiver (ASNR) for an open service Global Positioning System / Inertial Measurement Unit (GPS/IMU) coupled high-fidelity, high dynamic next generation Time Space Position Information (TSPI) system to support future missile tests and Joint Standard Instrumentation Suite (JSIS) flight testing. - Continuing initiatives to improve satellite and space threat representations and developing alternatives for conducting threat realistic operational testing in response to environmental limitations. - Continuing to support initiatives for the development of Great Power threat representative jammers, for use in terrain constricted tests as a directional active electronically steered array jammer, which will limit Federal Aviation Administration and other common jammer restrictions. - Continuing to sustain and manage threat modelling and simulation (M&S) to support test and evaluation by overseeing and coordinating intelligence community developed threat models, performing threat model anomaly resolution resolving differences from live-fire testing, integrating threat models into T&E facilities and distributing performance and signature models to T&E users. - Continuing to represent DOT&E at foreign material exchanges, inter-agency coordinating groups, and non-proliferation groups to raise awareness of T&E needs for foreign materiel, coordinate service requirements, and de-conflict and prioritize foreign materiel requirements for T&E. - Continuing to provide intelligence support to DOT&E staff to address specific questions on threat systems affecting programs on the OSD T&E Oversight list and provide briefings and special intelligence reports when necessary. - Continuing providing DOT&E representative support at the Threat Steering Group (TSG) in support of the new Validated Online Lifecycle Threat (VOLT) Report process. - Continuing to represent DOT&E interests on the Intelligence Acquisition Agility Working Group (IAAWG). - Continuing to represent DOT&E at the Intelligence Mission Data Oversight Board responsible for development, production and sharing issues affecting the intelligence data supporting weapons systems acquisition. -Continuing to provide services to the Executive Steering Group (ESG) and provide access to the Intelligence Mission Data Management Analysis & Reporting System (IMARS). - Continuing to manage Integrated Technical Evaluation and Analysis of Multiple Sources (ITEAMS) efforts supporting programs on the OSD Oversight T&E List by conducting intelligence “deep dives” to produce intelligence in sufficient detail to develop new threat test assets. - Continuing ITEAMS efforts leading to the development of new threat systems for T&E. - Continuing independently reviewing validation reports to ensure the correct threat data and critical parameters are presented in the reports to assess the threat representations’ capabilities to replicate a real world threat system. - Overseeing legacy DOT&E investments and continue management and oversight of legacy and new Test Resource Management Center-funded threat system investments. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>	Project (Number/Name) 000920 / OTA&A

B. Accomplishments/Planned Programs (\$ in Millions)

- Continuing to review Services' Threat Systems investments to prevent any duplication of effort and encourage cost savings by the sharing or multi-service use of newly developed threat representations to T&E.

- Continuing to serve as the Test and Evaluation (T&E) Resources and Infrastructure Working Group (RIWG) DOT&E lead for Targets and Threat Systems investments.

- Continuing to provide threat intelligence and validation support at the Joint Aircraft Survivability Program (JASP) reviews to ensure there is no duplication of effort and independently ensure the correct threat data and critical parameters are presented to assess the 'real world' threat representations.

Continuing efforts to improve the standards set of threat performance models as the global threat environment evolves. With adequate funding, these activities help DOT&E carry out its title 10 responsibilities to assess test adequacy and determine whether testing is threat realistic and suitable, promotes common solutions to Service threat representation needs and ultimately supports the warfighter.

The Center

The Center is testing, analyzing, and reporting on more than 35 systems/platforms. Testing will focus on DEW systems; C-UAS; ASE, with a focus on Joint Urgent Operational Need and Urgent Universal Need Statement programs; and pre-deployment warfighter training exercises. High priority programs are receiving an independent assessment of our data/findings for CM/CCM evaluations. Our support is distributed across all the Services, as well as intelligence agencies and research and development activities. These activities help to enhance and support the survivability of equipment, aircraft and personnel. The Center is building upon improvement and modernization efforts from FY 2020 to improve T&E capabilities. In collaboration with the Test Resource Management Center, the Center is leading the development of the High Energy Laser Remote Target Scoring (HRTS) project and partnering with other DEW T&E investment programs. HRTS addresses a capability gap in high energy laser target scoring in operationally realistic environments. The Center continues its involvement in the directed energy (DE) community as an active participant in the DE Instrumentation Initiative review panel. The implementation of the JSIS Full Operational Capability is adding signature instrumentation focused on emerging programs; additional instrumentation to support data collection for multiple, concurrent events; instrumentation to support static live fire events; and full trajectory coverage for missile attitude related data collection. JSIS is being deployed to two free flight missile events in FY21 to collect threat data for use in ASE T&E and threat model development. The Center continues to support international T&E collaborative efforts. In addition, the Center continues support of domestic panels, committees and working groups.

FY 2022 Plans:
Threat Systems

FY 2020	FY 2021	FY 2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>	Project (Number/Name) 000920 / <i>OTA&A</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>In FY 2022, Threat Systems will continue test planning working group participation and perform technical analyses to identify threat shortfalls; aligns with the National Defense Strategy (NDS) requirements; conduct special studies and provide current intelligence support tailored to specific U.S. weapon systems acquisitions based on the availability of funding. Threat Systems will:</p> <ul style="list-style-type: none"> - Continue to support the reduction in acquisition and test timelines while increasing test capabilities against Great Power threats. - Continue to foster rapid technological advancements in the areas of threat representation for T&E and threat test resources by incorporating innovative technologies from the intelligence community into threat test assets to provide improved test fidelity and performance with cost savings. - Continue identifying initiatives to improve cyberspace threat representation and prediction, cyber-economic threats to DoD systems and scalable cyberspace threat test environments that can interface with cyber test networks. - Continue identifying initiatives to conduct offensive cyber operations (OCO) and defensive cyber operations (DCO) without significantly impacting critical operational capabilities. - Continue to understand and address Great Power threats (to include cyber) via testing with artificial intelligence (AI), machine learning (ML), and neural networks. - Continue to support the US warfighter by providing threat intelligence relevant to emerging threats such as artificial intelligence, autonomy, robotics, directed energy, hypersonic and biotechnology to ensure operational and developmental testing occurs against realistic threat representations, including (but not limited to) threats from both revisionist powers such as China and Russia threats from rogue regimes such as North Korea and Iran, and threats from non-state actors. - Continue to conduct threat intelligence investigations that support use of innovative technologies in the areas of artificial intelligence (AI), autonomy, robotics, machine learning (ML), quantum computing, lasers, nanotechnology, chemical and biological, directed energy, hypersonic and biotechnology being developed by nation states to improve threat representation in the contested domain of air, land, sea, space and cyberspace. - Continue development of an Advanced Satellite Navigation Receiver (ASNR) for an open service Global Positioning System / Inertial Measurement Unit (GPS/IMU) coupled high-fidelity, high dynamic next generation Time Space Position Information (TSPI) system to support future missile tests and Joint Standard Instrumentation Suite (JSIS) flight testing. - Continue initiatives to improve satellite and space threat representations and developing alternatives for conducting threat realistic operational testing in response to environmental limitations. - Continue to support initiatives for the development of Great Power threat representative jammers, for use in terrain constricted tests as a directional active electronically steered array jammer that will limit Federal Aviation Administration and other common jammer restrictions. - Continue to sustain and manage threat M&S to support test and evaluation by overseeing and coordinating intelligence community developed threat models, performing threat model anomaly resolution resolving differences from live fire testing, integrating threat models into T&E facilities and distributing performance and signature models to T&E users. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense		Date: May 2021
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>	Project (Number/Name) 000920 / <i>OTA&A</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Continue to represent DOT&E at foreign material exchanges, inter-agency coordinating groups, and non-proliferation groups to raise awareness of T&E needs for foreign materiel, coordinate service requirements, and de-conflict and prioritize foreign materiel requirements for T&E. - Continue to provide intelligence support to DOT&E staff to address specific questions on threat systems affecting programs on the OSD T&E Oversight list and provide briefings and special intelligence reports when necessary. - Continue providing DOT&E representative support at the Threat Steering Group (TSG) in support of the new Validated Online Lifecycle Threat (VOLT) Report process. - Continue to represent DOT&E interests on the Intelligence Acquisition Agility Working Group (IAAWG) and - Continue to represent DOT&E at the Intelligence Mission Data Oversight Board responsible for development, production and sharing issues affecting the intelligence data supporting weapons systems acquisition. Executive Steering Group (ESG) and provide access to the Intelligence Mission Data Management Analysis & Reporting System (IMARS). - Continue to manage Integrated Technical Evaluation and Analysis of Multiple Sources (ITEAMS) efforts supporting programs on the OSD Oversight T&E List by conducting intelligence “deep dives” to produce intelligence in sufficient detail to develop new threat test assets. - Continue ITEAMS efforts leading to the development of new threat systems for T&E. - Continue the independent review of validation reports to ensure the correct threat data and critical parameters are presented in the reports to assess the threat representations’ capabilities to replicate a real world threat system. - Oversee legacy DOT&E investments and continue management and oversight of legacy and new Test Resource Management Center-funded threat system investments. - Continue to provide threat intelligence and validation support at the Joint Aircraft Survivability Program (JASP) reviews to ensure there is no duplication of effort and independently ensure the correct threat data and critical parameters are presented to assess the ‘real world’ threat representations. - Continue to serve as the Test and Evaluation (T&E) Resources and Infrastructure Working Group (RIWG) DOT&E lead for Targets and Threat Systems investments. - Continue reviewing Services’ Threat Systems investments to prevent any duplication of effort and encourage cost savings by the sharing or multi-service use of newly developed threat representations to T&E. <p>Threat Systems will continue its efforts to significantly improve the standards set of threat performance models as the global threat environment evolves. With adequate funding, these activities help DOT&E carry out its title 10 responsibilities to assess test adequacy and determine whether testing is threat realistic and suitable, promotes common solutions to Service threat representation needs and ultimately supports the warfighter.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>	Project (Number/Name) 000920 / OTA&A
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>The Center</p> <p>The Center will continue to emphasize support of the DOT&E enterprise, with a clear focus on title 10 oversight programs, DE, C-UAS, ASE, and warfighter training events. The Center expects to increase its focus on DEW systems and other critical National Defense Strategy technology areas, which will contribute to the testing of future weapons and the understanding of emerging threats. The Center’s ability to provide unique test equipment and expertise will remain a benefit to all Services, and its ongoing improvement and modernization plans will ensure test capabilities are provided at a cost savings across the DoD. Additional instrumentation, personnel, and training will be key to ensuring that the Center’s ongoing test support continues to add significance in emerging technology areas.</p> <p>In FY 2022, the Center will continue to build critical T&E capabilities, as well as the workforce necessary to evaluate emerging DEW warfighting technologies. These T&E capabilities include mobile, open-air DEW data collection and analysis, which will support the rapid prototyping and fielding needs of these systems. This mobile test capability will allow T&E of operational representative scenarios in an open air environment to support the accelerated development and fielding of DEW within the DoD.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> The increase from FY 2021 to FY 2022 of \$3.512 Million is consistent with the addition of funds for Test and Evaluation of Directed Energy Weapons and Joint Standard Instrumentation Suite. This change also includes decreases for inflation adjustments and travel reductions.</p>			
Accomplishments/Planned Programs Subtotals	65.237	39.136	42.648

	FY 2020	FY 2021
<p><i>Congressional Add:</i> Program increase - DWR joint test and evaluation program restoral</p> <p><i>FY 2021 Plans:</i> The Joint Test & Evaluation program is conducting 3 Joints Tests and 9 Quick Reaction Tests.</p> <p>The Joints Tests include:</p> <ul style="list-style-type: none"> - Joint Interoperability Through Data Centricity - Recovery Enhanced by Synchronizing Capabilities to Unify Effects - Joint Integrated Fire Control - Directed Energy Weapons for Air defense <p>The Quick Reaction Tests Include:</p> <ul style="list-style-type: none"> - Joint Littoral Fire Support Coordination (J-LIFE) - Joint Integrated Network – Korea (JIN-K) - Joint Sustainment in the Littorals – Fuel and Water Distribution (JSL-FWD) 	-	22.030

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Operational Test and Evaluation, Defense **Date:** May 2021

Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / <i>Operational Test Activities and Analyses</i>	Project (Number/Name) 000920 / OTA&A
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	FY 2020	FY 2021
- Joint Basin- Scale Communications (J-BASC) - Joint Discreet Adversary Strategy Defeat (J-DASD) - Joint Interagency Net-Centric Cross-Domain Risk to Operational Cyber Systems (JINX ROCS) - Joint Interagency Five G Radar Altimeter Interference (JI-FRAI) - Integration of Joint Optimization for Electromagnetic Spectrum (EMS) Superiority (I-JOES) - Assessment of Maritime Mining Operations (AMMO)		
Congressional Add: Program increase - mid-tier acquisitions/rapid prototyping oversight	-	25.000
FY 2021 Plans: Support congressionally mandated test and evaluation oversight of all middle tier of acquisition and rapid prototyping programs. This includes the development of independent T&E concepts for such programs, review of programs' test and evaluation strategies, observation of relevant test events to ensure compliance with test plans, independent data analysis and development of reports to Secretary of Defense and Congress on all matters related to test adequacy and demonstrated operational effectiveness, suitability, survivability and lethality		
Congressional Adds Subtotals	-	47.030

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Space Development Agency

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Space Development Agency • Budget Estimates FY 2022 • RDT&E Program

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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	95,217	267,116	808,817
Total Research, Development, Test & Evaluation	95,217	267,116	808,817

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Advanced Technology Development	20,001	72,422	172,638
Advanced Component Development & Prototypes	75,216	194,694	636,179
Total Research, Development, Test & Evaluation	95,217	267,116	808,817
 Summary Recap of FYDP Programs -----			
Space	95,217	267,116	808,817
Total Research, Development, Test & Evaluation	95,217	267,116	808,817

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Advanced Technology Development	20,001	72,422	172,638
Advanced Component Development & Prototypes	75,216	194,694	636,179
Total Research, Development, Test & Evaluation	95,217	267,116	808,817
 Summary Recap of FYDP Programs -----			
Space	95,217	267,116	808,817
Total Research, Development, Test & Evaluation	95,217	267,116	808,817

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Space Development Agency	95,217	267,116	808,817
Total Research, Development, Test & Evaluation	95,217	267,116	808,817

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
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73	1206310	SDA Space Science and Technology Research and Development	03	20,001	72,422	172,638	U
		Advanced Technology Development		20,001	72,422	172,638	
124	1206410	SDA Space Technology Development and Prototyping	04	75,216	194,694	636,179	U
		Advanced Component Development & Prototypes		75,216	194,694	636,179	
Total Research, Development, Test & Eval, DW				95,217	267,116	808,817	

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Space Development Agency
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
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73	1206310	SDA Space Science and Technology Research and Development	03	20,001	72,422	172,638	U
		Advanced Technology Development		20,001	72,422	172,638	
124	1206410	SDA Space Technology Development and Prototyping	04	75,216	194,694	636,179	U
		Advanced Component Development & Prototypes		75,216	194,694	636,179	
Total Space Development Agency				95,217	267,116	808,817	

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Space Development Agency • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
73	03	1206310SDA	Space Science and Technology Research and Development.....	Volume 5 - 777

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
124	04	1206410SDA	Space Technology Development and Prototyping.....	Volume 5 - 787

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Space Development Agency • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
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Space Technology Development and Prototyping	1206410SDA	124	04.....	Volume 5 - 787

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 1206310SDA / <i>Space Science and Technology Research and Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	20.001	72.422	172.638	0.000	172.638	-	-	-	-	-	-
012: <i>Space Development Agency R&E</i>	0.000	0.000	72.422	172.638	0.000	172.638	-	-	-	-	-	-
032: <i>Proliferated Low Earth Orbit (pLEO) Sensor Technology</i>	0.000	16.533	0.000	0.000	0.000	0.000	-	-	-	-	-	-
197: <i>SDA Disruptive Development - SBIR</i>	0.000	3.040	0.000	0.000	0.000	0.000	-	-	-	-	-	-
198: <i>SDA Disruptive Investigation - STTR</i>	0.000	0.428	0.000	0.000	0.000	0.000	-	-	-	-	-	-

Note

Two new Projects (197 and 198) were created to house the Space Development Agency (SDA)'s Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) funding, respectively. Starting in FY 2021, the funds allocated for SBIR and STTR efforts will be in a new Program Element (PE), 0605502SDA.

In accordance with the William M. (Mac) Thornberry National Defense Authorization Act (NDAA) for FY 2021, effective on October 1, 2022, SDA will be an element of the U.S. Space Force (USSF), and report to Assistant Secretary of the Air Force (ASAF) for Space Acquisition and Integration (ASAF/SA&I) with respect to acquisition decisions and directly to the Chief of Space Operations with respect to requirements decisions, personnel decisions, and any other matter not covered by ASAF/SA&I. Funding in FY 2023 and out has been transferred to a new PE under the USSF, 1206310SF.

A. Mission Description and Budget Item Justification

SDA is developing and demonstrating next generation space capabilities for the joint warfighter enabled by proliferation of satellites and a new acquisition model utilizing rapid spiral development. SDA is developing capabilities to address a wide range of Department of Defense (DoD) space needs as stated in the National Defense Strategy and DoD Space Vision, including low-latency tactical communication, beyond-line-of-sight targeting, and advanced missile tracking. Specifically, SDA will demonstrate and field persistent, resilient capabilities needed to be responsive to emerging multi-domain threats against the U.S. national interest. SDA is responsible for the overall programmatic development and execution of a National Defense Space Architecture (NDSA). In coordination with other DoD Space stakeholders, SDA will drive the development of space capabilities to achieve the DoD Space Vision and reduce overlap and inefficiency. SDA will expand the DoD's space warfighting capability and foster growth in the U.S. space industrial base, by developing enhanced government-commercial relationships and international collaborations with key allies and partners.

While SDA is not responsible for building and fielding all capabilities within the NDSA, the Agency is responsible for orchestrating and architecting the NDSA and ensuring capability delivery to the warfighter following a spiral development approach. SDA is building and fielding the Transport Layer, a proliferated constellation of

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Space Development Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 1206310SDA / <i>Space Science and Technology Research and Development</i>
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satellites to provide low-latency, high-volume data to the warfighter. This transport layer will provide the space-based data transport backbone for the Combined Joint All-Domain Command and Control (C-JADC2).

The establishment of a proliferated data transport layer is essential to developing a new and responsive space architecture. SDA will integrate additional constellations with this transport layer to provide multiple warfighting capabilities, such as advanced missile warning, custody of time critical targets, and alternative position, navigation and timing (PNT).

This program element funds efforts to develop and demonstrate a prototype proliferated communications and data transport layer and other capability layers in support of the National Defense Strategy.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	20.000	72.422	187.638	0.000	187.638
Current President's Budget	20.001	72.422	172.638	0.000	172.638
Total Adjustments	0.001	0.000	-15.000	0.000	-15.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Transfer to MDA PE 1206895C	-	-	-15.000	0.000	-15.000
• Program Adjustment	0.001	-	-	-	-

Change Summary Explanation

The \$15.000 million reduction in FY 2022 reflects a transfer to fund the Hypersonic and Ballistic Tracking Space Sensor (HBTSS) program shortfall under the Missile Defense Agency (MDA) Program Element (PE) 1206895C. This transfer of funds impacts the Optical Intersatellite Link (OISL) interoperability testing and tracking demonstration plans increasing schedule and technical risk of the Transport and Tracking Tranche 0 effort.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1206310SDA / <i>Space Science and Technology Research and Development</i>	Project (Number/Name) 012 / <i>Space Development Agency R&E</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
012: <i>Space Development Agency R&E</i>	0.000	0.000	72.422	172.638	0.000	172.638	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Funding for FY 2023 and future years has been transferred to a new Program Element (PE) under the U.S. Space Force (USSF), 1206310SF.

A. Mission Description and Budget Item Justification

The Space Development Agency (SDA) is developing and demonstrating next generation space capabilities for the joint warfighter enabled by proliferation of satellites and a new acquisition model utilizing rapid spiral development. SDA is developing capabilities to address a wide range of Department of Defense (DoD) space needs as stated in the National Defense Strategy and DoD Space Vision, including low-latency tactical communication, beyond line of sight targeting, and advanced missile tracking. SDA will orchestrate the rapid development and fielding of the National Defense Space Architecture (NDSA), a resilient military sensing and data transport capability via a proliferated space architecture in low-earth orbit.

This program element funds the research and development activity to deliver capabilities to U.S. joint warfighting forces in two-year tranches, beginning as early as FY 2022, including performing trade studies, technical analyses, or modeling and simulation; identifying and maturing enabling technologies; defining and conducting risk reduction demonstrations, prototyping hardware or software systems; and exploring novel concept for future warfighting capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Space Development Agency R&E	0.000	72.422	172.638
Description: Research and development activities to support development, demonstration, and fielding of a resilient military sensing and data transport capability via a proliferated space architecture in Low Earth Orbit (LEO).			
FY 2021 Plans:			
<ul style="list-style-type: none"> - Design, develop, and demonstrate space-to-space optical crosslink data exchange in LEO. - Design and begin development of a wide field-of-view sensor payload for advanced missile tracking experiment. - Conduct requirements review for multi-intelligence (multi-INT), multiple modalities of sensing data fusion algorithms. - In partnership with other DoD mission partners, begin design and development of operationally-relevant hosted payload candidates for demonstration and validation by SDA-developed tranches. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1206310SDA / <i>Space Science and Tech nology Research and Development</i>	Project (Number/Name) 012 / <i>Space Development Agency R&E</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>- Successful development of Tranche 1 of the NDSA will require advancement of multiple system and mission payload technologies, including high-speed on-orbit mesh networking, tactical data link terminals, optical intersatellite links, and space-based processors.</p> <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Demonstrate alternate position, navigation, and timing orbit and clock software. - Perform ground-based processing of missile tracking scene data collected in FY 2021. - Develop and conduct ground-based demonstration of multi-intelligence data fusion algorithms on flight-like systems and in flight-like environments. - Develop algorithms for integrated battle management, command, control, and communications (BMC3) applications. - Complete trade studies and technical analyses for Tranche 1 capabilities. <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase in FY 2022 is required to invest in the development of an increasingly broad set of technologies (including alternative navigation solutions, advanced missile tracking, multi-INT fusion algorithms, and integrated battle management algorithms) that are critical to delivering a robust initial warfighting capability in the NDSA. Note that this project line includes a \$15.000 million transfer to MDA, which will impact the Optical Intersatellite Link (OISL) interoperability testing and tracking demonstration plans increasing schedule and technical risk of the Transport and Tracking Tranche 0 effort.</p>			
Accomplishments/Planned Programs Subtotals	0.000	72.422	172.638

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Partners for these activities may include DoD research centers, small businesses, large defense contractors, commercial space providers, Federally Funded Research and Development Centers, University Affiliated Research Centers, Missile Defense Agency (MDA), Space and Missile Systems Center (SMC), and Defense Advanced Research Projects Agency (DARPA). SDA is also a transition partner for technology developers who want to conduct on-orbit demonstration and experimentation.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 1206310SDA / <i>Space Science and Technology Research and Development</i>				Project (Number/Name) 032 / <i>Proliferated Low Earth Orbit (pLEO) Sensor Technology</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
032: <i>Proliferated Low Earth Orbit (pLEO) Sensor Technology</i>	0.000	16.533	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Proliferated Low Earth Orbit (pLEO) Sensor Technology effort will develop and demonstrate a prototype pLEO data transport layer and other capability layers to provide the eight capabilities outlined in the Department of Defense (DoD) Space Vision. The Space Development Agency (SDA) will rapidly develop and field the next generation space architecture that will enable the U.S. to deploy space capabilities that out-pace adversarial threats. This architecture is underpinned by a data transport layer, which will reside on a proliferated small satellite constellation in Low Earth Orbit (LEO). The Transport Layer will support the transfer of data between the space segment of the next generation space architecture, to include payloads co-hosted with the Transport Layer or other non-located space elements, and the ground, to include ground support infrastructure and very large numbers of users/subscribers. The Transport Layer will provide the "connective tissue" for the next generation space architecture.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Proliferated Low Earth Orbit (pLEO) Sensor Technology	16.533	0.000	0.000
<p>Description: Develop and demonstrate a resilient and unified military data transport layer, enabled by a pLEO architecture. This effort will demonstrate capability to provide very low-latency (low or high bandwidth) data between any two points on the globe to enable mission-agnostic battle management, command, control, and communications (BMC3). This effort will leverage technologies developed under the Defense Advanced Research Projects Agency (DARPA) Blackjack program and, wherever feasible, leverage commercial industry approaches to provide broadband internet access from space to form the foundation of the transport layer architecture. Some accomplishments with FY 2020 funding include the following efforts:</p> <ul style="list-style-type: none"> - Demonstrating and characterizing space-to-space, space-to-air, and space-to-ground optical intersatellite link (OISL) performance with two spacecraft in LEO. The spacecraft are expected to launch in FY 2021. - Conducting a series of in-flight communications demonstrations with OISL. - Developing a spacecraft equipped with Link 16 transmit and receiving capabilities enabling beyond-line-of-sight Link 16 connectivity to various assets in theater. This is the first demonstration of a space-based Link 16 terminal and serves an important risk reduction role in preparing to proliferate tactical data link connectivity in the National Defense Space Architecture (NDSA). <p>FY 2021 Plans: N/A</p> <p>FY 2022 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1206310SDA / <i>Space Science and Technology Research and Development</i>	Project (Number/Name) 032 / <i>Proliferated Low Earth Orbit (pLEO) Sensor Technology</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
N/A				
FY 2021 to FY 2022 Increase/Decrease Statement: N/A. Funding for this project ended in FY 2020.				
Accomplishments/Planned Programs Subtotals		16.533	0.000	0.000
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
Partners for these activities included DoD research centers, commercial space providers, Federally Funded Research and Development Centers, and large defense contractors.				

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1206310SDA / Space Science and Technology Research and Development	Project (Number/Name) 197 / SDA Disruptive Development - SBIR
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
197: SDA Disruptive Development - SBIR	0.000	3.040	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

This is a new Project created to manage and execute the Space Development Agency (SDA)'s Small Business Innovation Research (SBIR) funding.

A. Mission Description and Budget Item Justification

With the emergence of many capable small businesses within the space industrial base, SDA leverages the SBIR program to invest in the development and demonstration of technologies supporting modernization of our national defense space capabilities. This program includes investments in such technologies as advanced space-based communications, sensing, data fusion, and battle management capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SDA Disruptive Development - SBIR	3.040	0.000	0.000
Description: This project funds small business research and development activities providing analysis products and enabling technologies and capabilities for the National Defense Space Architecture (NDSA). In FY 2020, SDA made a SBIR award to further Optical Intersatellite Links (OISL) development, risk reduction and experimentation.			
FY 2021 SBIR topics include optical intersatellite links (OISLs); L-band Electronically Steered Array (ESA) antennas; Mesh Networking Technologies and Routers; Crypto Module; target recognition and acquisition in complex environments; and space-based environmental monitoring (SBEM) sensor.			
FY 2021 Plans: N/A			
FY 2022 Plans: N/A			
Accomplishments/Planned Programs Subtotals	3.040	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1206310SDA / <i>Space Science and Technology Research and Development</i>	Project (Number/Name) 197 / <i>SDA Disruptive Development - SBIR</i>

D. Acquisition Strategy

Partners for these activities include small businesses.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1206310SDA / Space Science and Technology Research and Development	Project (Number/Name) 198 / SDA Disruptive Investigation - STTR
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
198: SDA Disruptive Investigation - STTR	0.000	0.428	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

This is a new Project created to manage and execute the Space Development Agency (SDA)'s Small Business Technology Transfer (STTR) funding.

A. Mission Description and Budget Item Justification

SDA leverages STTR funds to support the collaborative development of defense space technologies by small businesses partnering with U.S. research institutions. By supporting such partnerships between emerging technology development companies and leading research organizations, SDA will help to foster the growth of a stronger, more integrated space industrial base while addressing our nation's greatest technical challenges in space.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SDA Disruptive Investigation - STTR	0.428	0.000	0.000
Description: This project supports collaborative research and development activities by small businesses and research institutions providing enabling technologies and capabilities for the National Defense Space Architecture (NDSA). In FY 2021 STTR topics include Mesh Networking Technologies and Routers; Crypto Module; target recognition and acquisition in complex environments; and space-based environmental monitoring (SBEM) sensor.			
FY 2021 Plans: N/A			
FY 2022 Plans: N/A			
Accomplishments/Planned Programs Subtotals	0.428	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Partners for these activities include small businesses teamed with a non-profit research institution.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	75.216	194.694	636.179	0.000	636.179	-	-	-	-	-	-
001: <i>Transport</i>	0.000	0.000	0.000	260.481	0.000	260.481	-	-	-	-	-	-
002: <i>Sensing</i>	0.000	0.000	0.000	287.112	0.000	287.112	-	-	-	-	-	-
003: <i>Integration and Battle Management</i>	0.000	0.000	0.000	88.586	0.000	88.586	-	-	-	-	-	-
033: <i>Transport Layer Architecture and Standards</i>	0.000	15.000	14.891	0.000	0.000	0.000	-	-	-	-	-	-
034: <i>Space Situational Awareness and Launch</i>	0.000	10.000	24.740	0.000	0.000	0.000	-	-	-	-	-	-
039: <i>Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration</i>	0.000	30.216	39.709	0.000	0.000	0.000	-	-	-	-	-	-
191: <i>Space-Based Interceptors</i>	0.000	15.000	0.000	0.000	0.000	0.000	-	-	-	-	-	-
193: <i>Space-Based Discrimination</i>	0.000	5.000	0.000	0.000	0.000	0.000	-	-	-	-	-	-
196: <i>Space Technology Development</i>	0.000	0.000	115.354	0.000	0.000	0.000	-	-	-	-	-	-

Note

In accordance with the William M. (Mac) Thornberry National Defense Authorization Act (NDAA) for FY 2021, effective on October 1, 2022, the Space Development Agency (SDA) will be an element of the U.S. Space Force (USSF), and report to Assistant Secretary of the Air Force (ASAF) for Space Acquisition and Integration (ASAF/SA&I) with respect to acquisition decisions and directly to the Chief of Space Operations with respect to requirements decisions, personnel decisions, and any other matter not covered by ASAF/SA&I.

A. Mission Description and Budget Item Justification

SDA is responsible for developing and demonstrating the next generation space architecture to enable U.S. military operations to be responsive to emerging multi-domain threats against our national security. To achieve that goal, SDA will help inform the Department of Defense (DoD)'s decision to develop and implement a proliferated architecture enabled by lower-cost, mass-produced spacecraft and routine space access; shift the DoD to a development organization focused on experimentation, prototyping, and accelerated fielding. SDA will manage, direct, and execute the development of the space capabilities for the joint warfighter in accordance with DoD's Space Vision and field space capabilities at speed and scale, with the following goals:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Space Development Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>
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- Bold breakthroughs designed to out-pace our competitors,
- Technology maturation and systems engineering,
- Lean engineering, manufacturing, and support,
- Industrial base expansion; streamlined development and acquisition process, and
- Increased acquisition cooperation with the National Reconnaissance Office (NRO).

SDA will rapidly deploy critical elements of next-generation space capabilities, initially focusing on these essential capabilities:

- Persistent global surveillance for advanced missile targeting,
- Indications, warnings, targeting, and tracking for defense against advanced missile threats,
- Alternate position, navigation, and timing (PNT) for a GPS-denied environment,
- Global and near-real time space situational awareness,
- Responsive, resilient, common ground-based space support infrastructure (e.g., ground stations and launch capability),
- Cross-domain, networked, node-independent battle management command, control, and communications (BMC3), and
- Highly-scaled, low-latency, persistent, artificial intelligence-enabled global surveillance.

The establishment of a data transport layer in Low Earth Orbit (LEO) is essential to developing a new, responsive space architecture, and will be SDA's primary initial focus within the National Defense Space Architecture (NDSA). SDA will develop an initial set of sub-constellations on this Transport Layer to provide additional capabilities, such as advanced missile warning.

This program element funds efforts to develop and demonstrate a prototype proliferated Low Earth Orbit (pLEO) communications and data transport layer and its sub-constellations in support of the DoD Space Vision.

B. Program Change Summary (\$ in Millions)	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	75.000	215.994	681.898	0.000	681.898
Current President's Budget	75.216	194.694	636.179	0.000	636.179
Total Adjustments	0.216	-21.300	-45.719	0.000	-45.719
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-11.300			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-10.000			
• Reprogrammings	0.216	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	-	-	-10.719	-	-10.719

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Space Development Agency	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>
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• Transfer to MDA PE 1206895C	-	-	-35.000	-	-35.000
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Change Summary Explanation

FY 2021 Directed Reduction in the amount of \$11.300 million was for unjustified launch costs. The \$10.000 million Directed Transfer moved funding to the Missile Defense Agency (MDA) for the Hypersonic and Ballistic Tracking Space Sensor (HBTSS) program. The FY 2022 Economic Assumption / Inflation Adjustment is an adjustment for non-pay, non-fuel purchases based on the revised Gross Domestic Product (GDP) rates provided by the Office of Management and Budget. The \$35.000 million reduction in FY 2022 reflects a transfer to fund the HBTSS program shortfall under the MDA Program Element (PE) 1206895C. This transfer of funds impacts the Optical Intersatellite Link (OISL) interoperability testing and tracking demonstration plans increasing schedule and technical risk of the Transport and Tracking Tranche 0 effort.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 001 / <i>Transport</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
001: <i>Transport</i>	0.000	0.000	0.000	260.481	0.000	260.481	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding was realigned from Project 033 (Transport Layer Architecture and Standards) and Project 196 (Space Technology Development) into this new project code (Project 001) to continue the development and fielding of the National Defense Space Architecture (NDSA). This project code was established to better align budget exhibits with the current Space Development Agency (SDA) construct. Funding in FY 2023 and future years has been transferred to a new Program Element (PE) under the U.S. Space Force (USSF), 1206410SF.

A. Mission Description and Budget Item Justification

SDA is developing and demonstrating next generation space capabilities for the joint warfighter enabled by proliferation of satellites in Low Earth Orbit (LEO) and a new acquisition model utilizing rapid spiral development. SDA is developing capabilities to address a wide range of Department of Defense (DoD) space needs as stated in the National Defense Strategy and DoD Space Vision, including low-latency tactical communication enabling beyond line of sight targeting and advanced missile tracking. SDA will orchestrate the rapid development and fielding of the National Defense Space Architecture (NDSA), a resilient military sensing and data transport capability via a proliferated space architecture in LEO. This program element funds the development and demonstration of space technologies to deliver low-latency data transport and alternate position, navigation, and timing capabilities to U.S. joint warfighting forces in two-year tranches, beginning as early as FY 2022.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Transport	0.000	0.000	260.481
Description: Develop and demonstrate prototypes that enable a resilient and unified military data transport layer, sensor capabilities, and alternate position, navigation, and timing (APNT) capabilities enabled by a proliferated Low Earth Orbit (pLEO) architecture. This effort will define, demonstrate, and deliver the architectures and standards necessary to rapidly prototype and field new satellite capabilities in LEO.			
FY 2021 Plans: N/A			
FY 2022 Plans: <ul style="list-style-type: none"> - Develop plans for and begin development of enabling technologies for initial Transport warfighting capability. - Develop 20 Transport Tranche 0 space vehicles. - Complete Tranche 0 interoperability verification testing at Government hardware-in-the-loop (HWIL) test facility. - Conduct flight missions for initial tranche operations. - Develop plans for Tranche 0 capstone demonstrations. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 001 / <i>Transport</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>- Launch Transport Tranche 0 satellites. - Develop plans for follow-on tranche capabilities.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Funding was realigned from Project 033 (Transport Layer Architecture and Standards) and Project 196 (Space Technology Development) into this new project code to continue the development and fielding of the National Defense Space Architecture (NDSA), particularly with Transport activities. The increase will fund Tranche 0 capabilities and follow-on tranche development efforts. Note that this project line includes a \$35.000 million transfer to MDA, which will impact the Optical Intersatellite Link (OISL) interoperability testing and tracking demonstration plans increasing schedule and technical risk of the Transport and Tracking Tranche 0 effort.</p>			
Accomplishments/Planned Programs Subtotals	0.000	0.000	260.481

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
Partners for these activities may include Missile Defense Agency (MDA), Space and Missile Systems Center (SMC), DoD Combatant Commands, DoD research centers, small businesses, large defense contractors, commercial space providers, Federally Funded Research and Development Centers, and University Affiliated Research Centers.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Space Development Agency **Date: May 2021**

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / Space Technology Development and Prototyping	Project (Number/Name) 001 / Transport
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Transport Tranche 0	C/FFP	Lockheed Martin : Littleton, CO	0.000	0.000		0.000		120.027		0.000		120.027	-	-	-
Transport Tranche 0	C/FFP	York Space Systems : Denver, CO	0.000	0.000		0.000		57.174		0.000		57.174	-	-	-
Multi-Domain Agile Navigation and Timing Network Automation (MANNA) Tranche 0	C/BA	Naval Research Laboratory (NRL) : Washington, DC	0.000	0.000		0.000		0.150		0.000		0.150	-	-	-
Launch Tranche 0	C/CS	SpaceX : Hawthorne, CA	0.000	0.000		0.000		83.130		0.000		83.130	-	-	-
Subtotal			0.000	0.000		0.000		260.481		0.000		260.481	-	-	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	0.000	260.481	0.000	260.481	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency													Date: May 2021						
Appropriation/Budget Activity 0400 / 4								R-1 Program Element (Number/Name) PE 1206410SDA / Space Technology Development and Prototyping								Project (Number/Name) 001 / Transport			

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Transport																																		
Complete the development of Transport Tranche 0 space vehicles.																																		
Launch and early operations of Tranche 0 Transport satellites.																																		
Begin planning activities for follow-on tranche Transport Layer capabilities.																																		

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 001 / <i>Transport</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Transport</i>				
Complete the development of Transport Tranche 0 space vehicles.	1	2022	4	2022
Launch and early operations of Tranche 0 Transport satellites.	3	2022	4	2023
Begin planning activities for follow-on tranche Transport Layer capabilities.	1	2022	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 002 / <i>Sensing</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
002: <i>Sensing</i>	0.000	0.000	0.000	287.112	0.000	287.112	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding was realigned from Project 039 (Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration) and Project 196 (Space Technology Development) into this new project code (Project 002) to continue the development and fielding of the National Defense Space Architecture (NDSA). This project code was established to better align budget exhibits with the current Space Development Agency (SDA) construct. Funding in FY 2023 and future years has been transferred to a new Program Element (PE) under the U.S. Space Force (USSF), 1206410SF.

A. Mission Description and Budget Item Justification

SDA is developing and demonstrating next generation space capabilities for the joint warfighter enabled by proliferation of satellites in Low Earth Orbit (LEO) and a new acquisition model utilizing rapid spiral development. SDA is developing capabilities to address a wide range of Department of Defense (DoD) space needs as stated in the National Defense Strategy and DoD Space Vision, including advanced missile tracking and global surveillance enabling beyond-line-of-sight targeting. SDA will orchestrate the rapid development and fielding of the National Defense Space Architecture (NDSA), a resilient military sensing and data transport capability via a proliferated space architecture in LEO. This program element funds the development and demonstration of space technologies to deliver advanced missile tracking, global surveillance and surface moving target custody, and enhanced space domain awareness and deterrence capabilities to U.S. joint warfighting forces in two-year tranches, beginning as early as FY 2022.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Sensing	0.000	0.000	287.112
Description: Develop and demonstrate payload prototypes compatible with a proliferated Low Earth Orbit (pLEO) architecture. This effort will focus on developing and demonstrating sensors for beyond-line-of-sight targeting, space-to-space data links, space-to-tactical data links, and advanced missile warning capabilities to enable enhanced space domain awareness, and leveraging small-to-medium launch service access to demonstrate responsive constitution and replenishment. On-orbit demonstrations will be tied to existing mission-specific ground infrastructure, when it exists. Ground infrastructure will be linked or developed to support payload integration and data processing.			
FY 2021 Plans: N/A			
FY 2022 Plans: - Develop Tracking Tranche 0 comprised of up to eight Wide Field of View (WFOV) Overhead Persistent Infrared (OPIR) satellites.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 002 / <i>Sensing</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Integrate Tracking space vehicles with one another and with Transport space vehicles to enable low-latency transport of advanced missile tracking data. - Launch Tracking Tranche 0 satellites. - Demonstrate the performance of the OPIR payloads to detect dim targets with stressing background scenes. - Demonstrate capability to transfer data from tracking layer to existing Joint OPIR Ground (JOG) in standardized formats. - Develop and conduct ground-based demonstration of multi-intelligence (multi-INT) data fusion algorithms on flight-like systems and in flight-like environments; validate on orbit via Transport Tranche 0 to maximum extent possible. <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Funding was realigned from Project 039 (Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration) and Project 196 (Space Technology Development) into this new project code (Project 002) to continue the development and fielding of the National Defense Space Architecture (NDSA). The increase will fund the ramp-up of Tranche 0 Sensing activities and follow-on tranche development efforts.</p>			
Accomplishments/Planned Programs Subtotals	0.000	0.000	287.112

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Partners for these activities may include Missile Defense Agency (MDA), Space and Missile Systems Center (SMC), DoD Combatant Commands, DoD research centers, small businesses, large defense contractors, commercial space providers, Federally Funded Research and Development Centers, and University Affiliated Research Centers.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Space Development Agency										Date: May 2021					
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>					Project (Number/Name) 002 / <i>Sensing</i>					

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Tracking Tranche 0	C/FFP	L3Harris : Palm Bay, FL	0.000	0.000		0.000		130.157		0.000		130.157	-	-	-
Tracking Tranche 0	C/FFP	SpaceX : Hawthorne, CA	0.000	0.000		0.000		99.947		0.000		99.947	-	-	-
Tranche 1	C/TBD	TBD : TBD	0.000	0.000		0.000		57.008		0.000		57.008	-	-	-
Subtotal			0.000	0.000		0.000		287.112		0.000		287.112	-	-	N/A
Project Cost Totals			0.000	0.000		0.000		287.112		0.000		287.112	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 002 / <i>Sensing</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Sensing	
Complete the development of Tracking Tranche 0 space vehicles and integrate with Transport Layer.	
Launch and early operations of Tranche 0 Tracking satellites.	
Begin planning activities for follow-on tranche capabilities.	
Develop multi-INT data fusion and dissemination algorithms.	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 002 / <i>Sensing</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Sensing				
Complete the development of Tracking Tranche 0 space vehicles and integrate with Transport Layer.	1	2022	4	2022
Launch and early operations of Tranche 0 Tracking satellites.	3	2022	4	2023
Begin planning activities for follow-on tranche capabilities.	1	2022	4	2023
Develop multi-INT data fusion and dissemination algorithms.	1	2022	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>				Project (Number/Name) 003 / <i>Integration and Battle Management</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
003: <i>Integration and Battle Management</i>	0.000	0.000	0.000	88.586	0.000	88.586	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Funding was realigned from Project 034 (Space Situational Awareness and Launch) and Project 196 (Space Technology Development) into this new project code (Project 003) to continue the development and fielding of the National Defense Space Architecture (NDSA). This project code was established to better align budget exhibits with the current Space Development Agency (SDA) construct. Funding in FY 2023 and future years has been transferred to a new Program Element (PE) under the U.S. Space Force (USSF), 1206410SF.

A. Mission Description and Budget Item Justification

SDA is developing and demonstrating next generation space capabilities for the joint warfighter enabled by proliferation of satellites in Low Earth Orbit (LEO) and a new acquisition model utilizing rapid spiral development. SDA is developing capabilities to address a wide range of Department of Defense (DoD) space needs as stated in the National Defense Strategy and DoD Space Vision, including space-based battle management and a ground support infrastructure. SDA will orchestrate the rapid development and fielding of the National Defense Space Architecture (NDSA), a resilient military sensing and data transport capability via a proliferated space architecture in LEO. This program element funds the development and demonstration of space technologies to deliver space-based command and control, tasking, mission processing and dissemination capabilities, as well as an integrated, resilient network of ground support capabilities, to U.S. joint warfighting forces in two-year tranches, beginning as early as FY 2022.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Integration and Battle Management	0.000	0.000	88.586
Description: Deliver capabilities to U.S. joint warfighting forces in two-year enhanced capability tranches, beginning as early as FY 2022. Products include but are not limited to performing trade studies, technical analyses, or modeling and simulation; identifying and maturing enabling technologies; defining and conducting ground-based and on-orbit risk reduction demonstrations, prototyping hardware or software systems; and exploring novel concepts for future warfighting capabilities augmented by a resilient proliferated Low Earth Orbit (pLEO) satellite architecture.			
FY 2021 Plans: N/A			
FY 2022 Plans: - Conduct hardware-in-the-loop operations to validate Battle Management solutions. - Prepare Naval Research Laboratory's Blossom Point ground station for Tranche 0 satellite operations.			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 003 / <i>Integration and Battle Management</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> - Complete validation and verification of the Government-owned hardware-in-the-loop testbed capability. - Establish initial SDA ground capability and prepare for Tranche 0 satellite operations. - Launch Tranche 0 satellites. - Develop plans for follow-on tranche capabilities. <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Funding was realigned from Project 034 (Space Situational Awareness and Launch) and Project 196 (Space Technology Development) into this new project code (Project 003) to continue the development and fielding of the National Defense Space Architecture (NDSA). The increase will fund the ramp-up of Tranche 0 integration and battle management activities and follow-on tranche development efforts.</p>			
Accomplishments/Planned Programs Subtotals	0.000	0.000	88.586

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Partners for these activities may include Missile Defense Agency (MDA), Space and Missile Systems Center (SMC), DoD Combatant Commands, DoD research centers, small businesses, large defense contractors, commercial space providers, Federally Funded Research and Development Centers, and University Affiliated Research Centers.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / Space Technology Development and Prototyping	Project (Number/Name) 003 / Integration and Battle Management
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mission Systems Engineering and Integration (MSE&I) Tranche 0	C/FFP	Perspecta : Chantilly, VA	0.000	0.000		0.000		10.066		0.000		10.066	-	-	-
Integration/Support Tranche 0	C/BA	Naval Research Laboratory (NRL) : Washington, DC	0.000	0.000		0.000		10.200		0.000		10.200	-	-	-
Launch Tranche 0	C/FFP	SpaceX : Hawthorne, CA	0.000	0.000		0.000		51.287		0.000		51.287	-	-	-
Tranche 1	C/TBD	TBD : TBD	0.000	0.000		0.000		17.033		0.000		17.033	-	-	-
Subtotal			0.000	0.000		0.000		88.586		0.000		88.586	-	-	N/A
			Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.000		0.000		88.586		0.000		88.586	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency			Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 003 / <i>Integration and Battle Management</i>	

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Integration and Battle Management																												
Complete the development of an initial battle management architecture.																												
Complete the development of Tranche 0 ground support infrastructure.																												
Manage Tranche 0 constellation operations.																												
Begin planning activities for follow-on tranche capabilities.																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 003 / <i>Integration and Battle Management</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Integration and Battle Management</i>				
Complete the development of an initial battle management architecture.	1	2022	4	2023
Complete the development of Tranche 0 ground support infrastructure.	1	2022	4	2023
Manage Tranche 0 constellation operations.	1	2022	4	2023
Begin planning activities for follow-on tranche capabilities.	1	2022	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>				Project (Number/Name) 033 / <i>Transport Layer Architecture and Standards</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
033: <i>Transport Layer Architecture and Standards</i>	0.000	15.000	14.891	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding in FY 2022 is transferred to the new Transport Project 001. Funding in FY 2023 and future years has been transferred to a new Program Element (PE) under the U.S. Space Force (USSF), 1206410SF.

A. Mission Description and Budget Item Justification

The Space Technology Development and Prototyping effort will develop and demonstrate a prototype proliferated Low Earth Orbit (pLEO) data transport layer and its sub-constellations to provide the eight capabilities outlined in the Department of Defense (DoD) Space Vision. The Space Development Agency (SDA) will rapidly develop and field the next generation space architecture that will enable the U.S. to deploy space capabilities that out-pace adversarial threats. This architecture is underpinned by common satellite buses, common interfaces between payloads and buses, and common data interfaces and standards. SDA will develop these standards for high power and lower power buses. SDA will develop standard interfaces across these two classes of satellite buses. SDA, in collaboration with other Space stakeholders, will develop communication standards and a ground architecture including user equipment that supports satellites utilizing these standardized products.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Transport Layer Architecture and Standards	15.000	14.891	0.000
Description: Develop and demonstrate prototypes that enable a resilient and unified military data transport layer and sensor capabilities, enabling a pLEO architecture. This effort will define and deliver the architectures and standards necessary to rapidly prototype and field new satellite capabilities in Low Earth Orbit (LEO).			
FY 2021 Plans: - Perform technology development and in-flight demonstrations to test and demonstrate optical intersatellite link technologies.			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement: Funding in FY 2022 is transferred to the new Transport Project, 001.			
Accomplishments/Planned Programs Subtotals	15.000	14.891	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 033 / <i>Transport Layer Architecture and Standards</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Partners for these activities include DoD research centers, large defense contractors, and commercial space providers.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 033 / <i>Transport Layer Architecture and Standards</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Transport Layer Architecture and Standards</i>	
Enable an initial deployment of the space architecture.	████████████████████
Develop and perform on-orbit demonstration of optical intersatellite links (OISL).	████████████████████
Link the early builds of the space based data Transport Layer to ground systems via optical communications.	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 033 / <i>Transport Layer Architecture and Standards</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Transport Layer Architecture and Standards</i>				
Enable an initial deployment of the space architecture.	4	2020	4	2021
Develop and perform on-orbit demonstration of optical intersatellite links (OISL).	3	2020	4	2021
Link the early builds of the space based data Transport Layer to ground systems via optical communications.	3	2020	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>				Project (Number/Name) 034 / <i>Space Situational Awareness and Launch</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
034: <i>Space Situational Awareness and Launch</i>	0.000	10.000	24.740	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Funding in FY 2022 is transferred to the new Integration and Battle Management Project, 003. Funding in FY 2023 and future years has been transferred to a new Program Element (PE) under the U.S. Space Force (USSF), 1206410SF.

A. Mission Description and Budget Item Justification

The Space Technology Development and Prototyping effort will develop and demonstrate a prototype proliferated Low Earth Orbit (pLEO) data transport layer and its sub-constellations to provide the eight capabilities outlined in the Department of Defense (DoD) Space Vision. Developing and fielding a pLEO space architecture will significantly improve U.S. resilience posture in space. The Space Situational Awareness (SSA) and Launch project will further support this vision of enhanced resilience. Global and near real-time SSA will provide a detailed understanding of the space order of battle and a responsive launch capability needed to enable rapid constitution or replenishment of space capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Space Situational Awareness and Launch	10.000	24.740	0.000
Description: Develop transport layer to provide critical data transfer capabilities, such as dissemination of space situational awareness data. In addition, this effort will identify and contract for launch of small-to-medium size payloads, to demonstrate responsive constitution and replenishment.			
FY 2021 Plans: - Identify launch opportunities for Space Transport Layer demonstration. - Design and develop initial pLEO data transport capabilities. - Improve architecture resilience by developing advanced beyond-line-of-sight communications systems. - Develop deep space surveillance plans.			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement: Funding in FY 2022 is transferred to the new Integration and Battle Management Project, 003.			
Accomplishments/Planned Programs Subtotals	10.000	24.740	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 034 / <i>Space Situational Awareness and Launch</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Partners for these activities include commercial space providers and Federally Funded Research and Development Centers.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / Space Technology Development and Prototyping	Project (Number/Name) 034 / Space Situational Awareness and Launch
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Transport Tranche 0	C/FFP	York Space Systems : Denver, CO	0.000	9.600	Aug 2020	0.000		0.000		0.000		0.000	-	-	-
Battle Management Command, Control, and Communication (BMC3) Tasks	FFRDC	CMU/SEI : Pittsburgh, PA	0.000	0.400	Jul 2020	0.000		0.000		0.000		0.000	-	-	-
Integration Tranche 0	MIPR	NRL : Washington, DC	0.000	0.000		2.554	Oct 2020	0.000		0.000		0.000	-	-	-
Launch Tranche 0	C/FFP	SpaceX : Hawthorne, CA	0.000	0.000		4.207	Dec 2020	0.000		0.000		0.000	-	-	-
Tranche 1	C/Various	TBD : TBD	0.000	0.000		15.763		0.000		0.000		0.000	-	-	-
Laser Interconnect and Communications System (LINCS) Rideshare Integration	C/IDIQ	Perspecta Engineering : Chantilly, VA	0.000	0.000		1.788	Feb 2021	0.000		0.000		0.000	-	-	-
Launch Tranche 0 Options	Option/FFP	SpaceX : Hawthorne, CA	0.000	0.000		0.425		0.000		0.000		0.000	-	-	-
Subtotal			0.000	10.000		24.737		0.000		0.000		0.000	-	-	N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Interest Payment	MIPR	WHS : Washington, DC	0.000	0.000		0.003	Nov 2020	0.000		0.000		0.000	-	-	-
Subtotal			0.000	0.000		0.003		0.000		0.000		0.000	-	-	N/A

Project Cost Totals	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
	0.000	10.000	24.740	0.000	0.000	0.000	-	-	N/A

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 034 / <i>Space Situational Awareness and Launch</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Space Situational Awareness and Launch</i>				
Develop initial Transport Layer capability, ultimately enabling space situational awareness development and dissemination.	4	2020	2	2022
Extend Transport Layer capabilities with advanced beyond line of sight communications techniques.	3	2021	2	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / Space Technology Development and Prototyping	Project (Number/Name) 039 / Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
039: Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration	0.000	30.216	39.709	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Funding in FY 2022 is transferred to the new Sensing Project, 002. Funding in FY 2023 and future years has been transferred to a new Program Element (PE) under the U.S. Space Force (USSF), 1206410SF.

A. Mission Description and Budget Item Justification

The proliferated Low Earth Orbit (pLEO) Payload and Ground Integration project will enable a persistent global surveillance capability, enabled by a pLEO data communications transport layer that will provide indications, warnings, targeting, and tracking to support the defeat of advanced missile threats.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: pLEO Missile Warning Ground Integration	30.216	39.709	0.000
Description: Develop and demonstrate payload prototypes compatible with a pLEO architecture. This effort will focus on developing and demonstrating sensors for beyond-line-of-sight targeting, space-to-space data links, space-to-tactical data links, and advanced missile warning capabilities. On-orbit demonstrations will be tied to existing mission specific ground infrastructure, when it exists. Ground infrastructure will be linked or developed to support payload integration and data processing.			
FY 2021 Plans: - Develop multi-band wide field of view (WFOV) overhead persistent infrared (OPIR) payload to evaluate OPIR detection and tracking methods from Low Earth Orbit (LEO). - Integrate payload with satellite bus, launch satellite, and conduct tracking experiments in LEO. - Develop medium field of view (MFOV) OPIR experiment to reduce technical risk of hybrid WFOV/MFOV missile tracking architecture.			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement: Funding in FY 2022 is transferred to the new Sensing Project, 002.			
Accomplishments/Planned Programs Subtotals	30.216	39.709	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 039 / <i>Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

Partners for these activities include Department of Defense (DoD) research centers, large defense contractors, and commercial space providers.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / Space Technology Development and Prototyping	Project (Number/Name) 039 / Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Transport Tranche 0	C/FFP	York Space Systems : Denver, CO	0.000	0.302	Aug 2020	0.000		0.000		0.000		0.000	-	-	-
Tracking Tranche 0	C/FFP	L3Harris : Melbourne, FL	0.000	4.240	Sep 2020	19.214		0.000		0.000		0.000	-	-	-
Tracking Tranche 0	C/FFP	SpaceX : Hawthorne, CA	0.000	4.906	Sep 2020	19.505		0.000		0.000		0.000	-	-	-
Support Tranche 0	C/FFP	Space X : Hawthorne, CA	0.000	1.053	Dec 2020	0.000		0.000		0.000		0.000	-	-	-
Transport Tranche 0	C/CPFF	Lockheed Martin : Littleton, CO	0.000	0.808	Mar 2021	0.000		0.000		0.000		0.000	-	-	-
Payload Mods & Flight Units	C/FFP	Collins Aerospace : Danbury, CT	0.000	1.380	Mar 2020	0.000		0.000		0.000		0.000	-	-	-
Multi-Band OPIR Payload (MBOP)	SS/CR	Collins Aerospace : Danbury, CT	0.000	5.148	May 2020	0.000		0.000		0.000		0.000	-	-	-
Prototype Infrared Payload (PIRPL)	SS/CPFF	Northrop Grumman : Huntsville, AL	0.000	3.811	Jun 2020	0.794		0.000		0.000		0.000	-	-	-
MQ9 Integration	C/TBD	General Atomics : San Diego, CA	0.000	6.002		0.000		0.000		0.000		0.000	-	-	-
Commercial Tranche 0 Optical Intersatellite Links (OISL) Demo	C/TBD	Capella : San Francisco, CA	0.000	2.466		0.000		0.000		0.000		0.000	-	-	-
MANDRAKE 2	C/FFP	Lockheed Martin : Sunnydale, CA	0.000	0.100		0.000		0.000		0.000		0.000	-	-	-
Transport Tranche 1	C/TBD	TBD : TBD	0.000	0.000		0.196		0.000		0.000		0.000	-	-	-
Subtotal			0.000	30.216		39.709		0.000		0.000		0.000	-	-	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	30.216	39.709	0.000	0.000	0.000	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 039 / <i>Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Missile Warning Technology																											
Develop a multi-band wide field of view experimental OPIR payload.																											
Develop experimental satellite bus and integrate OPIR payload.																											
Develop medium field of view OPIR experiment.																											
Design and develop Tranche 0 missile tracking satellites informed by tracking experiments.																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 039 / <i>Proliferated Low Earth Orbit (pLEO) Missile Warning Ground Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Missile Warning Technology</i>				
Develop a multi-band wide field of view experimental OPIR payload.	3	2020	2	2022
Develop experimental satellite bus and integrate OPIR payload.	4	2020	2	2022
Develop medium field of view OPIR experiment.	3	2020	3	2021
Design and develop Tranche 0 missile tracking satellites informed by tracking experiments.	1	2021	2	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 191 / <i>Space-Based Interceptors</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
191: <i>Space-Based Interceptors</i>	0.000	15.000	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Space Technology Development and Prototyping effort will develop and demonstrate a prototype proliferated Low Earth Orbit (pLEO) communications and data transport layer and its sub-constellations to provide the eight capabilities outlined in the Department of Defense (DoD) Space Vision. Developing and fielding a pLEO space architecture will significantly improve U.S. resilience posture in space. This effort focused on developing the battle management software, infrastructure, and test capabilities to ensure maximum utility of pLEO hardware. This effort supported on-board space data processing, data ingest and fusion of legacy, current, and future space-based capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Space-Based Interceptor Assessment	15.000	0.000	0.000
Description: Developed software to support Battle Management Command, Control, and Communications that optimizes use of fielded space, ground, and user hardware, minimizes required communication bandwidths, and supports tactical users.			
FY 2021 Plans: N/A			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement: While funding for this Project code ended in FY 2020, the work initiated in this Project code continues in FY 2021 under Project codes 039 and 196. This work initiated the development of the Transport Layer, and initial OPIR background measurement payload development for missile targeting data dissemination.			
Accomplishments/Planned Programs Subtotals	15.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Partners for these activities included large defense contractors.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 191 / <i>Space-Based Interceptors</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Space-Based Interceptor</i>	
Develop medium field of view OPIR experiment enabling advanced missile detection and tracking.	████████████████████
Develop initial data transport capabilities enabling the dissemination of missile targeting data.	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 191 / <i>Space-Based Interceptors</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Space-Based Interceptor				
Develop medium field of view OPIR experiment enabling advanced missile detection and tracking.	3	2020	3	2021
Develop initial data transport capabilities enabling the dissemination of missile targeting data.	4	2020	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 193 / <i>Space-Based Discrimination</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
193: <i>Space-Based Discrimination</i>	0.000	5.000	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Space Technology Development and Prototyping effort will develop and demonstrate a prototype proliferated Low Earth Orbit (pLEO) data transport layer and its sub-constellations to provide the eight capabilities outlined in the Department of Defense (DoD) Space Vision. Developing and fielding a pLEO space architecture will significantly improve U.S. resilience posture in space.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Space-Based Discrimination Assessment	5.000	0.000	0.000
Description: Design and demonstrate initial data transport capabilities in a pLEO architecture to enable future dissemination of advanced missile warning and tracking data to tactical users.			
FY 2021 Plans: N/A			
FY 2022 Plans: N/A			
FY 2021 to FY 2022 Increase/Decrease Statement: While funding for this Project code ended in FY 2020, the work initiated in this Project code continues in FY 2021 under Project code 196. This work initiated the development of the Transport Layer for data dissemination.			
Accomplishments/Planned Programs Subtotals	5.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks


D. Acquisition Strategy

Partners for these activities included large defense contractors.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 193 / <i>Space-Based Discrimination</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Space-Based Discrimination</i>	
Develop initial data transport capabilities enabling the dissemination of missile targeting data.	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 193 / <i>Space-Based Discrimination</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Space-Based Discrimination</i>				
Develop initial data transport capabilities enabling the dissemination of missile targeting data.	4	2020	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>				Project (Number/Name) 196 / <i>Space Technology Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
196: <i>Space Technology Development</i>	0.000	0.000	115.354	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding in FY 2022 is transferred to the new Transport, Sensing, and Integration and Battle Management Project codes.

A. Mission Description and Budget Item Justification

The Space Development Agency (SDA) is developing and demonstrating next generation space capabilities for the joint warfighter enabled by proliferation of satellites in Low Earth Orbit (LEO) and a new acquisition model utilizing rapid spiral development. The SDA is developing capabilities to address a wide range of Department space needs as stated in the National Defense Strategy and Department of Defense (DoD) Space Vision, including low-latency tactical communication, beyond-line-of-sight targeting, and advanced missile tracking. SDA will orchestrate the rapid development and fielding of the National Defense Space Architecture (NDSA), a resilient military sensing and data transport capability via a proliferated space architecture in low-earth orbit.

This program element funds the space technology development and prototyping activity to deliver a resilient military sensing and data transport capability via a proliferated space architecture to U.S. joint warfighting forces in two-year tranches, beginning as early as FY 2022. These capabilities including a low-latency mesh network data transport layer; advanced missile tracking layer; global surveillance and surface moving target custody layer; low-latency sensor tasking, command and control, and data dissemination layer; alternate position, navigation, and timing layer; enhanced space situational awareness and deterrence layer; and common ground segment and launch services layer.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Space Technology Development	0.000	115.354	0.000
Description: Space technology development and prototyping of a resilient military sensing and data transport capability via a proliferated space architecture in Low Earth Orbit (LEO).			
FY 2021 Plans:			
- Design and begin development of Transport Layer Tranche 0 capability.			
- Design and begin development of wide field-of-view infrared payload with sensitivity sufficient to detect advance missile threats.			
- Design and begin development of ground support infrastructure and integration with space constellation to support Tranche 0 mission operations.			
- Design, develop, and test hardware-in-the-loop facility to support architecture interoperability testing and validation.			
FY 2022 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Space Development Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 196 / <i>Space Technology Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
N/A				
FY 2021 to FY 2022 Increase/Decrease Statement: Funding in FY 2022 is transferred to the new Transport, Sensing, and Integration and Battle Management Project codes.				
Accomplishments/Planned Programs Subtotals		0.000	115.354	0.000
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
Partners for these activities may include Missile Defense Agency (MDA), Space and Missile Systems Center (SMC), DoD Combatant Commands, DoD research centers, small businesses, large defense contractors, commercial space providers, Federally Funded Research and Development Centers, and University Affiliated Research Centers.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Space Development Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / Space Technology Development and Prototyping	Project (Number/Name) 196 / Space Technology Development
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Transport Tranche 0	C/FFP	Lockheed Martin : Littleton, CO	0.000	0.000		43.390		0.000		0.000		0.000	-	-	-
Transport Tranche 0	C/FFP	York Space Systems, LLC : Denver, CO	0.000	0.000		19.986		0.000		0.000		0.000	-	-	-
Tracking Tranche 0	C/FFP	SpaceX : Hawthorne, CA	0.000	0.000		9.900		0.000		0.000		0.000	-	-	-
Tracking Tranche 0	C/FFP	L3Harris : Palm Bay, FL	0.000	0.000		19.440		0.000		0.000		0.000	-	-	-
Mission Systems Engineering and Integration (MSE&I)	C/CPFF	Perspecta Engineering Inc : Chantilly, VA	0.000	0.000		11.357		0.000		0.000		0.000	-	-	-
Launch Tranche 0	C/CPFF	SpaceX : Hawthorne, CA	0.000	0.000		4.500		0.000		0.000		0.000	-	-	-
Transport Tranche 1	C/FFP	TBD : TBD	0.000	0.000		6.781		0.000		0.000		0.000	-	-	-
Subtotal			0.000	0.000		115.354		0.000		0.000		0.000	-	-	N/A
Project Cost Totals			0.000	0.000		115.354		0.000		0.000		0.000	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 196 / <i>Space Technology Development</i>

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Space Technology Development</i>	
Develop Tranche 0 data transport capabilities.	████████████████████
Develop hardware in the loop test facility supporting Tranche 0 capability development.	████████████████████
Develop and integrate Tranche 0 ground support infrastructure.	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Space Development Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 1206410SDA / <i>Space Technology Development and Prototyping</i>	Project (Number/Name) 196 / <i>Space Technology Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Space Technology Development</i>				
Develop Tranche 0 data transport capabilities.	1	2021	4	2022
Develop hardware in the loop test facility supporting Tranche 0 capability development.	1	2021	4	2022
Develop and integrate Tranche 0 ground support infrastructure.	1	2021	4	2022

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116- 93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

03 May 2021

Appropriation -----	FY 2020 Total	FY 2021 Total	FY 2022 Total
Research, Development, Test & Eval, DW	150,246	118,451	109,061
Total Research, Development, Test & Evaluation	150,246	118,451	109,061

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

03 May 2021

Summary Recap of Budget Activities	FY 2020 Total	FY 2021 Total	FY 2022 Total
Advanced Component Development & Prototypes	20,062	19,190	17,439
Management Support	125,647	96,222	91,622
Operational Systems Development	4,537	3,039	
Total Research, Development, Test & Evaluation	150,246	118,451	109,061
Summary Recap of FYDP Programs			
General Purpose Forces	13,753	6,097	977
Intelligence and Communications	553	545	
Research and Development	95,867	80,684	78,554
Training Medical and Other	40,073	31,125	29,530
Total Research, Development, Test & Evaluation	150,246	118,451	109,061

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

03 May 2021

Summary Recap of Budget Activities -----	FY 2020 Total	FY 2021 Total	FY 2022 Total
Advanced Component Development & Prototypes	20,062	19,190	17,439
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 Summary Recap of FYDP Programs -----			
General Purpose Forces	13,753	6,097	977
Intelligence and Communications	553	545	
Research and Development	95,867	80,684	78,554
Training Medical and Other	40,073	31,125	29,530
Total Research, Development, Test & Evaluation	150,246	118,451	109,061

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

03 May 2021

Appropriation -----	FY 2020 Total	FY 2021 Total	FY 2022 Total
The Joint Staff	150,246	118,451	109,061
Total Research, Development, Test & Evaluation	150,246	118,451	109,061

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

03 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Total	FY 2021 Total	FY 2022 Total	Se c
112	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	20,062	19,190	17,439	U
		Advanced Component Development & Prototypes		20,062	19,190	17,439	
149	0603829J	Joint Capability Experimentation	06	10,971	11,239	8,444	U
157	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	64,834	50,255	52,671	U
183	0204571J	Joint Staff Analytical Support	06	9,216	3,058	977	U
188	0303166J	Support to Information Operations (IO) Capabilities	06	553	545		U
195	0804768J	COCOM Exercise Engagement and Training Transformation (CE2T2) - non-MHA	06	40,073	31,125	29,530	U
		Management Support		125,647	96,222	91,622	
208	0208043J	Planning and Decision Aid System (PDAS)	07	4,537	3,039		U
		Operational Systems Development		4,537	3,039		
Total Research, Development, Test & Eval, DW				150,246	118,451	109,061	

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The Joint Staff
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

03 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Total	FY 2021 Total	FY 2022 Total	Sec
112	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	20,062	19,190	17,439	U
		Advanced Component Development & Prototypes		20,062	19,190	17,439	
149	0603829J	Joint Capability Experimentation	06	10,971	11,239	8,444	U
157	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	64,834	50,255	52,671	U
183	0204571J	Joint Staff Analytical Support	06	9,216	3,058	977	U
188	0303166J	Support to Information Operations (IO) Capabilities	06	553	545		U
195	0804768J	COCOM Exercise Engagement and Training Transformation (CE2T2) - non-MHA	06	40,073	31,125	29,530	U
		Management Support		125,647	96,222	91,622	
208	0208043J	Planning and Decision Aid System (PDAS)	07	4,537	3,039		U
		Operational Systems Development		4,537	3,039		
Total The Joint Staff				150,246	118,451	109,061	

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Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
112	04	0604826J	Joint C5 Capability Development, Integration, and Interoperability Assessments.....	Volume 5 - 851

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
149	06	0603829J	Joint Capability Experimentation.....	Volume 5 - 871
157	06	0605126J	Joint Integrated Air & Missile Defense Organization (JIAMDO).....	Volume 5 - 875
183	06	0204571J	Joint Staff Analytical Support.....	Volume 5 - 887
188	06	0303166J	Support to Information Operations (IO) Capabilities.....	Volume 5 - 893
195	06	0804768J	COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA.....	Volume 5 - 897

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Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

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Joint C5 Capability Development, Integration, and Interoperability Assessments	0604826J	112	04.....	Volume 5 - 851
Joint Capability Experimentation	0603829J	149	06.....	Volume 5 - 871
Joint Integrated Air & Missile Defense Organization (JIAMDO)	0605126J	157	06.....	Volume 5 - 875
Joint Staff Analytical Support	0204571J	183	06.....	Volume 5 - 887
Planning and Decision Aid System (PDAS)	0208043J	208	07.....	Volume 5 - 917
Support to Information Operations (IO) Capabilities	0303166J	188	06.....	Volume 5 - 893

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604826J I <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>
---	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	91.403	20.062	19.190	17.439	-	17.439	-	-	-	-	-	-
001: <i>C5 Assessments and Analyses</i>	47.628	9.275	9.048	9.208	-	9.208	-	-	-	-	-	-
002: <i>C5 Capability Development</i>	26.050	5.787	5.119	4.750	-	4.750	-	-	-	-	-	-
003: <i>Joint Fires C2 Interoperability</i>	17.725	5.000	5.023	3.481	-	3.481	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Lead command, control, communications, computers, and cyber (C5) assessments, analyses, capability development, and joint fires command and control (C2) interoperability efforts required to achieve an effective, integrated, and interoperable joint force. Efforts include C5 requirements determination, C5 architectures development and integration, C5 data standardization, joint fires C2 interoperability, and C5 integration and interoperability assessments. The Joint Staff has recently been designated the DoD's lead for the integration of Joint All-Domain Command & Control (JADC2) capabilities and development efforts across the Department. The Joint C5 program is the Joint Staff focal point for this responsibility, and DoD's only program directly attributable to JADC2. The Joint C5 R&D projects collectively provide the analytical basis and action arm of the JADC2 Cross Functional Teams charged with execution of the DoD JADC2 Strategy and Implementation Plan.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	20.062	19.190	19.445	-	19.445
Current President's Budget	20.062	19.190	17.439	-	17.439
Total Adjustments	0.000	0.000	-2.006	-	-2.006
• Congressional General Reductions	0.000	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Total Other Adjustments	-	-	-2.006	-	-2.006

Change Summary Explanation

Changes from FY 2021 to FY 2022:
Reductions to travel funds, inflation and other adjustments.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments				Project (Number/Name) 001 / C5 Assessments and Analyses			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
001: C5 Assessments and Analyses	47.628	9.275	9.048	9.208	-	9.208	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As the new DoD lead for the integration of Joint All-Domain Command and Control (JADC2) capabilities and development efforts, conduct analysis and assessment activities to inform and enhance joint warfighter capabilities in support of national security requirements. Provide timely, facts-based findings and recommendations to DoD decision-making processes that validate operational requirements and fund interoperable capabilities. Conduct interoperability assessments and analyses that evaluate capability and interoperability of fielded and emerging command, control, communications, computers, and cyber (C5), and systems in response to operational issues and shortfalls. Conduct integration assessment efforts focused on emerging capabilities in wireless devices and security, operational and tactical command and control, networking, satellite communications, advanced secure digital datalinks, and allied/coalition data exchanges.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: C5 Assessments and Analyses	9.275	9.048	9.208
<p>Description: Support the Chairman's statutory requirement to advise the Secretary of Defense on development of joint command, control, communications and cyber capability, including integration and interoperability of such capability through requirements, integrated architectures, data standards and assessments. Also supports the Chairman's focus area of improving joint warfighting capability and the SECDEF's line of effort to strengthen alliances and attract new partners. Interoperability is assessed and integrated solutions are developed to improve C5 system performance by providing recommendations based on operational architectures and evolving standards and data products. Combatant Commands, Services, Agencies and Allies/Coalition partners are provided a laboratory, exercise and assessment venue for the warfighter and capability developer to identify and solve interoperability, integration, and cyber issues.</p> <p>FY 2021 Plans: Support National Military Strategy and Globally Integrated Operations (GIO) by conducting quantifiable analysis, assessment, and integration activities that inform and enhance Joint warfighter capabilities and interoperability. Activities utilize actual and replicated operational environments and networks to conduct capability development, support joint and coalition experimentation, and support acquisition and systems employment decisions. Continue to address warfighter needs across all domains by conducting activities in rapidly reconfigurable command, control, computers, communications, cyber-defense, intelligence, surveillance, and reconnaissance (C5ISR) laboratories replicating joint and coalition system of systems operational environments as well as in operational venues such as exercises. Employ a deployable assessment capability supporting the collection and</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>analysis of decision quality data for command and control operations from the operational to lowest tactical echelons of command, in field conditions, in real time to provide immediate feedback on the data being collected. Projects include:</p> <p>Bold Quest (BQ) 2021 Coalition Interoperability Demonstrations – Support the design, plan, and execution of the BQ events which address close air support, Mission Partner Environment (MPE) / Federated Mission Networking (FMN) development/assessments, counter Unmanned Aircraft Systems (UAS), Identification, Friend or Foe (IFF) testing, and cyber effects on operations for U.S. forces and coalition partners. Support includes accredited exercise networks, associated command and control systems, and data collection and analysis capabilities.</p> <p>Cyber Guard (CG)/Cyber Flag (CF) - Provide assessment and technical support to cyber exercises to include C2 information systems, while conducting assessments of cyber effects on systems integrated into the DoD Information Network.</p> <p>Counter-UAS (CUAS) – Data collection and analysis during RTD&E test events as well as in support of urgent operational needs in active operational theaters. Analysis covers all aspects of CUAS defense, including lethal engagements.</p> <p>Joint Tactical Integration - Integrate, refine, and accelerate the migration of Special Operating Forces (SOF) battle-proven capabilities to rapidly improve the Joint warfighting capabilities and lethality of general purpose forces in accordance with governing instructions. Capabilities include integrated secure radio networks, tactical data links, tactical cellular, enroute satellite communications, enhanced situational awareness, fratricide prevention, and a more efficient kill-chain.</p> <p>Coalition Interoperability and Assurance Validation (CIAV) - Assess US and coalition systems support in-theater operations by ensuring C5 capabilities adequacy before current operational employment in the Afghan and Iraq areas of operations. Conduct CIAV projects in the INDOPACOM area of responsibility.</p> <p>Joint Network Integration Environment – Integrate advanced C5 technologies to improve the capabilities and resiliency of US Force Korea’s warfighting networks. Improve information sharing between U.S., Republic of Korea, and planned mission partner forces.</p> <p>Joint All-Domain Command and Control – Provide the joint hub for an integrated wide-area experimental network and conduct supporting interoperability assessments and integration activities. Contribute to wargames, exercises and experiments that explore current and future warfighting C2 concepts with coalition partners including Mission Partner Environments.</p> <p>FY 2022 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Support National Military Strategy and Globally Integrated Operations (GIO) by conducting quantifiable analysis, assessment, and integration activities that inform and enhance Joint warfighter capabilities and interoperability. Activities utilize actual and replicated operational environments and networks to conduct capability development, support joint and coalition experimentation, and support acquisition and systems employment decisions. Continue to address warfighter needs across all domains by conducting activities in rapidly reconfigurable C5ISR laboratories replicating joint and coalition system of systems operational environments as well as in operational venues such as exercises. Employ a deployable assessment capability supporting the collection and analysis of decision quality data for command and control operations from the operational to lowest tactical echelons of command, in field conditions, in real time to provide immediate feedback on the data being collected. Projects include:</p> <p>Bold Quest (BQ) 2022 Coalition Interoperability Demonstrations – Support the design, plan, and execution of the BQ events which address close air support, Mission Partner Environment (MPE) / Federated Mission Networking (FMN) development/assessments, counter Unmanned Aircraft Systems (UAS), Identification, Friend or Foe (IFF) testing, and cyber effects on operations for U.S. forces and coalition partners. Support includes accredited exercise networks, associated C2 systems, and data collection and analysis capabilities.</p> <p>Cyber Guard (CG)/Cyber Flag (CF) - Provide assessment and technical support to cyber exercises to include C2 information systems, while conducting assessments of cyber effects on systems integrated into the DoD Information Network.</p> <p>Counter-UAS (CUAS) – Data collection and analysis during RTD&E test events as well as in support of urgent operational needs in active operational theaters. Analysis covers all aspects of CUAS defense, including lethal engagements.</p> <p>Joint Tactical Integration - Integrate, refine, and accelerate the migration of Special Operating Forces (SOF) battle-proven capabilities to rapidly improve the Joint warfighting capabilities and lethality of general purpose forces in accordance with governing instructions. Capabilities include integrated secure radio networks, tactical data links, tactical cellular, enroute satellite communications, enhanced situational awareness, fratricide prevention, and a more efficient kill-chain.</p> <p>Coalition Interoperability and Assurance Validation (CIAV) - Assess US and coalition systems support in-theater operations by ensuring C5 capabilities adequacy before current operational employment in the Afghan and Iraq areas of operations. Conduct CIAV projects in the INDOPACOM area of responsibility.</p> <p>Joint Network Integration Environment – Integrate advanced C5 technologies to improve the capabilities and resiliency of US Force Korea’s warfighting networks. Improve information sharing between U.S., Republic of Korea, and planned mission partner forces.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Joint All-Domain Command and Control – Provide the joint hub for an integrated wide-area experimental network and conduct supporting interoperability assessments and integration activities. Contribute to wargames, exercises and experiments that explore current and future warfighting C2 concepts with coalition partners including Mission Partner Environments.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Adjustments to travel funds and non-pay, non-fuel inflation adjustment, and other minor adjustments.</p>			
Accomplishments/Planned Programs Subtotals	9.275	9.048	9.208

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Biannual review of C4/Cyber resources includes an examination of the current and future Budget/Spend Plan, Lines of Effort, Acquisition Strategy and current Execution.

The award of a Multi Award Contract (MAC) seeks efficiencies in the performance of requirements for C4/Cyber and Information services, and promotes contractor teaming to provide critical technical and management support. The MAC approach also seeks to reduce the costs of current contract support through the elimination of multiple fees for service contracts, and through the competitive award of contract services.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 The Joint Staff		Date: May 2021
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Joint C5I	
C5 Assessments and Analyses	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Joint C5I				
C5 Assessments and Analyses	1	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 002 / C5 Capability Development
--	--	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
002: C5 Capability Development	26.050	5.787	5.119	4.750	-	4.750	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

C5 capability development functions as the DoD requirements lead for the joint command and control family of programs, Joint cyber, and requirements lead for mission partner environment (MPE). The program also develops joint C4 architectures, joint common systems functions, joint mission threads, leads analysis and reviews architectures and standards in joint capability development systems. C5 development enables warfighter access to authoritative data sources and improves data interoperability by establishing common C2 data and service standards.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: C5 Capability Development	5.787	5.119	4.750
<p>Description: Lead C2 capability development and integration in order to achieve an interdependent joint force. Supports Chairman's focus to improve joint warfighter capability and enhance global integration. This will be accomplished through four focus areas: capability development, C4 architectures, data and services, and interoperability and integration.</p> <p>FY 2021 Plans: Capability Development - Analyze/coordinate out-year C2 integrated priority lists, capability gaps, and Joint C2 operational priorities. Create C2 requirements in concert with DoD's Digital Modernization Strategy. Specifically, address GCCS-J replacement by GCCS-JE to include robust functionality during disconnected operations. Pursue joint capability development/integration for Joint All Domain C2 (JADC2), Command and Control of the Information Environment (C2IE), Joint Force Capability Catalog (JFCC)/Global Laydown Server (GLS)/ Project ORION, Joint Planning Services (JPS) Personnel Recovery and Missile Warning in accordance with the Secretary's direction.</p> <p>C5 Architectures - Provide architecture, mission thread, and mission-based analysis development and analysis products as required to support the Chairman's directed focus areas and Chief Information Officer (CIO) lines of operations. Conduct analysis and validate warfighting requirements architectures and engineering designs for continued implementation of the Joint Information Environment (JIE). Update the Joint Common Service/System Function List and Warfighter Mission Area (WMA) Architecture Development Standard to improve WMA architecture integration and interoperability. Continue to improve and expand the quality and amount of architecture information and data available for analysis and reuse on the WMA architecture portal. Conduct analyses and develop architectures and metrics for Joint Capabilities Integration and Development System (JCIDS) C5 capability requirement documents.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Data and Services – Develop, promote, and integrate common enterprise data and services requirements, standards, technical specifications, and policy to improve Joint All Domain C2 interoperability and information sharing with Joint, interagency and coalition mission partners. Perform and lead proof of concept activities, including cloud-based data lakes that enables Artificial Intelligence and cybersecurity standardization of the National Information Exchange Model (NIEM) and the North Atlantic Treaty Organization (NATO) Core Data Framework (NCDF) with selected Joint All Domain C2 communities of interest, including robotics and autonomous systems. Conduct one Joint All Domain C2 complex proof of concept demonstration with NATO with interested Services, Agencies and coalition partners to improve warfighter interoperability and enhance operational effectiveness. Continue to lead, align and standardize emerging Joint All Domain C2 tactical data link, symbology (including cyber symbology) and messaging standards to support common enterprise-level information sharing. Continue to support standardization of common warfighter Identity Access Management, robust cyber security, standardized interfaces and common data tagging to promote Joint All Domain C2 interoperability.</p> <p>Coalition Interoperability - International lead for the Coalition Interoperability Assurance and Validation (CIAV) providing interoperability mission-based assessments across the geographic Combatant Commands. Continue to lead mission partner environment (MPE) implementation and support coalition cyber priorities across DoD by leading the MPE cyber security efforts and supporting the federated mission networking (FMN) cyber security working group. Continue to shape North Atlantic Treaty Organization (NATO) federated mission networking (FMN) implementation to ensure it remains aligned with MPE, including related capability development. Provide support to the Combined Communications-Electronics Board to ensure interoperability among the Five Eyes nations (Canada, New Zealand, Australia, UK and U.S.). Lead the NATO-sponsored Coalition Warrior Interoperability Exploration, Experimentation, Examination, Exercises (CWIX) FMN Focus Area to ensure standardized, effective development of Joining, Membership, and Exit Instructions.</p> <p>FY 2022 Plans: Capability Development - Analyze/coordinate out-year C2 integrated priority lists, capability gaps, and Joint C2 operational priorities. Create C2 requirements in concert with DoD's Digital Modernization Strategy. Specifically, address GCCS-J replacement by GCCS-JE to include robust functionality during disconnected operations. Pursue joint capability development/integration for Joint All Domain C2 (JADC2), Command and Control of the Information Environment (C2IE), Joint Force Capability Catalog (JFCC)/Global Laydown Server (GLS)/ Project ORION, Joint Planning Services (JPS) Personnel Recovery and Missile Warning in accordance with the Secretary's direction.</p> <p>C5 Architectures - Provide architecture, mission thread, and mission-based analysis development and analysis products as required to support the Chairman's directed focus areas and Chief Information Officer (CIO) lines of operations. Conduct analysis</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>and validate warfighting requirements architectures and engineering designs for continued implementation of the Joint Information Environment (JIE). Update the Joint Common Service/System Function List and Warfighter Mission Area (WMA) Architecture Development Standard to improve WMA architecture integration and interoperability. Continue to improve and expand the quality and amount of architecture information and data available for analysis and reuse on the WMA architecture portal. Conduct analyses and develop architectures and metrics for JCIDS C5 capability requirement documents.</p> <p>Data and Services – Develop, promote, and integrate common enterprise data and services requirements, standards, technical specifications, and policy to improve Joint All Domain C2 interoperability and information sharing with Joint, interagency and coalition mission partners. Perform and lead proof of concept activities, including cloud-based data lakes that enables Artificial Intelligence and cybersecurity standardization of the National Information Exchange Model (NIEM) and the North Atlantic Treaty Organization (NATO) Core Data Framework (NCDF) with selected Joint All Domain C2 communities of interest, including robotics and autonomous systems. Conduct one Joint All Domain C2 complex proof of concept demonstration with NATO with interested Services, Agencies and coalition partners to improve warfighter interoperability and enhance operational effectiveness. Continue to lead, align and standardize emerging Joint All Domain C2 tactical data link, symbology (including cyber symbology) and messaging standards to support common enterprise-level information sharing. Continue to support standardization of common warfighter Identity Access Management, robust cyber security, standardized interfaces and common data tagging to promote Joint All Domain C2 interoperability.</p> <p>Coalition Interoperability - International lead for the Coalition Interoperability Assurance and Validation (CIAV) providing interoperability mission-based assessments across the geographic Combatant Commands. Continue to lead mission partner environment (MPE) implementation and support coalition cyber priorities across DoD by leading the MPE cyber security efforts and supporting the federated mission networking (FMN) cyber security working group. Continue to shape North Atlantic Treaty Organization (NATO) federated mission networking (FMN) implementation to ensure it remains aligned with MPE, including related capability development. Provide support to the Combined Communications-Electronics Board to ensure interoperability among the Five Eyes nations (Canada, New Zealand, Australia, UK and U.S.). Lead the NATO-sponsored Coalition Warrior Interoperability Exploration, Experimentation, Examination, Exercises (CWIX) FMN Focus Area to ensure standardized, effective development of Joining, Membership, and Exit Instructions.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Compliance with defense wide economic adjustments, non-pay, non fuel inflation, and minor cost adjustment.</p>			
Accomplishments/Planned Programs Subtotals	5.787	5.119	4.750

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
Biannual review of Command, Control, Communications, Computers (C4)/Cyber resources includes an examination of the current and future Budget/Spend Plan, Lines of Effort, and Acquisition Strategy.

The award of a Multi Award Contract (MAC) seeks efficiencies in the performance of requirements for C4/Cyber and Information services, and promotes contractor teaming to provide critical technical and management support. The MAC approach also seeks to reduce the costs of current contract support through the elimination of multiple fees for service contracts, and through the competitive award of contract services.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 002 / C5 Capability Development

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
C5 Capability Development																												
C5 Capability Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C5 Capability Development				
C5 Capability Development	1	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 003 / Joint Fires C2 Interoperability
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
003: Joint Fires C2 Interoperability	17.725	5.000	5.023	3.481	-	3.481	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

As the DoD lead for the integration of Joint All-Domain Command & Control (JADC2) capabilities and development efforts, lead interoperability efforts across DoD and partner nations at the operational and tactical level for mission partner operations, fire support, combat identification (CID), and friendly force tracking (FFT) capabilities. Conduct joint fire support, joint close air support and CID-FFT action plans to fulfill CJCS-directed, General Officer/Flag Officer (GOFO) level responsibilities. Conduct Joint Fire Support Executive Steering Committee (JFS ESC) standardization team accreditation visits to U.S. and partner nation schoolhouses to ensure memorandum of agreement signatories are accomplishing schoolhouse training in compliance with the memoranda.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Joint Fires C2 Interoperability	5.000	5.023	3.481
<p>Description: These efforts directly support Chairman, Joint Chiefs of Staff (CJCS) guidance to increase interoperability with allies and partners, to more effectively counter trans-regional threats. Supports Chairman's focus area of improving joint warfighting capability and the SECDEF's line of effort to strengthen alliances and attract new partners. Execute Joint Staff-sponsored Bold Quest systems-of-systems interoperability assessment, including integration of cyber capabilities with command and control of conventional and Special Operations Force missions from a multinational perspective at the tactical level. Lead the Joint Fire Support Executive Steering Committee (JFS ESC), composed of Flag/General Officer representatives and supporting staffs from the U.S. Services, Special Operations Command and 21 partner nations. Those nations include NATO nations, Australia, Republic of Korea and key Gulf State allies. Also lead the Combat Identification – Friendly Force Tracking Executive Steering Committee (CID-FFT ESC), focused on more effective and efficient combat operations and reduced potential for friendly fire incidents.</p> <p>FY 2021 Plans: Plan and execute Joint Staff-sponsored Bold Quest 2021 capability demonstration and assessment, focused on interoperability for joint and coalition fires underpinned by Mission Partner Environment (MPE) concepts. Bold Quest data and assessments inform U.S. and Partner Nation investment in multiple capability areas: combat identification, friendly force tracking, digitally aided close air support and fires, integrated air and missile defense (Mode 5 Identify Friend or Foe), coalition intelligence surveillance and reconnaissance, integrated interoperable simulations, and cyber. These efforts directly support the National Military Strategy, the CJCS' global integration objectives and the Combatant Commanders conventional and SOF international engagement programs. Continue leading accreditation visits of current JFS ESC member programs and provide staff assistance visits for development of</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 003 / Joint Fires C2 Interoperability

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>close air support-related training and certification programs. Continue leading the Combat Identification Friendly Force Tracking (CID-FFT) Executive Steering Committee (ESC) and Joint Fire Support Executive Steering Committee (JFS ESC) in order to address capability shortfalls/gaps, analyze and recommend integrated joint and coalition solutions to warfighter issues.</p> <p>FY 2022 Plans: Plan and execute Joint Staff-sponsored Bold Quest 2022 capability demonstration and assessment, focused on interoperability for joint and coalition fires underpinned by Mission Partner Environment (MPE) concepts. Bold Quest data and assessments inform U.S. and Partner Nation investment in multiple capability areas: combat identification, friendly force tracking, digitally aided close air support and fires, integrated air and missile defense (Mode 5 Identify Friend or Foe), coalition intelligence surveillance and reconnaissance, integrated interoperable simulations, and cyber. These efforts directly support the National Military Strategy, the CJCS' global integration objectives and the Combatant Commanders conventional and SOF international engagement programs. Continue leading accreditation visits of current JFS ESC member programs and provide staff assistance visits for development of close air support-related training and certification programs. Continue leading the CID-FFT ESC and JFS ESC in order to address capability shortfalls/gaps, analyze and recommend integrated joint and coalition solutions to warfighter issues.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Minor programmatic adjustments.</p>			
Accomplishments/Planned Programs Subtotals	5.000	5.023	3.481

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
Biannual review of C4/Cyber resources includes an examination of the current and future Budget/Spend Plan, Lines of Effort and Acquisition Strategy.

The award of a Multi Award Contract (MAC) seeks efficiencies in the performance of requirements for C4/Cyber and Information services, and promotes contractor teaming to provide critical technical and management support. The MAC approach also seeks to reduce the costs of current contract support through the elimination of multiple fees for service contracts, and through the competitive award of contract services.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 003 / <i>Joint Fires C2 Interoperability</i>

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>Joint Fires C2 Interoperability</i>																												
Joint Fires C2 Interoperability	[REDACTED]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 003 / <i>Joint Fires C2 Interoperability</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint Fires C2 Interoperability</i>				
Joint Fires C2 Interoperability	1	2020	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0603829J / <i>Joint Capability Experimentation</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	10.971	11.239	8.444	-	8.444	-	-	-	-	-	-
001: <i>Joint Capability Experimentation</i>	0.000	10.971	11.239	8.444	-	8.444	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The FY2019 National Defense Authorization Act (NDAA) amends the Chairman’s responsibilities to address experimentation on future concepts and the 2018 National Defense Strategy Implementation Guidance directs that rigorous experimentation take place on concepts to ensure Department investments adequately address future requirements as well as those of today. Accordingly, the Joint Staff requires an experimentation capability to analyze and validate priority joint concept required capabilities. The Joint Staff will support the Global Integrated Wargame (GIWG) 21 events to examine the Joint Warfighting Concept (JWC) 2.0 operational logic and identified gaps to support delivery of a tested concept to the Secretary of Defense.

Concept analysis and validation will have a multi-faceted nature to meet the Chairmen’s Title 10 responsibility of, “identifying new joint military capabilities based on advances in technology and concepts of operation, and recommending investments and experiments in such capabilities.” Wargames will assess baseline mission and campaign level outcomes of the concepts as well as identify a tradespace of potential new capabilities. This tradespace of capabilities is further explored with quantitative models and software that identify the most efficient cost and capability tradeoffs to help meet the Title 10 responsibility of “advising the Secretary on new and alternative joint military capabilities, and alternative program recommendations and budget proposals, within projected resource levels.”

The National Defense Strategy directs “early design tradeoffs in the requirements process to increase the speed of delivery.” The Joint Staff approach to tradespace exploration follows that guidance by providing a cost conscious and operationally relevant prioritization tradeoff technique early in the portfolio design process. Using this rigorous prioritization approach, the capability development cycle can efficiently focus resources on more detailed experimentation of specific capabilities to inform the requirements process. The analysis from the experimentation program will be used to provide foundational evidence to directly inform the Joint Military Net Assessment (JMNA), the Chairman’s Program Recommendation (CPR), and ultimately the Defense Planning Guidance for Joint Force development and design.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0603829J <i>I Joint Capability Experimentation</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	10.971	11.239	11.006	-	11.006
Current President's Budget	10.971	11.239	8.444	-	8.444
Total Adjustments	0.000	0.000	-2.562	-	-2.562
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Total Other Adjustments	-	-	-2.562	-	-2.562

Change Summary Explanation

Reductions to inflation and other defense wide economic adjustments.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0603829J / <i>Joint Capability Experimentation</i>				Project (Number/Name) 001 / <i>Joint Capability Experimentation</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
001: <i>Joint Capability Experimentation</i>	0.000	10.971	11.239	8.444	-	8.444	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The FY2019 NDAA amended the Chairman’s responsibilities to include experimentation on future concepts. The 2018 National Defense Strategy Implementation Guidance directed rigorous experimentation on concepts as a means to ensure Department investments adequately address future requirements, not just near term. Given this, the Joint Staff must establish an experimentation capability suitable for analysis and validation of priority joint concept required capabilities. The base of experimentation and wargaming will expand through the initial operating capability to full operating capability. This will provide the necessary capacity and capability. The combination will allow the Chairman to identify cost efficient and effective capability tradeoffs. This capability will enable the Chairman to fulfill his Title 10 responsibility, “advising the Secretary on new and alternative joint military capabilities, and alternative program recommendations and budget proposals, within projected resource levels.” This capability more fully supports the Chairman’s production of the Joint Military Needs Assessment (JMNA), the Chairman’s Program Recommendation (CPR) and ultimately the Defense Planning Guidance for Joint Force development and design.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Joint Capability Experimentation	10.971	11.239	8.444
<p>Description: The FY 2019 NDAA amended the Chairman’s responsibilities to address experimentation on future concepts and the 2018 National Defense Strategy Implementation Guidance directed vigorous experimentation take place on concepts to ensure department investments are adequately addressing future requirements as well as those today. The project will deliver analytically rigorous, resource-conscious and operationally-validated portfolio investment strategies for the CJCS to ensure an enduring competitive advantage.</p> <p>FY 2021 Plans: The synergized and synchronized way forward accelerates the integration of new concepts and capabilities into the Joint Force by developing a continuously adapting Joint Force Development and Design (JFDD) enterprise that can inform Service force development and design efforts. To facilitate this initiative requires several lines of effort (LOE):</p> <ol style="list-style-type: none"> 1) Developing and executing Globally Integrated Exercises (GIE); 2) Developing and executing a new series of Globally Integrated Wargames (GIWGs) and the associated development of concepts; 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0603829J / <i>Joint Capability Experimentation</i>	Project (Number/Name) 001 / <i>Joint Capability Experimentation</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>3) Developing and deploying the Information Technology (IT) architecture to collect and share data and information (i.e. exercises, experimentation, wargaming, analysis) that supports Joint Force Development and Design (JFDD) including Globally Integrated Exercises GIE, Globally Integrated Wargame (GIWG), and Joint Warfighting Concepts;</p> <p>4) Conducting JFDD Enterprise Integration and Testing to inform key decisions and evaluate GIWGs and other JFDD activities including in the near-term JADC2, Contested Logistics, Global Fires, and Information Advantage; and</p> <p>5) Employing red teaming at all levels, implementing reforms to Professional Military Education (PME) for JFDD and incorporating emerging concepts into Joint Doctrine.</p> <p>Funding allows for alignment and coordination of disparate activities across the Department and establishes a capability for joint experimentation and wargaming focused on JFDD that will enhance the capability of the Joint Staff to provide the Chairman with sound analysis of the future environment, concepts, and joint capabilities.</p> <p>FY 2022 Plans: Execute joint experimentation and wargaming focused on Joint Force Development and Design (JFDD) that will enhance the capability of the Joint Staff to provide the Chairman with sound analysis of the future environment, concepts, and joint capabilities.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Adjustments for Defense-wide economic assumptions.</p>				
Accomplishments/Planned Programs Subtotals		10.971	11.239	8.444
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605126J <i>I Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	403.934	64.834	50.255	52.671	-	52.671	-	-	-	-	-	-
P001: <i>Core</i>	162.564	10.378	11.544	10.428	-	10.428	-	-	-	-	-	-
P003: <i>Black Dart</i>	34.483	5.500	0.000	0.000	-	0.000	-	-	-	-	-	-
P005: <i>Nimble Fire</i>	111.769	27.077	20.036	19.876	-	19.876	-	-	-	-	-	-
P006: <i>Cruise Missile Combat Identification (CID)</i>	80.118	4.131	4.675	4.433	-	4.433	-	-	-	-	-	-
P007: <i>Homeland Defense Capability</i>	15.000	17.748	14.000	17.934	-	17.934	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community’s proponent for requirements and capabilities in IAMD, and is the joint IAMD proponent within the DoD’s resource allocation structures. JIAMDO also leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, conducts evaluations, demonstrations of joint IAMD architectures, and provides advocacy for innovative, technically mature, and affordable solutions.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the request of USSTRATCOM and direction of the CJCS, JIAMDO supports USSTRATCOM in the development of the IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and technical oversight of homeland capability solutions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605126J <i>I Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	64.834	50.255	53.445	-	53.445
Current President's Budget	64.834	50.255	52.671	-	52.671
Total Adjustments	0.000	0.000	-0.774	-	-0.774
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Total Other Adjustments	-	-	-0.774	-	-0.774

Change Summary Explanation

The \$2.416M increase from \$50.255M (FY021) to \$52.671M (FY2022) is due to increased support for Homeland Defense Capability. Adjustments to travel and inflation.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
P001: <i>Core</i>	162.564	10.378	11.544	10.428	-	10.428	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, concepts, and architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the IAMD proponent for requirements and capabilities within the DoD's resource allocation system. JIAMDO leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, and conducts evaluations of joint IAMD architectures.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs. At the request of USSTRATCOM and at the direction of the CJCS, JIAMDO supports USSTRATCOM development of IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and homeland defense solutions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Core	10.378	11.544	10.428
<p>Description: Provides staff support for JIAMDO operations in the area of ballistic missile defense, air and cruise missile defense, homeland defense, requirements management, combat identification, modeling and simulation, analytical functions and products, senior level briefings, and all travel costs for government and contractor support personnel. Routine functions include performing analyses, demonstrations, and programmatic assessments of technology, operations, requirements, and weapons systems. In coordination with Services and CCMDs, JIAMDO Core funds the definition, assessment, development, and approval of Joint IAMD operational concepts, operational architectures, and capability requirements. These assessments guide the Department's joint, interagency, integrated and net-centric IAMD. JIAMDO Core provides funding to:</p> <ol style="list-style-type: none"> 1. Conduct and integrate joint studies, simulations, war games, force resource allocation, and interoperability initiatives. 2. Manage relevant Congressional interaction and CCMD interface. 3. Directly support and sponsor homeland air surveillance-related demonstration and analysis activities. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>4. Manage the Integrated Air and Missile Defense (IAMD) Working Group and co-chair the Protection Functional Capabilities Board focusing CCMD, Joint Staff, and Service collaboration efforts to generate joint concepts and develop the IAMD architecture and roadmap.</p> <p>JIAMDO Core enables strategic planning development, security, travel, and other support activities. Funding pays for: contracted Systems Engineering and Technical Assistance (SETA) support for Air & Cruise Missile Defense (ACMD), Ballistic Missile Defense (BMD), Homeland Air Security (HAS) strategic planning, studies & analysis, combat ID, modeling & simulation. Additionally, the JIAMDO Core budget funds daily on-site security management personnel to meet DoD, National Industrial Security Program Operating Manual (NISPOM), and other security regulations, for all administrative and support functions related to higher security classifications, as well as basic office supplies and furniture, and classified/unclassified data connections.</p> <p>FY 2021 Plans: Complete Phase II of the Homeland Defense Design and begin work on Phase III. Expand efforts to develop joint integrated air and missile defense (IAMD) requirements solutions. With the completion of the Engagement Coordination initial capabilities document (ICD) in mid FY 2020, continue to support solutions efforts with Missile Defense Agency (MDA) and Services for the Planning Capabilities ICD. Provide support to DISA for Networks Management Capabilities ICD. Ensures the solutions efforts support the Joint Requirements Oversight Council (JROC) validated capability requirements documents (ICDs).</p> <p>Refresh the IAMD Operational Architecture, in coordination with CCMDs, and consolidate with Joint Mission Forum initiatives to inform the procurement and integration of new and emerging capabilities.</p> <p>FY 2022 Plans: Expand efforts to develop joint integrated air and missile defense (IAMD) requirements solutions. With the completion of the Engagement Coordination initial capabilities document (ICD) in mid FY 2020, continue to support solutions efforts with Missile Defense Agency (MDA) and Services for the Planning Capabilities ICD. Provide support to DISA for Networks Management Capabilities ICD. Ensures the solutions efforts support the Joint Requirements Oversight Council (JROC) validated capability requirements documents (ICDs).</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Adjustments to inflation and amount of travel.</p>				
Accomplishments/Planned Programs Subtotals		10.378	11.544	10.428
C. Other Program Funding Summary (\$ in Millions)				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) P003 / Black Dart
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
P003: <i>Black Dart</i>	34.483	5.500	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, concepts, and architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the IAMD proponent for requirements and capabilities within the DoD's resource allocation system. JIAMDO leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, and conducts evaluations of joint IAMD architectures.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs. At the request of USSTRATCOM and at the direction of the CJCS, JIAMDO supports USSTRATCOM development of IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and homeland defense solutions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Black Dart Counter Unmanned Aircraft Systems Technology Demonstration</p> <p>Description: Provides funding to support administration and execution of Black Dart demonstrations. Black Dart is a unique joint, interagency demonstration focusing on rapid development and implementation of Counter - Unmanned Aircraft Systems (C-UAS) technology from readily-available commercial and governmental products. Objectives include:</p> <ol style="list-style-type: none"> 1. Execute live-fly, live-fire C-UAS technology demonstration to assess and validate existing and emerging Integrated Air and Missile Defense (IAMD) capabilities. 2. Present emerging solutions to inform requirements decision-making. 3. Identify and develop IAMD operational concepts, system interoperability, and operational architectures for the C-UAS mission set. 4. Advocate for C-UAS capabilities and affordable, integrated solutions. 	5.500	0.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P003 / <i>Black Dart</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<i>FY 2021 Plans:</i> Black Dart mission moved to DTRA in 2021.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Black Dart mission moved to DTRA in 2021.			
Accomplishments/Planned Programs Subtotals	5.500	0.000	-

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) P005 / Nimble Fire
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
P005: <i>Nimble Fire</i>	111.769	27.077	20.036	19.876	-	19.876	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, concepts, and architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the IAMD proponent for requirements and capabilities within the DoD's resource allocation system. JIAMDO leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, and conducts evaluations of joint IAMD architectures.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs. At the request of USSTRATCOM and at the direction of the CJCS, JIAMDO supports USSTRATCOM development of IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and homeland defense solutions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: JIAMDO Nimble Fire	27.077	20.036	19.876
<p>Description: Nimble Fire is the Department's only IAMD operator-in-the-loop modeling and simulation capability supporting the Chairman's top five critical joint IAMD capabilities: wide-area surveillance and engagement quality tracking, pre-launch interdiction, non-kinetic post-launch capabilities, ballistic missile discrimination, and increased weapons ranges and lethality. Nimble Fire events generally explore joint IAMD capabilities and concepts in the FYDP plus two timeframe. The events combine experienced operators from the tactical communities, virtual simulations accredited by the program offices, current and future advanced capabilities, an integrated air, ballistic and cruise missile threat, and informed scenarios based on the Department's analytical agenda and CCMD operational plans. JIAMDO brings together stakeholders across the engineering, analytical, and tactical communities to assess Joint interoperability of Service and MDA programs of record, explore concepts of employment, inform tactics, techniques and procedures and concepts of operation, provide insights that help shape CCMD integrated priorities and future operational plans, and inform senior leader acquisition and requirements decisions.</p> <p>FY 2021 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P005 / <i>Nimble Fire</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Execute two Nimble Fire events in support of the Combatant Commands, the Services, and Missile Defense Agency (MDA). Continue the upgrades started in FY 2020 to improve EW and multi-domain modeling & simulation capabilities at the Virtual Warfare Center. Multi-domain primarily refers to space, attack or offensive operations, cyber effects and unmanned systems.</p> <p>FY 2022 Plans: Execute two Nimble Fire events in support of the Combatant Commands, the Services, and MDA. Continue upgrades to improve EW and multi-domain modeling & simulation capabilities at the Virtual Warfare Center. Multi-domain primarily refers to space, attack or offensive operations, cyber effects and unmanned systems.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Adjustments to inflation, travel, and other defense wide economic assumptions.</p>			
Accomplishments/Planned Programs Subtotals	27.077	20.036	19.876

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)				Project (Number/Name) P006 / Cruise Missile Combat Identification (CID)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
P006: Cruise Missile Combat Identification (CID)	80.118	4.131	4.675	4.433	-	4.433	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, concepts, and architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the IAMD proponent for requirements and capabilities within the DoD's resource allocation system. JIAMDO leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, and conducts evaluations of joint IAMD architectures.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs. At the request of USSTRATCOM and at the direction of the CJCS, JIAMDO supports USSTRATCOM development of IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and homeland defense solutions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Cruise Missile Combat Identification (CID)	4.131	4.675	4.433
Description: Establishes joint requirements for emerging national and tactical combat identification technology and advocates for fielding CID technology to frontline weapon systems. Monitors, assesses, and enhances current joint air and cruise missile defense combat ID programs.			
FY 2021 Plans: Details of this program are classified and will be provided under a separate cover.			
FY 2022 Plans: Details of this program are classified and will be provided under a separate cover.			
FY 2021 to FY 2022 Increase/Decrease Statement: Reduction due to less travel and inflation.			
Accomplishments/Planned Programs Subtotals	4.131	4.675	4.433

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) P006 / Cruise Missile Combat Identification (CID)

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) P007 / Homeland Defense Capability
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
P007: Homeland Defense Capability	15.000	17.748	14.000	17.934	-	17.934	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Homeland Defense Capability	17.748	14.000	17.934
Description: Develop Homeland Defense Capability			
FY 2021 Plans: Perform technology development efforts. Further details are reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
FY 2022 Plans: Perform technology development efforts. Further details are reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
FY 2021 to FY 2022 Increase/Decrease Statement: The increase reflects increased support for Homeland Defense Capability.			
Accomplishments/Planned Programs Subtotals	17.748	14.000	17.934

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0204571J I <i>Joint Staff Analytical Support</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	55.225	9.216	3.058	0.977	-	0.977	-	-	-	-	-	-
P001: <i>Future Joint Force Development</i>	24.968	4.216	3.058	0.977	-	0.977	-	-	-	-	-	-
P003: <i>GFM DI Enterprise Force Structure (EFS) Integration</i>	30.257	5.000	0.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) family of programs provide defense analytical support capabilities for the Joint Staff and Combatant Commands (CCMDs). JSAS encompasses tools and infrastructure required to conduct analyses and formulate results that assist the Chairman in fulfilling his statutory responsibilities. Key deliverables provided by JSAS include development and implementation of Joint Concepts, concepts of operation, concepts of employment, wide-ranging force structure assessments, course of action development for the joint force environment, analyses and studies for joint concept driven, threat-informed capability development approach to joint force development and design to aid in decision-making, and other analysis efforts to implement timely, low-cost joint force development initiatives.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	9.216	3.058	3.082	-	3.082
Current President's Budget	9.216	3.058	0.977	-	0.977
Total Adjustments	0.000	0.000	-2.105	-	-2.105
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Total Other Adjustments	-	-	-2.105	-	-2.105

Change Summary Explanation

Reduction to travel funds, compliance with defense wide economic assumptions and other adjustments.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0204571J / <i>Joint Staff Analytical Support</i>				Project (Number/Name) P001 / <i>Future Joint Force Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
P001: <i>Future Joint Force Development</i>	24.968	4.216	3.058	0.977	-	0.977	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) program supports the Chairman’s Title 10 responsibility for the analytical support, management and development of future-based joint concepts. These concepts include concepts of operations and employment that advance Joint Force operational effectiveness and enable the introduction and incorporation of new capabilities. The Joint Concepts program supports the Chairman's responsibility to express a vision for the future joint force; addressing operational problems on a 20-year horizon; identifying joint force development and design implications; and identifying capabilities required to mitigate and solve future joint warfighting gaps. The goal is to enable investment decisions balancing near and long term risk. Threat-informed joint concepts drive capability development and promote horizontal integration for force development and design across the Services, Combatant Commands, Defense agencies, OSD and Joint Staff. Key deliverables include:

Family of Joint Concepts (FOJC): Based on the National Military Strategy (NMS) and providing operational and joint functional approaches to future adversary based challenges or opportunities. These concepts prioritize against near peer competitors and pacing threats. The FOJC drives capability development and alternative approaches to operating in support of a globally integrated force benchmarked against current and long-term pacing threats. The FOJC includes the Capstone Concept for Joint Operations, Joint Warfighting Concept, and Joint Supporting Concepts that address joint warfighting functions, Concepts of Operation.

Capstone Concept for Joint Operations (CCJO): Provides the Chairman's vision for future joint operations and establishes aim points for the development of the future Joint Force. The key theme is globally integrated operations and directs joint concept driven, threat-informed capability to regain competitive advantage.

Joint Warfighting Concept (JWC): Identifies innovative and alternative approaches and design options for the employment of the Joint Force out to 2030.

Concepts of Operations (CONOPS): Describe how the actions of the joint force components and supporting organizations are integrated, synchronized, and phased to accomplish a specific mission or function within the construct of a future scenario. CONOPS support evaluation of new ways of operating, future force posture mix, advanced capabilities, and authorities in exercises, wargames, and experiments.

Joint Operating Environment (JOE) and the Gamechangers report: Developed in partnership with DIA, this report describes the future security environment and projects the implications of change for the Joint Force. The documents describe the circumstances that may alter the security environment and explores how the intersection and interaction of these changes might impact the character of war in the future. They provide a framework to think about the full range of Joint Force missions and how they may evolve over time in order to support development of threat-based future Joint concepts and concepts of operations.

Allies and Partners Force Development Division’s (APFD) mission is to ensure collaboration and integration throughout the spectrum of joint force development. This ensures both the Joint Staff, its allies, and partners can invest in initiatives and conduct interoperable and seamless operations to meet the objectives in the NMS.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff	Date: May 2021
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0204571J / <i>Joint Staff Analytical Support</i>	Project (Number/Name) P001 / <i>Future Joint Force Development</i>
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The Multinational Capability Development Campaign (MCDC) is an initiative led by the United States Joint Staff, J-7, and partners with 23 countries and international organizations. It is designed to develop and assess non-materiel force development solutions and close capability gaps within multi-national operations.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Title: Future Joint Force Development</p> <p>Description: Future joint force development provides analytic support required to develop future-based joint concepts. The goal is to enable investment decisions balancing near and long term risk. Threat-informed joint concepts drive capability development and promote horizontal integration for force development and design across the Services, Combatant Commands, Defense agencies, OSD and Joint Staff.</p> <p>FY 2021 Plans: Execute the Chairman's Joint Concepts Program. Support the execution of the FY 2021 Globally Integrated War Game. Complete Joint Warfighting Concept and Joint Supporting Concepts. Continue global CONOP development to support evaluation of joint concepts in exercises, war games, and experimentation. In partnership with DIA, begin development of the next Gamechangers report and continue to lead the futures community of interest.</p> <p>FY 2022 Plans: Execute the Chairman's Joint Concepts Program. Support the execution of the FY 2022 Globally Integrated War Game. Complete Joint Warfighting Concept and Joint Supporting Concepts. Continue global CONOP development to support evaluation of joint concepts in exercises, war games, and experimentation. In partnership with DIA, begin development of the next Gamechangers report and continue to lead the futures community of interest.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Reductions for less travel, and other adjustments.</p>	4.216	3.058	0.977
Accomplishments/Planned Programs Subtotals	4.216	3.058	0.977

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0204571J / Joint Staff Analytical Support				Project (Number/Name) P003 / GFM DI Enterprise Force Structure (EFS) Integration			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
P003: GFM DI Enterprise Force Structure (EFS) Integration	30.257	5.000	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Global Force Management (GFM) data initiative Enterprise Force Structure (EFS) effort provides the next steps for GFM mission application enhancements required to balance global force demand against available military force. This complex task requires technologies that provide integrated information obtained by linking force structure quantitative data (derived from the GFM organizational servers) to qualitative data of Capability, Readiness, Availability and Employment/Location data (C.R.A.E.) resident in GFM mission applications and associated data bases. The Joint Staff is responsible for GFM allocation and will employ a strategy for efficiently providing Enterprise Force Structure (EFS) data utility.

DoD must meet national military objectives that range from large force scenarios to small-scale activities. Our adversaries demonstrate the ability to readily transition from non-kinetic to kinetic effects. Consequently, Information Technology (IT) superiority, capabilities, and recognition of associated vulnerabilities are an operational imperative. Yet, warfighters, strategic planners and GFM decision makers are unable to exchange information in a manner that rapidly and accurately enables force sourcing activities to support SecDef decisions. The Joint Staff is mandated to utilize the Service's organizational server EFS data to enhance managing, assessing, and displaying the health and worldwide disposition of U.S. Forces. Key deliverables include incrementally developed, operationally realistic capability enhancements focused on resource-informed planning and GFM sourcing functionality required by numerous Joint Staff requirements documents.

The Joint Staff Analytical Support (JSAS) enterprise force structure data integration efforts enables Project ORION: a Global Laydown Server and a Joint Force Capabilities Catalog along with functional applications that support a global visibility capability. This capability enhances resource-informed planning, global force management and joint deployment. Global visibility capability also supports future force integration and concept implementation needed to support timely and dynamic response to Combatant Commanders' contingency requirements. Project ORION creates a technical environment that enables rapid integration of the JOPES replacement with remaining GFM data that supports planning and execution of U.S. Military Operations. Project Orion provides operational force structure and the means to allocate and attach units. This capability is the cornerstone for fulfilling the CJCS-directed requirement to integrate force planning, support planning, and deployment planning and execution of military operations. The ORION environment supports all variants of planning and execution processes by providing portal access to authoritative data aggregated in the Global Laydown Servers and associated display of force capabilities, readiness, employment, and availability of the force. This is a cost-effective yet full spectrum approach to support and assist the Chairman in fulfilling his statutory responsibilities while improving current and future joint force management.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: GFM Data Initiative (GFM DI) Enterprise Force Structure Integration (EFS)	5.000	0.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0204571J / <i>Joint Staff Analytical Support</i>	Project (Number/Name) P003 / <i>GFM DI Enterprise Force Structure (EFS) Integration</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: The GFM DI EFS integration effort requires RDT&E funds to operationalize force structure data from the service's Organizational Servers to actual forces for employment within the purview of allocation and Joint command and control. This GFM DI effort within the Joint Staff Analytical Support (JSAS) family of programs will immediately streamline the SECDEFs "Forces for Unified Commands" memorandum Assignment Tables. RDT&E efforts for assignment and apportionment functions ended in FY 2015 with the declaration of Full Operation Capability (FOC) for the Automated Global Force Management Tool. GFM DI planned milestones must be met to enable a global visibility capability. GFM applications managed by the Joint Staff are used by the JSAS family of programs.</p> <p>FY 2021 Plans: Migrated program to sustainment, funded by the Operation and Maintenance appropriation.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Migrated funding to sustainment, funded by O&M.</p>			
Accomplishments/Planned Programs Subtotals	5.000	0.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>					R-1 Program Element (Number/Name) PE 0303166J <i>I Support to Information Operations (IO) Capabilities</i>							
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	36.447	0.553	0.545	0.000	-	0.000	-	-	-	-	-	-
001: <i>Joint Information Operations Range</i>	36.447	0.553	0.545	0.000	-	0.000	-	-	-	-	-	-

Note

Joint Staff divests the Joint Information Operations Range to the Air Force in FY 2022.

A. Mission Description and Budget Item Justification

The Joint Information Operations Range (JIOR) provides DoD with a closed-loop network that forms a global live-fire information operations range complex. JIOR uses encrypted tunneling over existing transport networks to conduct mission rehearsal, training, testing, concept development and experimentation in support of Information Operations (IO), Electronic Warfare (EW), Offensive Cyber Operations (OCO), Defensive Cyber Operations (DCO), Spectrum Warfare, Space Operations, and Special Operations Forces mission areas in a realistic threat representative environment. JIOR provides the capability to train and certify Cyber Mission Forces on the full spectrum of cyber weapons/capabilities without risk of observation or fratricide. JIOR is accredited by DIA for operations at Unclassified through Top Secret-Special Compartment Information (TS-SCI) in a Multiple Independent Levels of Security (MILS) environment. JIOR is approved for use by Special Access Programs (SAP), Special Access Required Programs (SAR), and for Special Technical Operations (STO). JIOR provides Combatant Commands, Services and Agencies (C/S/A's) and key allied partners the ability to test deployment and gain insights into advanced cyberspace and Electronic Warfare (EW) capabilities under current and future operational environments. JIOR integrates available cyberspace ranges with the training/test communities providing access to low density/high demand test and training resources including critical infrastructure, cyber targets, internet traffic, and opposing forces. JIOR supports Presidential policy and CJCS mandates for training, certification, and recertification of 6000+ cyber mission forces and DoD/Interagency cyber vulnerability assessments. C/S/A's conduct hundreds of mission rehearsal, training, testing, and experimentation events on the JIOR annually.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	0.553	0.545	0.545	-	0.545
Current President's Budget	0.553	0.545	0.000	-	0.000
Total Adjustments	0.000	0.000	-0.545	-	-0.545
• Congressional General Reductions	0.000	-			
• Congressional Directed Reductions	0.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	0.000	-			
• Congressional Directed Transfers	0.000	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.545	-	-0.545

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303166J / <i>Support to Information Operations (IO) Capabilities</i>
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Change Summary Explanation

Joint Information Operations Range transfers from the Joint Staff to Air Force in FY 2022.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0303166J / Support to Information Operations (IO) Capabilities				Project (Number/Name) 001 / Joint Information Operations Range			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
001: Joint Information Operations Range	36.447	0.553	0.545	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Joint Information Operations Range transfers from the Joint Staff to Air Force in FY 2022.

A. Mission Description and Budget Item Justification

The Joint Information Operations Range (JIOR) provides DoD with a closed-loop network that forms a global live-fire information operations range complex. JIOR uses encrypted tunneling over existing transport networks to conduct mission rehearsal, training, testing, concept development and experimentation in support of Information Operations (IO), Electronic Warfare (EW), Offensive Cyber Operations (OCO), Defensive Cyber Operations (DCO), Spectrum Warfare, Space Operations, and Special Operations Forces mission areas in a realistic threat representative environment. JIOR provides the capability to train and certify Cyber Mission Forces on the full spectrum of cyber weapons/capabilities without risk of observation or fratricide. JIOR is unique within the Department of Defense and is accredited by DIA for operations at Unclassified through Top Secret-Special Compartment Information (TS-SCI) in a Multiple Independent Levels of Security (MILS) environment. JIOR is approved for use by Special Access Programs (SAP), Special Access Required Programs (SAR), and for Special Technical Operations (STO). JIOR provides Combatant Commands, Services and Agencies (C/S/A's) and key allied partners the ability to test deployment and collaboratively gain insights into advanced cyberspace and Electronic Warfare (EW) capabilities under current and future operational environments. JIOR integrates available cyberspace ranges with the training/test communities providing access to low density/high demand test and training resources including critical infrastructure, cyber targets, internet traffic, and opposing forces. JIOR supports Presidential policy and CJCS mandates for training, certification, and recertification of 6000+ cyber mission forces and DoD/Interagency cyber vulnerability assessments. C/S/A's conduct hundreds of mission rehearsal, training, testing, and experimentation events on the JIOR annually.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Joint Information Operations Range	0.553	0.545	0.000
Description: The Joint Information Operations Range (JIOR) is a closed-loop network that forms a live-fire, distributed range complex utilizing encrypted tunneling to conduct mission rehearsal, training, testing, and experimentation in a threat representative environment to support Information Operations (IO), Cyberspace, Electronic Warfare (EW), Spectrum Warfare, Space Operations and Special Operations Forces (SOF) mission areas.			
FY 2021 Plans: Continue testing and evaluating new, cutting edge technologies and refining networking configurations for optimization of the JIOR. Refine network automation strategy.			
FY 2022 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0303166J / <i>Support to Information Operations (IO) Capabilities</i>	Project (Number/Name) 001 / <i>Joint Information Operations Range</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Joint Information Operations Range transfers from the Joint Staff to Air Force in FY 2022.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Joint Information Operations Range transfers from the Joint Staff to Air Force in FY 2022.			
Accomplishments/Planned Programs Subtotals	0.553	0.545	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

Joint Information Operations Range transfers from the Joint Staff to Air Force in FY 2022.

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0804768J I COCOM Exercise Engagement and Training Transformation (CE2T2) - No n MHA
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	42.653	40.073	31.125	29.530	-	29.530	-	-	-	-	-	-
701: Air Force Joint National Training Capability (JNTC)	2.917	2.811	2.869	2.431	-	2.431	-	-	-	-	-	-
758: Joint National Training Capability (JNTC)	29.584	27.293	22.375	23.157	-	23.157	-	-	-	-	-	-
769: Joint Knowledge Development & Distribution Capability (JKDDC)	1.126	1.608	1.108	0.826	-	0.826	-	-	-	-	-	-
772: Navy Joint National Training Capability (JNTC)	3.260	3.041	3.042	2.578	-	2.578	-	-	-	-	-	-
773: Joint Interoperability and Data Link Training Center (JID-TC)	1.845	1.419	1.095	0.000	-	0.000	-	-	-	-	-	-
774: USMC Joint National Training Capability (JNTC)	0.921	0.901	0.636	0.538	-	0.538	-	-	-	-	-	-
775: Advanced Distributed Learning (ADL)	3.000	3.000	0.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

These programs support readiness of the joint force by creating a joint training environment to replicate the complex and changing operational environment. These investments directly support defense strategic guidance, Joint Operational Training Infrastructure strategy, and enhance joint warfighting readiness by building training capabilities that support the operational readiness of the joint force. The elements associated with this coordinated effort consist of:

JNTC: The mission of the Joint National Training Capability (JNTC) program is to advance joint capabilities and interoperability by concentrating on emerging joint training requirements through collective training using a managed set of globally distributed capabilities and activities. The program resources Service and Special Operations Forces joint training to improve interoperability and create realistic tactical and operational joint training. JNTC enables joint training for Combatant Commands and Services by developing joint training content and ensuring global distributed access. JNTC enabling capabilities support Services and USSOCOM requirements to provide trained and ready forces in support of Combatant Command operational requirements. The program will support the Joint Operational Training Infrastructure (JOTI). This program focuses efforts on improving readiness and create a ready surge force consistent with Chairman's guidance.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0804768J I <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - No n MHA</i>
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JKDDC: Joint Knowledge Development & Distribution Capability (JKDDC) Joint Knowledge Online (JKO) is the program of record for online joint training that implements and operationalizes the OSD training transformation JKDDC. JKO directly supports the CE2T2 program by developing, delivering, tracking, reporting, and supporting online training for Combatant Command exercises; Combatant Command required training; doctrinally based Joint Operations Core Curriculum; multinational, coalition, interagency training; OSD required training; and administration of the Senior Enlisted Joint Professional Military Education program. JKO expends RDT&E funding for leading edge technology review, market research, and integration to directly enhance various aspects of the training capability required to support Combatant Commanders, CE2T2 program objectives, and the Chairman's joint training guidance. JKO satisfies all requirements necessary to provide CE2T2 stakeholders with a distributed learning capability and access to web-based training content, learning resources, and distributed online training tools.

Air Force Joint National Training Center (JNTC): Air Force JNTC funding provides a focused upgrade to develop models for space-based and cyber capabilities for integration into the Joint Live, Virtual, and Constructive (JLVC) environment as well supporting development of cross-domain solutions. Additionally, the Air Force invests in development of capabilities to enhance the rigor and fidelity of training for live and virtual members of joint training audiences.

Navy JNTC: These funds enable Navy to develop unique maritime capabilities that integrate JLVC elements into a seamless joint training environment. The Navy program activities include conducting research, development, and integration of a common, realistic, joint and coalition, operational to tactical level training architecture to deliver individual and collective constructive joint training for use in Fleet Synthetic Training (FST) events, CDR exercises, Ballistic Missile Defense Exercises (BMDEX) certification events, and BMD at Sea training events in support of CDR's training, deployment certification and operational requirements.

JID-TC: Joint Interoperability and Data Link Training Center (JID-TC) supports 35 annual schoolhouse interoperability courses and up to six CAPSTONE Joint Interface Control Officer (JICO) courses tied to various Combatant Command (CCMD) joint exercises. JID-TC trains CCMD, Services and partner nations' operations center personnel on interoperability planning tasks required during contingencies and exercises in emerging mission areas such as joint fires, net enabled weapons, remotely piloted aircraft, integrated air and missile defense, and contested operations including secure internet with Link-16/TDL equipped major weapon systems and smart bombs.

Marine Corps JNTC: These funds provide USMC stability and risk reduction to a variety of ongoing joint efforts focused on improving the fidelity and realism of training simulation systems that prepare Marine Air Ground Task Force (MAGTF) units for deployment in support of CCMD operations. In support of the Commandant's planning guidance, the Marine Corps will continue to improve performance and support of the MAGTF Tactical Warfare Simulation in the areas of the JLVC-Multi-Resolution Federation (MRF) Bridge, common database terrain data ingestion, and JLVC interoperability. It also provides a single source training environment capability enabling users to select single or multiple play boxes (terrain data sets) for training simulation systems. In addition to developing an exercise planning, design, implementation, execution, and control tool, it also enhances pattern of life and indigenous population modular service enabling exercise designers' ability to rapidly build new scenarios and incorporate human geography elements into training scenarios.

ADL: The Advanced Distributed Learning (ADL) initiative supports innovation and provides policy oversight to help the Services, Joint Staff, and partner agencies deliver training and education more efficiently and cost effectively. ADL provides policy oversight and coordination across DoD, coalition partners, and other Federal agencies for distributed learning. This oversight supports interagency interoperability and promotes personnel readiness, ensuring the right people receive the right training at the right time. This program transferred to OSD P&R in FY21.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0804768J I <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	40.073	31.125	32.695	-	32.695
Current President's Budget	40.073	31.125	29.530	-	29.530
Total Adjustments	0.000	0.000	-3.165	-	-3.165
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Total Other Adjustments	-	-	-3.165	-	-3.165

Change Summary Explanation

Reductions for travel, and other adjustments.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA	Project (Number/Name) 701 / Air Force Joint National Training Capability (JNTC)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
701: Air Force Joint National Training Capability (JNTC)	2.917	2.811	2.869	2.431	-	2.431	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Air Force JNTC funding provides a focused upgrade to develop models for space-based and cyber capabilities for integration into the Joint Live, Virtual, and Constructive (JLVC) environment as well as supporting development of cross-domain solutions. Additionally, the Air Force invests in development of capabilities to enhance the rigor and fidelity of training for live and virtual members of joint training audiences.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Air Force Joint National Training Capability (JNTC)	2.811	2.869	2.431
<p>Description: Air Force continues to develop joint enablers that drive realistic/effective training in contested and degraded environments across the CE2T2 enterprise. These capability enhancements provide a thinking and reactive Opposing Force (OPFOR) to challenge and engage both live and virtual Blue Forces using a combination of kinetic and non-kinetic cyber capabilities. Additionally, it continues to build upon prior investments in the cyber and space domains by improving fidelity of synthetic environments, ability to portray and control blue, red, and neutral entities and effects, interoperability with other Service, joint, and JLVC federation models and simulations, and support of CE2T2 mission partners. It also builds on prior investments in the One War Training System (OWTS) to enhance exercise control, safety, and feedback to training audiences in blended live and synthetic air and land domains.</p> <p>FY 2021 Plans:</p> <ol style="list-style-type: none"> 1. Develop capability for live OPFOR surface-to-air threats to engage virtual as well as live BLUFOR aircraft. 2. Sustain development of and enhance new capabilities for integration of the cyber simulator environment generator and "blue" cyber effects simulation. Continue to add functionality to the Air and Space Collaborative Environment Information Operations Suite (ACE-IOS) Modeling and Simulation (M&S) suite. Further development to allow live space aggressor forces to interact with a virtual constructive environment replicating threats to the space environment. 3. Sustain space simulation improvements to model improved fidelity of space entities and adversary effects, enhance exercise control and OPFOR capabilities, and improve space simulation interoperability with CE2T2 mission partners. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA	Project (Number/Name) 701 / Air Force Joint National Training Capability (JNTC)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>4. Enhance OWTS feedback capability to training audiences by adding an automated near-real time kill removal capability against OPFOR ground targets.</p> <p>FY 2022 Plans:</p> <p>1. Develop capability for live OPFOR surface-to-air threats to engage virtual as well as live Blue Force (BLUFOR) aircraft.</p> <p>2. Sustain development of and enhance new capabilities for integration of the cyber simulator environment generator and "blue" cyber effects simulation. Continue to add functionality to the Air and Space Collaborative Environment Information Operations Suite (ACE-IOS) Modeling and Simulation (M&S) suite. Further development to allow live space aggressor forces to interact with a virtual constructive environment replicating threats to the space environment.</p> <p>3. Sustain space simulation improvements to model improved fidelity of space entities and adversary effects, enhance exercise control and OPFOR capabilities, and improve space simulation interoperability with CE2T2 mission partners.</p> <p>4. Enhance OWTS feedback capability to training audiences by adding an automated near-real time kill removal capability against OPFOR ground targets.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease in this program as funds were realigned to support the Secretary of Defense's Joint Training Infrastructure Goals in other CE2T2 programs.</p>			
Accomplishments/Planned Programs Subtotals	2.811	2.869	2.431

C. Other Program Funding Summary (\$ in Millions) N/A
Remarks
D. Acquisition Strategy N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA				Project (Number/Name) 758 / Joint National Training Capability (JNTC)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
758: Joint National Training Capability (JNTC)	29.584	27.293	22.375	23.157	-	23.157	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Investment in the Joint National Training Capability (JNTC) program enables Service and Combatant Commands to train as they operate. The requested funding continues to modernize joint training capabilities into a single integrating architecture aligned to DoD Chief Information Officer IT mandates. Funding supports development of cloud-enabled modular training application services within an Open Systems Architecture (OSA). JNTC focuses on delivering operationally relevant training environments and respond to changes in the global security landscape and the warfighter's operational environment. JNTC enables the Department of Defense to be responsive to the warfighters' changing operational concepts, threat environments, and best practices. Funds support improved relevance and realism of training by providing capabilities that replicate the contemporary and future operating environment. This program will adapt the goals listed in the Joint Operational Training Infrastructure (JOTI).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Joint National Training Capability (JNTC)	27.293	22.375	23.157
<p>Description: JNTC provides the technical standards, architecture, and development processes required to integrate/link joint training programs. Funding supports the technical integration of Joint and Service models and simulations with the Joint, Live, Virtual, Constructive (JLVC) training capabilities. The capabilities enable aggregation of training audiences at the Combatant Command, Joint Task Force, and Component Command headquarter levels. The funding also supports modernization of the Joint Training Environment (JTE) through a Modular Open Systems Architecture (MOSA) approach to include a cloud enabled web accessible Joint Training Tool (JTT) that supports all phases of an exercise (planning, execution, and AAR). JTT will increase warfighter access to semi-automated training enablers within the Joint Training Synthetic Environment (JTSE).</p> <p>FY 2021 Plans:</p> <ol style="list-style-type: none"> Expand use of web-enabled JTT exercise design and planning services as the primary tool supporting Tier 1 and Tier 2 joint training exercise. Conduct "proof of concept" use of web-enabled modular JTT simulation service. Continue planning transition of the JTT as the primary tool supporting all aspects of Tier 1 and Tier 2 joint training exercises where aggregate simulation capabilities are required. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA	Project (Number/Name) 758 / Joint National Training Capability (JNTC)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
3. Integrate, test, and validate Service and Agency JLVC capabilities.			
4. Enhance joint simulation (within JLVC) to keep pace with operational environment changes (annual requirement).			
5. Support the Joint Operation Training infrastructure goals.			
FY 2022 Plans:			
1. Expand use of web-enabled JTT exercise design and planning services as the primary tool supporting Tier 1 and Tier 2 joint training exercise.			
2. Conduct “proof of concept” use of web-enabled modular JTT simulation service. Continue planning transition of the JTT as the primary tool supporting all aspects of Tier 1 and Tier 2 joint training exercises where aggregate simulation capabilities are required.			
3. Integrate, test, and validate Service and Agency JLVC capabilities.			
4. Enhance joint simulation (within JLVC) to keep pace with operational environment changes (annual requirement).			
5. Support the Joint Operation Training infrastructure goals.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increases in FY22 to support the Secretary of Defense’s Joint Training Infrastructure Goals.			
Accomplishments/Planned Programs Subtotals	27.293	22.375	23.157

C. Other Program Funding Summary (\$ in Millions) N/A
Remarks
D. Acquisition Strategy N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA				Project (Number/Name) 769 / Joint Knowledge Development & Distribution Capability (JKDDC)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
769: Joint Knowledge Development & Distribution Capability (JKDDC)	1.126	1.608	1.108	0.826	-	0.826	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Joint Knowledge Online (JKO) is the DoD unique and authoritative source for online joint training. JKO is tasked to develop a DoD enterprise-wide, joint individual training toolkit of web-enabled individual and small group training products, services, and enabling training technology. Products and services are developed in response to OSD program goals, CJCS high interest training issues, Joint Staff training priorities, and JKO stakeholders (Combatant Commands, Services, Combat Support Agencies, Interagency, and multinational partners) prioritized training requirements. JKO supports a career-long joint learning continuum, joint professional military education, and tailored common training standards to Service members on tasks that are jointly executed. JKO's research and development will improve all components of the Joint Content Management Architecture (JCMA) including:

1. JKO Learning Management System (LMS): Development and enhancement is required to integrate advanced individual and staff training technologies and methodologies with larger scale, collective training exercises, and modernize military training capability with a DoD enterprise-wide online training toolkit. There are currently over 3.6 million registered users of the JKO LMS.
2. JKO Course Builder: JKO's Course Builder is a separate component used as a force multiplier for organizations to develop online content by both internal and external joint enterprise teams. Course Builder mitigates the need to have programmer's code Shareable Content Object Reference Model (SCORM) standards into content with automation that promotes fiscal efficiency as well as operational responsiveness. Course Builder will also support the new development methodology of micro-learning.
3. Small Group Scenario Trainer (SGST) desktop modeling and simulation based training: This JKO capability trains and prepares thousands of military and civilian personnel deploying to Combatant Command theaters of operation prior to serving in their assigned Combined/Joint Task Force (C/JTF) billets. JKO integration of SGST simulation exercise scenarios and prerequisite JKO courses significantly enhance blended learning training support to large-scale, collective training exercises.
4. JKO Virtual Classroom (VClass): JKO's new virtual classroom, or VClass, meets the need for an enhanced distributed learning capability with the introduction of a collaborative learning environment. VClass is a customizable platform within JKO's architecture and will provide JKO elevated users the tools to meet the unique needs of DoD's training and education audience by providing online/blended course support with syllabus, messaging, gradebook, resources, announcements and synchronous instructional forums.
5. JKO mobile training development: Development and enhancements in JKO's new approach to Responsive Design will significantly increase availability and access of web-based joint training content on portable, hand-held platforms (e.g. cell phones and tablets).

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA</i>	Project (Number/Name) 769 / <i>Joint Knowledge Development & Distribution Capability (JKDDC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Title: Joint Knowledge Development & Distribution Capability (JKDDC)</p> <p>Description: Joint Knowledge Online (JKO) advance technology initiatives primarily include the JKO Learning Management System (LMS) application, Course Builder, Small Group Scenario Trainer (SGST) desktop modeling and simulation based training capability, Virtual Classroom, and mobile courseware training applications. These capabilities increase access to, and facilitate the training and preparation of hundreds of thousands of military and civilian personnel deploying to Combatant Command (CCMD) theaters of operation prior to serving in their assigned Joint and Combined/Joint Task Force (C/JTF) billets. JKO LMS development and enhancements are required to develop, host, deliver, track, report and support students' completions, progress and survey results more effectively and efficiently. C/JTF "battle staffs" and combatant command (CCMD) personnel will be better trained, as individuals and as staffs, based on SGST, VClass development, and implementation throughout the joint training enterprise. JKO mobile courseware training development via Responsive Design facilitates the global distribution of web-based joint training content on portable, hand-held platforms for DoD personnel.</p> <p>FY 2021 Plans: Continue to integrate and expand the virtual classroom (VClass) open source capability (Sakai) into the Global Content Distribution System (GCDS) and the JKO LMS suite of tools for synchronous (live) and non-synchronous (video-taped) instructor led training as well as a locally developed micro learning technology called the JKO Personal Accelerated Learning Manager (JPALM) leveraging the PERLS methodology offered by ADL. JKO's new VClass capability will provide required enhanced distributed learning (DL) much like today's universities with an expectation of student-to-instructor collaboration; student-to-student collaboration; written assignment evaluation; live instructor response and teaching; and critical thinking exercises and assignments. PERLS delivers self-regulated micro-learning training that is designed to be engaging, usable and practical, allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities to mitigate expenses due to decreased funding and personnel, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JPALM/PERLS and micro-learning provide that edge and optimization.</p> <p>FY 2022 Plans: Continue to integrate and expand the virtual classroom (VClass) open source capability (Sakai) into the Global Content Distribution System (GCDS) and the JKO LMS suite of tools for synchronous (live) and non-synchronous (video-taped) instructor led training as well as a locally developed micro learning technology called the JKO Personal Accelerated Learning Manager (JPALM) leveraging the PERLS methodology offered by ADL. JKO's new VClass capability will provide required enhanced distributed learning (DL) much like today's universities with an expectation of student-to-instructor collaboration; student-to-student collaboration; written assignment evaluation; live instructor response and teaching; and critical thinking exercises and assignments. PERLS delivers self-regulated micro-learning training that is designed to be engaging, usable and practical,</p>	1.608	1.108	0.826

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA</i>	Project (Number/Name) 769 / <i>Joint Knowledge Development & Distribution Capability (JKDDC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities to mitigate expenses due to decreased funding and personnel, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JPALM/PERLS and micro- learning provide that edge and optimization. allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities to mitigate expenses due to decreased funding and personnel, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JPALM/PERLS and micro- learning provide that edge and optimization.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decreases in FY22 to support the Secretary of Defense’s Joint Training Infrastructure Goals.</p>			
Accomplishments/Planned Programs Subtotals	1.608	1.108	0.826

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA				Project (Number/Name) 772 / Navy Joint National Training Capability (JNTC)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
772: Navy Joint National Training Capability (JNTC)	3.260	3.041	3.042	2.578	-	2.578	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

These funds enable the Navy to develop unique maritime capabilities that integrate joint live, virtual, and constructive elements into a seamless joint training environment. The Navy program activities include conducting research, development, and integration of a common, realistic, joint and coalition, operational to tactical level training architecture to deliver individual and collective constructive joint training for use in Fleet Synthetic Training (FST) events, Combatant Commander (CCDR) exercises, Ballistic Missile Defense Exercises (BMDEX) certification events, and BMD at Sea training events in support of CCDR's training, deployment certification and operational requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Navy Joint National Training Capability (JNTC)	3.041	3.042	2.578
<p>Description: Develops unique maritime capabilities that integrate joint live, virtual, and constructive (JLVC) elements into a seamless joint training environment. Using a scientific and phased approach that focuses on modeling ground, air, space, and maritime capabilities, this program researches new technologies and methods that provide a crucial technology-based foundation that supports all JNTC training transformation, JLVC federation, and Combatant Commanders exercise and engagement operations. This program provides a current and emerging multi-functional and multi-domain near-peer threat environment and associated warfighting challenges to stimulate Joint and Navy training audiences, enabling the Fleet Commander to certify deploying forces in a synthetic Joint training environment and Joint Force Maritime Component Commands (JFMCCs) to participate in realistic Combatant Commander Exercises.</p> <p>FY 2021 Plans:</p> <ol style="list-style-type: none"> 1. Provide development of new capability for integration with annual software release of the Navy Training Baseline (NTB) to enable tactics, techniques and procedures (TTP) development for contested environments and ballistic missile defense (BMD). 2. Develop advanced models to support Navy and Joint Operational Level of War (OLW) exercises and tactical training; to include Anti-ship Cruise Missile (ASCM) defense, Counter-ISR, including unmanned system (UxS) defense, theater and regional BMD, and AEGIS Weapons System, maritime air, tactical air and unmanned sensor and weapon system capability upgrades. <p>FY 2022 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i>	Project (Number/Name) 772 / <i>Navy Joint National Training Capability (JNTC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
1. Provide development of new capability for integration with annual software release of the Navy Training Baseline (NTB) to enable tactics, techniques and procedures (TTP) development for contested environments and Ballistic Missile Defense (BMD).			
2. Develop advanced models to support Navy and Joint Operational Level of War (OLW) exercises and tactical training; to include Anti-ship Cruise Missile (ASCM) defense, Counter-ISR, including unmanned system (UxS) defense, theater and regional BMD, and AEGIS Weapons System, maritime air, tactical air and unmanned sensor and weapon system capability upgrades.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decreases in FY 22 to support the Secretary of Defense's Joint Training Infrastructure Goals in other CE2T2 programs.			
Accomplishments/Planned Programs Subtotals	3.041	3.042	2.578

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA	Project (Number/Name) 773 / Joint Interoperability and Data Link Training Center (JID-TC)
--	---	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>773: Joint Interoperability and Data Link Training Center (JID-TC)</i>	1.845	1.419	1.095	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

JID is the sole Department of Defense provider of joint interoperability training and Joint Interface Control Officer (JICO) production. JID trains CCMD, Services and partner nations' operations center personnel in mission areas such as joint fires, net enabled weapons, remotely piloted aircraft, integrated air and missile defense, and contested operations including secure internet with Link-16/TDL equipped major weapon systems and smart bombs. FY19 was the first year the JID received RDT&E funding in order to support the development of the JICO Simulator. The JICO Simulator will allow the JID to train students across the Services on the proper planning, management and execution of tactical data links (TDL) to fill the gaps for non-participating weapon systems missing in live exercises.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Joint Interoperability and Data Link Training Center (JID-TC)	1.419	1.095	0.000
Description: JICO Simulator will allow the JID to train students across the Services on the proper planning, management and execution of tactical data links (TDL). The simulator will allow the JID to build robust practice scenarios that students can execute fixing TDL architecture plans as necessary. This capability will not only create realistic training scenarios with the ability to inject multi-tactical data link network anomalies for training, but can also be used to support Combatant Command (CCMD) operations centers during planned exercises.			
FY 2021 Plans: JID-TC will close out projects.			
FY 2022 Plans: N/A.			
FY 2021 to FY 2022 Increase/Decrease Statement: This will no longer be a Joint Staff function in FY 2022.			
Accomplishments/Planned Programs Subtotals	1.419	1.095	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA	Project (Number/Name) 773 / Joint Interoperability and Data Link Training Center (JID-TC)

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA				Project (Number/Name) 774 / USMC Joint National Training Capability (JNTC)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
774: USMC Joint National Training Capability (JNTC)	0.921	0.901	0.636	0.538	-	0.538	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

These funds advance USMC training capabilities by providing stability and risk reduction to a variety of efforts focused on improving the fidelity and realism of training simulation systems. These systems are tailored to prepare operational Marine Air Ground Task Force (MAGTF) units for worldwide deployment in support of CCMD operations and engagements and are available to any organization or entity training via the JLVC federation of training tools. Based on the Commandant's planning guidance, the Marine Corps will continue to improve performance of the MAGTF Tactical Warfare Simulation in the areas of the JLVC-multi-resolution federation bridge, common database terrain data ingestion, and JLVC interoperability. The MAGTF Tactical Warfare Simulation also provides a single source training environment capability that enables users to select single or multiple play boxes (terrain data sets) for training simulation systems easing the burden of requesting terrain, 3D models, and other geographic layers into a single source. In addition to developing an exercise planning, design, implementation, execution, and control tool, the MAGTF Tactical Warfare Simulation also enhances pattern of life (PoL) / indigenous population modular service enabling exercise designers the ability to rapidly build new scenarios and incorporate human geography elements into the training scenarios.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Marine Corps Joint National Training Capability (JNTC)	0.901	0.636	0.538
<p>Description: Provides pattern of life (POL) / indigenous population (IP) concept development and integration, supporting both constructive and virtual training simulation systems by injecting "people packs" with realistic attributes and behaviors associated with specified regions. Full integration of terrain generation 3D models and objects into joint federation synthetic training environment eliminates the burden of requesting terrain data by the Services and CCMDs creates a single, shareable, repository across the federation. Addresses crucial integration of MAGTF Tactical Warfare Simulator (MTWS) into the Korean side of multi-resolution federation bridge supporting Ulchi Focus Guardian covering training shortfalls in engineering obstacle simulations (minefields, chemical, anti-tank ditches, bridges, etc.). Initiates design and development of a joint exercise design and control tool enhancing connectivity across multiple platforms providing exercise planning, design and control within various joint simulation constructs.</p> <p>FY 2021 Plans: Continue development of pattern-of-life (POL) models that can insert synthetic opposing forces and civilian population into scenarios that will autonomously respond with native behaviors of that region providing synthetic adversaries that adapt to various training scenarios in multi-domain joint training.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i>	Project (Number/Name) 774 / <i>USMC Joint National Training Capability (JNTC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Provide a capability for all simulation systems to use the same standardized terrain datasets across training domains. Sustain pre-deployment training for operations while supporting the readiness of deployed forces, particularly those primarily focused on global response force readiness.</p> <p>Address crucial integration of MTWS into Korean side of multi-resolution federation bridge supporting USFK joint exercises covering shortfalls identified in addressing engineering obstacle simulations (minefields, chemical, anti-tank ditches, bridges, etc.).</p> <p>Continue design and development of a joint exercise design and control tool enhancing interoperability and connectivity across multiple platforms. Deliver sharper training environment definitions, assist with defining friendly, enemy, neutrals (including joint multinational and synthetic forces), and support to concurrent planning tools.</p> <p>Explore innovative ways to train for operations in strategically challenging trans-regional, multi-domain and multi-functional (TMM) environments. Use web-based cloud technologies to accelerate exercise development and execution.</p> <p>FY 2022 Plans: Continue development of pattern-of-life (POL) models that can insert synthetic opposing forces and civilian population into scenarios that will autonomously respond with native behaviors of that region providing synthetic adversaries that adapt to various training scenarios in multi-domain joint training.</p> <p>Provide a capability for all simulation systems to use the same standardized terrain datasets across training domains. Sustain pre-deployment training for operations while supporting the readiness of deployed forces, particularly those primarily focused on global response force readiness.</p> <p>Address crucial integration of MTWS into Korean side of multi-resolution federation bridge supporting USFK joint exercises covering shortfalls identified in addressing engineering obstacle simulations (minefields, chemical, anti-tank ditches, bridges, etc.).</p> <p>Continue design and development of a joint exercise design and control tool enhancing interoperability and connectivity across multiple platforms. Deliver sharper training environment definitions, assist with defining friendly, enemy, neutrals (including joint multinational and synthetic forces), and support to concurrent planning tools.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i>	Project (Number/Name) 774 / <i>USMC Joint National Training Capability (JNTC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Explore innovative ways to train for operations in strategically challenging trans-regional, multi-domain and multi-functional (TMM) environments. Use web-based cloud technologies to accelerate exercise development and execution.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decrease in FY 22 to support the Secretary of Defense's Joint Training Infrastructure Goals in other CE2T2 programs.			
Accomplishments/Planned Programs Subtotals	0.901	0.636	0.538

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA	Project (Number/Name) 775 / Advanced Distributed Learning (ADL)
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
775: Advanced Distributed Learning (ADL)	3.000	3.000	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The ADL Initiative supports innovation and provides policy oversight to help the Services, Joint Staff, and partner agencies deliver their training and education more efficiently and cost effectively—anytime, anywhere. ADL provides policy oversight and coordination across DoD, Coalition partners, and other Federal agencies for distributed learning. This work supports interoperability (i.e., ensuring interagency technical and organizational systems function together). Ultimately, this promotes personnel readiness, ensuring the right people receive the right training and education, at the right time, and at the right cost. This Program transferred in FY21.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Advanced Distributed Learning (ADL)	3.000	0.000	-
Description: The ADL Initiative supports innovation and provides policy oversight to help the Services, Joint Staff, and partner agencies deliver their training and education more efficiently and cost effectively—anytime, anywhere. ADL provides policy oversight and coordination across DoD, Coalition partners, and other Federal agencies for distributed learning. This work supports interoperability (i.e., ensuring interagency technical and organizational systems function together). Ultimately, this promotes personnel readiness, ensuring the right people receive the right training and education, at the right time, and at the right cost.			
FY 2021 Plans: The Advanced Distributed Learning project is transferred to OSD (Personnel and Readiness) under a mutually agreed memorandum of understanding. Under the agreement, OSD(P&R) assumes responsibility for all Advanced Distributed Learning activities.			
FY 2021 to FY 2022 Increase/Decrease Statement: Program transferred to OSD in FY21.			
Accomplishments/Planned Programs Subtotals	3.000	0.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA</i>	Project (Number/Name) 775 / <i>Advanced Distributed Learning (ADL)</i>

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0208043J I <i>Planning and Decision Aid System (PDAS)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	23.871	4.537	3.039	0.000	-	0.000	-	-	-	-	-	-
P001: <i>Planning and Decision Aid System OPS</i>	23.871	4.537	3.039	0.000	-	0.000	-	-	-	-	-	-

Note

Joint Staff divests PDAS to Navy in FY22.

A. Mission Description and Budget Item Justification

Provides engineering and testing support to the Planning and Decision Aid System, a classified Joint Staff command and control system supporting the Combatant Commanders, Services, and Department of Defense agencies.

Classified details provided in a separate CLASSIFIED budget exhibit.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	4.537	3.039	3.101	-	3.101
Current President's Budget	4.537	3.039	0.000	-	0.000
Total Adjustments	0.000	0.000	-3.101	-	-3.101
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Internal DoD Transfer	-	-	-3.101	-	-3.101

Change Summary Explanation

PDAS transfers from the Joint Staff to Navy in FY22.

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



United States Special Operations Command

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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United States Special Operations Command • Budget Estimates FY 2022 • RDT&E Program

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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

07 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	851,798	812,658	695,643
Total Research, Development, Test & Evaluation	851,798	812,658	695,643

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

07 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Applied Research	36,230	49,464	44,829
Advanced Technology Development	95,862	96,861	93,415
Operational Systems Development	719,706	666,333	557,399
Total Research, Development, Test & Evaluation	851,798	812,658	695,643
Summary Recap of FYDP Programs -----			
Intelligence and Communications	6,359	6,062	5,994
Special Operations Forces	845,439	806,596	689,649
Total Research, Development, Test & Evaluation	851,798	812,658	695,643

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

07 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Applied Research	36,230	49,464	44,829
Advanced Technology Development	95,862	96,861	93,415
Operational Systems Development	719,706	666,333	557,399
Total Research, Development, Test & Evaluation	851,798	812,658	695,643
Summary Recap of FYDP Programs -----			
Intelligence and Communications	6,359	6,062	5,994
Special Operations Forces	845,439	806,596	689,649
Total Research, Development, Test & Evaluation	851,798	812,658	695,643

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

07 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
U.S., Special Operations Command	851,798	812,658	695,643
Total Research, Development, Test & Evaluation	851,798	812,658	695,643

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

07 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
25	1160401BB	SOF Technology Development	02	36,230	49,464	44,829	U
		Applied Research		36,230	49,464	44,829	
74	1160402BB	SOF Advanced Technology Development	03	95,862	96,861	93,415	U
		Advanced Technology Development		95,862	96,861	93,415	
240	0305208BB	Distributed Common Ground/Surface Systems	07	6,359	6,062	5,994	U
259	1105219BB	MQ-9 UAV	07	19,960	21,265	19,065	U
260	1160279BB	Small Business Innovative Research/Small Bus Tech Transfer Pilot Prog	07	27,278			U
261	1160403BB	Aviation Systems	07	256,658	250,623	173,537	U
262	1160405BB	Intelligence Systems Development	07	15,349	26,519	32,766	U
263	1160408BB	Operational Enhancements	07	158,493	174,122	145,830	U
264	1160431BB	Warrior Systems	07	76,628	64,095	78,592	U
265	1160432BB	Special Programs	07	19,357	7,494	6,486	U
266	1160434BB	Unmanned ISR	07	42,457	17,154	18,006	U
267	1160480BB	SOF Tactical Vehicles	07	11,104	14,256	7,703	U
268	1160483BB	Maritime Systems	07	70,738	68,538	58,430	U
269	1160489BB	Global Video Surveillance Activities	07	5,363	4,602		U
270	1160490BB	Operational Enhancements Intelligence	07	9,962	11,603	10,990	U
		Operational Systems Development		719,706	666,333	557,399	
Total Research, Development, Test & Eval, DW				851,798	812,658	695,643	

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 7, 2021 at 13:19:37

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U.S., Special Operations Command
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

07 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
25	1160401BB	SOF Technology Development	02	36,230	49,464	44,829	U
		Applied Research		36,230	49,464	44,829	
74	1160402BB	SOF Advanced Technology Development	03	95,862	96,861	93,415	U
		Advanced Technology Development		95,862	96,861	93,415	
240	0305208BB	Distributed Common Ground/Surface Systems	07	6,359	6,062	5,994	U
259	1105219BB	MQ-9 UAV	07	19,960	21,265	19,065	U
260	1160279BB	Small Business Innovative Research/Small Bus Tech Transfer Pilot Prog	07	27,278			U
261	1160403BB	Aviation Systems	07	256,658	250,623	173,537	U
262	1160405BB	Intelligence Systems Development	07	15,349	26,519	32,766	U
263	1160408BB	Operational Enhancements	07	158,493	174,122	145,830	U
264	1160431BB	Warrior Systems	07	76,628	64,095	78,592	U
265	1160432BB	Special Programs	07	19,357	7,494	6,486	U
266	1160434BB	Unmanned ISR	07	42,457	17,154	18,006	U
267	1160480BB	SOF Tactical Vehicles	07	11,104	14,256	7,703	U
268	1160483BB	Maritime Systems	07	70,738	68,538	58,430	U
269	1160489BB	Global Video Surveillance Activities	07	5,363	4,602		U
270	1160490BB	Operational Enhancements Intelligence	07	9,962	11,603	10,990	U
		Operational Systems Development		719,706	666,333	557,399	
Total U.S., Special Operations Command				851,798	812,658	695,643	

R-122BAS: FY 2022 President's Budget (Total Base Published Version), as of May 7, 2021 at 13:19:37

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United States Special Operations Command • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
25	02	1160401BB	SOF Technology Development.....	Volume 5 - 949

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
74	03	1160402BB	SOF Advanced Technology Development.....	Volume 5 - 955

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
240	07	0305208BB	Distributed Common Ground/Surface Systems.....	Volume 5 - 967
259	07	1105219BB	MQ-9 Unmanned Aerial Vehicle (UAV).....	Volume 5 - 977
260	07	1160279BB	Small Business Innovation Research/Small Bus Tech Transfer.....	Volume 5 - 985

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Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
261	07	1160403BB	Aviation Systems.....	Volume 5 - 995
262	07	1160405BB	Intelligence Systems Development.....	Volume 5 - 1063
263	07	1160408BB	Operational Enhancements.....	Volume 5 - 1085
264	07	1160431BB	Warrior Systems.....	Volume 5 - 1087
265	07	1160432BB	Special Programs.....	Volume 5 - 1167
266	07	1160434BB	Unmanned ISR.....	Volume 5 - 1169
267	07	1160480BB	SOF Tactical Vehicles.....	Volume 5 - 1187
268	07	1160483BB	Maritime Systems.....	Volume 5 - 1195
269	07	1160489BB	Global Video Surveillance Activities.....	Volume 5 - 1231
270	07	1160490BB	Operational Enhancements Intelligence.....	Volume 5 - 1233

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United States Special Operations Command • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
Aviation Systems	1160403BB	261	07.....	Volume 5 - 995
Distributed Common Ground/Surface Systems	0305208BB	240	07.....	Volume 5 - 967
Global Video Surveillance Activities	1160489BB	269	07.....	Volume 5 - 1231
Intelligence Systems Development	1160405BB	262	07.....	Volume 5 - 1063
MQ-9 Unmanned Aerial Vehicle (UAV)	1105219BB	259	07.....	Volume 5 - 977
Maritime Systems	1160483BB	268	07.....	Volume 5 - 1195
Operational Enhancements	1160408BB	263	07.....	Volume 5 - 1085
Operational Enhancements Intelligence	1160490BB	270	07.....	Volume 5 - 1233
SOF Advanced Technology Development	1160402BB	74	03.....	Volume 5 - 955
SOF Tactical Vehicles	1160480BB	267	07.....	Volume 5 - 1187
SOF Technology Development	1160401BB	25	02.....	Volume 5 - 949
Small Business Innovation Research/Small Bus Tech Transfer	1160279BB	260	07.....	Volume 5 - 985
Special Programs	1160432BB	265	07.....	Volume 5 - 1167
Unmanned ISR	1160434BB	266	07.....	Volume 5 - 1169
Warrior Systems	1160431BB	264	07.....	Volume 5 - 1087

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Research, Development, Test and Evaluation, United States Special Operations Command

(\$ In Thousands)

The FY22 Overseas Contingency Operations accounted for in the base budget are as follows:

- There are no Direct War costs accounted for in the base budget.
- Enduring costs accounted for in the Base Budget: \$35,462: Enduring Requirements are enduring in theater and in CONUS costs that will likely remain after combat operations cease and have previously been funded in OCO.

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ACRONYMS

Acronym	Full Naming Convention
A2/AD	Anti-Access/Area Denial
AA	Air-to-Air
AbMN	Airborne Mission Networking
ACT	AFT Cabin Trainer
ADM	Acquisition Decision Memorandum
AMLCD	Active Matrix Liquid Crystal Display
ADS-B	Automatic Dependent Surveillance-Broadcast
AFRL	Air Force Research Laboratory
A&FC	Airworthiness and Flight Characteristics
AI	Artificial Intelligence
AISR	Airborne Intelligence, Surveillance, Reconnaissance
ALFPK	Austere Location Force Protection Kits
Alt PNT	Alternative Precision Location and Timing
AM	Amplitude Modulation
AMLCD	Active Matrix Liquid Crystal Display
AMN	Airborne Mission Network
AMS	Aviation Management System
APAS	Active Parallel Actuator System
ARSOA	Army Special Operations Aviation
ASE	Aircraft Survivability Equipment
ASIF	All Source Information Fusion
ATD	Advanced Technology Demonstration
ATPIALS	Advanced Target Pointer Illuminator Aiming Laser System
ATW	Advanced Threat Warning
AvFID	Aviation Foreign Internal Defense
AVS	Air Variant System
AWR	Air Worthiness Release
BAA	Broad Area Announcement
BFT	Blue Force Tracking
BLOS	Beyond Line of Site
BOA	Basic Ordering Agreement

ACRONYMS

CASEVAC	Casualty Evacuation
C2	Command and Control
C3	Command, Control, and Communications
C4	Command, Control, Communications, and Computer
C4I	Command, Control, Communications, Computers, and Intelligence
C4IAS	Command, Control, Communications, and Computer Intelligence Automation Systems
CA	Civil Affairs
CAAS	Common Avionics Architecture Systems
CAR	Combat Assault Rifle
CASEVAC	Casualty Evacuation
CBA	Cost Benefit Analysis
CCFLIR	Combatant Craft Forward Looking Infrared Radar
CCA	Combatant Craft - Assault
CCH	Combatant Craft - Heavy
CCM	Combatant Craft - Medium
CCME	Combatant Craft Mission Equipment
CDR	Critical Design Review
CDU	Control Display Units
CERP	Capital Equipment Replacement Program
CFE	Contractor Furnished Equipment
CHMD	Color Helmet Mounted Display
CIO	Chief Information Officer
CIM	Civil Information Management
CIMDPS	Civil Information Management Data Processing System
CIRCM	Common Infrared Countermeasure
CMNS	Combat Mission Needs Statement
CMS	Combat Mission Simulator
CNVD	Clip-On Night Vision Device
COD	Correction of Deficiencies
COP	Common Operational Picture
COSI	Clip-On Short Wave Infrared Imager
COTI	Clip-On Thermal Imager

ACRONYMS

COTM	Communications-on-the-Move
COTS	Commercial-Off-The-Shelf
CP	Counter-Proliferation
CPD	Capabilities Production Document
CQC	Close Quarter Combat
CT	Counter-Terrorism
C-UAS	Counter - Unmanned Aerial Systems
DAMS	Distributed Audio Media System
DCGS-SOF	Distributed Common Ground/Surface System--Special Operations Forces
DCM	Defensive Countermeasures
DCS	Dry Combat Submersible
DCU	Data Concentrator Unit
DDS	Dry Deck Shelter
DEWDS	Dedicated Electronic Warfare Display
DI2E	Defense Intelligence Information Environment
DOD	Department of Defense
DRWG	Distributed Common Ground/Surface System Working Group
DT	Developmental Testing
DTU	Data Transfer Unit
DVE	Degraded Visual Environment
DVEPS	Degraded Visual Environment Pilotage System
DWR	Defense Wide Review
DWS	Defensive Weapon System
EAC	Exploitation Analysis Centers
ECM	Electronic Countermeasures
ECOS	Enhanced Combat Optical Sights
ECP	Engineering Change Proposal
EDM	Engineering Development Model
EGI	Embedded Global Inertial
EGPWS	Enhanced Ground Proximity Warning
ELINT	Electronic Intelligence
EMD	Engineering and Manufacturing Development

ACRONYMS

ENT/ASIF	Enterprise All Source Information Fusion
EO/IR	Electro-Optical Infrared
EOSS	Electro-Optical Sensor System
EOTACS	Expeditionary Organic Tactical AISR Capability Set
ER	Extended Range
ESA	Enhanced Situational Awareness
ETI	Evolutionary Technology Insertion
EUD	End User Devices
EW	Electronic Warfare
FAA	Federal Aviation Agency
FABS	Fly-Away Broadcast System
FAR	Federal Acquisition Regulation
FADE	Fusion Analysis and Development Effort
FCD	Field Computing Devices
FFRDC	Federally Funded Research Development Center
FDWS	Forward Defensive Weapon System
FM	Frequency Modulation
FMV	Full Motion Video
FOC	Full Operational Capability
FoS	Family of Systems
FQT	Functional Qualification Test
FRP	Full Rate Production
FSOV	Family of Special Operations Vehicles
FVL	Future Vertical Lift
FY	Fiscal Year
FYDP	Fiscal Year Defense Plan
GATM	Global Air Traffic Management
GCC	Geographical Combatant Commander
GCS	Ground Control Station
GEOINT	Geospatial Intelligence
GFE	Government Furnished Equipment
GIG	Global Information Grid

ACRONYMS

GMV	Ground Mobility Vehicle
GOTS	Government-Off-The-Shelf
GPPU	General Purpose Processing Units
GPS	Global Positioning System
GSK	Ground Signals Intelligence Kit
GTR	Gun Training Room
HEL	High Energy Laser
HF	High Frequency
HFIS	Hostile Fire Indicator System
HFTTL	Hostile Forces Tagging, Tracking, and Locating
HHI	Hand Held Imager
HLM	Handheld Laser Marker
IC	Intelligence Community
IDIQ	Indefinite Delivery/Indefinite Quantity
ILS	Integrated Logistics Support
IM	Insensitive Munitions
INOD	Improved Night/Day Observation/Fire Control Device
IOC	Initial Operational Capability
IPN	Installation Processing Node
IR	Infrared
IRAD	Industrial Research and Development
IRCM	Infrared Countermeasures
IRES	Improved Rotary Wing Electro-Optical Sensor
IRSS	Infrared Suppression System
ISIS	islamic State of Iraq and Syria
ISP	Integrated Survey Plan
ISR	Intelligence, Surveillance and Reconnaissance
ISR&T	Intelligence, Surveillance, Reconnaissance, and Targeting
IT	Information Technology
ITMS	Integrated Tactical Mission Systems
JIE	Joint Information Environment
JOS	Joint Operational Stocks

ACRONYMS

JTAC	Joint Terminal Attack Controller
JTWS	Joint Threat Warning System
LAM	Laser Aiming Marker
LCM	Low Cost Modification
LCS	Load Carriage System
LEA	Long Endurance Aircrat
LFT&E	Live Fire Test and Evaluation
LiDAR	Light Detection and Ranging
LMAMS	Lethal Miniature Aerial Munition Systems
LOS	Line of Sight
LPI/LPD	Low Probability of Intercept/Low Probably of Detection
LRBS	Long Range Broadcast System
LR/LE	Long Range Endurance
LRIP	Low Rate Initial Production
LRU	Line Replaceable Unit
LSDB	Laser--Small Diameter Bomb
LTATV	Lightweight Tactical All Terrain Vehicle
LWIR	Long-Wave Infrared
MALET	Medium Altitude Long Endurance Tactical
MAAWS	Multi-Purpose Anti-Armor/Anti-Personnel Weapons System
MANET	Mobile Ad-hoc Networking
MC/COP	Mission Command/Common Operational Picture
MCE	Military Construction Collateral Equipment
MDA	Milestone Decision Authority
MDO	Multi-domain Operations
MEDEVAC	Medical Evacuation
MELB	Mission Enhanced Little Bird
MERIT	Military Exploitation of Reconnaissance and Intelligence Technology
MFD	Multi-Function Display
MFP	Major Force Program
MG	Machine Gun
MGS	Modular Glove System

ACRONYMS

MICH	Modular Integrated Communications Helmet
MIP	Military Intelligence Program
MIPR	Military Interdepartmental Purchase Request
MISO	Military Information Support Operations
MLE	Military Liaison Element
MMP	Multi-Mission Payload
MPE	Maritime Precision Engagement
MPU	Mission Processor Unit
MR/ME	Medium Range/Medium Endurance
MS	Milestone
MSSEP	Mobile SOF Strategic Entry Points
MTA	Middle Tier Acquisition
MTD	Mission Training Devices
MTPS	Mission Training and Preparation Systems
MTS-B	Multi-Spectral Targeting System--B
MTTE	Maritime Technology Transition and Exploitation
MTUAS	Multi-Mission Tactical Unmanned Aerial System
MWC	Mid-Water Column
MWIR	Mid-Wave Infrared
MWS	Missile Warning System
MYP	Multiyear Procurement
NDI	Non-Developmental Item
NDS	National Defense Strategy
NET	New Equipment Training
NGA	National Geospatial-Intelligence
NGFLIR	Next Generation Forward Looking Infrared Radar
NG CCFLIR	Next Generation Combatant Craft Forward Looking Infrared Radar
NGLS	Next Generation Loud Speakers
NLP	Natural Language Processing
NM	Nautical Mile
NRE	Non-Recurring Engineering
NSAV	Non-Standard Aviation

ACRONYMS

NSCV	Non-Standard Commercial Vehicle
NSSS	National Systems Support to SOF
NTM	National Technical Means
NVD	Night Vision Devices
OA	Operational Assessment
OCO	Overseas Contingency Operations
OEM	Original Equipment Manufacturer
OFP	Operational Flight Program
OT	Operational Test
OT&E	Operational Test and Evaluation
P3I	Pre-Planned Product Improvement
PCAS	Persistent Close Air Support
PCU	Protective Combat Uniform
PDR	Preliminary Design Review
PE	Program Element
PED	Processing, Exploitation, and Dissemination
PGL	Precision Geo Location
PGM	Precision Guided Munitions
PISA	Predator Integrated Signals Intelligence Architecture
PME	Prime Mission Equipment
POR	Program of Record
PSM	Personal Signature Management
PSP	Precision Strike Package
PTT	Part Task Trainer
QL-CBA	Quick-Look Capabilities-Based Assessment
RAMS	Removable Airborne Military Information Support Operations System
RC-IED	Counter Radio Controlled-Improvised Explosive Device
RCI	Rapid Capability Insertion
R&D	Research and Development
RDT&E	Research, Development, Test, and Evaluation
RECCE	Tactical Reconnaissance Kit
RF	Radio Frequency

ACRONYMS

RFCM	Radio Frequency Countermeasures
RIS	Radio Integration System
ROP	Remote Observation Post
RSTA	Reconnaissance, Surveillance, and Targeting Acquisition
RWR	Radar Warning Receiver
SA	Surface-to-Air
SAFC	Special Applications for Contingencies
SAPNET	Special Access Program Network
SATCOM	Satellite Communications
SBIR	Small Business Innovative Research
SBUD	Simulator Block Updates
SCE	Special Communications Enterprise
SCO	SOF Cryptologic Operator
SDB	Small Diameter Bomb
SDN	SOF Deployable Node
SDN-EP	SOF Deployable Node--Extension Packages
SDN-H	SOF Deployable Node-Heavy
SDN-L	SOF Deployable Node-Light
SDN-M	SOF Deployable Node-Medium
SDV	Sea, Air, Land (SEAL) Delivery Vehicle
SEAL	Sea, Air, Land
SEALION	Sea, Air, Land, Insertion Observation Neutralization
SFAC	Security Forces Assistance Craft
SGM	Small Glide Munition
SIE	Special Operations Forces Information Environment
SIGINT	Signals Intelligence
SIL	System Integration Lab
SIM	Sensor Integration Module
SIP	System Inegration Partner
SIRFC	Suite of Integrated Radio Frequency Countermeasures
SKR	Silent Knight Radar
SMS	Special Mission System

ACRONYMS

SOCRATES	Special Operations Command, Research, Analysis and Threat Evaluation System
SOF	Special Operations Forces
SOF-P	Special Operations Forces--Peculiar
SOFNET	Special Operations Forces Network
SOFPREP	Special Operations Forces Planning, Rehearsal, and Execution Preparation
SOFSA	Special Operations Forces Support Activity
SOMPE	Special Operations Mission Planning and Execution
SOPGM	Standoff Precision Guided Munitions
SoS	System of Systems
SPCOM	Special Communications Field Segment - Enterprise
SPEAR	SOF Personal Equipment Advanced Requirements
SPPN	Special Purpose Processing Node
SMU	Special Mission Units
SR	Special Reconnaissance
SR/SE	Short Range/Short Endurance
SRTV	Secure Real-Time Video
SSE	Sensitive Site Exploitation
STAMP	SOCOM Tactical Airborne Multi-Sensor Platform
STC	SOF Tactical Communications
STLD	Small Target Location Devices
STTR	Small Business Technology Transfer
STUAS	Small Tactical Unmanned Aerial Systems
SURG	Suppressed Upper Receiver Group
SWAP	Size, Weight and Power
SWCS	Shallow Water Combat Submersible
SWIR	Shortwave Infrared
TACLAN	Tactical Local Area Network
TAK	Tactical Assault Kit
TALOS	Tactical Assault Lightweight Operator Suit
TAS	Threat Awareness System
TCCC	Tactical Combat Casualty Care
TDL	Tactical Data Link

ACRONYMS

TENCAP	Tactical Exploitation of National Capabilities
TF/TA	Terrain Following/Terrain Avoidance
TOCNET	Tactical Operations Center
TMN	Tactical (Airborne) Mission Network
TMS	Tactical Mission Systems
TMMR	Technology Maturation and Risk Reduction
TPAN	Tactical Personal Area Networks
TRL	Technical Readiness Level
TSOC	Theater Special Operations Command
TTV	Team Transportable Variant
TTL	Tagging, Tracking and Locating
TV	Television
TVS/RSTA	Tactical Video System/Reconnaissance, Surveillance, and Target Acquisition
UARC	University Affiliated Research Agreement
UAS	Unmanned Aerial System
UAV	Unmanned Aerial Vehicle
UGS/UMS	Unattended Ground Sensors/Unattended Maritime Sensors
UHF	Ultra High Frequency
UI	User Interface
URG	Upper Receiver Groups
VAK	Virtual Accompany Kits
VAS	Visual Augmentation Systems
VAS-BM	Visual Augmentation-Binocular-Monocular
VASWA	Visual Augmentation System-Weapons Accessories
VBIED	Vehicle-Borne Improvised Explosive Device
VBL	Visible Bright Light
VBSS	Visit, Board, Search, and Seizure
VHF	Very High Frequency
VTC	Video Teleconferencing
VTOL	Vertical Take Off and Landing
WAN	Wide Area Network
WPAN	Wireless Personal Area Networks

ACRONYMS

WPNAC

Weapons Accessories

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 2: Applied Research</i>					R-1 Program Element (Number/Name) PE 1160401BB / <i>SOF Technology Development</i>							
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	588.984	36.230	49.464	44.829	-	44.829	-	-	-	-	-	-
S100: <i>SOF Technology Development</i>	588.984	36.230	49.464	44.829	-	44.829	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element enables United States Special Operations Command (USSOCOM) to conduct studies and develop laboratory prototypes for applied research and advanced technology development, as well as leverage other organizations' technology projects that may not otherwise be affordable within MFP-11. Applying small incremental amounts of investments to Department of Defense (DOD), other government agencies, and commercial organizations allows USSOCOM to influence the direction of technology development or the schedule against which it is being pursued, and to acquire disruptive solutions and emerging technologies for Special Operations Forces (SOF). This project provides an investment strategy for USSOCOM to link technology opportunities with capability deficiencies, capability objectives, technology thrust areas, human endurance and sensory performance, and technology development objectives. This investment strategy is aligned to establish future SOF capability in support of Joint Warfighting Concepts.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	37.569	42.464	45.304	-	45.304
Current President's Budget	36.230	49.464	44.829	-	44.829
Total Adjustments	-1.339	7.000	-0.475	-	-0.475
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	12.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.339	-			
• Other Adjustments	-	-	-0.475	-	-0.475

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: S100: *SOF Technology Development*

Congressional Add: *National Consortium for the Study of Terrorism*

Congressional Add: *Sustained Human Performance and Resilience*

Congressional Add Subtotals for Project: S100

	FY 2020	FY 2021
	-	7.000
	-	5.000
Congressional Add Subtotals for Project: S100	-	12.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 2: Applied Research</i>	R-1 Program Element (Number/Name) PE 1160401BB / <i>SOF Technology Development</i>
--	--

Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2020		FY 2021
	Congressional Add Totals for all Projects	-		12.000

Change Summary Explanation

Funding:

FY 2020: Net decrease is due to transfer of funds to Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) programs (\$1.339 million).

FY 2021: Net increase of \$7.000 million is due to a Congressional add for national consortium for the study of terrorism (\$7.000 million), sustained human performance and resilience (\$5.000 million), and a Congressional directed reduction for unjustified growth (-\$5.000 million).

FY 2022: Net decrease is due to funding made available to support emerging critical Command requirements (\$0.475 million).

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 2					R-1 Program Element (Number/Name) PE 1160401BB / <i>SOF Technology Development</i>				Project (Number/Name) S100 / <i>SOF Technology Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>S100: SOF Technology Development</i>	588.984	36.230	49.464	44.829	-	44.829	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Small incremental co-investments with Department of Defense (DOD), other government agencies, and commercial organizations allow USSOCOM to influence the schedule and direction of technology developments, emerging technologies, and capabilities for Special Operations Forces (SOF), with significant economies of investment. This USSOCOM investment strategy is used to link technology opportunities with capability deficiencies, capability objective, technology thrust areas, and technology objectives through key stakeholder relationships with DOD and government technology developers. Technology development needs in these areas may be advertised to industry and government research and development agencies via agency announcements and calls for white papers.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SOF Technology Development	17.320	33.389	40.670
Description: This project conducts studies and develops laboratory prototypes for applied research and advanced technology developments, and leverages other organizations' technology projects that may not otherwise be affordable within MFP-11. Beginning in FY 2021, this project will continue to exploit and integrate emerging technologies for sensors and surveillance enabling systems. Increases focus on tactical sensors and enabling technologies in support of the Intelligence, Surveillance, and Reconnaissance (ISR) mission set focused leading edge technology, biometric and biotechnology, which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing.			
FY 2021 Plans: Continue ongoing technology development projects in areas such as, but not limited to: enabling power technologies, signature reduction technologies, high data-rate throughput, and advances in lightweight armor and materials. Advance technologies for combat medical equipment, biotechnologies, tactics, human performance, optics, sensor, information sources, and processing improvements, improves human-machine interfaces and displays, identifies SOF specific machine learning/artificial intelligence, and secure communications. Continue pursuit of methods to reduce operator load and provides advanced protection. Develop technologies for improved and widened window of target engagement (escalation of force), pursue enhancements to technologies that can aid in detection of enemy intentions and status, and continue development and exploration of novel technologies across the electromagnetic spectrum. Continue to exploit and integrate emerging technologies for sensors and surveillance enabling systems. Increase focus on tactical sensors and enabling technologies in support of the ISR mission set. Based upon agreed			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 1160401BB / <i>SOF Technology Development</i>	Project (Number/Name) S100 / <i>SOF Technology Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>technology maturity metrics, transfers successful projects into programs of record. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes.</p> <p>FY 2022 Plans: Continues ongoing technology development projects in areas such as, but not limited to: enabling power technologies, signature reduction technologies, high data-rate throughput, and advances in lightweight armor and materials. Advances technologies for combat medical equipment, biotechnologies, tactics, human performance, optics, sensor, information sources, and processing improvements, improves human-machine interfaces and displays, identifies SOF specific machine learning/artificial intelligence, and secure communications. Continues pursuit of methods to reduce operator load and provides advanced protection. Develops technologies for improved and widened window of target engagement (escalation of force), pursues enhancements to technologies that can aid in detection of enemy intentions and status, and continues development and exploration of novel technologies across the electromagnetic spectrum. Continues to exploit and integrate emerging technologies for sensors and surveillance enabling systems. Increases focus on tactical sensors and enabling technologies in support of the ISR mission set. Based upon agreed technology maturity metrics, transfers successful projects into programs of record. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$7.281 million is due to an increase in the activities to integrate Artificial Intelligence and Biotechnologies.</p>				
<p>Title: Tagging, Tracking, and Locating Technologies (TTL) Project</p> <p>Description: TTL funds Applied Research projects identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL applies Intelligence, Surveillance, and Reconnaissance (ISR) focused leading edge technology, biometric and biotechnology, which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing in support of the TTL mission.</p>		15.387	-	-
<p>Title: Classified Sub-Project</p> <p>Description: Classified Sub-Project (provided under separate cover).</p> <p>FY 2021 Plans: Details provided under separate cover.</p> <p>FY 2022 Plans: Details provided under separate cover.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>		3.523	4.075	4.159

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 1160401BB / <i>SOF Technology Development</i>	Project (Number/Name) S100 / <i>SOF Technology Development</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Details provided under separate cover.			
Accomplishments/Planned Programs Subtotals	36.230	37.464	44.829

	FY 2020	FY 2021
Congressional Add: National Consortium for the Study of Terrorism	-	7.000
FY 2021 Plans: Establish Joint Special Operations University (JSOU) Advanced Research efforts for Irregular and Asymmetric Warfare in partnership with OSD Research and Engineering (R&E). Expand the National Consortium for the Study of Terrorism and Responses to Terrorism (START). The START effort will be awarded to the University of Maryland, College Park as the lead for the National Consortium for the Study of Terrorism by June, 2021, using data sets and scientists' findings regarding Irregular and Asymmetric Warfare topics specific to SOF that support integrative statecraft and applied scenario testing. Results of this effort are expected to be completed within eight months after contract award. The deliverable for START is an academic study conducted by a consortium of university-based research entities who will develop a wargame to explore multi-national and inter-agency challenges integral to Irregular Warfare conducted by SOF. Upon completion of the applied research effort, the consortium will deliver proposed updates to JSOU's existing curriculum and training programs of instruction and will be incorporated into courses by Academic Year 2022.		
Congressional Add: Sustained Human Performance and Resilience	-	5.000
FY 2021 Plans: Continue ongoing development of human performance technology development projects, including performance nutrition and supplementation, achieving the results of exercise via alternative methods, maximizing cognitive performance, musculoskeletal injury prediction, sleep restoration, holistic assessment (e.g., physical/cognitive metrics, biomarkers, and genomics), and tracking of exposures throughout a SOF Operator's career. Continue pursuit of methods to reduce operator load and improve human-machine interfaces and displays. Established a detailed spend plan to execute the FY21 Appropriations Add for Sustained Human Performance. Funds will be obligated through a variety of Human Performance contract actions to be completed in June – August 2021. All efforts are expected to be completed within 12-18 months after contract award.		
Congressional Adds Subtotals	-	12.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 2	R-1 Program Element (Number/Name) PE 1160401BB / <i>SOF Technology Development</i>	Project (Number/Name) S100 / <i>SOF Technology Development</i>

D. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 1160402BB / <i>SOF Advanced Technology Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	1,452.739	95.862	96.861	93.415	-	93.415	-	-	-	-	-	-
S200: <i>Advanced Technology Development</i>	1,371.268	70.356	77.774	74.019	-	74.019	-	-	-	-	-	-
SF101: <i>Engineering Analysis</i>	53.821	21.072	19.087	19.396	-	19.396	-	-	-	-	-	-
S225: <i>Information and Broadcast Systems Adv Tech</i>	27.650	4.434	0.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Advanced Technology Development (project S200) conducts rapid prototyping and Advanced Technology Demonstrations (ATDs). ATDs provide a means for demonstrating and evaluating the utility of disruptive solutions and emerging/advanced technologies in as realistic an operational environment as possible by Special Operations Forces (SOF) users. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. ATDs also address projects that are a result of unique joint special mission or area-specific needs for which a few-of-a-kind prototypes must be developed on a rapid response basis, or of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase. This USSOCOM ATD investment strategy is aligned to establish future SOF capability in support of Joint Warfighting Concepts.

Engineering Analysis (project SF101) provides rapid response capability for the investigation, evaluation, and demonstration of technologies for SOF platform (ground, air, and maritime) and soldier system-unique requirements. Timely application of SOF-unique technology is critical and necessary to meet requirements in such areas as: sensor integration; enhanced situational awareness; near-real-time intelligence to include data fusion, threat detection and avoidance; electronic support measures for threat geo-location and specific emitter identification; navigation; target detection; weapon performance integration; and future SOF platform and soldier system requirements. Provides additional engineering analysis and testing required to transition items from national forces to theater forces.

Information and Broadcast Systems Advanced Technology (project S225) conducts rapid prototyping, advanced technology demonstrations, and advanced concept technology demonstrations of information and broadcast systems technology. Includes planning, analyzing, evaluating, and production information systems capabilities and distribution/dissemination broadcast systems capabilities. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project also integrates efforts with each other and conducts technology demonstrations in conjunction with joint experiments and other assessment events. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs for which prototypes must be developed on a rapid response basis, or are of sufficient time sensitivity to accelerate the prototyping effort of a normal acquisition program in any phase.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 1160402BB / <i>SOF Advanced Technology Development</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	99.404	89.072	94.659	-	94.659
Current President's Budget	95.862	96.861	93.415	-	93.415
Total Adjustments	-3.542	7.789	-1.244	-	-1.244
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.211			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.542	-			
• Other Adjustments	-	-	-1.244	-	-1.244

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: S200: *Advanced Technology Development*

 Congressional Add: *Classified Project*

 Congressional Add: *Identity Management*

Congressional Add Subtotals for Project: S200

Project: SF101: *Engineering Analysis*

 Congressional Add: *Soldier System Engineering Analysis*

Congressional Add Subtotals for Project: SF101

Congressional Add Totals for all Projects

	FY 2020	FY 2021
	5.787	-
	-	10.000
	5.787	10.000
	4.098	-
	4.098	-
	9.885	10.000

Change Summary Explanation

Funding:

FY 2020: Net decrease is due to a transfer of funds to Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) programs (-\$3.542 million).

FY 2021: Net increase of \$7.789 million is due to a Congressional program increase for Identity Management (\$10.000 million), a Congressional directed reduction for inaccurate transfer (-\$2.114 million), and a Defense-Wide mark non-programmatic reduction (-\$0.097 million).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	PE 1160402BB / <i>SOF Advanced Technology Development</i>

FY 2022: Net decrease of \$1.224 million is due to funding made available to support emerging critical Command requirements.

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 1160402BB / SOF Advanced Technology Development				Project (Number/Name) S200 / Advanced Technology Development			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S200: <i>Advanced Technology Development</i>	1,371.268	70.356	77.774	74.019	-	74.019	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project provides for rapid prototyping, Advanced Technology Demonstrations (ATDs) and Joint Capability Technology Demonstrations. It is a means for demonstrating and evaluating the utility of emerging/advanced technologies in operationally relevant environments with Special Operations Forces (SOF) users. This project integrates disruptive solutions and emerging technologies and then presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. Evaluation results often facilitate the initiation of new programs and the insertion of appropriate technologies to acquisition programs. This element leverages key stakeholder relationships with DOD and government technology developers to address unique, joint special mission or area-specific needs for which a few rapid prototypes must be developed on a responsive basis, or of sufficient time sensitivity to accelerate prototyping efforts of a normal acquisition program in any phase.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SOF Special Technology Project	39.650	61.729	67.849
<p>Description: This project integrates emerging technologies and presents them in technology demonstrations, in conjunction with joint experiments and other assessment events. Beginning in FY 2021, this project will continue to exploit and integrate emerging technologies for sensors and surveillance enabling systems. Increases focus on tactical sensors and enabling technologies in support of the Intelligence, Surveillance, and Reconnaissance (ISR) mission set focused leading edge technology, biometric and biotechnology, which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing.</p> <p>FY 2021 Plans: Continue the development and insertion of technology into existing programs. Technologies include, but are not limited to: reduced signature profiles, improved tailorable lethality weapons and precision strike weapons, assured communications, command and control systems, machine learning/artificial intelligence, optics, sensors, information sources, and situational awareness tools; lightweight armor and materials, power and energy enablers, and technologies that reduce the load of the operator. Continue the development of technologies and materials which support power and energy enablers, and technologies that reduce the load of the operator. Continue development of technologies supporting undersea, ground and air mobility. Evaluate and develop sensors across the electromagnetic spectrum to meet operational requirements. Continue the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Continue to develop sensors, surveillance, network and data management technology to provide tactically relevant situational awareness and point of need. Continue effort for field prototype system incorporating technologies likely to transition</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / SOF Advanced Technology Development	Project (Number/Name) S200 / Advanced Technology Development

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>to fielded systems. Beginning in FY 2021, this project will continue to exploit and integrate emerging technologies for sensors and surveillance enabling systems. Increase focus on tactical sensors and enabling technologies in support of the ISR mission set focused leading edge technology, biometric and biotechnology, which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing. Based upon agreed technology maturity metrics, transfer successful projects into programs of record, and conduct field experimentations at various venues to facilitate technology insertion.</p> <p>FY 2022 Plans: Continues the development and insertion of technology into existing programs. Technologies include, but are not limited to: reduced signature profiles, improved tailorable lethality weapons and precision strike weapons, assured communications, command and control systems, machine learning/artificial intelligence, optics, sensors, information sources, and situational awareness tools; lightweight armor and materials, power and energy enablers, and technologies that reduce the load of the operator. Continues the development of technologies and materials which support power and energy enablers, and technologies that reduce the load of the operator. Continues development of technologies supporting undersea, ground and air mobility. Evaluates and develops sensors across the electromagnetic spectrum to meet operational requirements. Continues the integration of critical technologies focused on providing the dismounted special operator leap-ahead capabilities via innovative collaborative processes. Continues to develop sensors, surveillance, network and data management technology to provide tactically relevant situational awareness and point of need. Continues effort for field prototype system incorporating technologies likely to transition to fielded systems. Continues to exploit and integrate emerging technologies for sensors and surveillance enabling systems. Increases focus on tactical sensors and enabling technologies in support of the ISR mission set focused leading edge technology, biometric and biotechnology, which is directed towards the development of revolutionary tags, taggants, sensors, communications, and data processing. Based upon agreed technology maturity metrics, transfers successful projects into programs of record, and conducts field experimentations at various venues to facilitate technology insertion.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$6.120 million is due to an increase in sensor integration activities, artificial intelligence, and enhancing tactically relevant situational awareness capability.</p>			
<p>Title: Tagging, Tracking, and Locating Technologies (TTL) Project</p> <p>Description: TTL funds SOF unique ATDs identified in the USSOCOM Quick Look Capabilities Based Assessments (QL-CBA). TTL rapidly prototypes and expeditiously transitions projects from laboratory to acquisition Programs of Record/operational use to address SOF capability deficiencies.</p>	19.205	-	-
<p>Title: Classified Project</p> <p>Description: Classified Project (provided under separate cover).</p>	5.714	6.045	6.170

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / SOF Advanced Technology Development	Project (Number/Name) S200 / Advanced Technology Development
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
FY 2021 Plans: Details provided under separate cover.			
FY 2022 Plans: Details provided under separate cover.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.125 million will be provided under separate cover.			
Accomplishments/Planned Programs Subtotals	64.569	67.774	74.019

	FY 2020	FY 2021
Congressional Add: Classified Project <i>FY 2020 Accomplishments:</i> Details provided under separate cover.	5.787	-
Congressional Add: Identity Management <i>FY 2021 Plans:</i> Details provided under separate cover.	-	10.000
Congressional Adds Subtotals	5.787	10.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / SOF Advanced Technology Development	Project (Number/Name) SF101 / Engineering Analysis
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
SF101: <i>Engineering Analysis</i>	53.821	21.072	19.087	19.396	-	19.396	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project provides a rapid response capability to support Special Operations Forces (SOF) platforms (ground, air and maritime), Unmanned Aerial Vehicle (UAV) payload sensors and soldier systems. The purpose is to correct system deficiencies, improve asset life, and enhance mission capability through the means of feasibility studies, analysis of alternatives, pre-developmental risk reduction studies, and engineering analyses. This project provides the engineering required to improve the design and performance integrity of the SOF platforms, UAV payload sensors and soldier support systems, sub-systems, equipment, and embedded computer software as they relate to the maintenance, overhaul, repair, quality assurance, modifications, materiel improvements, and service life extensions. This project also conducts risk reduction studies, analyses, and demonstrations to support emerging, time-critical weapons and sensor enhancements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Platform Engineering Analysis</p> <p>Description: Funding supports the development of rapid response capabilities to support SOF platform and soldier systems. Rapidly addresses technology needs for insertion into Programs of Record. Supports technology development to correct system deficiencies, improve platform asset life, and enhance mission capabilities.</p>	10.526	-	-
<p>Title: Soldier System Engineering Analysis</p> <p>Description: Funding supports engineering assessments and evaluation of technology readiness in the following areas: 1) next generation lightweight low-cost body armor and ballistic helmets 2) ballistic and laser variable light transmission protective eyewear 3) soldier worn sensors to assess ballistic and blast events as well as soldier health 4) next generation soldier worn load carriage systems and 5) soldier worn head borne communications that provide greater situational awareness and hearing protection.</p>	0.483	-	-
<p>Title: National to Theater Engineering Analysis</p> <p>Description: Provides additional engineering analysis and testing required to transition items from national forces to theater forces.</p> <p>FY 2021 Plans: Conduct additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces.</p> <p>FY 2022 Plans:</p>	2.158	2.281	2.327

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / <i>SOF Advanced Technology Development</i>	Project (Number/Name) SF101 / <i>Engineering Analysis</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Continues additional testing and evaluation required on various equipment items such as communications, intelligence, weapons, and operator protection planned for transition to SOF Theater Forces. FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.046 million is to support additional testing and evaluation required on various equipment items.				
Title: Aviation Mission Improved Survivability Description: Funding supports engineering analysis activities to address aviation survivability such as signature management, situational awareness, and versatile mission equipment (payloads, communications, and weapons) to achieve SOF mission objectives.		3.807	-	-
Title: Engineering Analysis Description: Funding supports the development of rapid response capabilities to support SOF platform and soldier systems. Supports technology development to correct system deficiencies, improve platform asset life, and enhance mission capabilities. Supports engineering assessments and evaluation of technology feasibility, producibility, and integration into next generation soldier equipment. Supports engineering analysis activities to address platform survivability such as signature management, situational awareness, and versatile mission equipment (payloads, communications, and weapons) to achieve SOF mission objectives. Rapidly addresses technology needs for insertion into Programs of Record. FY 2021 Plans: Begin to assess concepts and prototypes that provide increased capability of SOF mobility platforms to include improvements to meet emerging threats. Assess and evaluate advanced methods to deliver tailorable lethality. Identify, assess, and evaluate improved network and data management systems that incorporate significant improvements to operate in contested environments, systems that improve situational awareness on the battlefield, and disruptive technologies to enable Intelligence, Surveillance, and Reconnaissance (ISR) in future environments. Continue to assess materials, concepts, and prototypes to increase operator effectiveness and situational awareness in all environments. Continue engineering analysis activities to improve SOF platform mission survivability. Activities include, but are not limited to, signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications, and weapons) to improve SOF survivability in less than permissive operating environments. FY 2022 Plans: Continues to assess concepts and prototypes that provide increased capability of SOF mobility platforms to include improvements to meet emerging threats. Assesses and evaluates advanced methods to deliver tailorable lethality. Identifies, assesses, and evaluates improved network and data management systems that incorporate significant improvements to operate in contested environments, systems that improve situational awareness on the battlefield, and disruptive technologies to enable ISR in future		-	12.806	13.069

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / <i>SOF Advanced Technology Development</i>	Project (Number/Name) SF101 / <i>Engineering Analysis</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
environments. Continues to assess materials, concepts, and prototypes to increase operator effectiveness and situational awareness in all environments. Continues engineering analysis activities to improve SOF platform mission survivability. Activities include, but are not limited to, signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications, and weapons) to improve SOF survivability in less than permissive operating environments. FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.263 million is to support the assessment of concepts and prototypes that provide increased capability of SOF mobility platforms.			
Title: Experimentation Force Description: Funding supports the integration of technology with operational vignette-based experiments designed to stimulate innovative applications across all domains addressing SOF specific modernization needs. FY 2021 Plans: Begin the development of innovative concepts and conducts experimentation to develop hyper-enabled teams capable of conducting globally integrated special operations across all domains. FY 2022 Plans: Continues the development of innovative concepts and conducts experimentation to develop hyper-enabled teams capable of conducting globally integrated special operations across all domains.	-	4.000	4.000
Accomplishments/Planned Programs Subtotals	16.974	19.087	19.396

	FY 2020	FY 2021
Congressional Add: Soldier System Engineering Analysis FY 2020 Accomplishments: Continued to assess materials, concepts and prototypes to reduce soldier load and provide increased protection against the latest emerging threats. Evaluated soldier worn sensors and heads up displays for operability within soldier worn components and subsystems. Assessed technology feasibility and integration readiness of next generation load carriage systems such as exoskeletons and load-assist devices. Assessed proofs of concept and technologies for next generation communications systems that integrate situational awareness in all environments.	4.098	-
Congressional Adds Subtotals	4.098	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / <i>SOF Advanced Technology Development</i>	Project (Number/Name) SF101 / <i>Engineering Analysis</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / SOF Advanced Technology Development	Project (Number/Name) S225 / Information and Broadcast Systems Adv Tech
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S225: Information and Broadcast Systems Adv Tech	27.650	4.434	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project conducts development, rapid prototyping, and demonstration/testing of information and broadcast system technology. Includes cyber capabilities that predict the best media channels to reach potential target audiences, data mining and information collections tools, propaganda and social behavior analytical tools, cultural analysis tool sets and emerging technologies that support the planning and analytical needs for Military Information Support Operations (MISO) forces. It provides a means for demonstrating and evaluating the utility of emerging/advanced technologies in as realistic an operational environment as possible by SOF users. This project integrates efforts and conducts technology demonstrations in conjunction with joint experiments and other assessment events and performs market research on emerging technologies that support all phases of MISO. Evaluation results are included in a transition package, which assists in the initiation of or insertion into an acquisition program. The project also addresses unique, joint special mission or area-specific needs. Seeks technologies that will transform current MISO capabilities through two major objectives: 1) Exploit technologies capable of disseminating products to reach target audiences across a variety of media to include audiences in denied areas. 2) Automate and improve MISO planning and analytical capability through technologies that are integrated into SOF planning systems (Cultural Analysis, Targeting, Theme Development, Media & Product Selection, Distribution & Dissemination, and Measures of Effectiveness). Develops software applications that increases the efficiency and shortens the timeline to get MISO dissemination packages approved. Develops hardware/software tools that facilitate the collaboration and sharing of information and other critical data.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Broadcast and Dissemination Modernization	4.434	-	-
Description: Develops emerging technologies available in the marketplace to transform and modernize planning, analysis, development, broadcast, distribution, dissemination, and feedback capabilities for MISO forces. This initiative will also continue development of appropriate emerging technologies initially identified by Advanced Technology Demonstrations and Joint Capability Technology Demonstrations to transition to acquisition programs. Technologies include: multi-frequency broadcast systems; digital broadcast capabilities; remote controlled electronic paper; near-real-time command and control of unattended systems, especially in denied areas; focused/beam speaker sound technologies; visual projection technologies; advanced commercial broadcast technologies including amplitude modulation and frequency modulation radio transmitters and antenna; television transmitter and antenna systems; internet and telephony dissemination and broadcast systems; technologies capable of long-loiter broadcast and delivery in denied and permissive environment; and technologies that automate and improve planning and analytical capability through integrated capabilities.			
Accomplishments/Planned Programs Subtotals	4.434	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 1160402BB / <i>SOF Advanced Technology Development</i>	Project (Number/Name) S225 / <i>Information and Broadcast Systems Adv Tech</i>

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305208BB / <i>Distributed Common Ground/Surface Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	54.930	6.359	6.062	5.994	-	5.994	-	-	-	-	-	-
S400A: <i>Distributed Common Ground/Surface Systems</i>	54.930	6.359	6.062	5.994	-	5.994	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP). The Distributed Common Ground/Surface System Special Operations Forces (DCGS-SOF) is part of a family of systems providing rapid fielding of Intelligence, Surveillance, and Reconnaissance (ISR) Processing, Exploitation, Dissemination (PED), and analytical capabilities at the Combatant Command (COCOM), Component/Theater Special Operations Commands (TSOC) level and below through a combination of reach back, forward support, and collaboration. The mission tailored infrastructure interconnects the warfighters, analysts, and sensors to find and fix High Value Targets and provides a network-enabled, interoperable construct allowing continual, unimpeded sharing of intelligence data, information and services with SOF and between the Services, national intelligence agencies, combatant commands and multi-national partners. It connects the SOF warfighters and analysts with essential intelligence information and provides situational awareness information to SOF leadership at all echelons. The two components of DCGS-SOF include the following: Enterprise/All Source Information Fusion (ENT/ASIF) provides infrastructure, processing, and intelligence analytical tools to allow for worldwide SOF intelligence information sharing via a globally connected cloud based architecture as well as a forward disconnected capability. SOF Geospatial Intelligence Processing, Exploitation, and Dissemination (SGIP) provides capabilities in garrison and deployed environments for the PED of manned and unmanned sensors. These technologies will be pursued via rapid prototyping efforts when appropriate.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	6.359	6.066	6.179	-	6.179
Current President's Budget	6.359	6.062	5.994	-	5.994
Total Adjustments	0.000	-0.004	-0.185	-	-0.185
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.004			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.185	-	-0.185

Change Summary Explanation

Funding:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 7: <i>Operational Systems Development</i>	PE 0305208BB / <i>Distributed Common Ground/Surface Systems</i>

FY 2020: None.

FY 2021: Decrease of \$0.004 million is due to a Defense Wide (DW) non-programmatic reduction.

FY 2022: Decrease of \$0.185 million is due to a transfer of Silent Dagger (SDAG) funds into PE 1160405BB/Intelligence Systems.

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0305208BB / <i>Distributed Common Ground/Surface Systems</i>				Project (Number/Name) S400A / <i>Distributed Common Ground/Surface Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S400A: <i>Distributed Common Ground/Surface Systems</i>	54.930	6.359	6.062	5.994	-	5.994	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP). The Distributed Common Ground/Surface System Special Operations Forces (DCGS-SOF) is part of a family of systems providing rapid fielding of Intelligence, Surveillance, and Reconnaissance (ISR) Processing, Exploitation, Dissemination (PED), and analytical capabilities at the Combatant Command (COCOM), Component/Theater Special Operations Commands (TSOC) level and below through a combination of reach back, forward support, and collaboration. The mission tailored infrastructure interconnects the warfighters, analysts, and sensors to find and fix High Value Targets and provides a network-enabled, interoperable construct allowing continual, unimpeded sharing of intelligence data, information and services with SOF and between the Services, national intelligence agencies, combatant commands and multi-national partners. It connects the SOF warfighters and analysts with the essential intelligence information and provides situational awareness information to SOF leadership at all echelons. The two components of DCGS-SOF include the following: Enterprise/All Source Information Fusion (ENT/ASIF) provides infrastructure, processing, and intelligence analytical tools to allow for worldwide SOF intelligence information sharing via a globally connected cloud based architecture as well as a forward disconnected capability. SOF Geospatial Intelligence Processing, Exploitation, and Dissemination (SGIP) provides capabilities in garrison and deployed environments for the PED of manned and unmanned sensors. These technologies will be pursued via rapid prototyping efforts when appropriate.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: DCGS	6.359	6.062	5.994
<p>Description: DCGS-SOF is composed of two major components: Enterprise/ASIF and SGIP. DCGS-SOF develops and integrates SOF networks providing USSOCOM with unique decision capabilities to include: measurement and signature data, sensor exploitation, data compressions and man-portable workstations. DCGS-SOF provides the supporting architecture to link the Global Sensor Network to those who will interpret the data for rapid transmission to collaborative partners via the SOF Information Environment (SIE).</p> <p>FY 2021 Plans: Continue technology development, integration of emerging technologies and capabilities enhancements for DCGS-SOF ENT/ASIF requirements including but not limited to: Advanced analytics, User Interfaces (UI), cloud computing, machine learning, and disconnected operations capability. Continue technology development, and testing and integration of emerging technologies for SGIP. Continue DCGS-SOF Limited Objective Events and exercise participation to test integration of emerging technologies</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208BB / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) S400A / <i>Distributed Common Ground/Surface Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
and obtain user feedback of items in development. Continue interoperability improvements with Coalition partners, Defense Intelligence Information Enterprise (DI2E) framework and Joint Information Environment.			
<i>FY 2022 Plans:</i> Continues technology development, integration of emerging technologies and capabilities enhancements for DCGS-SOF ENT/ASIF requirements including but not limited to: Advanced analytics, User Interfaces (UI), cloud computing, machine learning, and disconnected operations capability. Continues technology development, testing and integration of emerging technologies for SGIP. Continues DCGS-SOF Limited Objective Events and exercise participation to test integration of emerging technologies and obtain user feedback of items in development. Continues tech development and integration of emerging technologies for SGIP.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decrease of \$0.068 million is due to funding made available to support emerging critical Command requirements.			
Accomplishments/Planned Programs Subtotals	6.359	6.062	5.994

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/020401INTL: <i>Distributed Common Ground/Surface System</i>	12.522	11.645	5.991	-	5.991	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

DCGS-SOF leverages SOF programs, DOD and Intelligence Community partners, National labs, and other Government Agencies to integrate Commercial Off The Shelf/Government Off The Shelf (COTS/GOTS), and other mature technologies into the Program of Record which will reside partially within the SOF Information Enterprise combined with Web-Client tools in a global cloud. These alliances enable more agile access to (searchable, discoverable) and sharing of larger data domains and services to meet SOF-peculiar documented requirements. The technology allows for seamless integration and federation with DOD, Interagency, and Coalition tactical Intelligence, Surveillance and Reconnaissance (ISR) PED systems. The DCGS-SOF program office employs an agile development process with capability insertions into the development baseline for assessment and future deployment into the operational baseline. All development requirements are prioritized through the DCGS Requirements Working Group (DRWG) chaired by United States Special Operations Command J2. Once approved, the requirements are evaluated and scheduled by engineering development teams. Using this methodology allows capabilities to be inserted in a fast and agile manner based on user requirements and priorities. All Evolutionary Technology Insertions (ETIs) in the R-4 schedule are based on current program office projections. If requirements change based on the DRWG, the ETI and version capabilities identified may change.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208BB / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) S400A / <i>Distributed Common Ground/Surface Systems</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development and Integration - Enterprise / All Source Information Fusion (ENT/ASIF)	Various	Various : Various	12.995	1.459	Jul 2020	2.953	Jan 2021	3.732	Jan 2022	-		3.732	Continuing	Continuing	-
Capabilities Modernization - SOF Geospatial Intelligence Processing Exploitation, and Dissemination (SGIP)	Various	Various : Various	17.260	2.500	Jan 2020	0.730	Jan 2021	0.600	Jan 2022	-		0.600	Continuing	Continuing	-
Independent Verification and Validation - SOF Signals Intelligence Processing Exploitation, and Dissemination (SOF SIGINT PED)	MIPR	Various : Various	2.321	0.615	Mar 2020	0.829	Mar 2021	-		-		-	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	1.788	-		-		-		-		-	0.000	1.788	-
Subtotal			34.364	4.574		4.512		4.332		-		4.332	Continuing	Continuing	N/A

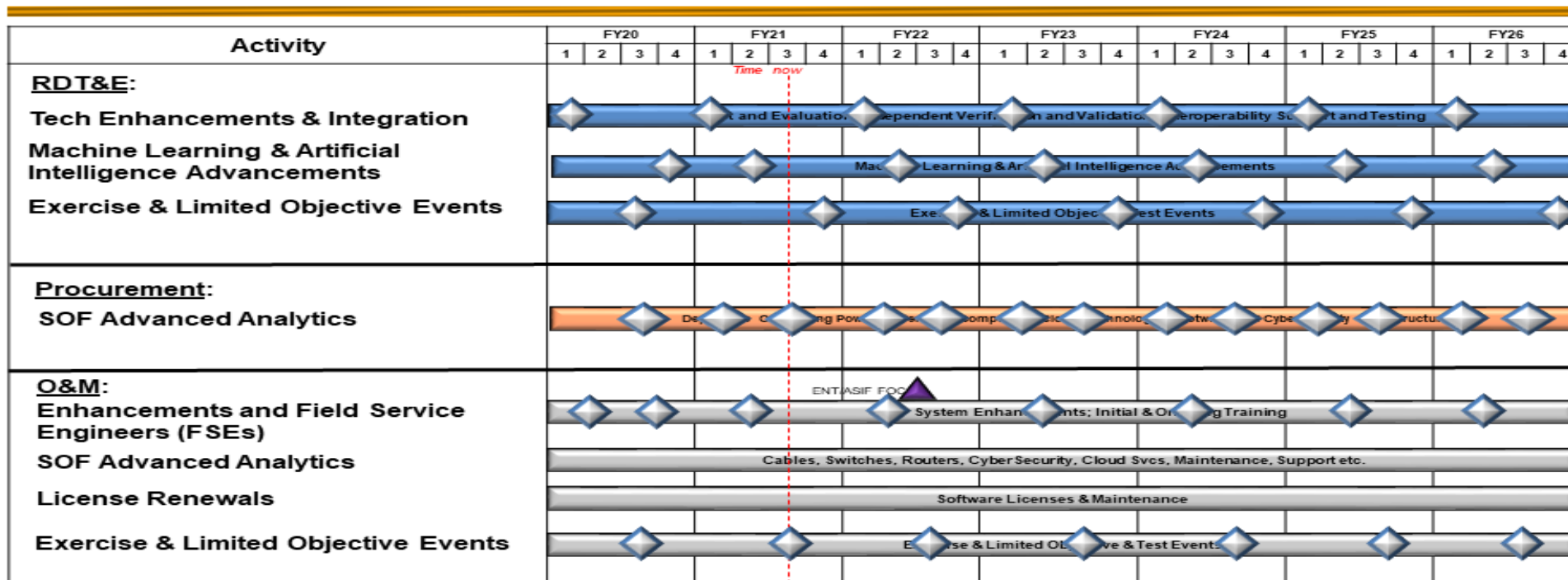
Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support (ENT/ASIF)	C/FFP	SITEC : Various	6.723	0.259	Mar 2020	1.100	Mar 2021	1.225	Mar 2022	-		1.225	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	0.576	-		-		-		-		-	0.000	0.576	-
Subtotal			7.299	0.259		1.100		1.225		-		1.225	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208BB / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) S400A / <i>Distributed Common Ground/Surface Systems</i>
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Distributed Common Ground/Surface Systems-Special Operations Forces (DCGS-SOF) Enterprise/All Source Information Fusion (ENT/ASIF)



▲ FOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
■ RDT&E
■ Procurement
■ O&M
▲ Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

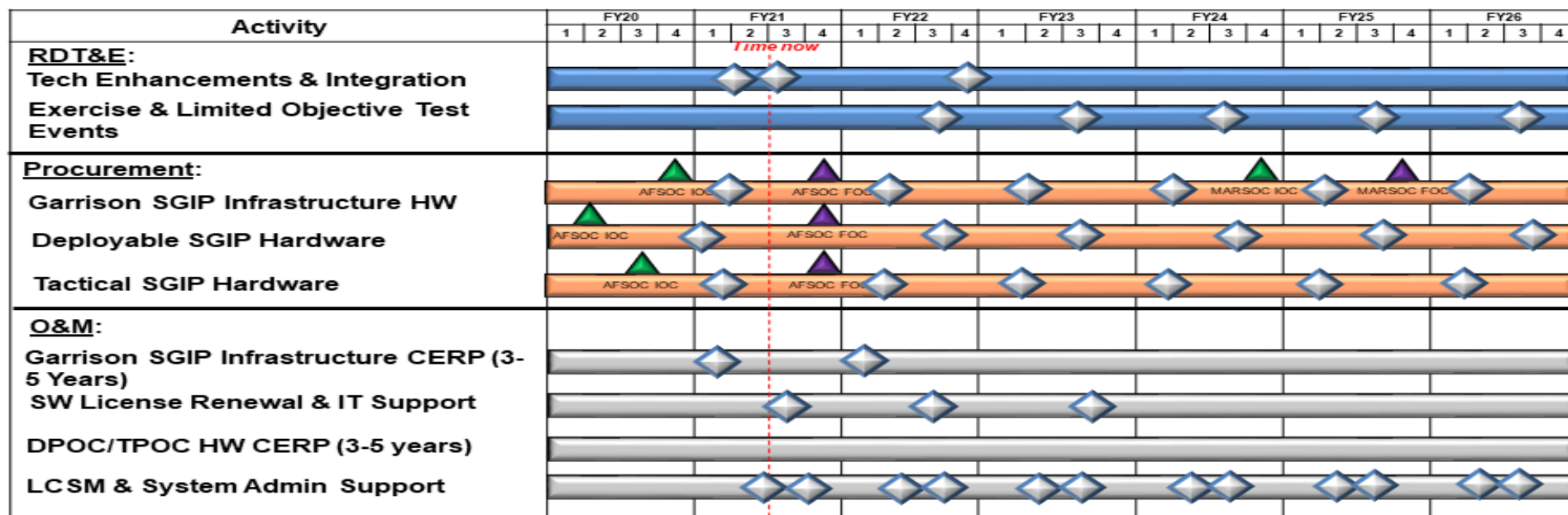
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 0305208BB / Distributed Common Ground/Surface Systems

Project (Number/Name)
S400A / Distributed Common Ground/Surface Systems

DCGS-SOF Geospatial Intelligence Processing, Exploitation and Dissemination (SGIP) Schedule



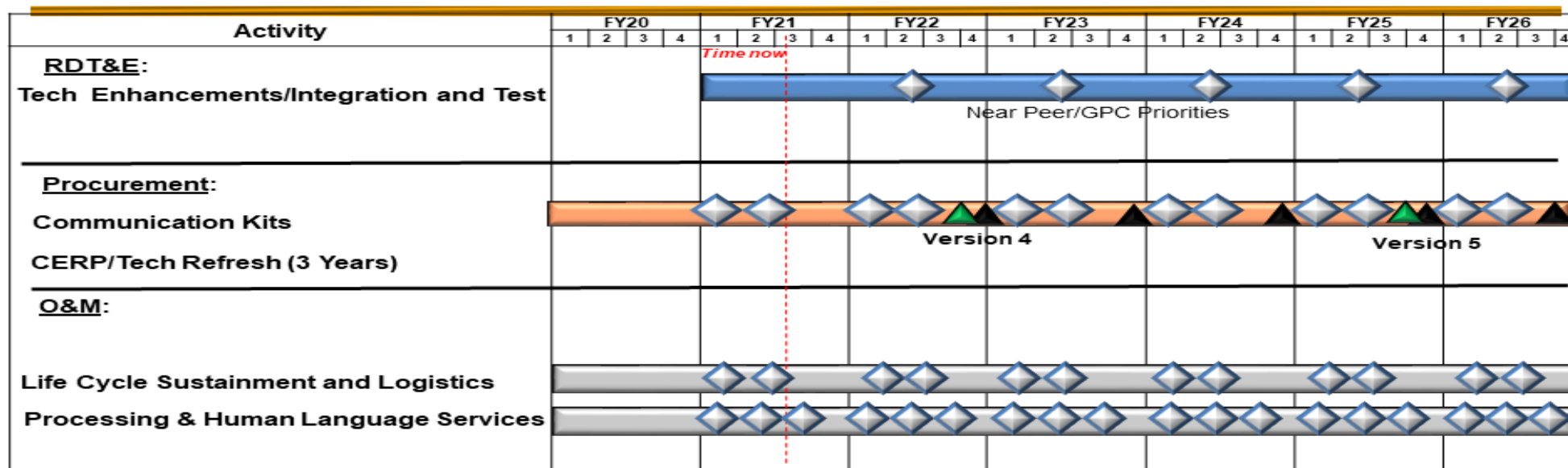
▲ FOC
 ▲ Milestone
 ▲ Agile SW MVP
 ◆ Contract Award
 [Blue bar] RDT&E
 [Orange bar] Procurement
 [Grey bar] O&M
 ▲ Previously Reported

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 0305208BB / Distributed Common Ground/Surface Systems

Project (Number/Name)
S400A / Distributed Common Ground/Surface Systems

SOF Signals Intelligence (SIGINT) Silent Dagger (SDAG) Schedule



Note: For FY 2021 and prior, funding was displayed under schedule titled SIGINT PED in PE 0305208BB, Project S400A. Beginning FY 2022, funding is contained in PE 1160405BB Project S400 under schedule titled SDAG.

Note: Exercise & Limited Objective Events are depicted on ENT/ASIF and SGIP schedules.



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0305208BB / <i>Distributed Common Ground/Surface Systems</i>	Project (Number/Name) S400A / <i>Distributed Common Ground/Surface Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Distributed Common Ground/Surface Systems - Enterprise/ASIF</i>				
Tech Enhancements & Integration	1	2020	4	2026
Machine Learning and Artificial Intelligence Advancements	1	2020	4	2026
Exercise & Limited Objective Events	1	2020	4	2026
<i>Distributed Common Ground/Surface Systems - SGIP</i>				
Tech Enhancements & Integration	1	2020	4	2026
Exercise & Limited Objective Events	1	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	PE 1105219BB / MQ-9 Unmanned Aerial Vehicle (UAV)											
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	131.295	19.960	21.265	19.065	-	19.065	-	-	-	-	-	-
S851: <i>MQ-9 Unmanned Aerial Vehicle (UAV)</i>	131.295	19.960	21.265	19.065	-	19.065	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element identifies, develops, rapidly prototypes, integrates, and tests Special Operations Forces (SOF)-peculiar mission kits, mission payloads, weapons, and modifications on MQ-9 Unmanned Aerial Vehicles (UAVs), Ground Control Stations (GCSs), and training systems as a component of the Medium Altitude Long Endurance Tactical (MALET) program. United States Special Operations Command (USSOCOM) is designated as the DOD lead for planning, synchronizing, and as directed, executing global operations against terrorist networks. USSOCOM requires the capability to find, fix, finish, exploit, and analyze time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This program element addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Target (ISR&T) Acquisition, and Strike. These technologies will be pursued via rapid prototyping efforts when appropriate.

The FY 2022 funding request was reduced by \$0.381 million to account for the availability of prior year execution balances.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	20.697	21.265	19.446	-	19.446
Current President's Budget	19.960	21.265	19.065	-	19.065
Total Adjustments	-0.737	0.000	-0.381	-	-0.381
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.737	-			
• Other Adjustments	-	-	-0.381	-	-0.381

Change Summary Explanation

Funding:

FY 2020: Decrease of \$0.737 million is due to a transfer to Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) programs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	PE 1105219BB / <i>MQ-9 Unmanned Aerial Vehicle (UAV)</i>

FY 2021: None.

FY 2022: The FY 2022 funding request was reduced by \$0.381 million to account for the availability of prior year execution balances.

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1105219BB / MQ-9 Unmanned Aerial Vehicle (UAV)				Project (Number/Name) S851 / MQ-9 Unmanned Aerial Vehicle (UAV)			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S851: MQ-9 Unmanned Aerial Vehicle (UAV)	131.295	19.960	21.265	19.065	-	19.065	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As the supported combatant command in global operations, United States Special Operations Command (USSOCOM) requires the capability to find, fix, finish, exploit, and analyze time-sensitive high-value targets. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This project addresses the primary areas of Intelligence, Surveillance, Reconnaissance, and Target (ISR&T) Acquisition and Strike. The majority of the developmental funds provides for the Operational Flight Program (OFP) Software for the aircraft, Ground Control Station (GCS), and Turret. Special Operations Forces (SOF) peculiar modifications to the OFP allow for a rapid integration of emerging capabilities in order to maintain relevance and dominance of the MQ-9 in support of the Interim National Security Strategy Guidance (INSSG).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: MQ-9 Unmanned Aerial Vehicles (UAVs)	19.960	21.265	19.065
Description: Identifies, develops, integrates, and tests SOF-peculiar mission kits, mission payloads, weapons, and modifications on MQ-9 UAVs, GCSs, and training systems.			
FY 2021 Plans: Develop, test, and integrate SOF-peculiar emerging technology mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, GCSs, and training systems.			
FY 2022 Plans: Develops, tests, and integrates SOF-peculiar emerging technology mission kits, mission payloads, weapons and modifications on MQ-9 UAVs, GCSs, and training systems.			
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$2.200 million is due to completion of MQ-9 Global Positioning System (GPS) Hardening development efforts in FY21.			
Accomplishments/Planned Programs Subtotals	19.960	21.265	19.065

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / MQ-9 Unmanned Aerial Vehicle (UAV)	Project (Number/Name) S851 / MQ-9 Unmanned Aerial Vehicle (UAV)

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022	FY 2022	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Cost To	Total Cost
			Base	OCO	Total					Complete	
• PROC/1108MQ9: MQ-9 Unmanned Aerial Vehicle	7.238	6.746	8.020	-	8.020	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

MQ-9 UAV implements an agile acquisition approach for the MQ-9 aircraft, GCS and Electro-Optical/Infrared (EO/IR) turret sensor OFP software development. The MQ-9 UAV provides rapid prototyping activities and technology maturation events in order to increase first pass lethality. Contract types include a mix of cost type and fixed priced. Proprietary issues with the aircraft, GCS and sensor software as well as aircraft modification may require sole source contracting to the original equipment manufacturer. MQ-9 UAV leverages service common Contractor Logistics Support (CLS) contracts for aircraft and ancillary equipment sustainment.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / MQ-9 Unmanned Aerial Vehicle (UAV)	Project (Number/Name) S851 / MQ-9 Unmanned Aerial Vehicle (UAV)
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	78.358	15.801	Apr 2020	16.992	Feb 2021	15.176	Feb 2022	-		15.176	Continuing	Continuing	-
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	Raytheon : McKinney, TX	11.237	1.456	Apr 2020	1.496	Feb 2021	1.361	Feb 2022	-		1.361	Continuing	Continuing	-
Prior Years Completed Projects	Various	Various : Various	15.891	-		-		-		-		-	0.000	15.891	-
Subtotal			105.486	17.257		18.488		16.537		-		16.537	Continuing	Continuing	N/A

Remarks
Indefinite Delivery, Indefinite Quantity (IDIQ) contract awards every two years for MQ-9 UAVs, Ground Control Stations, and Training Systems

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MQ-9 UAVs, Ground Control Stations, and Training Systems	SS/ Various	General Atomics Aeronautical Services : San Diego, CA	20.509	2.703	Apr 2020	2.777	Feb 2021	2.528	Feb 2022	-		2.528	Continuing	Continuing	-
Prior Years Completed Projects	Various	Various : Various	5.300	-		-		-		-		-	0.000	5.300	-
Subtotal			25.809	2.703		2.777		2.528		-		2.528	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		131.295	19.960	21.265	19.065	19.065	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

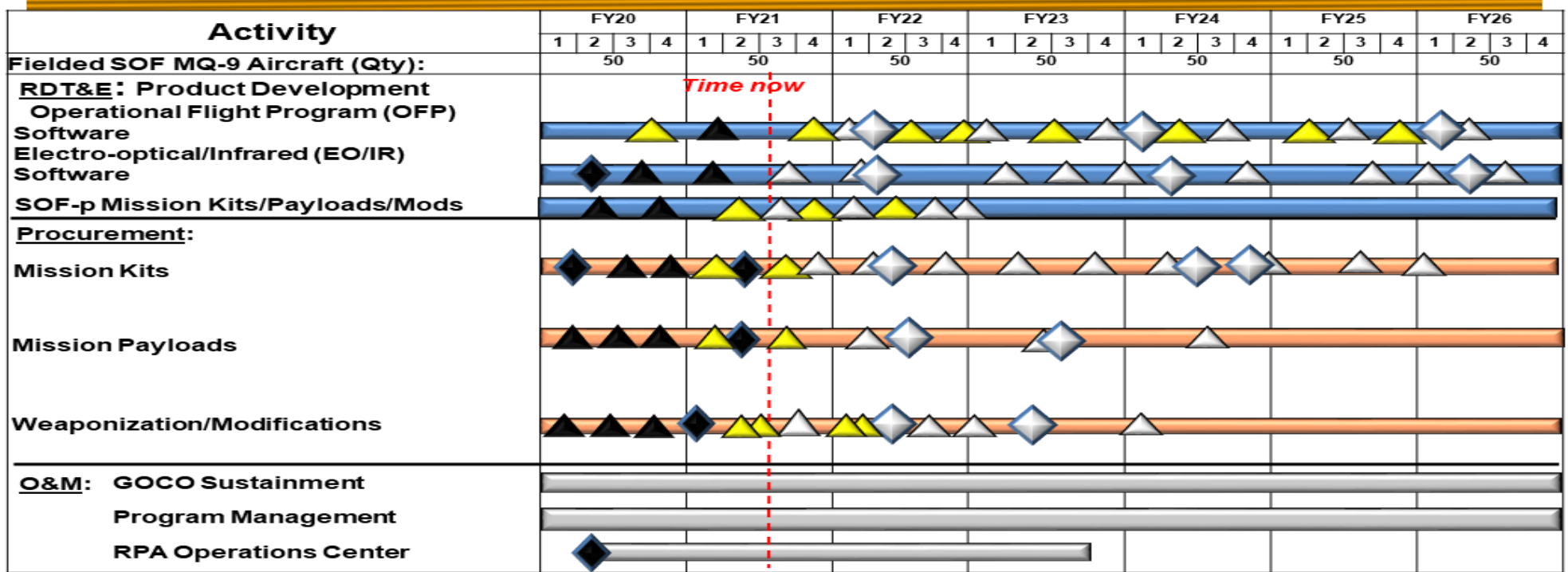
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1105219BB / MQ-9 Unmanned Aerial Vehicle (UAV)

Project (Number/Name)
S851 / MQ-9 Unmanned Aerial Vehicle (UAV)

MALET – MQ9 Schedule



◆ Article Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1105219BB / MQ-9 Unmanned Aerial Vehicle (UAV)	Project (Number/Name) S851 / MQ-9 Unmanned Aerial Vehicle (UAV)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MQ-9 Unmanned Aerial Vehicles, Ground Control Stations (GCSs), and Training Systems Product Development</i>				
Operational Flight Program (OFP) Software (SW)	1	2020	4	2026
Electro-optical/Infrared (EO/IR) SW	1	2020	4	2026
SOF-p Mission Kits/Payloads/Mods	1	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	262.717	27.278	0.000	0.000	-	0.000	-	-	-	-	-	-
S050: <i>Small Business Innovation Research</i>	250.265	23.915	0.000	0.000	-	0.000	-	-	-	-	-	-
S051: <i>Small Business Technology Transfer</i>	12.452	3.363	0.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element consists of a highly competitive three-phase award system that provides qualified small businesses with the opportunity to propose high quality innovative ideas that meet specific research and development needs of United States Special Operations Command (USSOCOM). Small Business Innovation Research (SBIR) is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 2012. Starting in FY 1994, the SBIR program was refocused toward dual use and defense reinvestment efforts. Phase I projects evaluate the scientific merit and feasibility of an idea. Phase II projects expand the results of, and further pursue, the developments of Phase I. Phase III commercializes the results of Phase II and requires the use of private or non-SBIR federal funding. USSOCOM participates annually in the DOD Request for Proposal (RFP) process. USSOCOM then awards its proposed SBIR projects. FY 2014 was the first year USSOCOM participated in the Small Business Technology Transfer (STTR) program. The STTR goal is similar to the SBIR program, but the STTR program additionally seeks to expand public/private sector partnerships between small business and nonprofit United States research institutions.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	27.278	0.000	0.000	-	0.000
Total Adjustments	27.278	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	27.278	-			

Change Summary Explanation

Funding:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>

FY 2020: Net increase of \$27.278 million is due to reprogramming from various program elements for the congressionally mandated SBIR (\$23.915 million) and STTR (\$3.363 million) programs.

FY 2021: None.

FY 2022: None.

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>	Project (Number/Name) S050 / <i>Small Business Innovation Research</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S050: <i>Small Business Innovation Research</i>	250.265	23.915	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project consists of a highly competitive three-phase award system that provides qualified small businesses with the opportunity to propose high quality innovative ideas that meet specific research and development needs of United States Special Operations Command (USSOCOM). Small Business Innovation Research (SBIR) is a result of the Small Business Development Act of 1992. It was enacted by Congress in Public Law 97-219, reenacted by Public Law 99-443, and reauthorized by the SBIR Program Reauthorization Act of 2012. Starting in FY 1994, the SBIR program was refocused toward dual use and defense reinvestment efforts. Phase I projects evaluate the scientific technical merit and feasibility of an idea. Phase II projects expand the results of, and further pursue, the developments of Phase I. Phase III commercializes the results of Phase II and requires the use of private or non-SBIR federal funding. USSOCOM participates annually in the DOD Request for Proposal process. USSOCOM then awards its proposed SBIR projects.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Small Business Innovation Research (SBIR)	23.915	-	-
Accomplishments/Planned Programs Subtotals	23.915	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

SBIR is a three-phase program that provides early-stage Research and Development (R&D) to small companies. Eligible projects must fulfill an R&D need identified by DOD and have the potential to be developed into a product or service for commercial or defense markets. SBIR is designed to stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D, and foster participation by minority and disadvantaged firms in technological innovation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command											Date: May 2021		
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>				Project (Number/Name) S050 / <i>Small Business Innovation Research</i>					

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Phase I <\$150K	C/Various	Various : Various	29.332	14.349	Sep 2020	-		-		-		-	Continuing	Continuing	-
Phase II >\$750K	C/Various	Various : Various	22.422	9.566	Sep 2021	-		-		-		-	Continuing	Continuing	-
Prior Year Funding	C/Various	Various : Various	198.511	-		-		-		-		-	0.000	198.511	-
Subtotal			250.265	23.915		-		-		-		-	Continuing	Continuing	N/A

Remarks
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	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	250.265	23.915	0.000	-	-	-	Continuing	Continuing	N/A

Remarks
Due to multiple awards, the dates listed above reflect the last Phase I and II awarded.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command			Date: May 2021		
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>		Project (Number/Name) S050 / <i>Small Business Innovation Research</i>	

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Small Business Innovative Research (SBIR)																												
Phase I Efforts	██████████																											
Phase II Efforts	████████████████████																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>	Project (Number/Name) S050 / <i>Small Business Innovation Research</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Small Business Innovative Research (SBIR)</i>				
Phase I Efforts	1	2020	4	2020
Phase II Efforts	2	2020	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>	Project (Number/Name) S051 / <i>Small Business Technology Transfer</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S051: <i>Small Business Technology Transfer</i>	12.452	3.363	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Small Business Technology Transfer (STTR) goal is to expand public/private sector partnerships between small business and nonprofit United States (U.S.) research institutions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Small Business Technology Transfer (STTR)	3.363	-	-
Accomplishments/Planned Programs Subtotals	3.363	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

STTR provides early-stage Research and Development (R&D) funding directly to small companies working cooperatively with researchers at universities and other research institutions. STTR is also a three-phased program designed to stimulate technological innovation, increase private sector commercialization of federal R&D, increase small business participation in federally funded R&D, and foster participation by minority and disadvantaged firms in technological innovation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>	Project (Number/Name) S051 / <i>Small Business Technology Transfer</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Small Business Technology Transfer (STTR) Phase I <\$150K	C/FFP	Various Vendors : Various Locations	4.750	1.850	Sep 2020	-		-		-		-	Continuing	Continuing	-
STTR Phase II >\$750K	C/Various	Various Vendors : Various Locations	2.579	1.513	Sep 2021	-		-		-		-	Continuing	Continuing	-
Prior Year Funding	C/Various	Various : Various	5.123	-		-		-		-		-	0.000	5.123	-
Subtotal			12.452	3.363		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		12.452	3.363	0.000	-	-	Continuing	Continuing	N/A

Remarks
Due to multiple awards, the dates listed above reflect the last Phase I and II awarded.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>	Project (Number/Name) S051 / <i>Small Business Technology Transfer</i>

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>Small Business Technology Transfer (STTR)</i>																												
STTR Phase I Efforts	██████████																											
STTR Phase II Efforts	████████████████████																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160279BB / <i>Small Business Innovation Research/Small Bus Tech Transfer</i>	Project (Number/Name) S051 / <i>Small Business Technology Transfer</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Small Business Technology Transfer (STTR)</i>				
STTR Phase I Efforts	1	2020	4	2020
STTR Phase II Efforts	2	2020	4	2021

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	1,703.529	256.658	250.623	173.537	-	173.537	-	-	-	-	-	-
SF100: <i>Aviation Systems Advanced Development</i>	1,294.610	152.192	102.280	38.594	-	38.594	-	-	-	-	-	-
SF200: <i>CV-22</i>	43.280	23.931	16.773	6.932	-	6.932	-	-	-	-	-	-
SF300: <i>Armed Overwatch/ Targeting</i>	0.000	0.000	25.000	22.952	-	22.952	-	-	-	-	-	-
S750: <i>Mission Training and Preparation Systems</i>	43.159	8.289	9.623	10.227	-	10.227	-	-	-	-	-	-
S875: <i>AC/MC-130J</i>	68.228	28.094	55.083	52.045	-	52.045	-	-	-	-	-	-
D615: <i>Rotary Wing Aviation</i>	254.252	44.152	41.864	42.787	-	42.787	-	-	-	-	-	-

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 212

A. Mission Description and Budget Item Justification

SF100 Aviation Systems Advanced Development:

This project provides for the development, rapid prototyping, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF) - unique aviation and training requirements. Timely application of SOF- unique technology is critical and necessary to meet requirements in such areas as: SOF common avionics; SOF Common Terrain Following/Terrain Avoidance (TF/TA) radar, best known as Silent Knight Radar (SKR) or AN/APQ-187; Defensive Countermeasures; Electronic Warfare (EW) - Radio Frequency Countermeasures (RFCM); Precision Strike Package (PSP); PSP High Energy Laser (HEL); AC-130H/W/U and MC-130E/H/P Recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; Tactical Mission Networking (TMN), formerly known as Airborne Mission Networking (AbMN); near real-time Intelligence, Surveillance and Reconnaissance (ISR); data fusion; threat detection and avoidance; navigation, target detection, and identification technologies; weapons integration; digital broadcast capabilities; aerial refueling; survivability; mission systems automation and ISR payload technological improvements with size, weight, power and integration onto all SOF unmanned aircraft system (UAS) ISR platforms.

SF200 CV-22 Development/Test and Evaluation:

The CV-22 is a SOF variant of the V-22 vertical medium lift, multi-mission aircraft. The CV-22 project provides long range, high speed, infiltration (infil), exfiltration (exfil), and resupply to SOF teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by other existing aircraft. The funding in this project supports integration, design, development, rapid prototyping, and test to provide improved capabilities to include, but not limited to, more robust performance in situational awareness, ISR, weapons, avionics, SOF communications, defensive/survivability systems, interoperability, speed and maneuverability, mission deployment and improved reliability and maintainability of the CV platform. CV-22 SOF Common TF/TA SKR provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas to infil, exfil, and resupply SOF forces. Provides a more sustainable/capable replacement to the obsolescing and technology limited

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>
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TF/TA AN/APQ-174/186 Multi-Mode Radar (MMR). The Full-azimuth Defensive Weapon System (FDWS), in combination with the ramp-mounted gun, provides a ~360 degree field of fire to suppress/eliminate enemy targets. The FDWS integrates the fielded GAU-17 belly gun system currently employed on the United States Marine Corps (USMC) MV-22 aircraft with the SOF peculiar Color Helmet Mounted Display (CHMD) and cockpit firing controls for pilot operation. CV-22 Reliability Improvements designs, integrates, tests and validates system, and sub-system, reliability improvement enhancements to meet required aircraft availability and operational requirements. This incremental development will accelerate the fielding and retrofit of system design improvements directly increasing CV-22 fleet readiness and aircraft availability.

SF300: **Armed Overwatch:**

Armed Overwatch provides SOF with deployable, affordable, and sustainable aircraft systems capable of executing Close Air Support (CAS), Precision Strike, and Armed Intelligence, Surveillance & Reconnaissance (Armed ISR) requirements in austere and permissive environments for use in Irregular Warfare operations in support of the National Security Strategic Guidance. The funding in this project supports integration, and testing of SOF-unique capabilities and Aircraft Certification efforts.

S750 **Mission Training and Preparation Systems:**

The Special Operations Mission Planning and Execution (SOMPE) project funds the definition, design, development, rapid prototyping, integration, and testing of SOMPE systems to support mission planning, rehearsal, and execution requirements to meet SOF-unique mission requirements and correct deficiencies in current mission planning, rehearsal, and execution capabilities. The Mission Training and Preparation Systems project also includes program management, systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse mission planning, rehearsal, and execution systems.

S875 **AC/MC-130J:**

The AC/MC-130J project funds core SOF-unique modifications to replace aging/retired AC-130H Spectre, AC-130W Stinger II, AC-130U Spooky, MC-130E Combat Talon I, MC-130P Combat Shadow, MC-130H Combat Talon II aircraft. The 8 AC-130H Spectre, 12 AC-130W Stinger II and 17 AC-130U Spooky airframes will be replaced with MC-130J aircraft modified with the PSP to achieve the AC-130J configuration. The AC-130J aircraft will provide close air support, air interdiction, and armed reconnaissance capability. The 14 MC-130E Combat Talon I, 23 MC-130P Combat Shadow, and 24 MC-130H Combat Talon II airframes will be replaced by MC-130J Commando II aircraft with SOF mission modifications. The MC-130J Commando II aircraft provide clandestine single or multi-ship low-level aerial refueling for special operations helicopters and CV-22 aircraft; and conducts airdrops of leaflets, small special operations teams, resupply bundles, and combat rubber raiding craft. The Air Force procures and fields the basic aircraft, common support equipment, and trainers for United States Special Operations Command (USSOCOM). Incremental upgrade and agile software delivery approaches will be used to rapidly prototype, integrate and mature SOF capabilities onto the aircraft. SOF capabilities include, but are not limited to: AbMN, data fusion, threat detection and avoidance, integrated terrain following/terrain avoidance, electronic warfare, and embedded training. Integrating and automating SOF mission systems that deliver these capabilities is critical to fielding SOF-capable AC/MC-130J aircraft to recapitalize Air Force Special Operations Command's (AFSOC) legacy C-130 fleet.

D615 **Rotary Wing Aviation:**

This project provides for the development, rapid prototyping, demonstration, and integration of current and maturing technologies for SOF-unique rotary wing aviation and training requirements. This project includes modifications to Aircraft Survivability Equipment (ASE), avionics, and weapons systems to counter rapidly emerging

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>
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threats, address cyber security, improve lethality and enhance aircraft self-protection in contested environments. Efforts include aircraft sensor data fusion via a common mission processor to create a one world model that serves as a central node for multi-application capability with potential growth in the areas of situational awareness, safety, lethality, and survivability and cross platform synergy. Rotary wing aircraft supported by this project include: MH-60M, MH-47G, A/MH-6, and Future Vertical Lift (FVL). These aircraft provide aviation support to SOF in worldwide contingency operations and low-intensity conflicts. They must be capable of rapid deployment, undetected penetration of hostile areas, and operations at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF in the multi-domain operations (MDO) environments and against near peer threats. The anti-access/area denial (A2/AD) threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.

These technologies will be pursued via rapid prototyping efforts when appropriate.

The FY 2022 funding request was reduced by \$9.492 million to account for the availability of prior execution balances.

FY 2022 Fiscal Balancing: -\$1.323 million decrease is attributed to the reductions necessary to accommodate budget realities and directed strategy driven changes. Reduces development and testing of the next generation Mission Planning Software suite.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	267.695	230.812	144.939	-	144.939
Current President's Budget	256.658	250.623	173.537	-	173.537
Total Adjustments	-11.037	19.811	28.598	-	28.598
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.189			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	20.000			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-9.253	-			
• Other Adjustments	-1.784	-	28.598	-	28.598

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: SF100: *Aviation Systems Advanced Development*

Congressional Add: *Classified Project*

Congressional Add Subtotals for Project: SF100

Project: D615: *Rotary Wing Aviation*

Congressional Add: *Future Vertical Lift (FVL)*

	FY 2020	FY 2021
	8.000	-
	8.000	-
	7.715	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>
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<u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u>	FY 2020	FY 2021
Congressional Add Subtotals for Project: D615	7.715	-
Congressional Add Totals for all Projects	15.715	-

Change Summary Explanation

Funding:

FY 2020: Net decrease of \$11.037 million is due to transfer of funds to Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) reductions (-\$9.253 million); increase to Degraded Visual Environment (DVE) for (\$0.086 million), increase TF/TA radar for (\$0.130 million) and decrease of funding to ASE due to transfer of funds to Digital Ecosystems to address emerging threats (-\$2.000 million).

FY 2021: Net increase of \$19.811 million is due to a Congressional directed transfer to Armed Overwatch RDT&E (\$20.000 million) and an undistributed Congressional reduction (-\$0.189 million).

FY 2022: Net increase of \$28.598 million is due to the following: an increase for the continued development of ASE enhancements required to counter emerging threats (\$7.065 million); an increase in Future Vertical Lift (FVL) to continue early engineering analysis for SOF Modifications to Future Long Range Assault Aircraft (FLRAA) and Future Attack Reconnaissance Aircraft (FARA) (\$5.803 million); RFCM fact of life scope increase as the program transitions to spiral development of future system enhancements (\$2.452 million); an increase for the High Energy Laser (HEL) to complete AHEL lab integration and ground testing in FY 2022 (\$1.490 million); an increase in Armed Overwatch for the integration and testing of SOF-unique capabilities and aircraft certification efforts (\$22.952 million); an increase in SOMPE for the integration of XPlan core and tactical applications capabilities into the TAK product line for efficiency, common interface, common training and cost savings (\$0.679 million); a decrease in CV-22 due to transition into final phases of integration/testing of CV-22 SOF Common TF/TA SKR Operational Flight Program software development and integration (-\$2.702 million); and a decrease was made available to support emerging critical Command requirements (-\$9.141 million).

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems				Project (Number/Name) SF100 / Aviation Systems Advanced Development			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
SF100: Aviation Systems Advanced Development	1,294.610	152.192	102.280	38.594	-	38.594	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development, rapid prototyping, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF)-unique aviation and training requirements. Timely application of SOF Common technology is critical and necessary to meet requirements in such areas as: SOF common avionics; SOF Common Terrain Following/Terrain Avoidance (TF/TA) radar, best known as Silent Knight Radar (SKR) or AN/APQ-187; Defensive Countermeasures DCM); Electronic Warfare (EW) - Radio Frequency Countermeasures (RFCM); Precision Strike Package (PSP); PSP High Energy Laser (HEL); AC-130H/W/U and MC-130E/H/P Recapitalization, and other SOF airborne platforms; digital terrain elevation data and electronic order of battle; digital maps; Tactical Mission Networking (TMN), formerly known as Airborne Mission Networking (AbMN); near real-time Intelligence, Surveillance and Reconnaissance (ISR); data fusion; threat detection and avoidance; navigation, target detection, and identification technologies; weapons integration; digital broadcast capabilities; aerial refueling; survivability; mission systems automation and ISR payload technological improvements with size, weight, power and integration onto all SOF Unmanned Aircraft System (UAS) ISR platforms.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: EW – RFCM	49.245	52.783	21.605
Description: EW-RFCM supports development, integration, and test activities to provide EW capability against Radio Frequency (RF) threats for SOF-unique AC/MC-130J aircraft. The RFCM system is part of the DCM suite that provides situational awareness and threat response processing required for SOF missions.			
FY 2021 Plans: Begin first test kit installations of new RFCM system for AC-130J and MC-130J aircraft, interoperability design with MC-130J SOF Common TF/TA Radar, and begin system developmental test. Continue aircraft integration, system qualification, and software deficiency resolution.			
FY 2022 Plans: Continues aircraft integration and interoperability activities, system qualification, deficiency resolution and system developmental test. Begins system operational test on the AC-130J and MC-130J aircraft. Also, begins Spiral One activities design to increase RFCM capabilities to meet emerging threats.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Decrease of \$31.1781 million is due to transition from system development and integration to test support on the prime Engineering, Manufacturing, and Development (EMD) contract, and emerging critical Command requirements.				
<p>Title: PSP for SOF</p> <p>Description: PSP for SOF supports systems engineering, analysis, development, and enhancement of the baseline PSP and integration, installation, and test on host MC-130J aircraft provided by the U.S. Air Force for the AC-130H, AC-130W and AC-130U recapitalization, as well as current SOF AC-130Js, AC-130Ws, and other SOF platforms. Missions for the AC-130 aircraft include, but are not limited to, Close Air Support, Air Interdiction, and Armed Reconnaissance. PSP is modular, scalable, and platform neutral.</p> <p>FY 2021 Plans: Complete development, integration, test, and system improvement of the PSP, to include defensive systems, EO/IR sensors, Alternate Position, Navigation, and Timing, and special mission processor capabilities on SOF C-130s and other SOF aircraft.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$4.629 million was made available to support emerging critical Command requirements.</p>		29.512	4.629	-
<p>Title: PSP HEL</p> <p>Description: The HEL effort leverages a rapid prototyping approach to demonstrate integration of a laser weapon system onto an AC-130J aircraft. Utilizing a best of breed approach, it integrates laser, beam control, power and thermal subsystems via a government lead system integrator. This provides additional flexibility for rapid prototyping and future modifications.</p> <p>FY 2021 Plans: Complete subsystems production and deliver to government integration. Begin government integration and ground testing of HEL subsystems'. Continue flight test planning for FY 2023 demonstration.</p> <p>FY 2022 Plans: Completes delivery of HEL subsystems. Continues government integration and ground testing. Begins flight testing.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$12.187 million is due to the completion of integration/ground testing expected completion in 2nd Qtr FY 2022.</p>		26.256	24.195	12.008
<p>Title: C-130 SOF Common TF/TA SKR</p> <p>Description: C-130 SOF Common TF/TA (Silent Knight) radar supports integration and test of a TF/TA radar and on-board processor to provide a multi-mode terrain following capability on MC-130J aircraft. Crew systems integration efforts include modifications to aircraft controls and displays to automate TF/TA flight management and reduce pilot, copilot and Combat</p>		31.365	12.456	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Systems Officer workload during missions previously performed by five aircrew members on legacy MC-130 tankers and penetrators.</p> <p>FY 2021 Plans: Complete MC-130J TF/TA developmental flight test and integration testing on aircraft modified with SOF Common TF/TA radar. Continue development and interoperability testing on MC-130J TF/TA systems, electronic warfare systems, and airborne mission networking systems. Train AFSOC aircrews on an MC-130J modified with a SOF Common TF/TA SKR for operational testing. Resolve deficiencies reported during developmental or operational flight testing.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$12.456 million is due to completing development and interoperability testing.</p>			
<p>Title: MH-47/MH-60 SOF Common TF/TA SKR</p> <p>Description: MH-47/MH-60 SOF Common TF/TA SKR supports continuing capability enhancements, testing, and qualification of the TF/TA Low Probability of Intercept and Low Probability of Detection (LPI/LPD) radar to defeat advanced passive detection threats while maintaining safe TF capabilities.</p> <p>FY 2021 Plans: Continue software spiral efforts to include design, development, integration, and testing of SOF Common TF/TA SKR to reduce Terrain Following signature, improve Aircraft Survivability Equipment (ASE) interoperability support, sensor fusion initiatives, and increase reliability.</p> <p>FY 2022 Plans: Continues software spiral efforts to include design, development, integration, and testing of SOF Common TF/TA SKR to reduce Terrain Following signature, support data fusion initiatives, and increase reliability.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.267 million was made available to support emerging critical Command requirements.</p>	5.668	2.362	2.095
<p>Title: ISR Payload</p> <p>Description: ISR Payload Sensor Technology supports development, integration, and testing of sensor miniaturization efforts to adapt large unmanned system ISR capabilities on all SOF unmanned ISR platforms.</p> <p>FY 2021 Plans:</p>	1.896	1.908	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Continue spiral development to increase the smaller SOF ISR platforms' capabilities through incremental development, integration, and testing.				
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$1.908 million was made available to support emerging critical Command requirements.				
Title: Aviation Engineering Analysis (AEA)		-	3.947	2.886
Description: Funding supports engineering analysis activities to address aviation survivability such as signature management, situational awareness, and versatile mission equipment (payloads, communications and weapons) to achieve SOF mission objectives.				
FY 2021 Plans: Perform engineering analysis to improve SOF aviation mission survivability. Activities include, but are not limited to, signature management (acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications and weapons) to improve SOF survivability in less than permissive operating environments.				
FY 2022 Plans: Continues to perform engineering analysis and perform demonstrations to improve aviation mission survivability, mission automation, sensor fusion, targeting enhancement, cyber hardening, navigation in denied environments, and datalink enhancements to support Fixed Wing next gen ISR, next gen Mobility and next gen Strike platforms. Activities include, but are not limited to, signature management (Acoustic, infrared, radio frequency), situational awareness with full spectrum threat warning and countermeasures, and versatile mission equipment (payloads, communications and weapons) to improve SOF survivability in less than permissive operating environments. Other technology advancements for Fixed Wing platforms include improvements for increased range, speed with reduced time to target, improving ability to insert and recover forces in contested environments and technology analysis on advanced mobility platforms (deep penetrating and aquatic landing). Strike enhancements include targeting/engagement automation, weapons effects and stand-off capability.				
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$1.061 million was made available to support emerging critical Command requirements.				
Title: Avionics Modifications (AVNCS)		0.250	-	-
Description: Funding supports software development and integration for the MC/EC-130J Global Positioning System (GPS) hardening effort.				
Accomplishments/Planned Programs Subtotals		144.192	102.280	38.594

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development

	FY 2020	FY 2021
Congressional Add: Classified Project	8.000	-
FY 2020 Accomplishments: Details provided under Separate Cover		
Congressional Adds Subtotals	8.000	-

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PROC/5000C13000: <i>C-130 Modifications</i>	16.461	17.014	13.373	-	13.373	-	-	-	-	-	-
• PROC/2012C130J: AC/MC-130J	143.232	153.914	205.216	-	205.216	-	-	-	-	-	-
• PROC/1202PSP: <i>Precision Strike Package</i>	232.599	233.111	165.224	-	165.224	-	-	-	-	-	-
• PROC0201RWUPGR: <i>Rotary Wing Upgrades and Sustainment</i>	177.483	211.041	202.278	-	202.278	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

- EW – RFCM: Awarded \$700 million ceiling acquisition and procurement contract covering Engineering and Manufacturing Development (EMD), Low-Rate Initial Production (L-RIP), and Full-Rate Production (FRP) activities. EMD and LRIP are Fixed Price Award Fee (FPAF) incentivizing schedule and were awarded in 3rd Qtr FY 2020. FRP and other programmatic support activities (such as data rights and system integration laboratory options) are Firm Fixed Price (FFP).
- PSP for SOF: Incremental acquisition strategy to integrate and test the PSP and capability enhancements on donor MC-130J aircraft provided by the U.S. Air Force and other SOF aircraft. Multiple contract awards.
- PSP HEL: AC-130 HEL program utilizes Naval Surface Warfare Center (NSWC) Dahlgren Division as the Government lead system integrator of HEL components. HEL system components are either purchased under Defense Ordnance Technology Consortium OTA or developed and assembled by NSWC Dahlgren. Both approaches provide flexibility for rapid prototyping.
- C-130 SOF Common TF/TA SKR: Awarded delivery order on Cost Plus Incentive Fee (CPIF) contract to integrate and test the SOF Common TF/TA SKR on MC-130J aircraft and develop modifications to aircraft displays and controls.
- MH-47/MH-60 SOF Common TF/TA SKR: Continue software spiral development to improve the reliability and usability of the radar.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
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- **ISR Payload Sensor Technology:** Effort is being executed via a spiral development, integration and testing acquisition strategy based on leveraging existing sensor technology. The focus will be on reducing the size, weight, power, and cost of state of the art ISR sensors fielded on larger ISR platforms, in order to make them usable by smaller SOF ISR platforms. This development will include the integration of the ISR capability with the platform's Command and Control and Communications systems as appropriate.
- **Aviation Engineering Analysis:** Utilize Joint DOD programs to advance the technology levels for both the current Fixed Wing (FW) platforms and the advanced mobility platforms along with the Joint Aircraft Survivability Program sponsored projects to recommend material solutions for demonstration and potential integration on FW aircraft.
- **EC-130J Upgrades:** Operational Flight Program (OFP) Block Cycle is being developed by the Air Force program office using existing development and production contracts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Electronic Warfare (EW) - Radio Frequency Countermeasures (RFCM) B-Kit Competitive Demonstration	C/FFP	Various : Various	-	10.050	Nov 2019	-		-		-		-	0.000	10.050	-
EW - RFCM Follow-on Development Contract	C/FPAF	Sierra Nevada Corp. : Centennial, CO	-	30.195	May 2020	44.383	Mar 2021	5.361	Nov 2021	-		5.361	Continuing	Continuing	-
EW RFCM Spiral One	C/TBD	Various : Various	-	-		-		6.950	Mar 2022	-		6.950	Continuing	Continuing	-
Precision Strike Package (PSP) for SOF - Defensive Systems	C/Various	Various : Various	9.260	18.641	Jan 2020	3.000	Mar 2021	-		-		-	0.000	30.901	-
PSP for SOF- Alternate Position, Navigation, and Timing	C/Various	Various : Various	8.308	-		0.500	Feb 2021	-		-		-	0.000	8.808	-
PSP for SOF - Adverse Weather	C/Various	Various : Various	3.432	1.000	Mar 2020	-		-		-		-	0.000	4.432	-
PSP for SOF - Deficiency Resolution	C/Various	Various : Various	2.000	4.789	Mar 2020	0.711	Apr 2021	-		-		-	0.000	7.500	-
PSP for SOF- Other Government Costs	C/Various	Various : Various	1.020	-		0.418	Feb 2021	-		-		-	0.000	1.438	-
PSP High Energy Laser (HEL) - High Power Laser	C/CPFF	Lockheed Martin Aculite : Bothell, WA	17.000	4.468	Apr 2020	1.810	Mar 2021	-		-		-	0.000	23.278	-
PSP HEL - Subsystem Assembly	C/CPFF	Naval Surface Warfare Center : Dahlgren, VA	5.658	11.376	Jul 2020	11.473	Apr 2021	-		-		-	Continuing	Continuing	-
PSP HEL - Battery Development	C/CPFF	General Technical Services : Wall, NJ	1.914	1.630	Apr 2020	1.048	Mar 2021	-		-		-	0.000	4.592	-
PSP HEL - Thermal Development	C/CPFF	Naval Surface Warfare Center : Dahlgren, VA	1.800	4.123	Jul 2020	-		-		-		-	0.000	5.923	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PSP HEL - Integration and Ground Testing	C/CPFF	Naval Surface Warfare Center : Dahlgren, VA	-	4.659	Jul 2020	7.564	Apr 2021	10.608	Dec 2021	-		10.608	Continuing	Continuing	-
PSP HEL - Flight Testing/ Demonstration	C/CPFF	Various : Various	-	-		2.300	Apr 2021	1.400	Mar 2022	-		1.400	Continuing	Continuing	-
C-130 SOF Common Terrain Following/Terrain Avoidance (TF/TA) Silent Knight Radar (SKR)	C/CPIF	Lockheed Martin Aero : Marietta, GA	187.881	19.407	Jan 2020	5.847	Jan 2021	-		-		-	0.000	213.135	-
MH-47/MH-60 SOF Common TF/TA SKR	SS/FP	Raytheon : McKinney, TX	11.430	3.733	Apr 2020	1.653	Apr 2021	1.467	Apr 2022	-		1.467	Continuing	Continuing	-
Intelligence, Surveillance, and Reconnaissance (ISR) Payload Development, Test and Integration	Various	Various : Various	5.542	1.896	Nov 2019	1.908	Nov 2020	-		-		-	0.000	9.346	-
Aviation Engineering Analysis (AEA) – Aircraft Survivability Analysis	C/CPFF	Various : Various	24.389	-		1.500	Jan 2021	1.760	Jan 2022	-		1.760	Continuing	Continuing	-
AEA – Joint Aircraft Survivability Program (JASP)	C/CPFF	JASP : Various	-	-		2.447	Jan 2021	1.126	Jan 2022	-		1.126	Continuing	Continuing	-
C-130 Avionics Modifications	C/CPFF	Lockheed Martine : SOFSA Lexington, KY	0.500	0.250		-		-		-		-	0.000	0.750	-
Classified Project - Congressional Add	C/Various	Under Separate Cover : Under Separate Cover	-	8.000		-		-		-		-	0.000	8.000	-
Prior Year Funding - Completed Efforts	Various	Various : Various	666.076	-		-		-		-		-	0.000	666.076	-
Subtotal			946.210	124.217		86.562		28.672		-		28.672	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
EW-RFCM	C/Various	Various : Various	23.934	5.919	Jan 2020	3.400	Jan 2021	1.171	Jan 2022	-		1.171	Continuing	Continuing	-
C-130 SOF Common TF/ TA SKR	C/CPIF	Various : Various	16.089	3.887	Dec 2019	1.185	Dec 2020	-		-		-	0.000	21.161	-
PSP for SOF - Other Government Costs	C/Various	Various : Various	3.663	5.082	Apr 2020	-		-		-		-	0.000	8.745	-
Prior Year Funding - Completed Efforts	Various	Various : Various	38.802	-		-		-		-		-	0.000	38.802	-
Subtotal			82.488	14.888		4.585		1.171		-		1.171	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
EW-RFCM	C/Various	Various : Various	8.380	3.081	Dec 2019	5.000	Dec 2020	8.123	Dec 2021	-		8.123	Continuing	Continuing	-
C-130 SOF Common TF/ TA SKR	C/CPIF	Various : Various	35.699	8.071	Dec 2019	5.424	Dec 2020	-		-		-	0.000	49.194	-
MH-47/MH-60 SOF Common TF/TA SKR	SS/FP	Various : Various	125.371	1.935	Jan 2020	0.709	Jan 2021	0.628	Jan 2022	-		0.628	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	39.130	-		-		-		-		-	0.000	39.130	-
Subtotal			208.580	13.087		11.133		8.751		-		8.751	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Funding - Completed Efforts	Various	Various : Various	57.332	-		-		-		-		-	0.000	57.332	-
Subtotal			57.332	-		-		-		-		-	0.000	57.332	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command								Date: May 2021					
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>				Project (Number/Name) SF100 / <i>Aviation Systems Advanced Development</i>					
	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,294.610	152.192		102.280		38.594		-		38.594	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

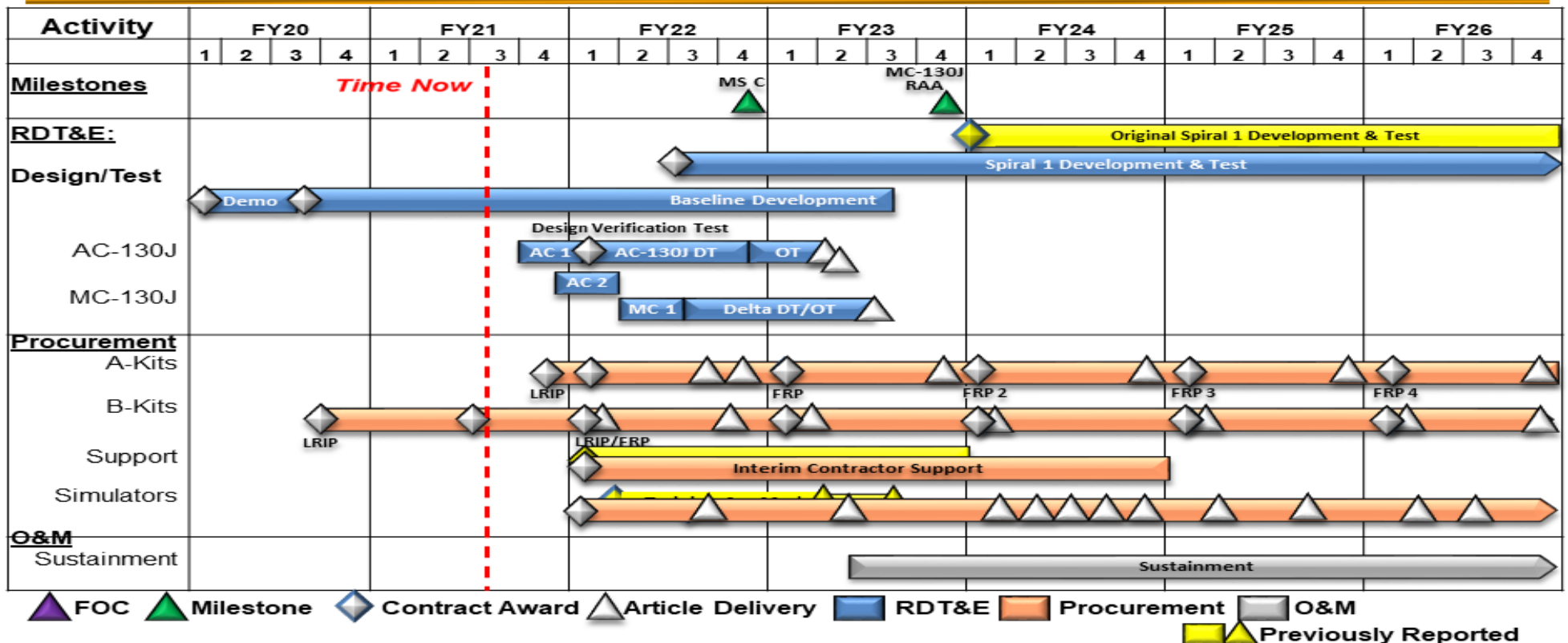
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
SF100 / Aviation Systems Advanced
Development

AC/MC-130J Radio Frequency Countermeasures (RFCM) Schedule



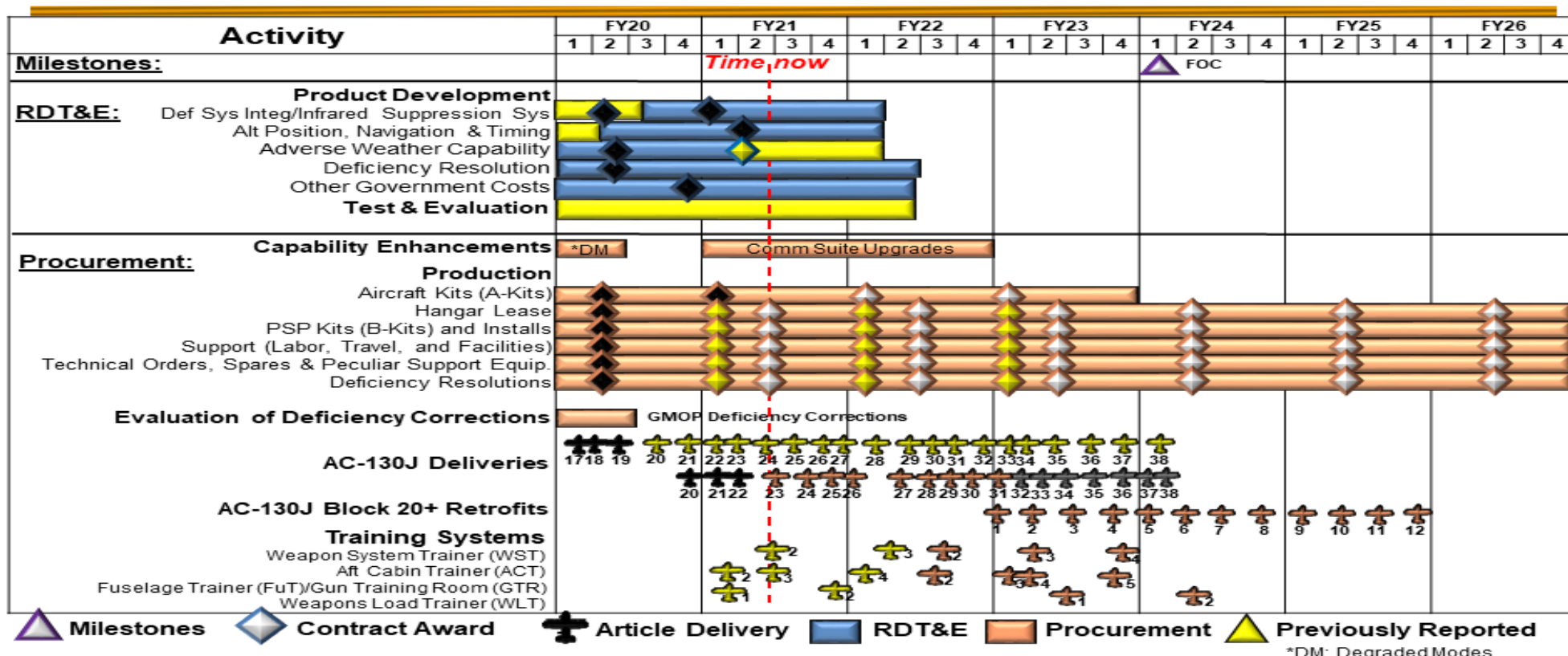
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0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
SF100 / Aviation Systems Advanced
Development

AC-130J/Precision Strike Package (PSP) Schedule

Note: Procurement contract award milestones updates are administrative and do not depict a schedule slip. Test and Evaluation is included in the remaining RDT&E lines.

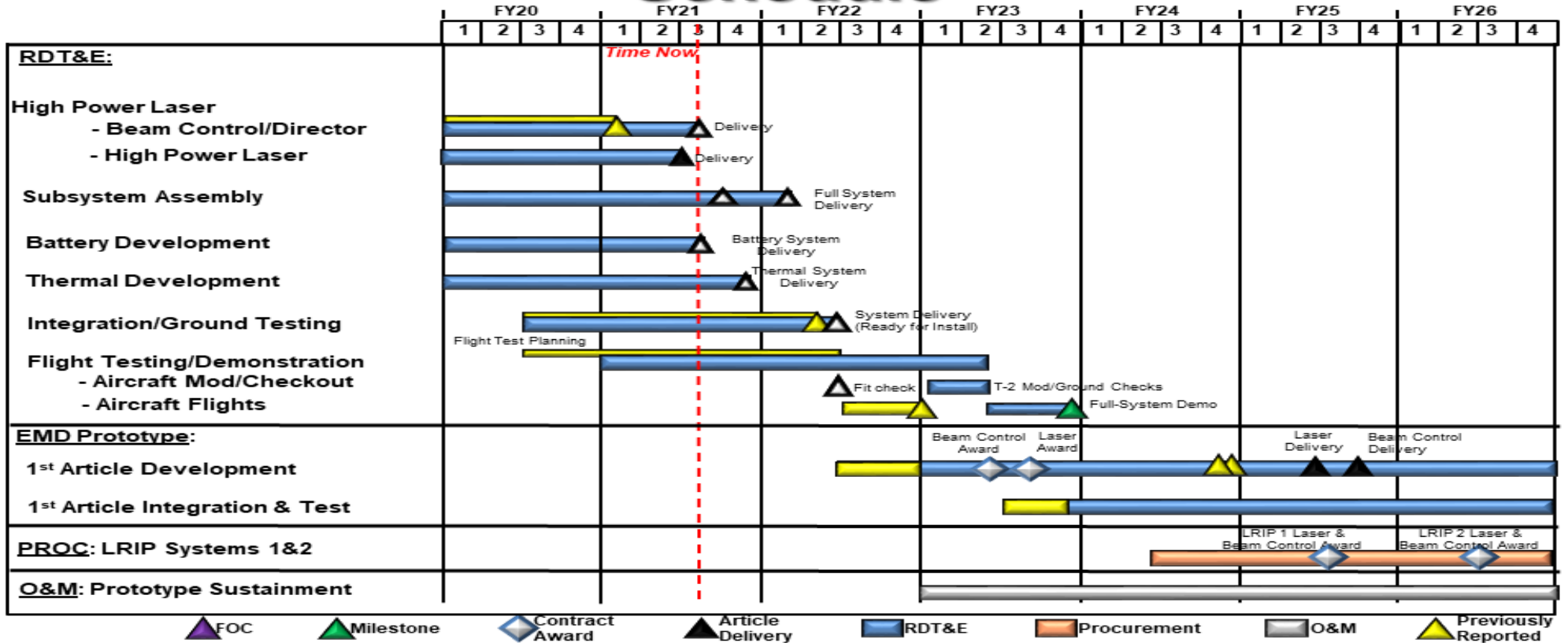


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0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
SF100 / Aviation Systems Advanced
Development

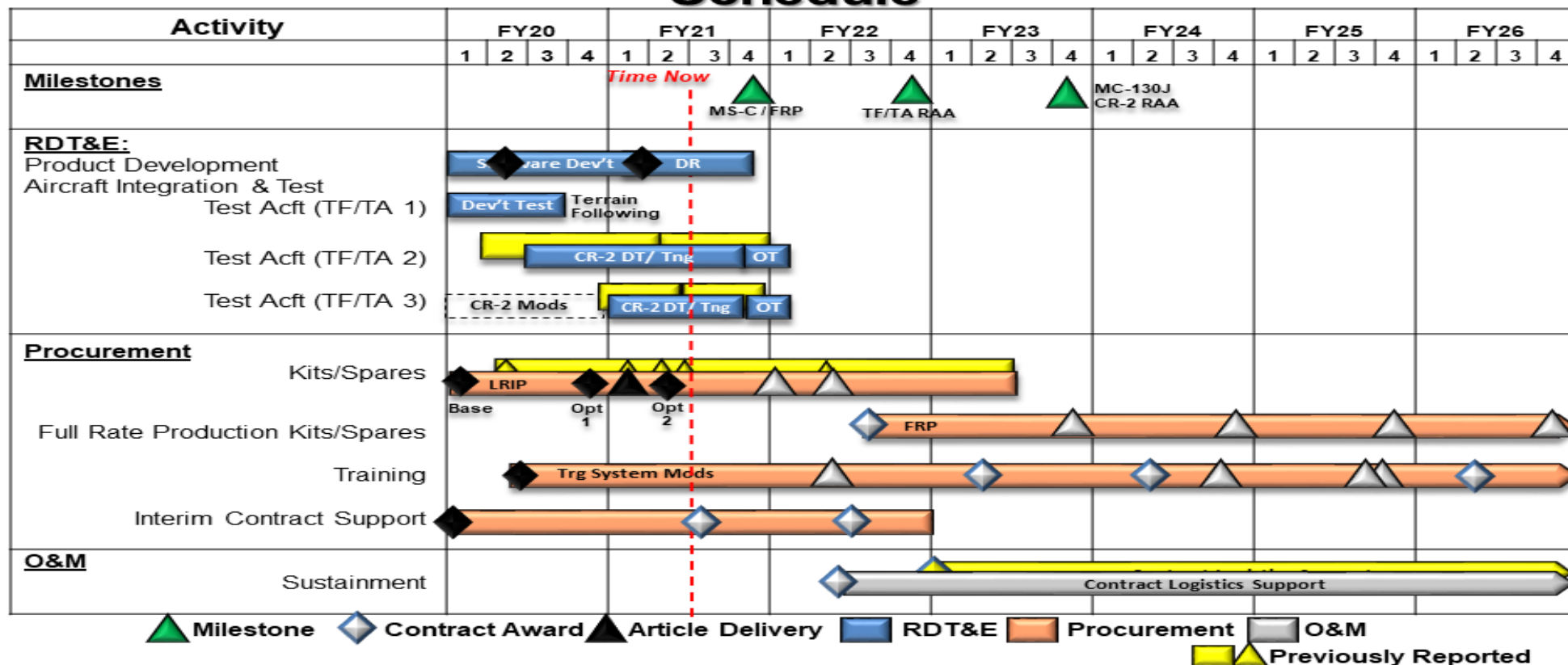
AC-130J High Energy Laser (HEL) Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development

C-130 SOF Common Terrain Following/Terrain Avoidance (TF/TA) Silent Knight Radar (SKR) Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

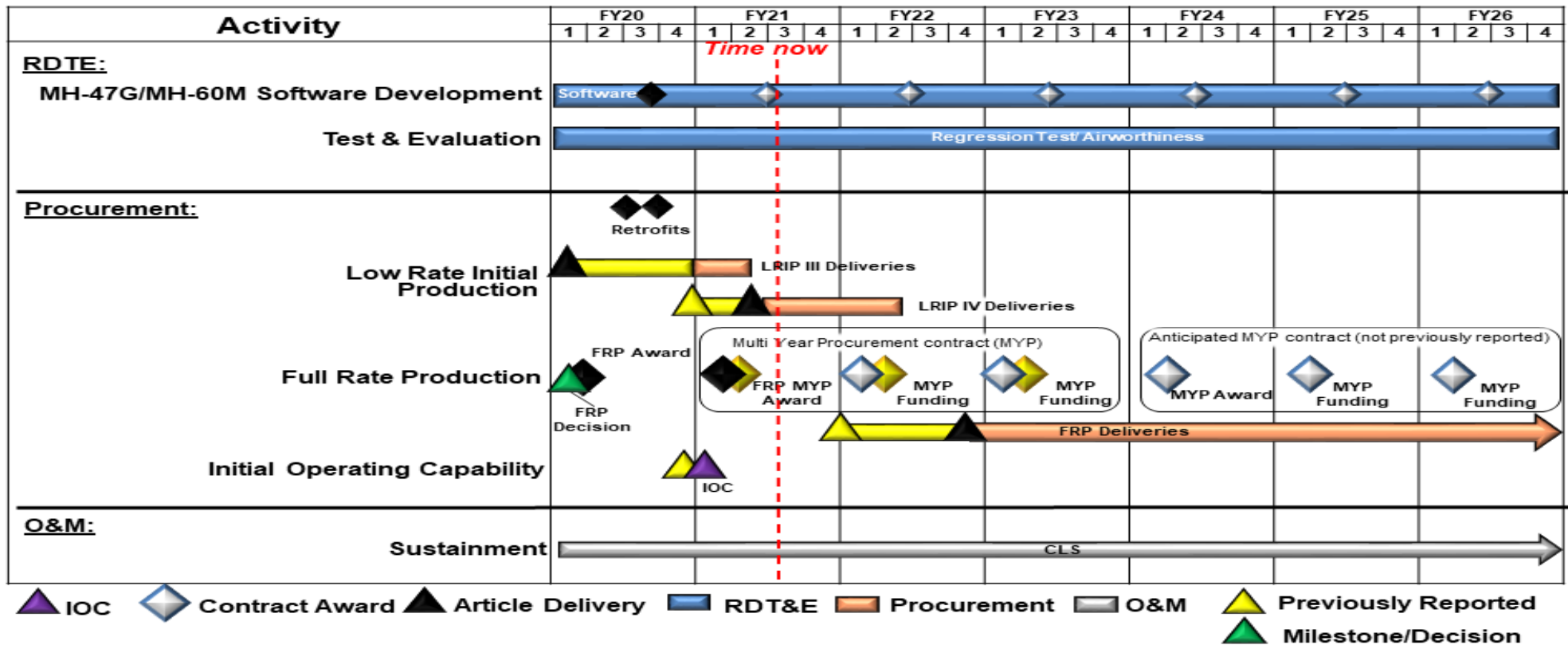
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Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
SF100 / Aviation Systems Advanced
Development

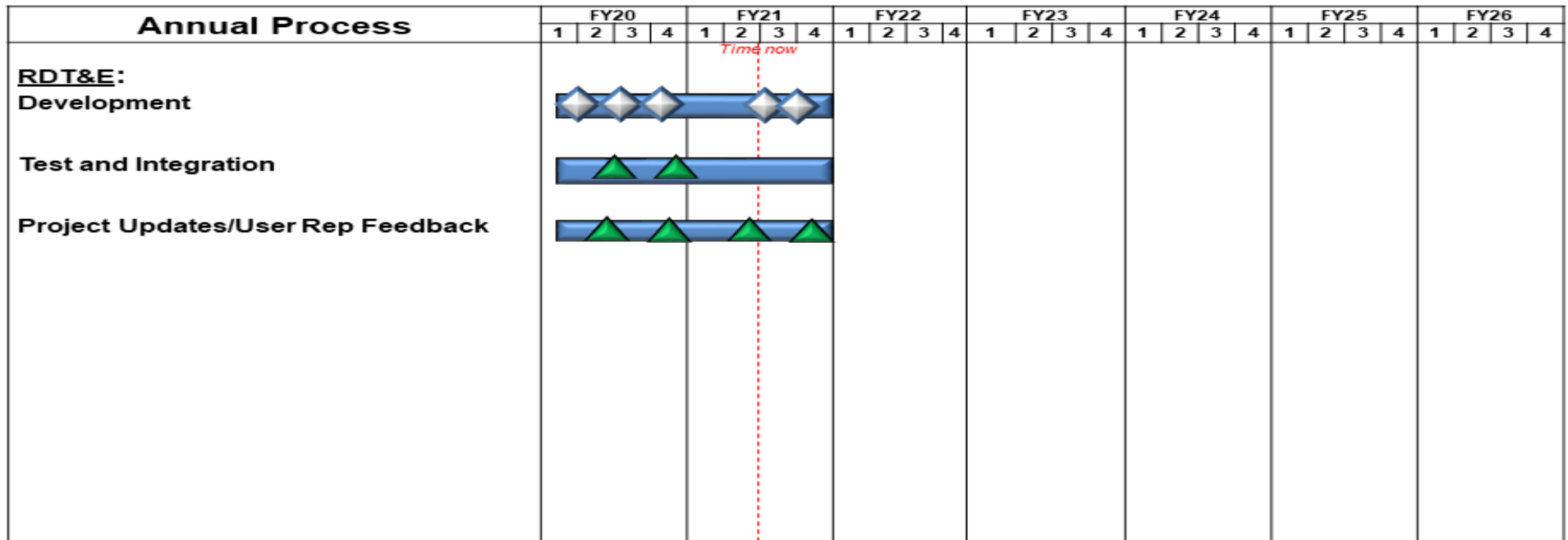
MH-47/MH-60 SOF Common TF/TA SKR Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development

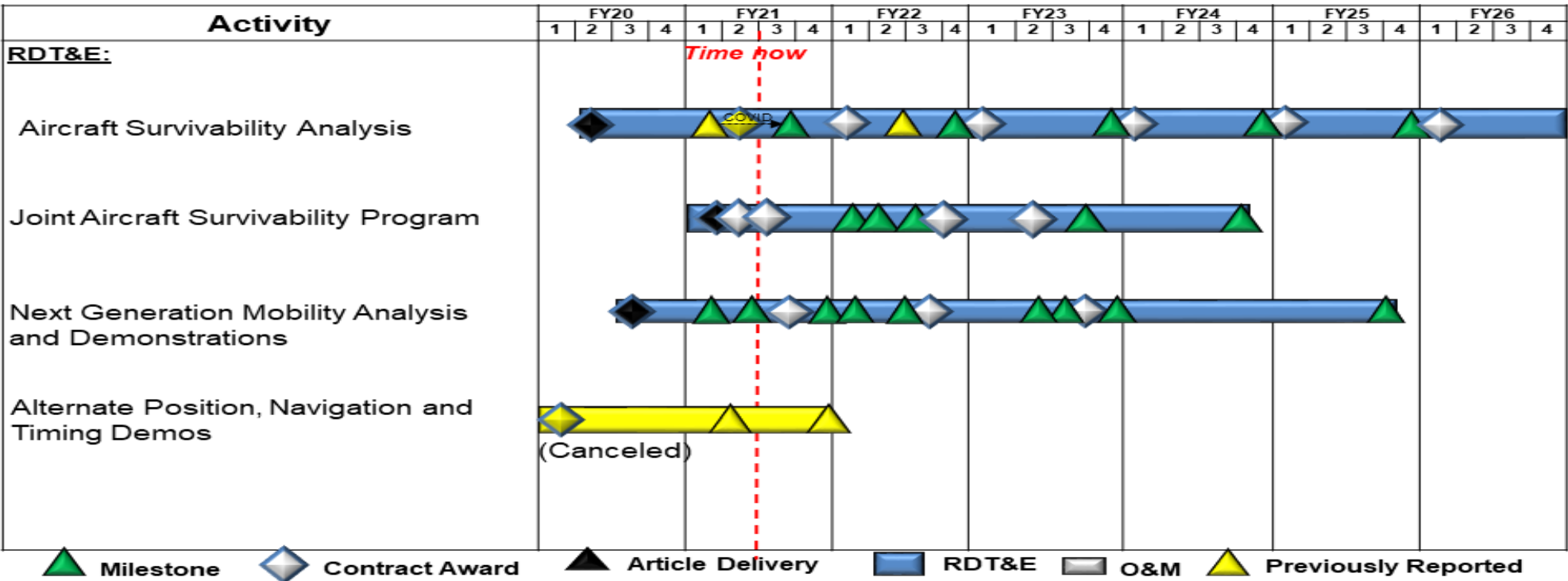
Intelligence, Surveillance, and Reconnaissance (ISR) Payload Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development

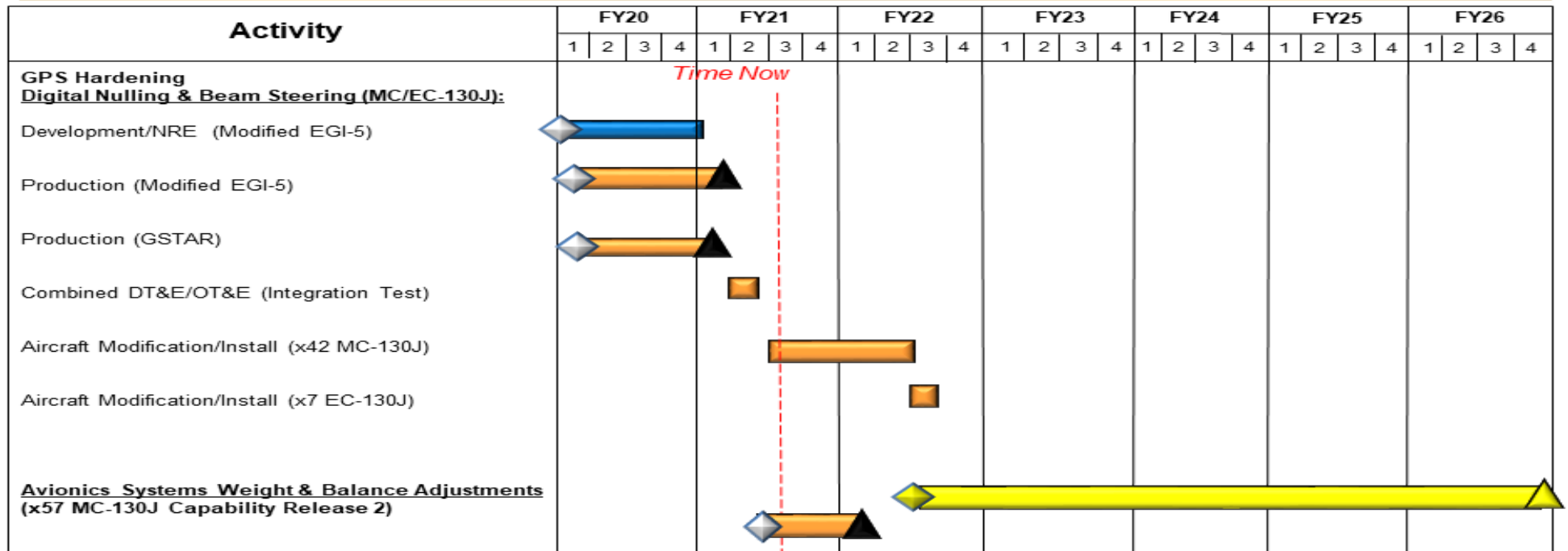
Aviation Engineering Analysis Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development

C-130 Avionics Modifications Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Electronic Warfare - Radio Frequency Countermeasures (EW-RFCM)				
Product Development, Integration and Test	1	2020	3	2023
Spiral 1 Development	3	2022	4	2026
Developmental Test and Operational Test (DT/OT) AC-130J	3	2021	2	2023
DT/OT #1 MC-130J	1	2022	3	2023
Precision Strike Package (PSP) for SOF				
Defensive Systems Product Development	3	2020	1	2022
Alternate Position, Navigation and Timing Product Development	2	2020	1	2022
Adverse Weather Product Development	1	2020	1	2021
Deficiency Resolution Product Development	1	2020	2	2022
Other Capability Enhancements Product Development	1	2020	2	2022
PSP High Energy Laser (HEL)				
PSP HEL 60kW Beam Control/Beam Director	1	2020	3	2021
PSP HEL High Power Laser	1	2020	3	2021
PSP HEL Subsystem Assembly	1	2020	1	2022
PSP HEL Battery Development	1	2020	3	2021
PSP HEL Thermal Development	1	2020	4	2021
PSP HEL Integration and Ground Testing	3	2020	2	2022
PSP HEL Flight Testing/Demonstration	1	2021	4	2023
C-130 SOF Common Terrain Following/Terrain Avoidance (TF/TA) Silent Knight Radar (SKR)				
Software Development	1	2020	4	2021

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF100 / Aviation Systems Advanced Development
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Development/Flight Testing	1	2020	4	2021
Operational Testing	4	2021	1	2022
<i>MH-60/MH-47 SOF Common (TF/TA) SKR</i>				
MH-47G/MH-60M Product Development & Test (Software Spirals)	1	2020	4	2026
<i>Intelligence, Surveillance, and Reconnaissance (ISR) Payload</i>				
Development	1	2020	4	2021
Testing and Integration	1	2020	4	2021
Project Update/User Rep Feedback	1	2020	4	2021
<i>Aviation Engineering Analysis (AEA)</i>				
Aircraft Survivability Analysis	2	2020	4	2026
Joint Aircraft Survivability Program	1	2021	4	2024
Next Generation Mobility Analysis and Demonstrations	2	2020	4	2025
<i>C-130 Avionics Modifications</i>				
Development/NRE (Modified EGI-5)	1	2020	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) SF200 / CV-22
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
SF200: CV-22	43.280	23.931	16.773	6.932	-	6.932	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Project MDAP/MAIS Code: 212

A. Mission Description and Budget Item Justification

The CV-22 is a SOF variant of the Joint V-22 vertical medium lift, multi-mission aircraft. The CV-22 project provides long range, high speed, infiltration, exfiltration, and resupply to SOF teams in hostile, denied, and politically sensitive areas. This is a capability not currently provided by other existing aircraft. The funding in this project supports integration, design, development, rapid prototyping, and test to provide improved capabilities to include, but not limited to, more robust performance in situational awareness, Intelligence, Surveillance, and Reconnaissance (ISR), weapons, SOF communications, avionics, interoperability, defensive/survivability systems, speed and maneuverability, mission deployment and improved reliability and maintainability of the CV-22 platform.

CV-22 SOF Common Terrain Following/Terrain Avoidance (TF/TA) Silent Knight Radar (SKR): Provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas for infiltration, exfiltration, and resupply of SOF forces. This more sustainable and capable radar replaces the obsolescing APQ-186 terrain following/avoidance radar currently integrated on CV-22 aircraft.

CV-22 Block 20 Systems: Design, integrate, test, and validate enhancements required to meet SOF-unique mission requirements and correct deficiencies identified in previous testing. This incremental development will provide improved capabilities to include, but not limited to, robust performance in situational awareness, ISR, weapons, SOF communications, avionics, interoperability, defensive/survivability systems, speed and maneuverability, mission deployment, improved reliability and maintainability of the CV platform. Included within Block 20 is the Full-azimuth Defensive Weapon System (FDWS). FDWS provides the CV-22 with the capability to suppress threats in the forward hemisphere while the aircraft is in the critical phase of landing and takeoff at the mission objective. The FDWS integrates and improves upon the fielded GAU-17 belly gun system currently employed on the United States Marine Corps (USMC) MV-22 aircraft with the SOF peculiar Color Helmet Mounted Display (CHMD) and cockpit firing controls for pilot operation.

CV-22 Reliability Improvements: Design, integrate, test and validate system, and sub-system, reliability improvement enhancements to meet required aircraft availability and operational requirements. This incremental development will accelerate the fielding and retrofit of system design improvements directly increasing CV-22 fleet readiness and aircraft availability.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: CV-22 SOF Common TF/TA SKR	23.437	14.644	4.851
Description: Provides long-range, night/adverse weather, clandestine penetration of medium-to-high threat areas for infiltration, exfiltration, and resupply of SOF forces. This more sustainable and capable radar replaces the obsolescing AN/APQ-174/186 Multi-Mode Radar (MMR) currently integrated on CV-22 aircraft. This effort includes development of the CV-22 SOF Common			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) SF200 / CV-22		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>TF/TA SKR Operational Flight Program (OFP) software, and development of CV-22 platform software and hardware to support integration and test.</p> <p>FY 2021 Plans: Continue integration/testing of CV-22 SOF Common TF/TA SKR OFP software development and continue integration/testing of the CV-22 SOF Common TF/TA SKR. Complete core software development build.</p> <p>FY 2022 Plans: Continues integration/testing of CV-22 SOF Common TF/TA SKR OFP software development and continues integration/testing of the CV-22 SOF Common TF/TA SKR.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$9.793 million is due to transition into final phases of integration/testing of the CV-22 SOF Common TF/TA SKR OFP software development and integration. The core software development build is expected to complete in FY21, with FY22 efforts continuing the system evaluation and subsequent resolution of deficiencies discovered during developmental testing.</p>				
<p>Title: CV-22 Block 20 Systems</p> <p>Description: Improves situational awareness, ISR, weapons, SOF communications, avionics, interoperability, survivability, speed and maneuverability, mission deployment, reliability, and maintainability of the CV-22 platform. Included within Block 20 is the FDWS. FDWS provides the CV-22 with the capability to suppress threats in the forward hemisphere while the aircraft is in the critical phase of landing and takeoff at the mission objective. The FDWS integrates the fielded GAU-17 belly gun system currently employed on the USMC MV-22 aircraft with the SOF peculiar Color Helmet Mounted Display and cockpit firing controls for pilot operation.</p> <p>FY 2021 Plans: Contract closeout of current preliminary engineering design of Block 20 FDWS onto CV-22. Previous efforts leading up to FY20 were MFP-4 funded.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$2.129 million was due to contract closeout of current preliminary engineering design of Block 20 FDWS.</p>		0.494	2.129	-
<p>Title: CV-22 Reliability Improvements</p> <p>Description: Improves platform reliability and maintainability to meet fleet aircraft availability requirements. Efforts include design and re-design enhancements, and acceleration of field integration.</p> <p>FY 2022 Plans:</p>		-	-	2.081

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) SF200 / CV-22

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Begins Non-Recurring Engineering (NRE) required to accelerate improved Block 3 Engine Turbine upgrades.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Increase of \$2.081 million is due to command priority of CV-22 reliability improvement initiative.			
Accomplishments/Planned Programs Subtotals	23.931	16.773	6.932

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PROC/1000CV22: <i>CV-22 SOF Modification</i>	17.256	54.109	41.762	-	41.762	-	-	-	-	-	-
• RDT&E1/0401318F: <i>RDT&E, USAF</i>	16.606	14.873	15.183	-	15.183	-	-	-	-	-	-
• RDT&E/0604262N: <i>V-22 RDT&E, N BA-05</i>	184.705	133.425	110.559	-	110.559	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

When possible, rapid prototyping will be incorporated in the acquisition strategies below to develop, demonstrate, and evaluate residual operational capabilities. The SKR was developed by USSOCOM to provide a SOF Common TF/TA capability for SOF aircraft. The SKR replaces the obsolescing APQ-186 TF/TA multimode radar on the CV-22. The acquisition strategy for the CV-22 SOF Common TF/TA SKR program is to procure radar units and radar software modifications through the USSOCOM SKR program management office, buy aircraft modification kits, and integrate SKR into CV-22 aircraft using a mixture of both sole source and competitive contracts.

The Block 20 FDWS will be based on modifications to the legacy Defensive Weapon System (DWS) currently fielded on USMC MV-22 aircraft and previously ground tested on a CV-22. These modifications will integrate the DWS with the CV-22 pilots Color Helmet Mounted Displays and cockpit controls to correct deficiencies/improve system effectiveness. They will be awarded on a competitive Engineering & Manufacturing Development contract for development.

The CV-22 Reliability Improvement projects will consist of a mix of competitive and sole-source awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF200 / CV-22
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CV-22 SOF Common Terrain Following/Terrain Avoidance (TF/TA) Silent Knight Radar (SKR) - Operational Flight Program (OFP) Development	C/CPFF	Various : Various	19.402	13.593	Nov 2019	7.720	Nov 2020	2.571	Dec 2021	-		2.571	Continuing	Continuing	-
CV-22 SOF Common TF/TA SKR- Integration	C/CPFF	Various : Various	18.208	7.734	Feb 2020	3.982	Nov 2020	1.310	Dec 2021	-		1.310	Continuing	Continuing	-
CV-22 Block 20 Systems	Various	Various : Various	1.057	0.494	Feb 2020	2.129	Nov 2020	-		-		-	0.000	3.680	-
CV-22 Reliability Improvements	C/Various	Various : Various	-	-		-		1.081	Dec 2021	-		1.081	Continuing	Continuing	-
Subtotal			38.667	21.821		13.831		4.962		-		4.962	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CV-22 SOF Common TF/TA SKR - OFP	C/CPFF	Various : Various	1.645	0.937	Nov 2019	2.412	Nov 2020	0.776	Dec 2021	-		0.776	Continuing	Continuing	-
CV-22 SOF Common TF/TA SKR- Integration	C/CPFF	Various : Various	1.032	1.173	Feb 2020	0.530	Nov 2020	0.194	Dec 2021	-		0.194	Continuing	Continuing	-
CV-22 Reliability Improvements Test and Evaluation	C/Various	Various : Various	-	-		-		1.000	Dec 2021	-		1.000	Continuing	Continuing	-
Prior Year	Various	Various : Various	1.936	-		-		-		-		-	0.000	1.936	-
Subtotal			4.613	2.110		2.942		1.970		-		1.970	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.280	23.931	16.773	6.932	-	6.932	Continuing	Continuing	N/A

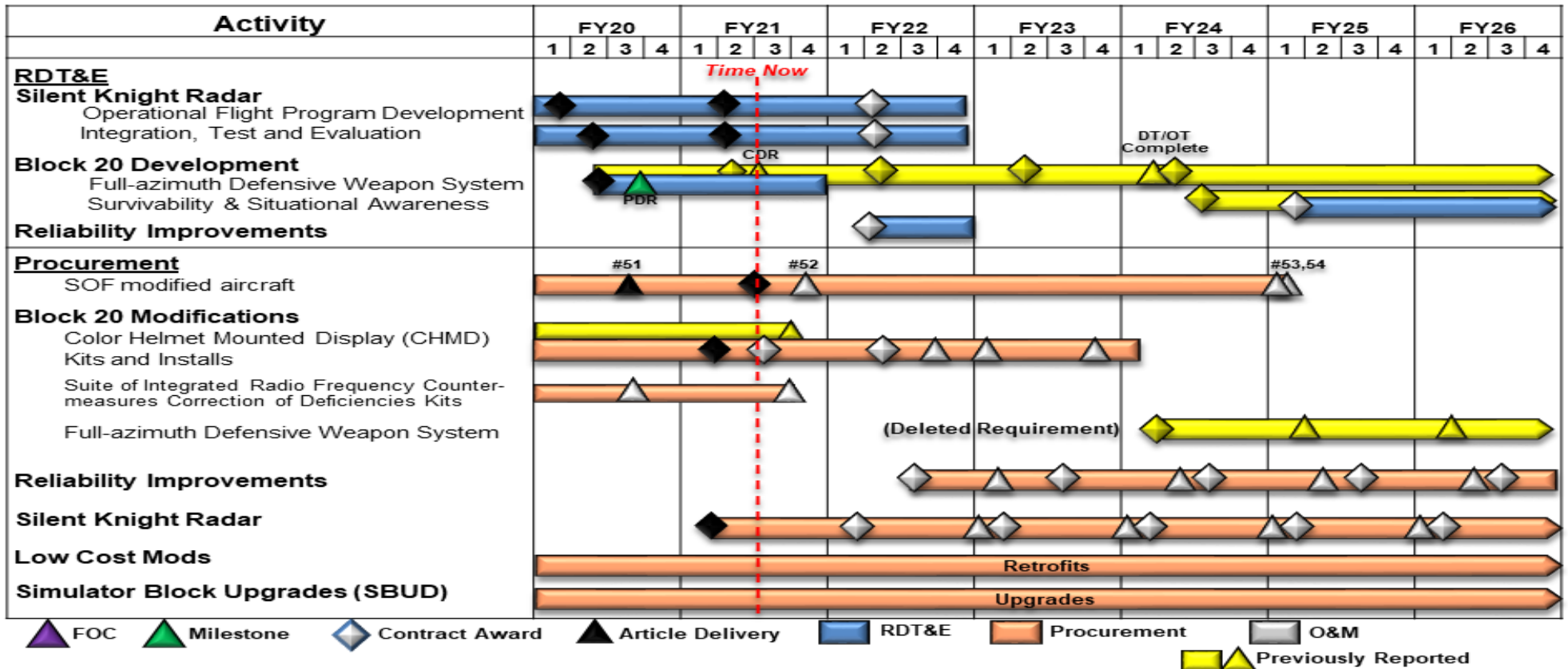
Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command Date: May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) SF200 / CV-22
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CV-22 Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) SF200 / CV-22
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CV-22				
SOF Common TF/TA (Silent Knight) Radar - Operational Flight Program (OFP) Development	1	2020	4	2022
SOF Common TF/TA (Silent Knight) Radar - Radar Integration, Test & Evaluation	1	2020	4	2022
Block 20 Full-azimuth Defensive Weapon System (FDWS) Development/Test	2	2020	4	2021
Block 20 Survivability & Situational Awareness	1	2025	4	2026
Reliability Improvements Test and Evaluation	2	2022	4	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems				Project (Number/Name) SF300 / Armed Overwatch/Targeting			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
SF300: Armed Overwatch/Targeting	0.000	0.000	25.000	22.952	-	22.952	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Armed Overwatch provides Special Operations Forces (SOF) with deployable, affordable, and sustainable aircraft systems capable of executing Close Air Support (CAS), Precision Strike, and Armed Intelligence, Surveillance & Reconnaissance (Armed ISR) requirements in austere and permissive environments for use in Irregular Warfare operations in support of the National Security Strategic Guidance. The funding in this project supports integration and testing of SOF-unique capabilities and Aircraft Certification efforts.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Armed Overwatch/Targeting	-	25.000	22.952
Description: The funding in this project supports integration and testing of SOF-unique capabilities and Aircraft Certification efforts.			
FY 2021 Plans: Initiate and complete prototype demonstrations.			
FY 2022 Plans: Initiates integration and testing of SOF unique capabilities and aircraft certification efforts.			
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$2.048 million is due to completion of prototype demonstrations 4Q FY 2021.			
Accomplishments/Planned Programs Subtotals	-	25.000	22.952

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PROC/0201ARMOWT: Armed Overwatch/Targeting	-	21.000	170.000	-	170.000	-	-	-	-	-	-

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) SF300 / <i>Armed Overwatch/Targeting</i>
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D. Acquisition Strategy

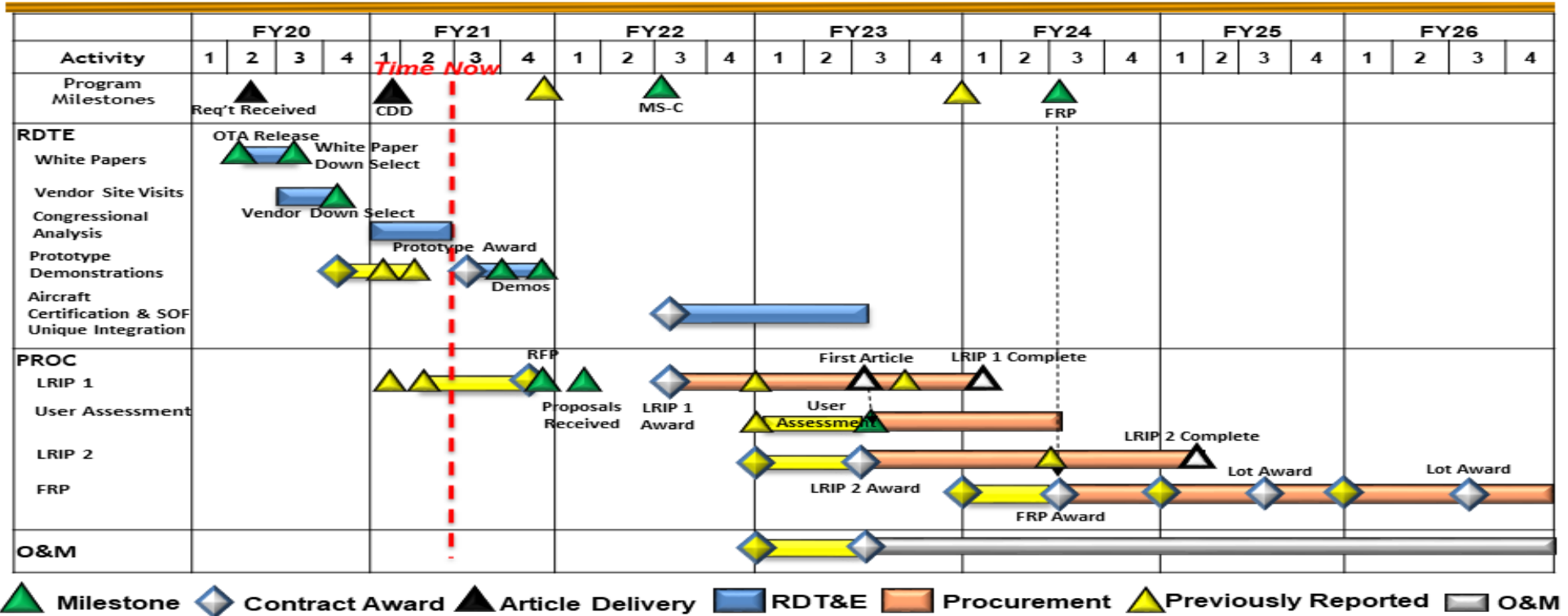
Armed Overwatch/Targeting: These technologies will be pursued via rapid prototyping and/or rapid fielding, when appropriate, to industry partners for flight demonstrations in FY 2021. The demonstrations results will be used to determine whether a solicitation for a follow-on production contract is in the best interest of the Government.

Appropriation/Budget Activity
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R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
SF300 / Armed Overwatch/Targeting

Armed Overwatch Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) SF300 / <i>Armed Overwatch/Targeting</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Armed Overwatch/Targeting</i>				
Prototype Testing/Demonstration	3	2021	4	2021
Aircraft Certification and SOF Unique Integration	3	2022	3	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems				Project (Number/Name) S750 / Mission Training and Preparation Systems			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S750: Mission Training and Preparation Systems	43.159	8.289	9.623	10.227	-	10.227	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project funds the definition, design, development, prototyping, integration, and testing of Mission Training and Preparation Systems (MTPS) to support training, avoid obsolescence, and maintain simulator concurrency with weapon system configurations; support mission planning and rehearsal systems enhancements required to meet Special Operations Forces (SOF)-unique mission requirements and correct deficiencies identified in previous testing; and support mission planning and rehearsal capabilities in current MTPS. The MTPS project also includes program management, systems engineering, configuration management, architecture development, risk reduction, and trade study initiatives, as well as initiatives to assure interoperability and commonality between diverse SOF training systems.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Special Operations Mission Planning and Execution (SOMPE)	8.289	9.623	10.227
<p>Description: SOMPE develops, integrates, tests, and validates software enhancements required to meet SOF-unique requirements for, and correct deficiencies to, mission planning, preview, and execution software tools to support all phases of SOF operations from deliberate to time-critical. The SOMPE project automates time-sensitive planning activities and provides enhanced situational awareness during mission execution. SOMPE provides the interoperable environment for SOF adaptive planning to integrate global operations including, but not limited to, precision strike software, digital navigation, and Unmanned Aerial Systems (UAS) command and control. This project also provides the integration of SOMPE with multi-dimensional visualization systems, providing immersive mission rehearsal in minimal timeframes from the SOMPE mission plan. SOMPE is embedded in the United States Special Operations Command (USSOCOM) Headquarters, Theater Special Operations Commands (TSOC), Joint Special Operations Task Forces, Joint Special Operations Aviation Components, SOF warfighters, and SOF warfighter platforms.</p> <p>FY 2021 Plans: Continue development of software applications to address increased SOF-unique aviation, ground and maritime mission planning requirements; data transfer software from mission planning systems to SOF helicopters, airplanes, and simulator/rehearsal systems; and automated performance models and performance prediction software. Continue updates to mission planning, data transfer, and performance software. Continue development of software applications for smaller mobile computer devices (tablets, smart phones, etc.)</p> <p>FY 2022 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) S750 / Mission Training and Preparation Systems

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Continues development of software applications to address increased SOF-unique aviation, ground and maritime mission planning requirements; data transfer software from mission planning systems to SOF helicopters, airplanes, and simulator rehearsal systems; and automated performance models and performance prediction software. Continues updates to mission planning, data transfer, and performance software. Continues development of software applications for smaller mobile computer devices (tablets, smart phones, etc.)</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.604 million is due to integration of XPlan core and tactical applications capabilities into the TAK product line for efficiency, common interface, common training and increased interoperability with DoD and other government agencies.</p>			
Accomplishments/Planned Programs Subtotals	8.289	9.623	10.227

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The SOMPE program is transitioning to the software acquisition pathway. SOMPE comprises multiple mission planning software development contracts awarded to developers for each project effort. Acquisition strategies depend on the type of development effort. For minor software development projects, contracts may be awarded as sole source acquisitions from existing contract vehicles. For major software development projects, contracts may be awarded as limited or full and open competition acquisitions. Individual acquisition strategies are developed as the scope of software development projects are identified and defined.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) S750 / Mission Training and Preparation Systems
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Special Operations Mission Planning and Execution (SOMPE) Software Development and Integration	MIPR	Various : Various	34.722	6.797	Jan 2020	7.712	Jan 2021	8.204	Jan 2022	-		8.204	Continuing	Continuing	-
Subtotal			34.722	6.797		7.712		8.204		-		8.204	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SOMPE Software	MIPR	Special Operations Mission Planning Office : Fort Eustis, VA	2.697	0.414	Feb 2020	0.375	Feb 2021	0.386	Feb 2022	-		0.386	Continuing	Continuing	-
Subtotal			2.697	0.414		0.375		0.386		-		0.386	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SOMPE Software	C/CPFF	Cruz Associates : Shalimar, FL	5.740	1.078	Jan 2020	1.536	Jan 2021	1.637	Jan 2022	-		1.637	Continuing	Continuing	-
Subtotal			5.740	1.078		1.536		1.637		-		1.637	Continuing	Continuing	N/A

			Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			43.159	8.289	9.623	10.227	-	10.227	Continuing	Continuing	N/A

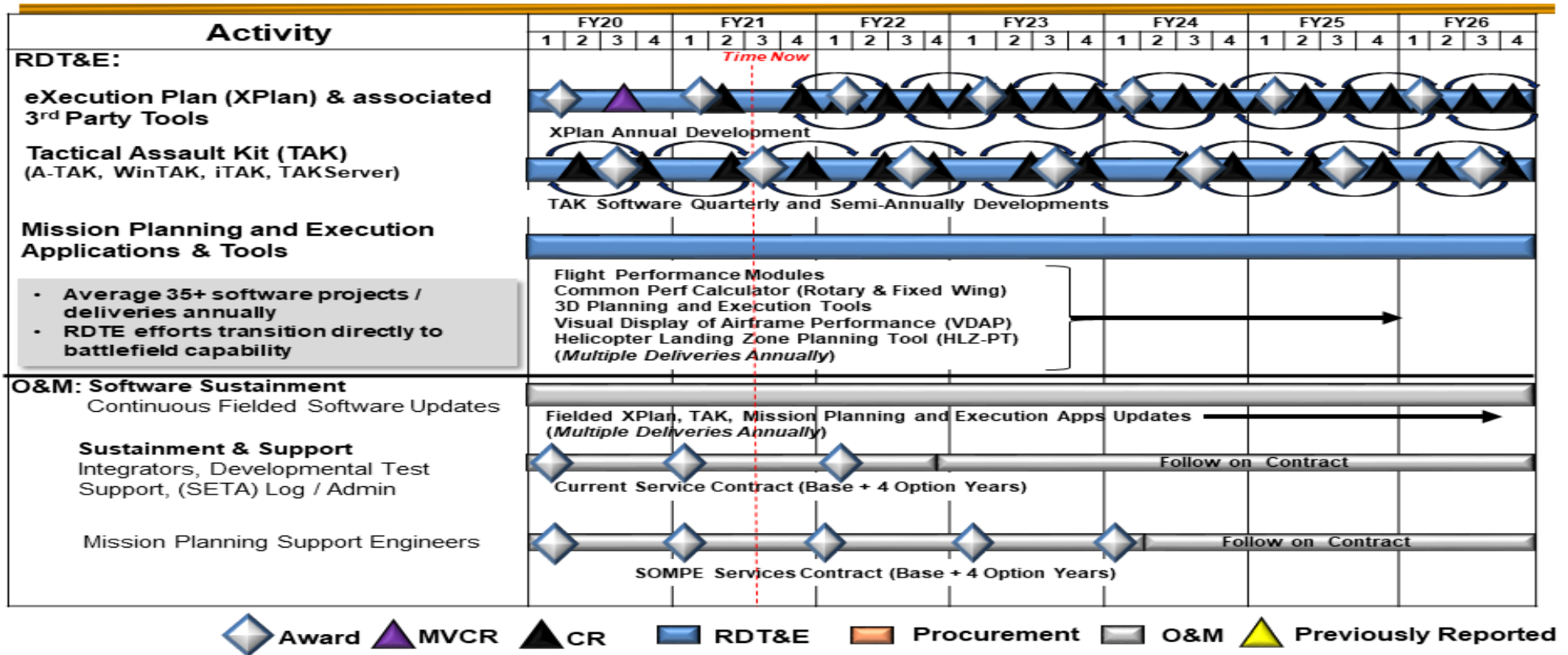
Remarks

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
S750 / Mission Training and Preparation Systems

Special Operations Mission Planning and Execution (SOMPE) Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) S750 / Mission Training and Preparation Systems

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Special Operations Mission Planning and Execution (SOMPE)				
eXecution Plan (XPlan) & Associated 3rd Part Tools	1	2020	4	2026
Tactical Assault Kit (TAK)	1	2020	4	2026
Mission Planning and Execution Applications & Tools	1	2020	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems				Project (Number/Name) S875 / AC/MC-130J			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S875: AC/MC-130J	68.228	28.094	55.083	52.045	-	52.045	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AC/MC-130J project funds core Special Operations Forces (SOF)-unique modifications to replace aging/retired AC-130H Spectre, AC-130W Stinger II, AC-130U Spooky, MC-130E Combat Talon I, MC-130P Combat Shadow, MC-130H Combat Talon II aircraft. The 8 AC-130H Spectre, 12 AC-130W Stinger II and 17 AC-130U Spooky airframes will be replaced with MC-130J aircraft modified with the Precision Strike Package (PSP) to achieve the AC-130J configuration. The AC-130J aircraft will provide close air support, air interdiction, and armed reconnaissance capability. The 14 MC-130E Talon I, 23 MC-130P Combat Shadow, and 24 MC-130H Talon II airframes will be replaced by MC-130J Commando II aircraft with SOF mission modifications. The MC-130J Commando II aircraft with SOF mission modifications provide clandestine single or multi-ship low-level aerial refueling for special operations helicopters and CV-22 aircraft; conduct airdrops of leaflets, small special operations teams, resupply bundles, and combat rubber raiding craft. The Air Force procures and fields the basic aircraft, common support equipment, and trainers for United States Special Operations Command (USSOCOM). Incremental upgrade and agile software development approaches will be used to integrate SOF capabilities onto the aircraft and training systems. SOF capabilities include, but are not limited to: Airborne Mission Networking (AbMN), data fusion, threat detection and avoidance, integrated Terrain Following/Terrain Avoidance (TF/TA), electronic warfare, and embedded training. Integrating and automating SOF mission systems that deliver these capabilities is critical to fielding SOF-capable AC/MC-130J aircraft to recapitalize Air Force Special Operations Command's legacy C-130 fleet.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: MC-130J Airborne Mission Networking (AbMN)	2.592	2.688	-
<p>Description: AbMN provides aircrew and mission personnel aboard MC-130J aircraft with the ability to send and receive mission-critical data to/from tactical and operational nodes in the battlespace. Capabilities include, but are not limited to, secure Line-of-Sight (LOS)/Beyond Line-of-Sight (BLOS) voice/data communications, friendly force identification, mission tracking, threat identification, full-motion video, collaboration, chat, e-mail, integrated tactical map and data links. AbMN enables SOF to streamline command and control, improve situational awareness, and reduce operational risk through real time exchange of digital information among aircraft, SOF components, and other tactical and operational nodes.</p> <p>FY 2021 Plans: Complete developmental, operational, and interoperability testing on the MC-130J along with the SOF Common TF/TA radar, special missions systems, and electronic warfare systems.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$2.688 million is due to the completion of developmental, operational and interoperability testing on the MC-130J in FY 2021.</p>			
Title: Integrated Tactical Mission Systems (ITMS)	25.502	52.395	52.045

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) S875 / AC/MC-130J

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: The ITMS program increases operational crew performance and aircraft survivability by integrating the MC-130J green aircraft and multiple SOF mission systems as an interoperable system-of-systems. Automated software capabilities will be developed, integrated, and tested with SOF-peculiar and green aircraft flight information, displays, and controls through the Special Mission Systems (SMS) suite. By increasing system-of-systems data interoperability through an Open Mission Systems (OMS) compliant Modular Open System Architecture (MOSA), an agile software development infrastructure will be employed to integrate multiple subsystems and continuously deliver automated software capabilities. Capabilities include, but are not limited to; automated route replanning, tactical flight management, integrated aircraft defensive systems, defensive countermeasures, and embedded training. The NextGen Special Mission Processor (SMP) resolves current diminishing manufacturing sources issues with a MOSA compliant design to perform central processing for ITMS software. ITMS enables dynamic operations with integrated real-time information, automation, and decision making data for safe TF/TA flight and mission execution (MC-130J aircraft) and seamless employment of the PSP (AC-130J aircraft).</p> <p>FY 2021 Plans: Continue capability prototype and demonstration, infrastructure development, system-of-systems integration, tactical map enhancements, TF/TA integration, and increased situational awareness capabilities. Continue OMS development for data and communications interoperability. Continue development of SMS capabilities required for ITMS to include, but not limited to; data fusion, threat correlation, and applications of machine learning and artificial intelligence. Continue Tactical Flight Management System (TFMS), Defensive Countermeasures Suite (DCM), auto route replanner development integration and test on the MC-130J. Begin capability replication, performance, and test on the AC-130J.</p> <p>FY 2022 Plans: Continues to identify, prototype, and demonstrate modern OMS capabilities of: Pre-mission software, common roll-on roll-off payload interfaces, enhanced cybersecurity management software, and AC-130J weapons management and planning system interface definition. Continues capability maturation of production and fielded software services through Security Development Operations (SecDevOps). Develops, deploys, and matures cloud-hosted distributed software integration and test environment as part of the agile software framework. Continues development of common interfaces and integrates legacy and on-going mission systems into an inter-operable system architecture. Continues TFMS, Automated Route Replanner, and DCM AC/MC-130J capability development and integration. Continues capability replication, performance, and test on the AC-130J to incorporate PSP. Completes NextGen SMP development, qualification testing, technical data updates, and perform correction of deficiencies. Completes Tactical Map development.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.350 million is due to new and continuing ITMS development, integration and test efforts.</p>			
Accomplishments/Planned Programs Subtotals	28.094	55.083	52.045

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) S875 / AC/MC-130J

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022	FY 2022	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PROC/2012C130J: AC/MC-130J	143.232	153.914	205.216	-	205.216	-	-	-	-	-	-
• PROC/1202PSP: Precision Strike Package	232.599	233.111	165.224	-	165.224	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

As a core strategy, rapid prototyping has been incorporated in the acquisition strategies below to develop, demonstrate and evaluate residual operational capabilities.

MC-130J AbMN: Award sole source Cost-Plus-Fixed-Fee contract to develop a battlespace information exchange system for the MC-130J consisting of Government/Commercial-off-the-shelf communications and computing hardware and Government/developmental software. This approach leverages portions of the AC-130J gunship infrastructure design applicable to the MC-130J. After completing developmental and operational flight testing, award a sole source contract for Low Rate Initial Production (LRIP) followed by a competitive Firm-Fixed Price (FFP) contract for production, aircraft integration, and fielding.

ITMS: Develop virtual environment to enable collaborative integration of modular software services procured through competitive, sole source contracts, and use of open mission system compliant standards for hardware and software architecture, software, services, and future subsystems.

The U.S. Air Force procures the basic AC-130J aircraft under the HC/MC-130J Recapitalization procurement program. USSOCOM will fund development, integration, and testing of capability enhancements for SOF-unique mission equipment using an incremental acquisition strategy. Multiple contract awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) S875 / AC/MC-130J
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MC-130J Airborne Mission Networking (AbMN)	C/CPFF	Sierra Nevada Corporation : Centennial, CO	20.363	1.659	Dec 2019	1.264	Dec 2020	-		-		-	0.000	23.286	-
Integrated Tactical Mission System (ITMS) - AC/MC-130J Systems Interoperability & Tactical Map Enhancements	C/Various	Sierra Nevada Corporation : Nevada	38.877	6.157	Nov 2019	5.436	Dec 2020	5.374	Dec 2021	-		5.374	Continuing	Continuing	-
ITMS - MC-130J Software Capability Development	C/CPFF	Lockheed Martin Aeronautics : Marietta	1.500	4.252	Apr 2020	10.870	Feb 2021	11.150	Nov 2021	-		11.150	Continuing	Continuing	-
ITMS - Open Mission System (OMS) Capabilities	C/Various	Various : Various	1.511	4.732	Nov 2019	3.624	Nov 2020	3.762	Dec 2021	-		3.762	Continuing	Continuing	-
ITMS - AC-130J Software Capability Development	C/Various	Various : Various	-	-		9.670	May 2021	8.353	Mar 2022	-		8.353	Continuing	Continuing	-
ITMS - Agile Software Framework Dev & Test	C/Various	Various : Various	-	-		7.034	Jan 2021	6.986	Mar 2022	-		6.986	Continuing	Continuing	-
ITMS - NextGen Special Mission Processor (SMP) Development, Integration & Test	C/Various	Various : Various	3.800	4.419	Nov 2019	1.200	Dec 2020	1.075	Dec 2021	-		1.075	Continuing	Continuing	-
Subtotal			66.051	21.219		39.098		36.700		-		36.700	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Tactical Mission System (ITMS) - Support	C/Various	Various : Various	-	2.249	Apr 2020	2.718	Mar 2021	3.494	Mar 2022	-		3.494	Continuing	Continuing	-
Subtotal			-	2.249		2.718		3.494		-		3.494	Continuing	Continuing	N/A

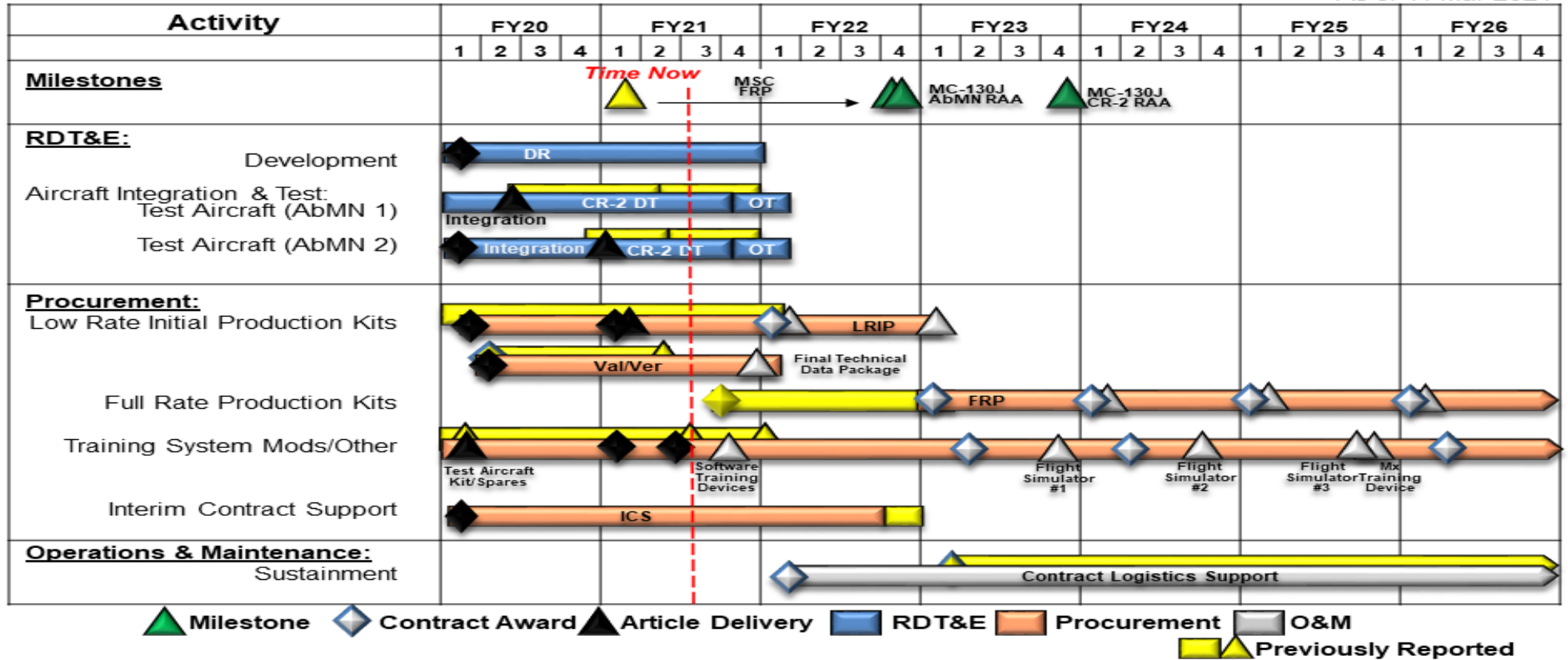
Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

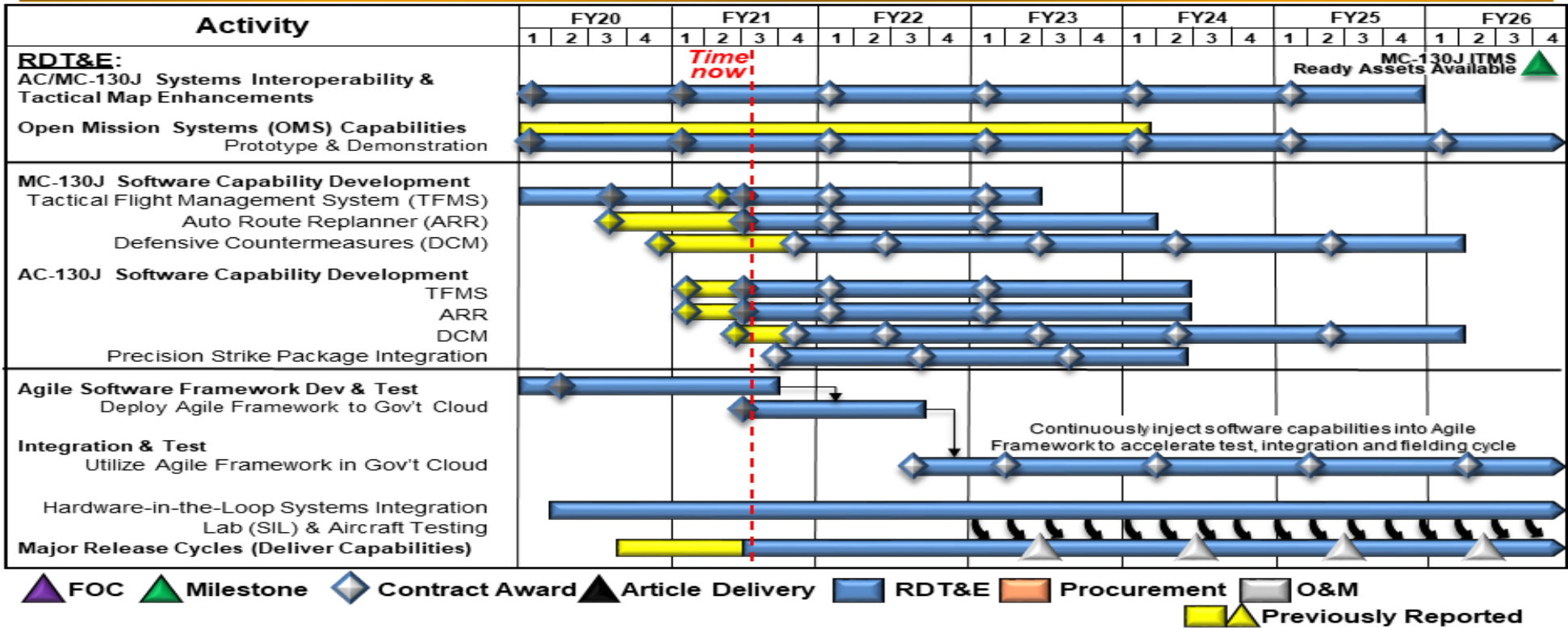
Project (Number/Name)
S875 / AC/MC-130J

Airborne Mission Networking (AbMN) Schedule

As of 11 Mar 2021



Integrated Tactical Mission Systems (ITMS) Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) S875 / AC/MC-130J
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MC-130J Airborne Mission Networking (AbMN)</i>				
Engineering and Manufacturing Development	1	2020	4	2021
Phase II Design	1	2020	2	2020
Phase III Integration & Test (Includes Tech Data, Aircraft Integration, & Testing)	1	2020	1	2022
<i>Integrated Tactical Mission Systems (ITMS) Agile Based Software Integration & Test</i>				
AC/MC-130J Systems Interoperability	1	2020	4	2025
Open Mission System (OMS) capabilities Prototype and Demonstration	1	2020	4	2026
MC-130J Tactical Flight Management System (TFMS)	1	2020	2	2023
MC-130J Auto Route Replanner (ARR)	2	2021	2	2024
MC-130J Defensive Countermeasures (DCM)	4	2021	2	2026
AC-130J TFMS	3	2021	2	2024
AC-130J ARR	3	2021	2	2024
AC-130J DCM	3	2021	2	2026
AC-130J Precision Strike Package	3	2021	2	2024
OMS Agile Software Development & Test	1	2020	3	2022
Test & Integration of ITMS Capabilities	3	2022	4	2026
Hardware-in-the-Loop Systems Integration Lab (SIL) & Aircraft Testing	1	2020	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems				Project (Number/Name) D615 / Rotary Wing Aviation			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
D615: Rotary Wing Aviation	254.252	44.152	41.864	42.787	-	42.787	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project provides for the development, rapid prototyping, demonstration, and integration of current and maturing technologies for Special Operations Forces (SOF)-unique rotary wing aviation and training requirements. This project includes modifications to Aircraft Survivability Equipment (ASE) avionics and weapons systems to counter rapidly emerging threats, address cyber security, improve lethality and enhance aircraft self-protection in contested environments. Rotary wing aircraft supported by this project include: MH-60M, MH-47G, and A/MH-6M. These aircraft provide aviation support to SOF in worldwide contingency operations and low-intensity conflicts. They must be capable of rapid deployment, undetected penetration of hostile areas, and operations at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The anti-access/area denial (A2/AD) threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: A/MH-6M Block 3.0 Upgrade</p> <p>Description: This effort funds the development and testing of Special Operations Forces Peculiar (SOF-P) equipment and modifications for the A/MH-6M. It will include software development and testing to integrate new capability, development and qualification of new hardware, and test and evaluation of new weapons, sensors, communications systems, or aircraft modifications that increase systems performance.</p> <p>FY 2021 Plans: Begin software updates to incorporate communications upgrades and crypto modernization, follow-on testing on Block 3 components to improve sustainability, improved tail rotor blade development and test, improved main rotor transmission study, improved main rotor study, test and evaluate anti-jamming antennas, and weapons system test.</p> <p>FY 2022 Plans: Continues software updates to incorporate communications upgrades and crypto modernization, follow-on testing on Block 3 components to improve sustainability, improved tail rotor blade development and test, improved main rotor transmission study, improved main rotor study, test and evaluate anti-jamming antennas, and weapons system test.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.055 million was made available to support emerging critical command requirements.</p>	3.580	2.783	2.728
<p>Title: MH-60M Modifications and Upgrades</p> <p>Description: Develop critical technologies for MH-60 Block 2.0 safety, performance, and integration of the Army-common Improved Turbine Engine (ITE). The ITE program decreases operational costs, and transitions MH-60M engine sustainment back</p>	6.272	3.428	2.824

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) D615 / Rotary Wing Aviation

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>to a service common program. Block 2.0 initiatives include, but are not limited to, Performance Restoration, MH-60 engineering changes and product improvements to SOF- P equipment, munitions utilized for testing, modifications to ASE and weapons systems designed to counter rapidly emerging threats, improved lethality, and enhanced aircraft self-protection in the Multi-Domain Operations (MDO) environment and against near peer threats. The MH-60 Block Upgrades provide the development, integration, and qualification efforts for the MH-60 helicopter to include flight test support, engineering analysis, documentation, and airworthiness substantiation.</p> <p>FY 2021 Plans: Complete testing of Joint Air-to-Ground Missile (JAGM) software and continue payload restoration efforts, and other technologies to improve safety and decrease operational costs to aircraft survivability equipment, weapons systems improvement and munitions.</p> <p>FY 2022 Plans: Begins testing and integration of Standoff Precision Guided Munitions (SOPGM) software and continues payload restoration efforts and other technologies to improve safety and decrease operational costs to aircraft survivability equipment, weapons systems improvement and munitions.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.604 million due to completion of JAGM testing.</p>			
<p>Title: Degraded Visual Environment (DVE)</p> <p>Description: The DVE solution will provide MH-47/60 aircrews with visual cues for obstacle avoidance and aircraft control during all phases of flight and significantly increase crew and passenger survivability in DVE. This program addresses SOF-unique requirements for rapid fielding and weight limitations, and capitalizes integration of SOF-unique avionics with the unique skills of the SOF aviator.</p> <p>FY 2021 Plans: Complete airworthiness release documentation for fielding.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$4.048 million is due to completion of airworthiness release documentation.</p>	2.397	4.048	-
<p>Title: Future Vertical Lift (FVL)</p> <p>Description: Provides for the development of United States Special Operations Command (USSOCOM) platform capabilities that address SOF-unique requirements. This family of systems significantly increases range, speed, payload, survivability, reliability, and maintainability of vertical lift aircraft to meet emerging mission requirements. USSOCOM will participate in the service-</p>	1.160	3.324	9.059

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems		Project (Number/Name) D615 / Rotary Wing Aviation
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>common development of a joint FVL aircraft by injecting USSOCOM requirements and equities into the initial development and design efforts to minimize SOF-unique modifications to the common aircraft.</p> <p>FY 2021 Plans: Continue to provide guidance and infrastructure necessary for FVL to implement a mission systems architecture that enables the integration of SOF capabilities into the aircraft.</p> <p>FY 2022 Plans: Provides for delta cost design analysis of SOF Future Long Range Assault Aircraft (FLRAA) and Future Attack and Reconnaissance Aircraft (FARA); initiates FLRAA Structural Baseline support efforts and engineering analysis for Modular Open System Architecture (MOSA) implementation of Radio Frequency Countermeasures, TF/TA, Infrared Countermeasures, and DVE; continues SOF FLRAA configuration analysis.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$5.735 million is due to cost design analysis of SOF FLRAA and FARA aircraft, FLRAA Structural Baseline support efforts and MOSA implementation of SOF peculiar mission equipment.</p>				
<p>Title: Infrared Countermeasures (IRCM)</p> <p>Description: Provides a low Size, Weight, and Power (SWaP) IRCM capability suitable for the A/MH-6 Mission Enhanced Little Bird with potential use on the MH-60 and MH-47 aircraft. The IRCM program will leverage the Department of Navy developed Distributed Aperture Infrared Countermeasure System by integrating and testing a complete lightweight IRCM system to include a missile warning system and countermeasure capability. The IRCM program includes development of an infrared exhaust suppressor for the A/MH-6, and flare testing for emerging threats.</p> <p>FY 2021 Plans: Continue advanced flare testing. Complete development and qualification testing of IR exhaust suppressor for the A/MH-6 aircraft.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.625 million is due to completion of IR exhaust suppressor development.</p>		2.288	0.625	-
<p>Title: MH-47 Modifications and Upgrades</p> <p>Description: Develops technologies to improve the performance and safety of the MH-47G and decrease operational costs. Efforts include, but are not limited to, the Active Parallel Actuator Subsystem (APAS), weight reduction, and performance improvement developments. This sub-project also includes modifications to Aircraft Survivability Equipment (ASE) and weapons systems to counter rapidly emerging threats and enhance aircraft self-protection.</p>		8.806	8.455	3.949

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) D615 / Rotary Wing Aviation

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>FY 2021 Plans: Continue APAS development, including integration with MH-47G subsystems, such as Common Avionics Architecture System (CAAS).</p> <p>FY 2022 Plans: Completes APAS development, including integration with MH-47G subsystems, such as CAAS, and execution of a configuration study of performance related improvements.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$4.506 million is due to completion of APAS development.</p>			
<p>Title: Mission Processor Upgrades (MPU)</p> <p>Description: Provides for non-recurring engineering (NRE), systems engineering/testing, and future aircraft architecture studies that support replacement and upgrade of the current mission and video processors for all Army Special Operations Aviation (ARSOA) rotary wing aircraft. Upgrading all internal processors increases the processing power to support critical functionality and emerging technologies that will be integrated into the Common Avionics Architecture System (CAAS). This MPU provides the processing and memory resources required to incorporate the following functions into the General Purpose Processing Unit (GPPU): (1) Global Air Traffic Management replaces ground-based navigation aids with a capability that meets the international requirement that all aircraft be compliant with digital and space-based navigation systems; (2) Cognitive Decision Aiding System fuses information on threat, route, weather, terrain, and friendly forces, instantaneously adjusting an aircraft's route to protect the flight crew in hazardous weather, low levels, night conditions, and next generation ARSOA cockpit.</p> <p>FY 2021 Plans: Continue exploration of the next generation ARSOA cockpit, to include architectures studies/development and individual enabling/enhancing technologies.</p> <p>FY 2022 Plans: Continues exploration of the next generation ARSOA cockpit, to include architectures studies/development and individual enabling/enhancing technologies.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.934 million is due to the exploration of next generation tactical communication technologies.</p>	0.140	0.588	1.522
<p>Title: Tactical (Airborne) Mission Networking (TMN)</p> <p>Description: Provides for continued development of systems (software and hardware) to enable the aircraft to effectively adapt and overcome the challenges of the highly contested and congested Radio Frequency (RF) environment. This effort will enable the aircrew to use advanced radio waveforms and communications equipment that can survive and thrive in contested</p>	-	3.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) D615 / Rotary Wing Aviation

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>and congested radio frequency environments. Upgrading antennas, processors, radios and other enabling communications equipment will be a persistent requirement as the RF environment becomes increasingly more complex. Additionally, the Army intends to upgrade its networks every two years – so this funding will ensure Special Operations Aircraft can adapt and keep pace with both SOF and conventional forces’ communications and networking improvements/upgrades.</p> <p>FY 2021 Plans: Begin to develop software and hardware to rapidly incorporate advanced waveforms, advanced communications, and networking hardware onto the ARSOA aircraft.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$3.000 million was made available to support emerging critical Command requirements.</p>			
<p>Title: ASE Radio Frequency Countermeasures (RFCM) Upgrades</p> <p>Description: Develops, integrates, and tests critical active and passive SOF-P aircraft survivability equipment to counter the acknowledged high proliferation of advanced surface-to-air threat systems for the A/MH-6, MH-60, and MH-47. These threat systems are evolving technically at an unprecedented rate, requiring rapid countermeasure system development and immediate spiraled improvements that will reduce the probability of successful engagement, increase the probability of detecting and countering threat systems, and improve the aircraft's ability to continue operating after sustained battle damage. This program includes development and testing of both new systems and Pre-Planned Product Improvements (P3I)/upgrades of fielded survivability equipment, and associated qualification testing. P3I upgrades may include, but are not limited to, expansion of loadsets on existing systems, modernization of legacy components, and studies directed at potential "collaborative off-boarding/ on-boarding" detect/countermeasure capabilities to provide expanded coverage for aircrews in a high threat environment.</p> <p>FY 2021 Plans: Continue development of new systems, P3I/upgrades of fielded survivability equipment, and continues development of countermeasures. Additional details can be provided under separate cover.</p> <p>FY 2022 Plans: Continues development of new systems, P3I/upgrades of fielded survivability equipment, and continues development of countermeasures. Additional details can be provided under separate cover.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$7.092 million is due to ASE upgrades. Additional details can be provided under separate cover.</p>	11.794	15.613	22.705
Accomplishments/Planned Programs Subtotals	36.437	41.864	42.787
	FY 2020	FY 2021	
Congressional Add: Future Vertical Lift (FVL)	7.715	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) D615 / Rotary Wing Aviation

	FY 2020	FY 2021
FY 2020 Accomplishments: Provides engineering and design work to ensure SOF-unique requirements are incorporated in the baseline Army aircraft. The program has awarded task orders to Bell and Lockheed Martin through TDD for SOF-FARA variant engineering studies, funded FVL FLRAA engineering studies for SOF variants, and awarded contract to GTRI to initiate SOA CAAS / MOSA studies.		
Congressional Adds Subtotals	7.715	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/0201RWUPGR: <i>Rotary Wing Upgrades and Sustainment</i>	177.483	211.041	202.278	-	202.278	-	-	-	-	-	-
• 0201MH60: <i>MH-60 Blackhawk</i>	25.264	-	29.900	-	29.900	-	-	-	-	-	-
• 0601MH47: <i>MH-47 Chinook</i>	201.093	135.482	130.485	-	130.485	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

- A/MH-6M Block 3.0 Upgrade comprises three distinct efforts: integrated airframe, Block 3 performance kits and avionics upgrades. The airframe efforts (new rotor blades/flight control kits and new shells) will be a sole-source contract to Boeing, owner of the technical data associated with the A/MH-6 airframes. The cockpit avionics architecture will be developed by Collins Aerospace. Any new hardware components will be Non Developmental Item/Commercial-Off-The-Shelf (COTS) to the extent possible and will be competitively selected. Airframe modification and integration work will be conducted via a contract with Special Operations Forces Support Activity (SOFSA).
- MH-60M Modifications and Upgrades supports systems integration and qualification efforts on MH-60M helicopters. The Mods and Upgrades are executed via various acquisition vehicles and includes, but are not limited to, government and contractor flight test support, engineering analysis, documentation, and airworthiness substantiation. Airframe modification and integration work will be conducted via a contract with SOFSA.
- DVE integrates and qualifies a solution to address a safety of flight issue while flying in DVE. A competitive source selection process was conducted, resulting in down-selection of one vendor for the DVE solution which will procure, integrate, and install components to provide real-time “see through” imagery and visual cues for obstacle avoidance and landing zone information during all phases of flight.
- FVL is the SOF aviation participation in the Joint FVL effort to develop the next generation of vertical takeoff and landing aircraft and establishes the foundation for the transformation of DOD vertical lift aviation capabilities over the next forty years.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) D615 / <i>Rotary Wing Aviation</i>
<ul style="list-style-type: none"> • IRCM integrates a mission configurable Missile Warning System and IRCM capability at a weight suitable for the A/MH-6M aircraft. Procurement of systems for integration and test will leverage Department of Navy IRCM development efforts and contracts. The government will integrate the systems onto the A/MH-6 utilizing existing aircraft modification contracts. Will begin evaluation and qualification of an infrared exhaust suppressor for the A/MH-6M aircraft, and continue flare testing for emerging threats. • MH-47 Modifications and Upgrades will develop technologies to improve performance and safety of the MH-47G and decrease operational costs. Efforts include the APAS, weight reduction, and performance improvement developments. The upgrades and modifications are executed via various acquisition vehicles and consist mostly of government and contractor executed integration, testing, and qualification efforts with some analytical engineering services to be completed. Post-production block modifications are accomplished via a contract with SOFSA. • MPU provides for future cockpit architecture studies that will help define the replacement of current mission and video processors for all ARSOA platforms. Additionally it will address near term required upgrades to existing components. Potential upgrades will be through existing Original Equipment Manufacturers (OEM), while the future cockpit architecture studies will be competitively awarded. • Tactical (Airborne) Mission Networking provides for future communications and networking capability exploration and solution development that will ensure ARSOA platforms can communicate through voice and data in a highly contested and congested RF environment. Additionally, it will ensure ARSOA aircraft can maintain interoperability with the SOF and conventional ground forces' plan of rapidly and continually updating their communications and networking infrastructure. Non-developmental communication equipment will be procured through existing DOD contracts. Aircraft integration will be through existing aircraft modification contracts. • ASE RFCM Upgrades develops and tests both new systems and pre-planned product improvements/upgrades of fielded aircraft survivability systems and countermeasures. For new systems, other services' development and testing contracts are leveraged to the maximum extent possible. Upgrades of fielded equipment are typically accomplished by the OEM. • IRES RDT&E funds not required due to maturity of selected COTS solution; funds realigned to Degraded Visual Environment System enhancements. 		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) D615 / Rotary Wing Aviation
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Degraded Visual Environment (DVE)	C/Various	PM TAPO : Fort Eustis, VA	69.748	2.397	Apr 2020	4.048	Jun 2021	-		-		-	0.000	76.193	-
Future Vertical Lift (FVL)	C/Various	PM TAPO : Ft. Eustis, VA	-	-		2.991	Dec 2020	8.396	Dec 2021	-		8.396	Continuing	Continuing	-
FVL Congressional Add (Cong Add)	C/Various	PM TAPO : Ft. Eustis, VA	-	7.356	Sep 2020	-		-		-		-	0.000	7.356	-
MH-47 Modifications and Upgrades	C/Various	PM TAPO : Fort Eustis, VA	41.931	8.806	Nov 2019	8.455	Nov 2020	3.949	Nov 2021	-		3.949	Continuing	Continuing	-
Tactical (Airborne) Mission Networking (TMN)	C/Various	PM TAPO : Fort Eustis, VA	-	-		3.000	Mar 2021	-		-		-	Continuing	Continuing	-
Aircraft Survivability Equipment (ASE) Radio Frequency Countermeasures (RFCM) Upgrades	C/Various	PM TAPO : Fort Eustis, VA	16.439	11.794	Mar 2020	15.613	Mar 2021	22.705	Mar 2022	-		22.705	Continuing	Continuing	-
Prior Years Funding	C/Various	PM MELB : Fort Eustis, VA	49.820	-		-		-		-		-	0.000	49.820	-
Subtotal			177.938	30.353		34.107		35.050		-		35.050	Continuing	Continuing	N/A

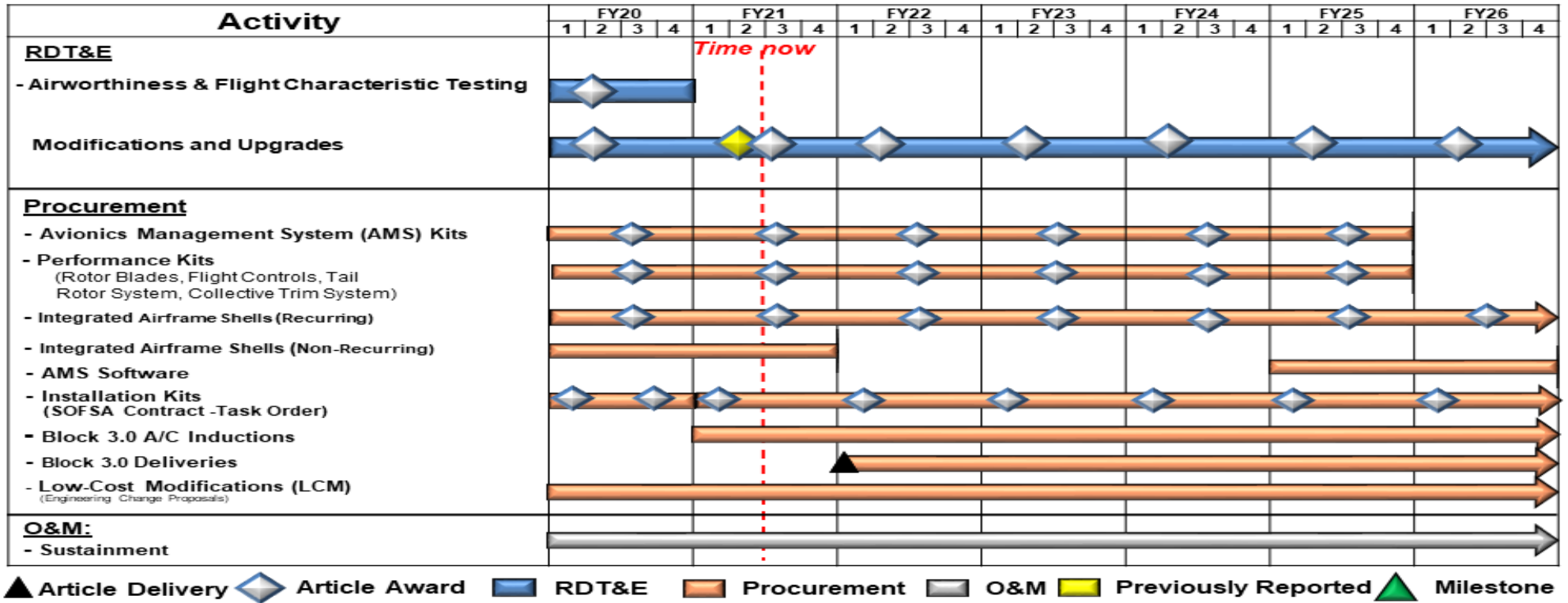
Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FVL	C/Various	PM TAPO : Fort Eustis, VA	4.053	1.160	Aug 2020	0.333	Nov 2021	0.663	Nov 2021	-		0.663	Continuing	Continuing	-
FVL (Cong Add)	C/Various	PM TAPO : Fort Eustis, VA	-	0.359	Sep 2020	-		-		-		-	0.000	0.359	-
Subtotal			4.053	1.519		0.333		0.663		-		0.663	Continuing	Continuing	N/A

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
D615 / Rotary Wing Aviation

A/MH-6 Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

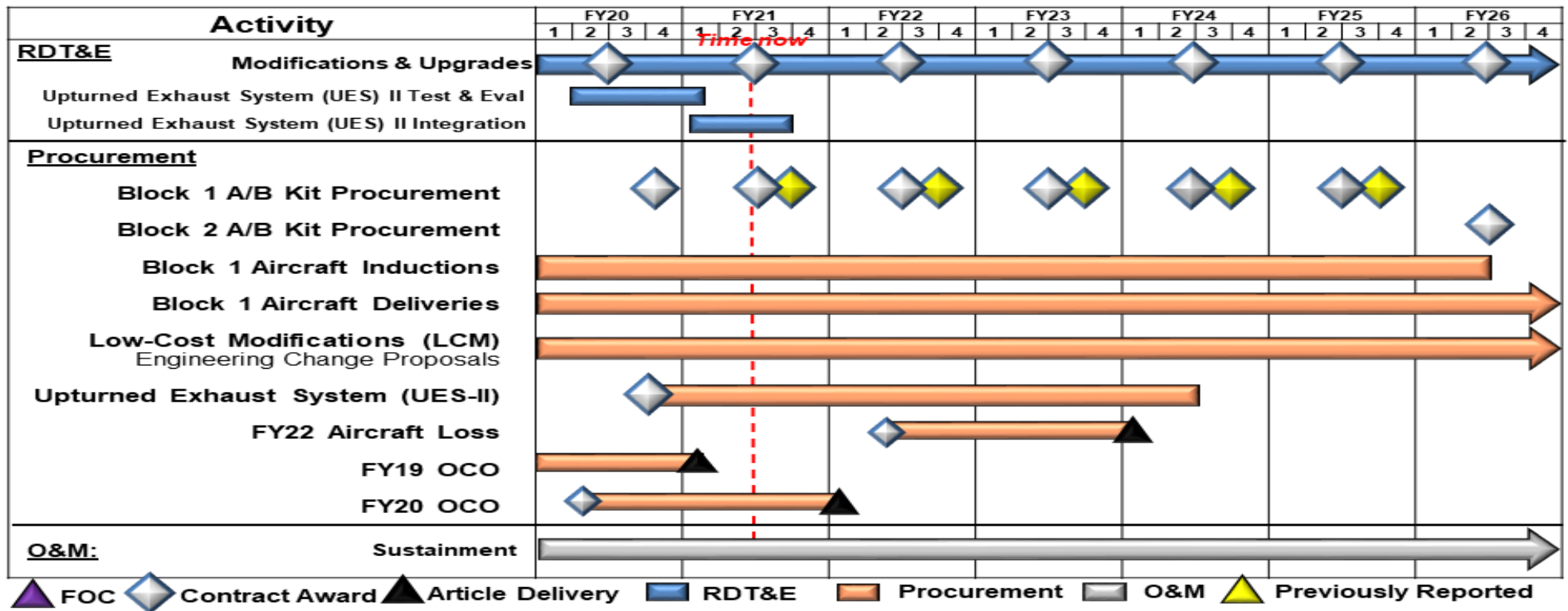
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Appropriation/Budget Activity
0400 / 7

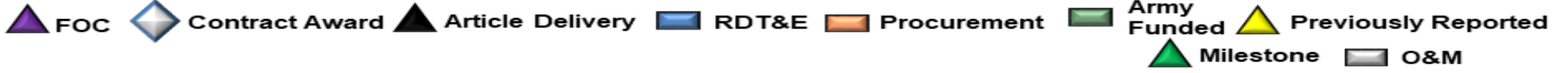
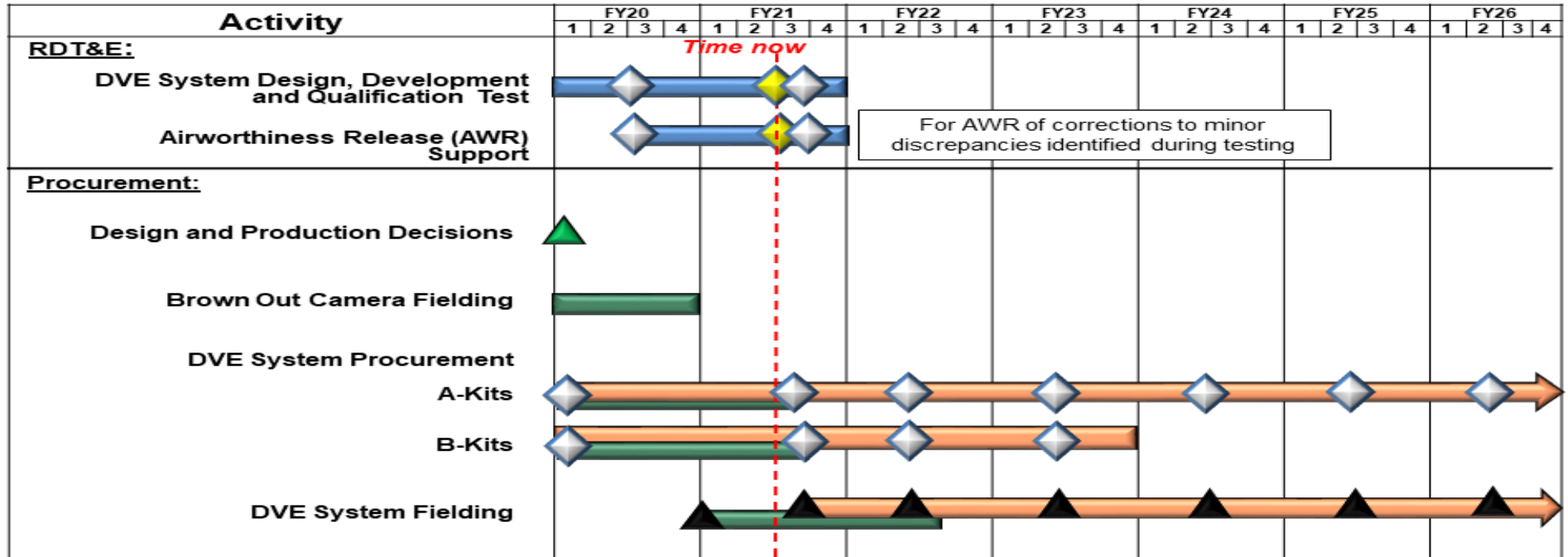
R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
D615 / Rotary Wing Aviation

MH-60M Program Schedule



Degraded Visual Environment (DVE) Schedule



Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
D615 / Rotary Wing Aviation

Future Vertical Lift Schedule

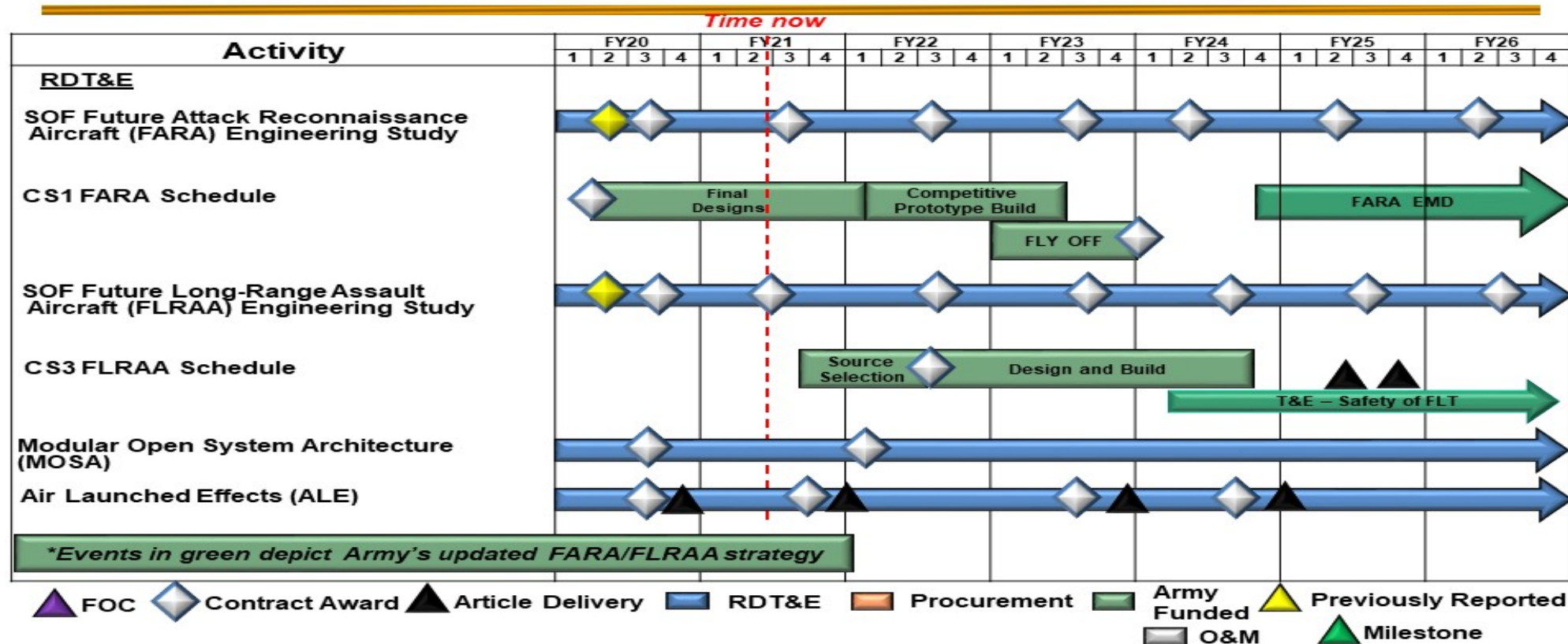
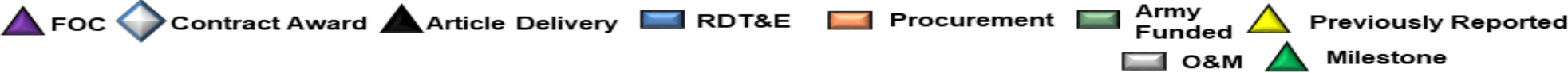
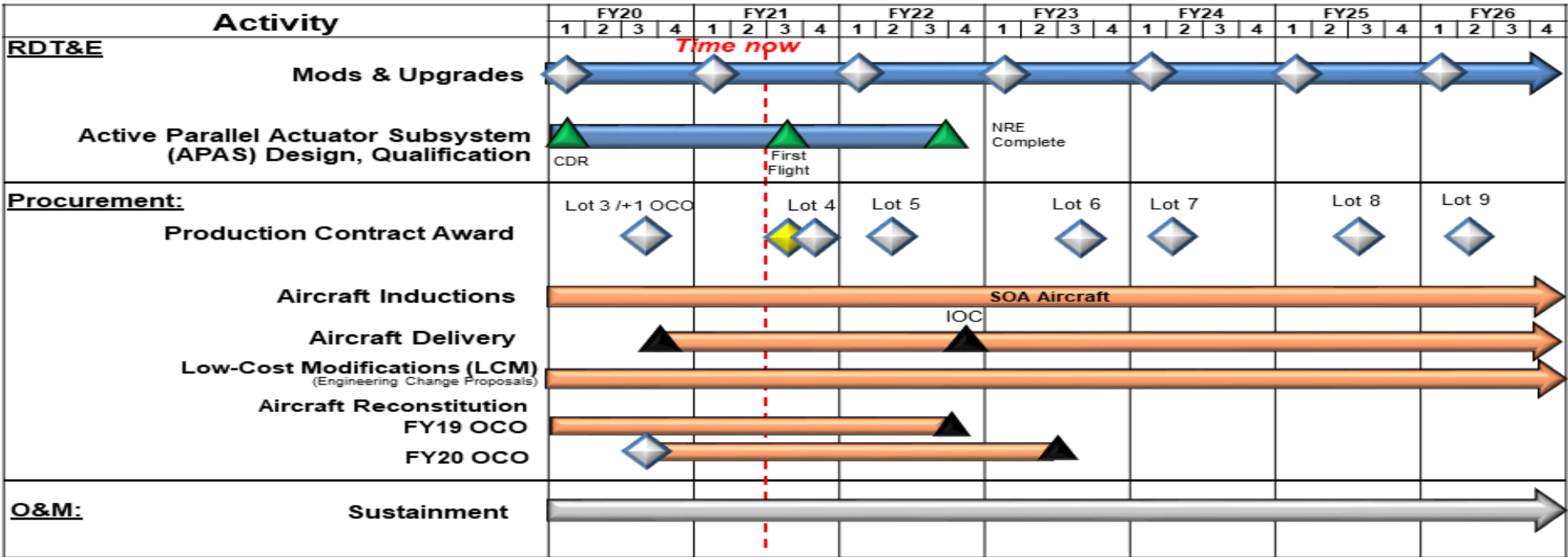


Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) D615 / Rotary Wing Aviation

MH-47 Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

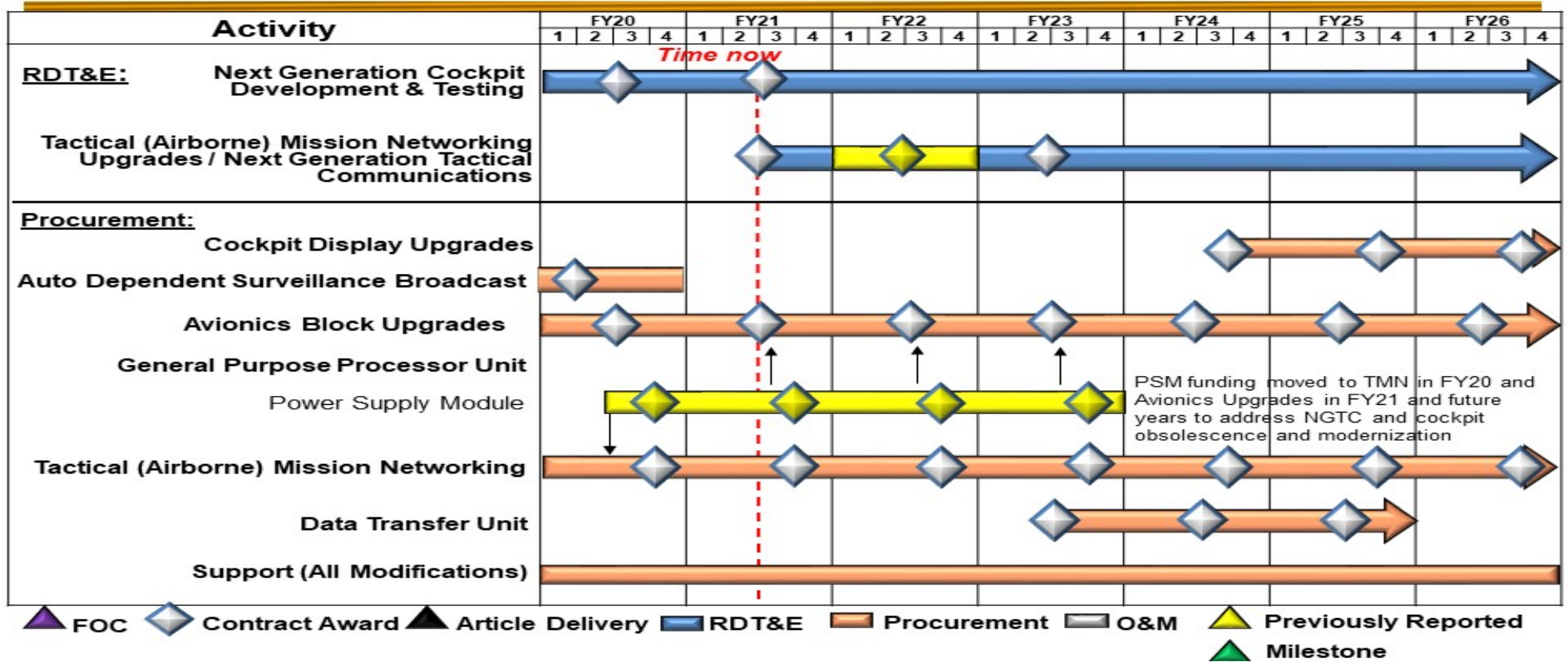
Date: May 2021

Appropriation/Budget Activity
0400 / 7

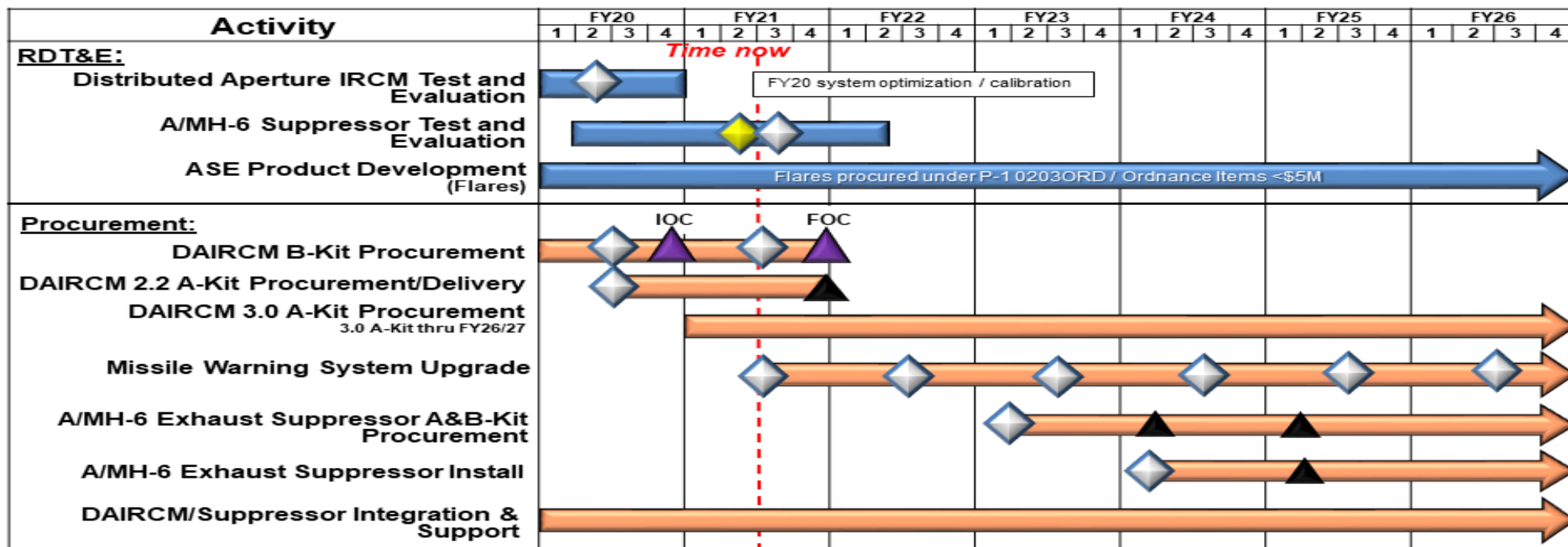
R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
D615 / Rotary Wing Aviation

Mission Processor Upgrades Schedule



Aircraft Survivability Equipment (ASE) Infrared Countermeasures (IRCM) Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

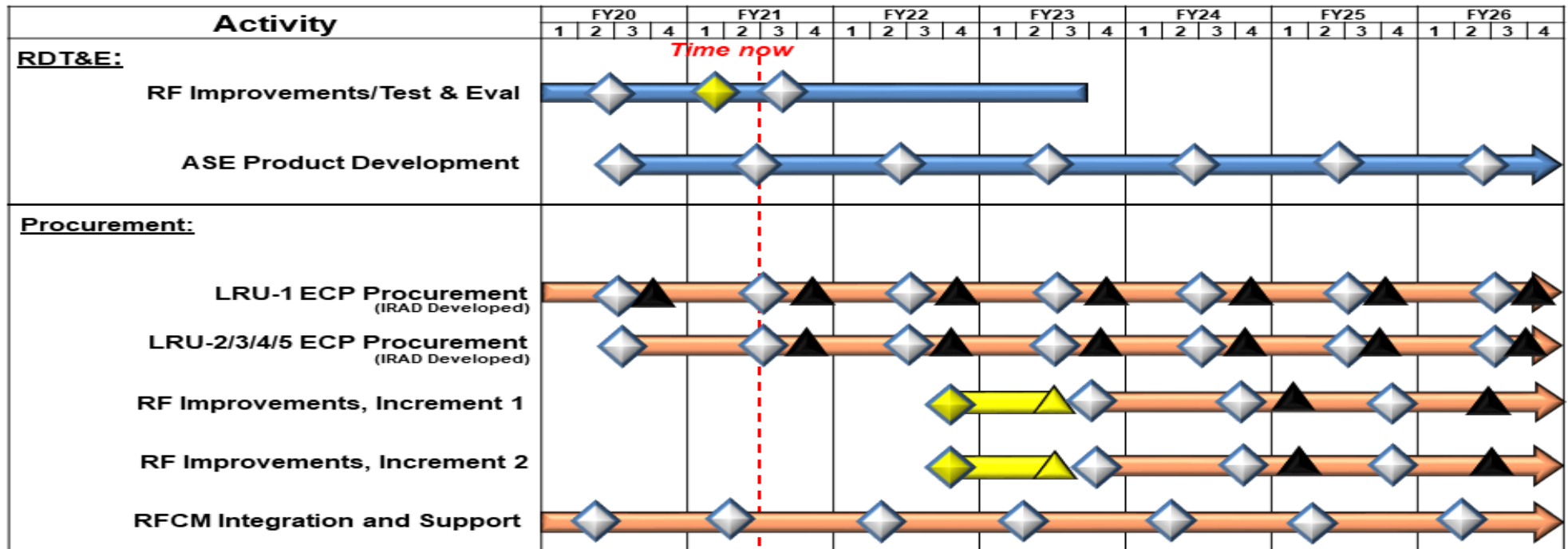
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Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160403BB / Aviation Systems

Project (Number/Name)
D615 / Rotary Wing Aviation

Aircraft Survivability Equipment (ASE) Radio Frequency Countermeasures (RFCM) Schedule



▲ FOC
 ◆ Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported
 ▲ Milestone

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / Aviation Systems	Project (Number/Name) D615 / Rotary Wing Aviation

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
A/MH-6M Block 3.0 and Modifications				
Airworthiness and Flight Characteristics Testing	1	2020	4	2020
Modifications and Upgrades	1	2020	4	2026
MH-60M Modifications and Block Upgrades				
Modifications and Upgrades	1	2020	4	2026
Upturned Exhaust System (UES) II Test & Eval	2	2020	1	2021
UES II Integration	1	2021	3	2021
Degraded Visual Environment (DVE)				
Design, Development, and Qualification Test	1	2020	4	2021
Airworthiness Release (AWR) Support	3	2020	4	2021
Future Vertical Lift (FVL)				
SOF Future Attack Reconnaissance Aircraft (FARA) Engineering Study	1	2020	4	2026
SOF Future Long-Range Assault Aircraft (FLRAA) Engineering Study	1	2020	4	2026
Modular Open Systems Architecture	1	2020	4	2026
Air Launched Effects	1	2020	4	2026
MH-47 Program				
Modifications and Upgrades	1	2020	4	2026
Active Parallel Actuator Subsystem (APAS) Design, Qualification	1	2020	3	2022
Mission Processor Upgrades (MPU)				
Next Generation Cockpit Development and Testing	1	2020	4	2026
Tactical (Airborne) Mission Networking Upgrades / Next Generation Tactical Communications	2	2021	4	2026
Aircraft Survivability Equipment (ASE) Infrared Countermeasures (IRCM)				

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160403BB / <i>Aviation Systems</i>	Project (Number/Name) D615 / <i>Rotary Wing Aviation</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Distributed Aperture Infrared Countermeasure Test and Evaluation	1	2020	4	2020
A/MH-6 Suppressor Test and Evaluation	1	2020	2	2022
ASE Product Development (Flare)	1	2020	4	2026
<i>Aircraft Survivability Equipment (ASE) Radio Frequency Countermeasures (RFCM)</i>				
RF Improvements Test and Evaluation	1	2020	4	2023
ASE Product Development	3	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	603.325	15.349	26.519	32.766	-	32.766	-	-	-	-	-	-
S400: <i>SO Intelligence Systems</i>	603.325	15.349	26.519	32.766	-	32.766	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program (MIP) that provides for the identification, development, rapid prototyping and testing of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, biometrics and forensic site exploitation and tactical exploitation of national system capabilities. United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities into the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments. These technologies will be pursued via rapid prototyping efforts when appropriate.

The FY 2022 funding request was reduced by \$1.759 million to account for the availability of prior year execution balances.

FY 2022 Fiscal Balancing: -\$1.292 million decrease is attributed to the reductions necessary to accommodate budget realities and directed strategy driven changes. Reduces Joint Threat Warning System development and testing of SOF peculiar Space payloads.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	15.484	19.558	20.142	-	20.142
Current President's Budget	15.349	26.519	32.766	-	32.766
Total Adjustments	-0.135	6.961	12.624	-	12.624
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.039			
• Congressional Rescissions	-	-			
• Congressional Adds	-	7.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.135	-	12.624	-	12.624

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: S400: *SO Intelligence Systems*

Congressional Add: *SSE - DOMEX Program*

	FY 2020	FY 2021
Congressional Add Subtotals for Project: S400	-	7.000
Congressional Add Totals for all Projects	-	7.000

Change Summary Explanation

Funding:

FY 2020: Decrease of \$0.135 million was made available to support emerging command requirements in the year of execution.

FY 2021: Net increase of \$6.961 million is due to Congressional add to continue rapid test and evaluation of emerging Biometric and Forensic technology (\$7.000 million) and a Defense Wide (DW) non-programmatic reduction (\$0.039 million).

FY 2022: Net increase of \$12.624 million is due to USSOCOM conducting a comprehensive analysis of future capabilities in support of the Interim National Security Strategy Guidance (INSSG). The National Systems Support to SOF (NSSS) program received increased funds (\$4.815 million) to further the innovation and development of space-based Intelligence, Surveillance, and Reconnaissance (ISR) technologies and system enhancements, and rapid prototype development for transition to existing SOCOM programs of record. JTWS funding decreased (-\$1.318 million) due to the Maritime variant transitioning into production. Increased funds to HF-TTL (\$4.553 million) and TVS/RSTA (\$1.681 million) will support Unmanned Aerial Systems (UAS) and space-based development efforts; pursue alternate precision, navigation, and timing (ALT PNT) and Low Probability of Intercept/Low Probability of Detection (LPI/LPD) Government-off-the-Shelf (GOTS) capabilities; and Unattended Ground and Maritime sensor integration efforts. The following decreases were made in support of critical emerging command priorities: ISP (-\$0.036 million); SOFPREP (-\$0.012 million); SSE (-\$0.105 million). Classified details for the increase of (\$2.481 million) are provided under separate cover. Silent Dagger funding increase (\$0.565 million) supports research and development for modernization of Signals Intelligence Processing, Exploitation, Dissemination (SIGINT PED) capability and technology insertion roadmap efforts; funding was transferred from PE 0305208BB; Project S400A, Distributed Common Ground/Surface Systems.

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>				Project (Number/Name) S400 / <i>SO Intelligence Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S400: <i>SO Intelligence Systems</i>	603.325	15.349	26.519	32.766	-	32.766	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This sub-project is part of the Military Intelligence Program (MIP). Provides for the identification, development, testing, and rapid prototyping of Special Operations Forces (SOF) intelligence equipment to identify and eliminate deficiencies in providing timely intelligence to deployed forces. Sub-projects address the primary areas of intelligence dissemination, sensor systems, tagging, tracking, and locating devices, integrated threat warning to SOF mission platforms, and SOF-unique support from space systems, including Tactical Exploitation of National System Capabilities (TENCAP). The systems developed and tested in this line item are National Systems Support to SOF (NSSS); Joint Threat Warning System (JTWS); Hostile Forces - Tagging, Tracking, and Locating (HF-TTL); Special Operations Tactical Video System/ Reconnaissance, Surveillance, and Target Acquisition (TVS/RSTA); SOF Planning, Rehearsal and Execution Preparation (SOFPREP); Integrated Survey Program (ISP); Sensitive Site Exploitation (SSE); and Silent Dagger (SDAG).

United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Command, Control, Communications, Computers, and Intelligence (C4I) systems continue to provide SOF with the required capabilities throughout the 21st century. USSOCOM's C4I systems comprise an integrated network of systems providing positive command and control and timely exchange of intelligence and threat warning to all organizational echelons. The C4I systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration with the Global Information Grid (GIG). The GIG allows SOF elements to operate with any force combination in multiple environments. The intelligence programs funded in this project will meet annual emergent requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: NSSS	0.862	0.879	5.712
Description: NSSS provides research and development, and rapid prototyping to support HQ SOCOM TENCAP program and supporting capabilities. NSSS improves the combat effectiveness of USSOCOM, its components, and the Theater Special Operations Commands (TSOC) by providing innovative space-based Intelligence, Surveillance, and Reconnaissance (ISR) technologies and system enhancements, products, and special communications capabilities to tactical SOF units. NSSS leverages current and developmental National systems to integrate with, augment, and support SOCOM systems. Focus areas include Geo-spatial Intelligence (GEOINT), Signals Intelligence (SIGINT), Special Communications, and intelligence fusion, reporting, and dissemination. NSSS efforts are characterized by rapid prototype development to transition to SOCOM Programs of Record.			
FY 2021 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Continue development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets, while coordinating with SOCOM operators and Programs of Record for production and operational fielding of successful capabilities. Emphasis areas include ISR support for Tagging, Tracking, and higher-accuracy Geo-locating of hostile and friendly forces, especially in low sensor density environments, and providing timely intelligence to deployed forces.</p> <p>FY 2022 Plans: Continues development of SOF-required prototype capabilities, primarily through leveraging current or developing technologies and assets, while coordinating with SOCOM operators and Programs of Record for production and operational fielding of successful capabilities. Emphasis areas include development of the Combined Intelligence Picture-All Source transceiver capability that leverages existing national space assets and long range precision fires integration with space based systems.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$4.833 million is due to USSOCOM conducting comprehensive analysis of future capabilities and added funds to NSSS program in support of the Interim National Security Strategy Guidance (INSSG). These additional funds will support the development of software and hardware to improve SOF access, content, and timeliness of data from national and commercial space assets in near peer threat environments.</p>			
<p>Title: JTWS</p> <p>Description: The JTWS System of Systems (SoS) enables the SOF Cryptologic and Cyber Enabling Joint Operator to collect, process, locate and exploit threat communications signals of interest in order to provide timely, relevant, and responsive intelligence, networked, cross-cueing, enhanced target acquisition, and threat warning avoidance information directly to SOF Commanders. Intelligence gathered is then transposed to National Databases. The JTWS is focused on multiple areas; Ground, Maritime, Air; Unmanned Aerial Systems (UAS), and Cyber Enabling. Each area has additional requirements for Communications Intelligence, Electronic Intelligence, and Precision Geo-location.</p> <p>FY 2021 Plans: Continue modular/scalable, open architecture, development and testing (D&T), and software defined solutions. Continue development of technologies with a focus on Near Peer signals of interest (SOIs). Focus hardware and software improvements that cyber harden our kits for Great Power Competition. Begin technical evaluation of machine learning and human language translation technology insertion into our existing systems to reduce SOF Operator workload. Perform developmental and operational testing on Maritime Electronic Intelligence capability for rapid fielding and deployment.</p> <p>FY 2022 Plans: Continues D&T of modular/scalable, open architecture, and software defined solutions. Continues efforts directed towards the modularity of technologies. Begins the development of software defined, cyber hardened technologies. Continues technical</p>	11.890	14.362	11.661

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>evaluation of machine learning and human language translation technologies for all variants in order to reduce SOF operator workload. Continues improvement of technology for Near Peer signals of interest.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$2.701 million is due to the Maritime Variant moving from Research & Development to Production.</p>				
<p>Title: HF-TTL</p> <p>Description: This program provides SOF with the necessary tools to find, fix, and finish target assets through the emplacement of sophisticated tags and devices that feed into an integrated architecture. HF-TTL provides Global Combatant Commanders (GCC) and SOF operators with an immediate capability to tag, track, and locate people, things, and activities. The HF-TTL program provides actionable intelligence for SOF mission planners. The mission sets comprise a mix of different classes of tags and their associated detection, interrogation, viewing, tracking, and communications systems that are fielded annually to SOF Components and TSOC based upon dynamic and emergent SOF operational requirements.</p> <p>FY 2021 Plans: Continue rapid prototyping, specialized device modifications, product development support, integration and operational testing and evaluation in support of UAS payload integration, maritime specialized tags development, and Low Probability of Intercept/Low Probability of Detection (LPI/LPD) waveform refinements.</p> <p>FY 2022 Plans: Continues integration and operational testing and evaluation in support UAS payload integration LPI/LPD waveform refinement, and small satellite payload development efforts.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$4.960 million is to support development efforts associated with a multi-tag TTL receiver payload for small satellite integration and testing.</p>		1.078	1.440	6.400
<p>Title: TVS/RSTA</p> <p>Description: This program provides SOF with critical Special Reconnaissance (SR) equipment that directly supports the planning and execution of SOF missions. This capability allows the SOF warfighter to meet SOF SR mission requirements to find, fix, finish, exploit, analyze, and disseminate information of an adversary's movement, construct, identification, location, and associated activities. TVS/RSTA provides Global Combatant Commands and SOF operators with an immediate capability to visually and electronically acquire people, things, and activities and provides actionable intelligence for SOF planners and Commanders. The program Family of Systems (FoS) consists of interoperable equipment to capture and transfer near-real-time ground-based, tactical day/night/reduced visibility, imagery, video, and electronic proximity and movement sensing, all capable of dissemination through SOF organic, global C4I, and commercial communications infrastructures.</p>		0.669	1.134	3.117

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p><i>FY 2021 Plans:</i> Continue specialized device modifications, integration and operational testing and evaluation.</p> <p><i>FY 2022 Plans:</i> Continues specialized device modifications for Unattended Ground and Maritime Sensors (UGS/UMS), integration with small satellite receiver payloads and operational testing and evaluation.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Increase of \$1.983 million will support development efforts associated with a UGS receiver payload for small satellite integration and testing.</p>			
<p><i>Title:</i> SOFPREP</p> <p><i>Description:</i> This program serves as the intelligence focal point for production of SOF enhanced GEOINT (maps, imagery, and terrain data) and three dimensional (3D) scene visualization databases. SOFPREP gathers, processes, exploits, disseminates, and manages classified high resolution 3D databases and GEOINT data in support of SOF training, mission rehearsal, and execution preparation systems. The program builds the SOF common geospatial environment and manages the authoritative database of SOF-specific GEOINT terrain data. SOFPREP is a National Geospatial-Intelligence Agency (NGA) certified co-producer in support of time-sensitive SOF specific requirements.</p> <p><i>FY 2021 Plans:</i> Continue testing and evaluation of operational prototype systems and Artificial Intelligence/Machine Learning (AI/ML) tools to speed production of correlated high resolution 3D geospatial databases.</p> <p><i>FY 2022 Plans:</i> Continues testing and evaluation of operational prototype systems and AI/ML tools to speed production of correlated high resolution 3D geospatial databases.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decrease of \$0.006 million is due to funding made available to support higher Command priorities in the year of execution.</p>	0.280	0.287	0.281
<p><i>Title:</i> ISP</p> <p><i>Description:</i> This program collects and produces current, detailed, tactical planning data to support military operations to counter threats against U.S. citizens, interests, and property located both domestically and overseas. ISP products are specifically tailored packages that provide operational information, as well as intelligence data for use by DOD and the U.S. Department of State to support operational planners for counter-terrorism operations, evacuations, and other rescue missions.</p>	0.415	0.803	0.797

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p><i>FY 2021 Plans:</i> Continue development and rapid fielding of ISP system and products to integrate with enterprise architecture and support the latest standards and technology.</p> <p><i>FY 2022 Plans:</i> Continues development and rapid fielding of ISP system and products to integrate with enterprise architecture and support the latest standards and technology.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decrease of \$0.006 million is due to funding made available to support emerging critical Command requirements in the year of execution.</p>			
<p><i>Title:</i> SSE</p> <p><i>Description:</i> This program uses rapid test and evaluation of emerging Biometric and Forensic technology to provide state-of-the-art capabilities to the warfighter for the exploitation of documents, electronic data, materiel, and forensic evidence on sensitive sites/objectives. Biometric kits collect and transmit unique, measurable biometric signatures from personnel, including live/latent fingerprints, iris patterns, and facial features. It also provides a means to verify against and enroll subjects into the DOD authoritative database, and to query that database to support hold or release decisions. Forensic kits enable on-objective linking of events to specific persons through chemical analysis, latent fingerprints, cell phones and computer data analysis, and deoxyribonucleic acid collection. Exploitation Analysis Centers provide theater-level mobile forensic capabilities for more in-depth exploitation of collected exploitable material.</p> <p><i>FY 2021 Plans:</i> Identify and acquire next generation equipment with a focus on touchless/cableless systems to extract and exploit data resident on digital media. Explore emerging capabilities to collect and process DNA samples from live and latent sources under ambient conditions. Continue technical evaluation of new technologies with an increase of test events.</p> <p><i>FY 2022 Plans:</i> Continues development of software applications to enable biometric signature collection, increased volumes of collectible exploitable material (CEM) to include documents, cell phones, and electronic media, and to counter advancements in encryption and countermeasures which makes access to collectible material more difficult. Continues new touchless development of hardware and software applications to collect biometric signatures and CEM on small mobile computer devices (tablets, smart phones, etc.) and to rapidly advise SOF Operators of matches to authoritative biometric databases and relevancy of CEM in order to facilitate subsequent operations and answer priority intelligence requirements.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i></p>	0.155	0.614	1.752

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021	
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021
Increase of \$1.138 million will support development efforts for forensic and rapid Deoxyribonucleic acid (DNA) exploitation capability and testing.			
Title: SOF Signals Intelligence (SIGINT) Silent Dagger (SDAG)		-	-
Description: SOF Signals Intelligence (SIGINT) Processing, Exploitation, Dissemination PED (SDAG) is family of products and services providing Intelligence, Surveillance, and Reconnaissance (ISR), and analytical capabilities at the Joint Task Force level and below through a combination of reach-back, forward support and collaboration. The Program supports all Components and TSOCs with capability that interconnects Warfighters, Sensors, and Analytic Tools to “Find and Fix” Enemy Combatants and/or Terrorists as well as information sharing across the SOCOM Enterprise and DOD. SIGINT PED provides SIGINT exploitation capability in both garrison and deployed environments. These capabilities will be pursued via rapid fielding techniques when appropriate.			0.565
FY 2022 Plans: Continues technology development, and integration of emerging technologies and capabilities enhancements for requirements including but not limited to: Advanced analytics, User Interfaces (UI), cloud computing, machine learning, and disconnected operations. Continues limited Objective Events and exercise participation to test integration of emerging technologies and obtain user feedback of items in development.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.565 million is due to a transfer of SDAG funding from PE 0305208BB/Distributed Common Ground/Surface Systems.			
Title: Classified Sub-Project		0.000	-
Description: Classified Sub-Project (provided under separate cover).			2.481
FY 2022 Plans: Details provided under separate cover.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$2.481 million will be provided under separate cover.			
Accomplishments/Planned Programs Subtotals		15.349	19.519
		FY 2020	FY 2021
Congressional Add: SSE - DOMEX Program		-	7.000

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

	FY 2020	FY 2021
FY 2021 Plans: Identify and acquire next generation equipment with a focus on touchless/cableless systems to extract and exploit data resident on digital media. Explore emerging capabilities to collect and process DNA samples from live and latent sources under ambient conditions. Continue technical evaluation of new technologies with an increase of test events.		
Congressional Adds Subtotals	-	7.000

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/020400INTL: <i>Intelligence Systems</i>	118.341	111.216	131.889	-	131.889	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

- NSSF introduces and integrates national systems capabilities into the SOF force structure and operations. This is accomplished by partnering with existing Intelligent Community and SOCOM programs of record to incorporate SOF mission requirements into current and developing technologies and assets. This leveraging of funds increases national and commercial systems awareness, demonstrates the tactical utility of national systems and commercial data, test technologies and evaluates operational concepts in biennial Joint Staff Special Projects, and allows for the transition of promising concepts and technologies to other SOF program offices for execution.
- JTWS is a SoS leveraging Commercial Off The Shelf (COTS)/Government Off The Shelf (GOTS) systems, as well as partnerships with other government agencies. The Program of Record (POR) will leverage capabilities requiring minimal modifications wherever possible. JTWS is making deliberate investments to evolve the program into modular/scalable systems with a framework supporting open architecture, software database and cyber hardened solutions. JTWS will address the continuously evolving Great Power Competition environments on the Ground, Air, Maritime, Unmanned Aerial System variants, leverage existing partnerships with other government agencies in order to integrate and sustain next generation need, from the Joint Components and as emerging threats require technology modernizations. The contracting strategy is a mixture of full and open competition for prime integrators, broad area announcements, and existing Indefinite Delivery/Indefinite Quantity (IDIQ) contracts.
- HF-TTL utilizes an evolutionary acquisition strategy to provide highly sophisticated TTL and close target audio/video devices capable of operating in various environments as needed to meet SOF operational requirements. Commercial and government agency sources will be leveraged for required certifications, device level modifications, integration, functional, and operational testing and evaluations.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>
<ul style="list-style-type: none"> • TVS/RSTA employs an evolutionary strategy to incorporate the latest state of technology within its product line to provide upgraded next-generation technology insertion of COTS systems and address the changing threat environment to meet SOF reconnaissance and surveillance mission requirements. Commercial and government agency sources will be leveraged for required certifications, system level integration, functional, and operational testing and evaluations. • SOFPREP uses a rapid acquisition strategy to facilitate rapid and iterative delivery of digital products to meet emerging SOF requirements. Commercial, open and government sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations. • ISP uses a rapid acquisition strategy to facilitate rapid and iterative delivery of digital products to meet emerging SOF requirements. Commercial, open and government sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations. • SSE uses a rapid acquisition strategy to provide next-generation technologies for collection, processing, exploitation and dissemination capabilities supporting SOF exploitation mission requirements. Commercial and government agency sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations. • SDAG is a system of systems leveraging National services, controlled commercial hardware, and SOF specific capabilities, acquired through contracts and partnerships with Other Government Agencies (OGA). The Program represents SOF equities to OGAs, programs, and National capabilities sponsors to innovate capability for SOF SIGINT PED. The acquisition strategy is a mixture of agency partnerships and government capability providers leveraging open competition with controlled supply chains. 		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
National Systems Support to SOF (NSSS)	MIPR	Various : Various	55.260	0.862	Feb 2020	0.879	Feb 2021	5.712	Feb 2022	-		5.712	Continuing	Continuing	-
Joint Threat Warning System (JTWS) - All Variants (Air, Ground, Maritime, and Unmanned)	MIPR	Various : Various	111.003	7.485	Jan 2020	8.762	Feb 2021	9.798	Feb 2022	-		9.798	Continuing	Continuing	-
Hostile Forces-Tagging Tracking, and Locating (HF-TTL)	C/CPFF	Various : Various	4.884	0.854	Feb 2020	1.152	Feb 2021	4.759	Mar 2022	-		4.759	Continuing	Continuing	-
Tactical Video System/ Reconnaissance, Surveillance, & Target Acquisition (TVS/RSTA)	MIPR	Various : Various	0.957	0.402	Jul 2020	0.851	Jan 2021	1.839	Mar 2022	-		1.839	Continuing	Continuing	-
Integrated Survey Program (ISP) - Development, Test and Evaluation	C/FFP	Various : Various	2.320	0.415	Jan 2020	0.803	Jan 2021	0.797	Jan 2022	-		0.797	Continuing	Continuing	-
Sensitive Site Exploitation-Development (Cong Add)	Various	Various : Various	-	-		4.200	May 2021	-		-		-	Continuing	Continuing	-
Independent Verification and Validation - SOF Signals Intelligence Processing Exploitation, and Dissemination (SOF SIGINT PED)	MIPR	Various : Various	-	-		-		0.565	Apr 2022	-		0.565	Continuing	Continuing	-
Classified Sub-Project	C/TBD	TBD : TBD	-	-		-		2.481		-		2.481	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	164.397	-		-		-		-		-	0.000	164.397	-
Subtotal			338.821	10.018		16.647		25.951		-		25.951	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JTWS Chamber Access/ SOI Emitters	MIPR	Various : Various	56.018	4.105	Jun 2020	4.800	May 2021	0.800	May 2022	-		0.800	Continuing	Continuing	-
Prior Year Funding - Completed Efforts	Various	Various : Various	116.844	-		-		-		-		-	0.000	116.844	-
Subtotal			172.862	4.105		4.800		0.800		-		0.800	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JTWS Integration/Test/ Test Support	Various	Various : Various	21.799	0.300	May 2020	0.800	Nov 2020	1.063	Nov 2021	-		1.063	Continuing	Continuing	-
HF-TTL	MIPR	ATEC : FT Huachuca, AZ	1.520	0.224	May 2020	0.288	May 2021	1.641	May 2022	-		1.641	Continuing	Continuing	-
TVS/RSTA - User Assessments	MIPR	ATEC : FT Huachuca, AZ	6.719	0.267	Nov 2020	0.283	Jan 2021	1.278	Mar 2022	-		1.278	Continuing	Continuing	-
SOPREP - Prototype Systems	C/FFP	Various : Various	1.022	0.280	Mar 2020	0.287	Mar 2021	0.281	Mar 2022	-		0.281	Continuing	Continuing	-
Sensitive Site Exploitation	MIPR	Various : Various	6.654	0.155	Feb 2020	0.614	May 2021	1.752	Jan 2022	-		1.752	Continuing	Continuing	-
Sensitive Site Exploitation (Cong Add)	Various	Various : Various	-	-		2.800	May 2021	-		-		-	0.000	2.800	-
Prior Year Funding - Completed Efforts	Various	Various : Various	53.928	-		-		-		-		-	0.000	53.928	-
Subtotal			91.642	1.226		5.072		6.015		-		6.015	Continuing	Continuing	N/A

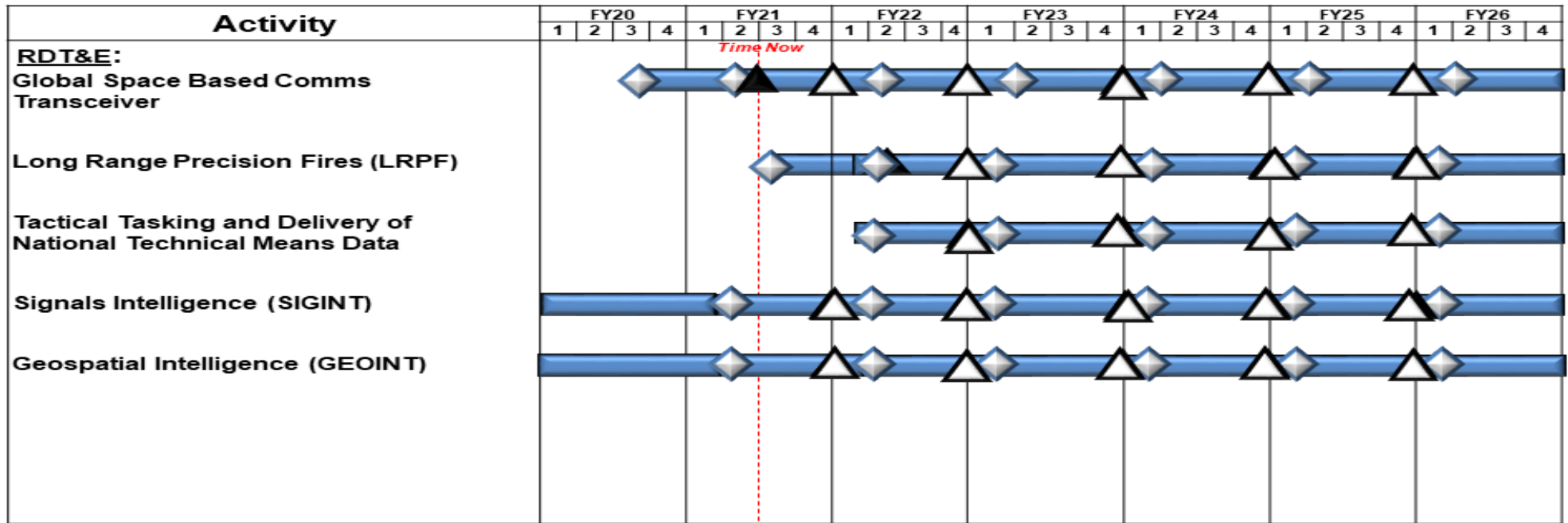
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		603.325	15.349	26.519	32.766	-	32.766	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

National System Support To SOF (NSSS) / Tactical Exploitation of National System Capabilities (TENCAP) Schedule



▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160405BB / Intelligence Systems Development

Project (Number/Name)
S400 / SO Intelligence Systems

Joint Threat Warning System (JTWS) Schedule

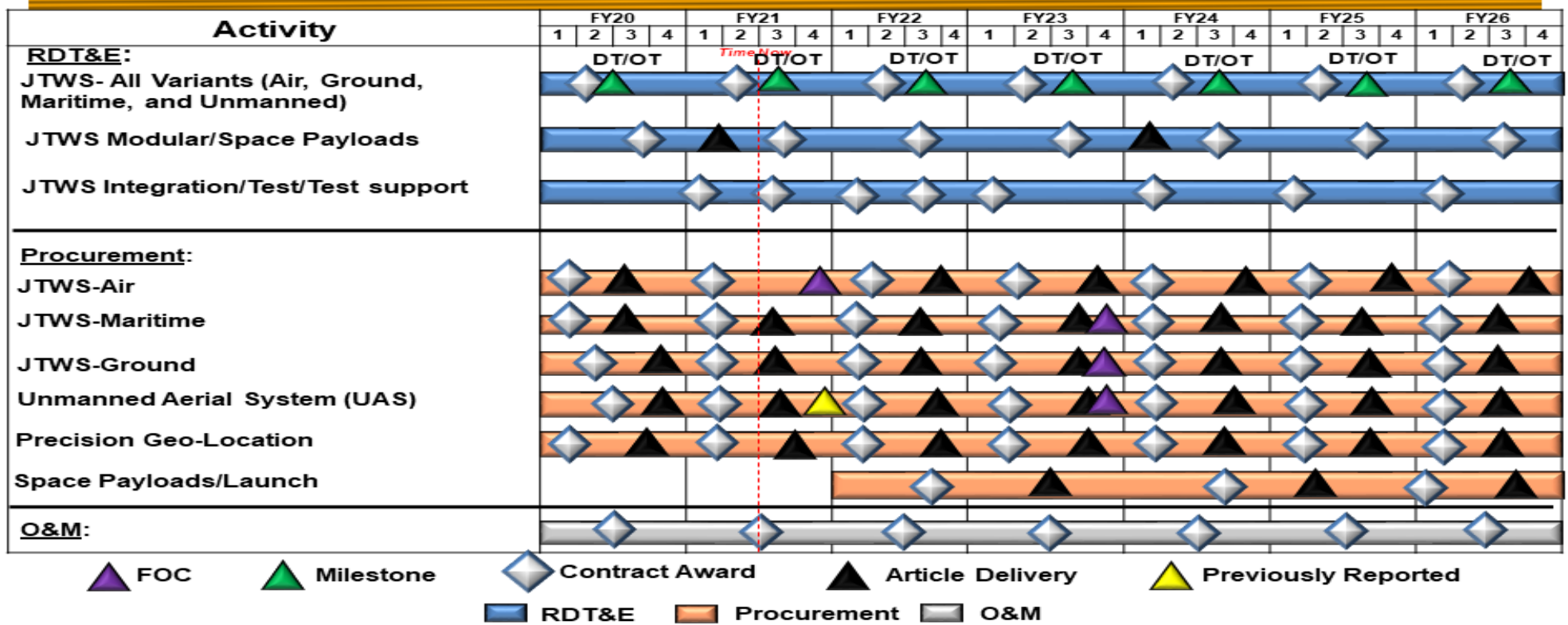
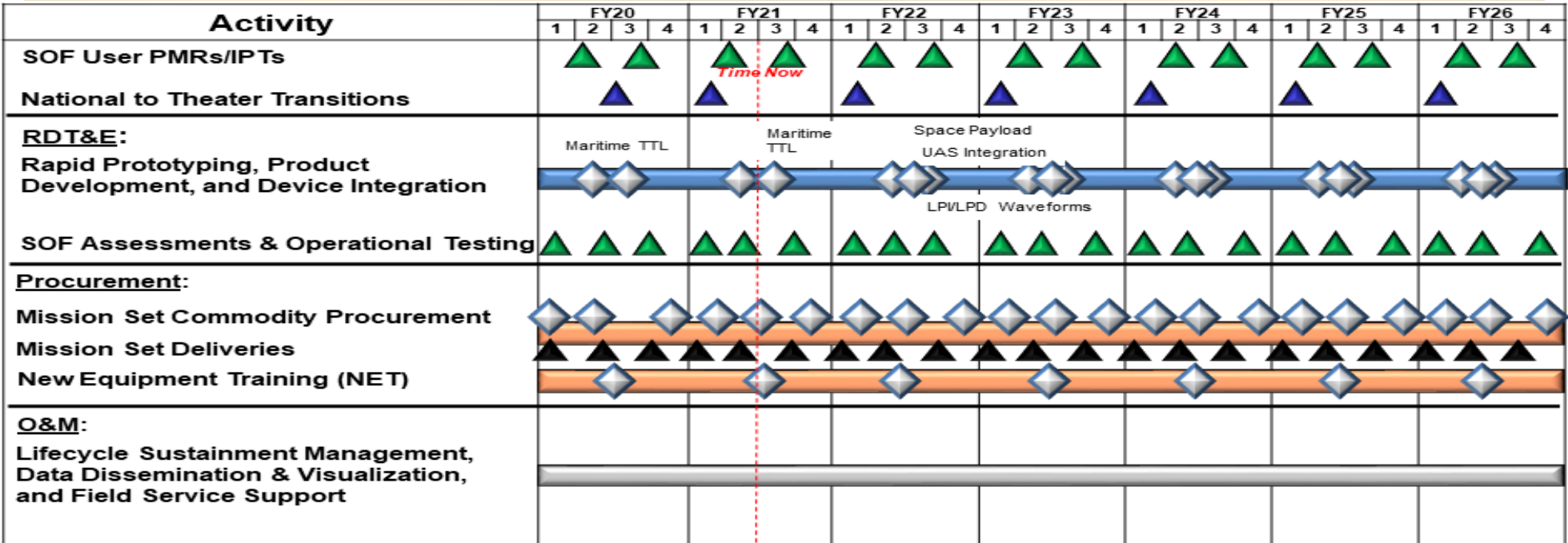


Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

Hostile Forces-Tagging Tracking Locating Schedule



- ▲ Milestone
- ◆ Contract Award
- ▲ Article Delivery
- ▲ External Developments
- ▲ Previously Reported
- RDT&E
- Procurement
- O&M

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command Date: May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / Intelligence Systems Development	Project (Number/Name) S400 / SO Intelligence Systems
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Special Operations Tactical Video System / Reconnaissance, Surveillance, and Target (TVS/STA) Schedule

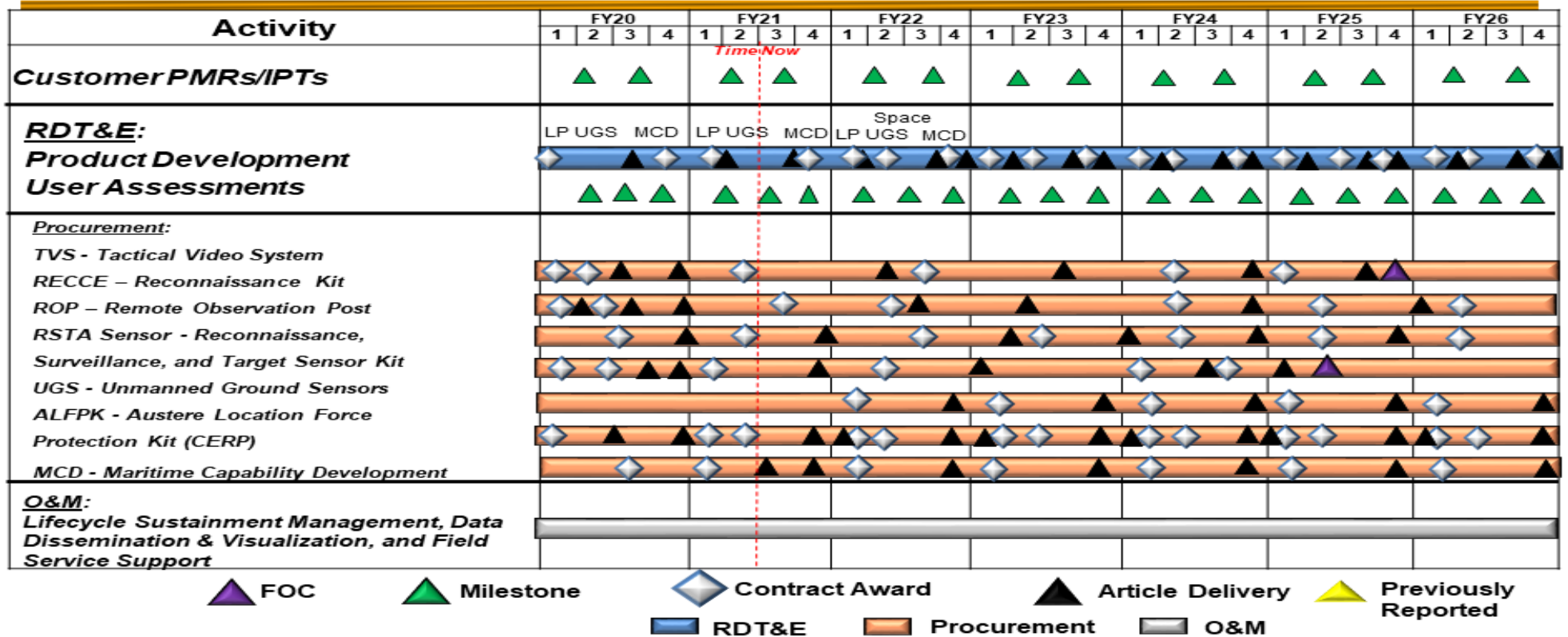
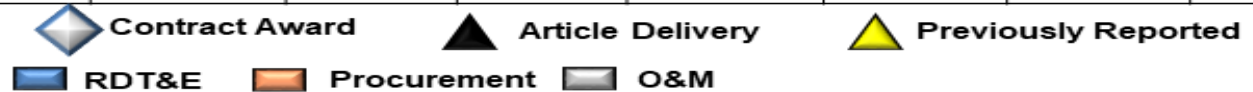
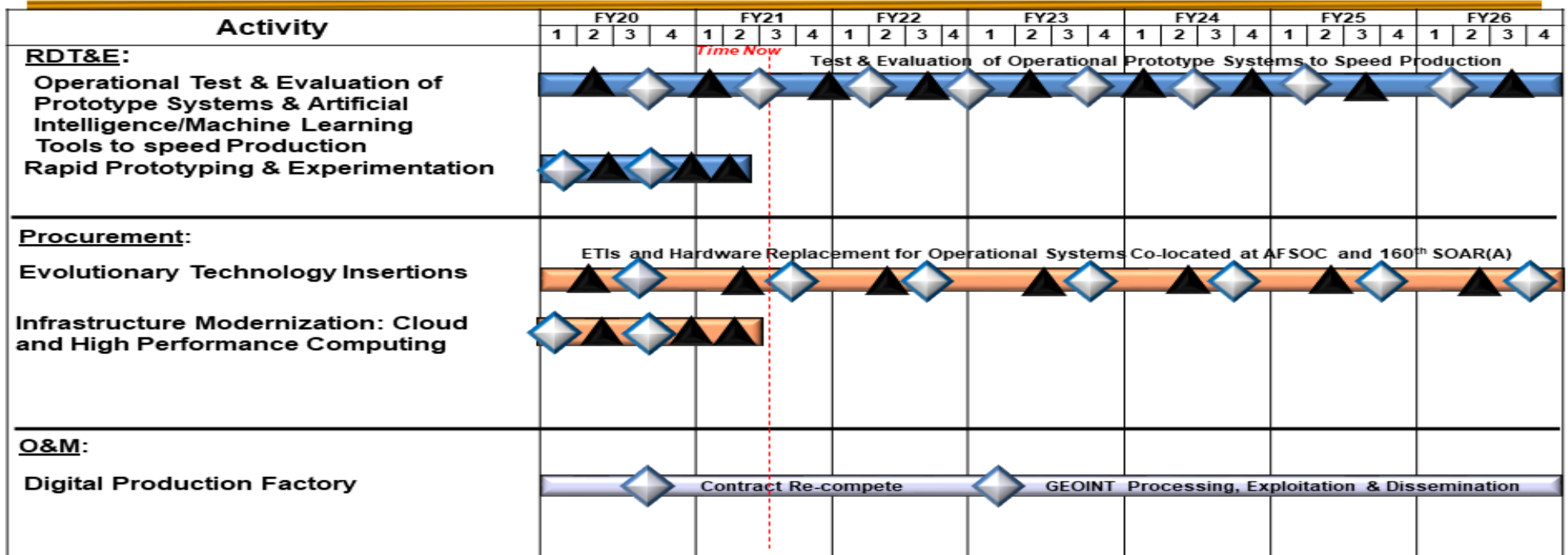


Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / Intelligence Systems Development	Project (Number/Name) S400 / SO Intelligence Systems

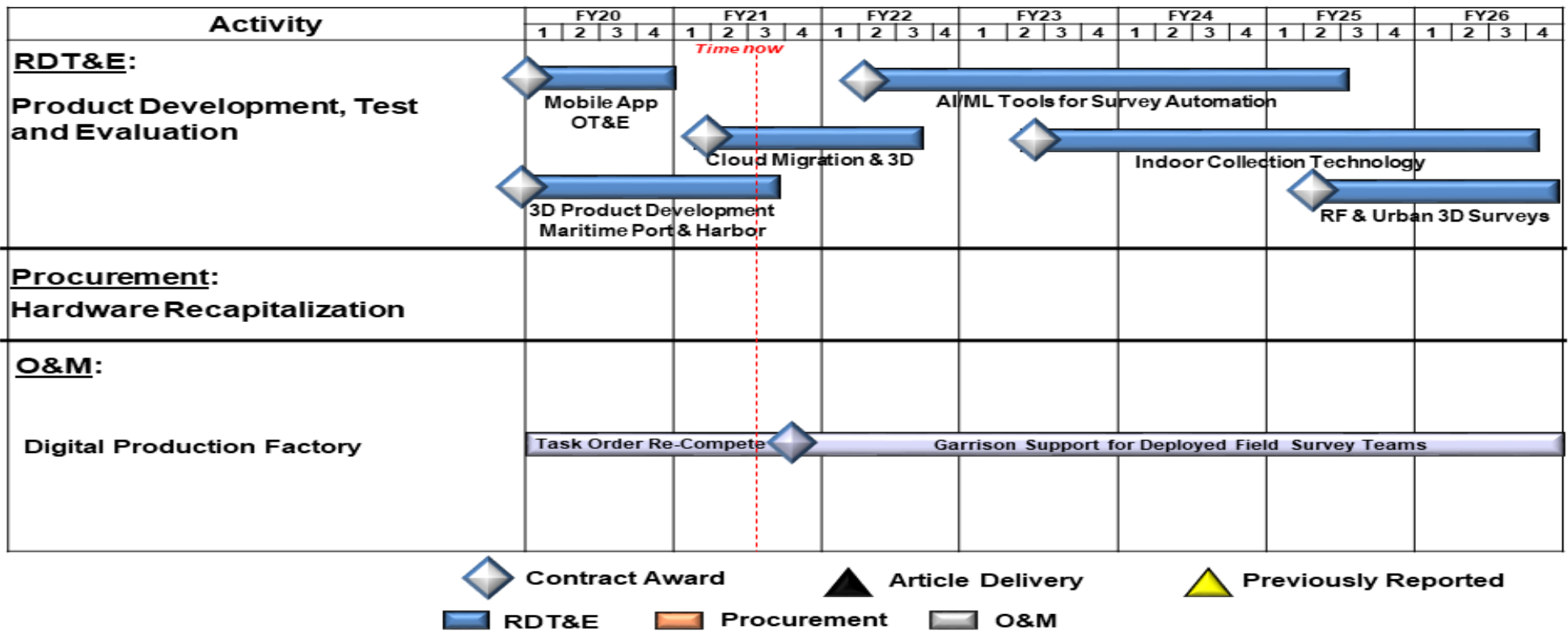
SOF Planning, Rehearsal and Execution Preparation (SOFPREP) Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

Integrated Survey Program (ISP)



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / Intelligence Systems Development	Project (Number/Name) S400 / SO Intelligence Systems

Sensitive Site Exploitation (SSE) Schedule

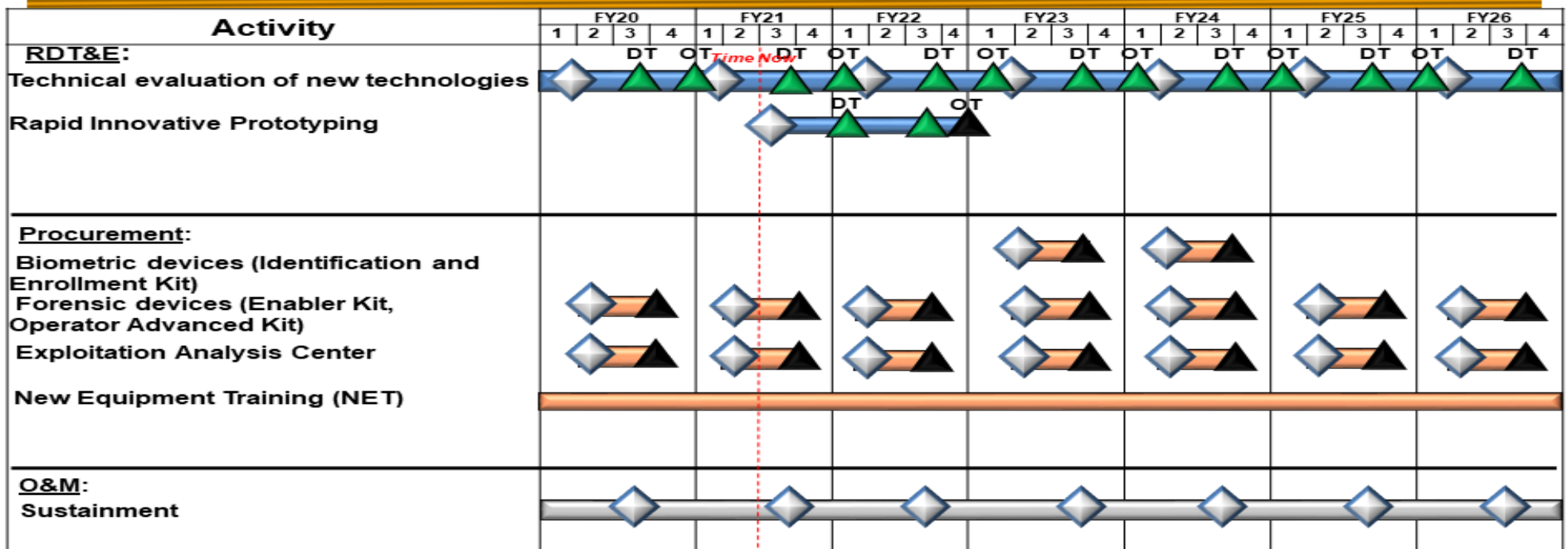
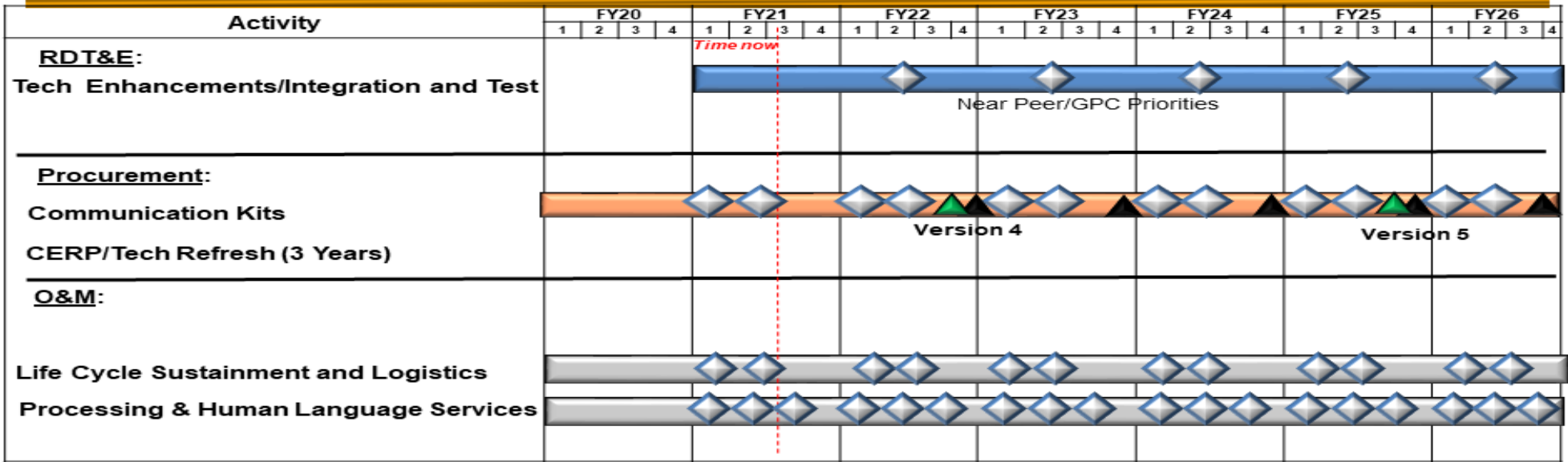


Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>

SOF Signals Intelligence (SIGINT) Silent Dagger (SDAG) Schedule



Note: For FY 2021 and prior, funding was displayed under schedule titled SIGINT PED in PE 0305208BB, Project S400A. Beginning FY 2022, funding is contained in PE 1160405BB Project S400 under schedule titled SDAG.

Note: Exercise & Limited Objective Events are depicted on ENT/ASIF and SGIP schedules.



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>National Systems Support to SOF (NSSS) Participation in Space Technology Development and Integration</i>				
Global Space Based Comms Transceiver	3	2020	4	2026
Long Range Precision Fires (LRPF)	3	2021	4	2026
Tactical Tasking and Delivery of National Technical Means Data	1	2022	4	2026
Signals Intelligence (SIGINT)	1	2020	4	2026
Geospatial Intelligence (GEOINT)	1	2020	4	2026
<i>Joint Threat Warning System (JTWS)</i>				
JTWS - All Variants (Air, Ground, Maritime, and Unmanned)	1	2020	4	2026
JTWS Modular/Space Payloads	1	2020	4	2026
JTWS Integration/Test/Test support	1	2020	4	2026
<i>Hostile Forces - Tagging, Tracking, and Locating (HF-TTL)</i>				
Rapid Prototyping, Product Development, and Device Integration	1	2020	4	2026
SOF Assessments and Operational Testing	1	2020	4	2026
<i>Special Operations Tactical Video System/Reconnaissance, Surveillance, and Target Acquisition (SOTVS/RSTA)</i>				
Product Development	1	2020	4	2026
User Assessments	1	2020	4	2026
<i>Special Operations Forces Planning, Rehearsal & Execution Preparation (SOFPREP)</i>				
Operational Test and Evaluation of Prototype Systems to speed production	1	2020	4	2026
Rapid Prototyping and Product Development	1	2020	2	2021
<i>Integrated Survey Program (ISP)</i>				

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160405BB / <i>Intelligence Systems Development</i>	Project (Number/Name) S400 / <i>SO Intelligence Systems</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Product Development, Test and Evaluation	1	2020	4	2026
<i>Sensitive Site Exploitation (SSE)</i>				
Technical evaluation of new technologies	1	2020	4	2026
Rapid Innovative Prototyping	3	2021	4	2022
<i>SOF Signals Intelligence (SIGINT) Silent Dagger (SDAG)</i>				
Tech Enhancements & Integration	1	2021	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160408BB / <i>Operational Enhancements</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	1,542.129	158.493	174.122	145.830	-	145.830	-	-	-	-	-	-
S500A: <i>Operational Enhancements</i>	1,542.129	158.493	174.122	145.830	-	145.830	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Details are provided under separate cover.

This program requested \$120.563 million in Base Requirements and \$25.267 million for Enduring Costs Requirements.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	160.648	137.227	137.609	-	137.609
Current President's Budget	158.493	174.122	145.830	-	145.830
Total Adjustments	-2.155	36.895	8.221	-	8.221
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.105			
• Congressional Rescissions	-	-			
• Congressional Adds	-	37.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.698	-			
• Realignment	3.543	-	-	-	-
• Other Adjustments	-	-	8.221	-	8.221

Change Summary Explanation

Funding:

FY2020: Net decrease of \$2.155 million is due to transfer of funds to Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) programs (-\$5.698 million) and details for an increase are provided under separate cover (\$3.543 million).

FY2021: Net increase of \$36.895 million details are provided under separate cover.

FY2022: Net increase of \$8.221 million details are provided under separate cover.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	PE 1160408BB / <i>Operational Enhancements</i>

The FY 2022 funding request was reduced by \$7.808 million to account for the availability of prior year execution balances. Additional details are provided under separate cover.

FY 2022 Fiscal Balancing -\$1.504 million decrease is attributed to the reductions necessary to accommodate budget realities and directed strategy driven changes. Additional details are provided under separate cover.

Schedule: None.

Technical: None.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	290.037	76.628	64.095	78.592	-	78.592	-	-	-	-	-	-
D476: <i>Military Information Support Operations</i>	49.647	5.565	4.261	3.168	-	3.168	-	-	-	-	-	-
S375: <i>Weapons Systems</i>	6.041	1.509	1.604	1.514	-	1.514	-	-	-	-	-	-
S385: <i>Soldier Protection and Survival Systems</i>	31.107	13.465	10.612	14.625	-	14.625	-	-	-	-	-	-
S385A: <i>Body Armor and Associated Equipment</i>	8.443	1.717	1.738	1.684	-	1.684	-	-	-	-	-	-
S395: <i>Visual Augmentation, Lasers and Sensor Systems</i>	15.096	3.168	2.171	5.047	-	5.047	-	-	-	-	-	-
S700: <i>Communications Equipment and Electronics Systems</i>	44.234	16.738	26.431	21.456	-	21.456	-	-	-	-	-	-
S710: <i>Tactical Systems Development</i>	7.238	2.710	3.344	6.331	-	6.331	-	-	-	-	-	-
S725: <i>Tactical Radio Systems</i>	32.835	10.627	7.940	2.999	-	2.999	-	-	-	-	-	-
S800: <i>Munitions Advanced Development</i>	95.396	21.129	5.994	21.768	-	21.768	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This Program Element (PE) provides for development, rapid prototyping, testing, and integration of specialized equipment in the areas of automation, communication, radio, weapon, soldier protection and survival, visual augmentation, lasers and sensors, munition and Military Information Support Operations (MISO) systems. Warrior Systems specialized equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. Special Operation Forces (SOF) must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success. The efforts within this PE improve SOF warfighting capabilities by continuing efforts to develop smaller, lighter, more efficient and more robust capabilities. The SOF mission mandates that SOF systems remain technologically superior to any threat to provide a maximum degree of survivability while, generally, being conducted in harsh environments for unspecified periods and in locations requiring small unit autonomy. Communications efforts will maintain a Command, Control, and Communications (C3) link between SOF Commanders and SOF Teams, and provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies and allied foreign forces. Efforts relating to soldier protection and

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>
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survival requirements will improve survivability and mobility of SOF while conducting varied missions. Counter Unmanned Aerial Systems (C-UAS) efforts rely on cutting edge detection sensors, both passive and active, paired with kinetic and non-kinetic defeat systems to allow SOF Operators to conduct Special Forces missions in denied and hostile environments worldwide. Specialized visual augmentation, lasers and sensors will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. Munition efforts include advanced engineering operational system development and qualification efforts related to SOF-peculiar munitions and equipment. Maritime Precision Engagement Munition (MPE-M) and Ground Organic Precision Strike System (GOPSS) will develop a SOF organic strike mission package to surgically strike an agile and mobile enemy, protect own forces, and minimize collateral damage. Additionally, MISO efforts include planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups and individuals. These technologies will be pursued via rapid prototyping efforts when appropriate.

FY 2020 funding totals include \$5.802 million appropriated for Overseas Contingency Operations.
FY 2021 funding totals include \$5.796 million appropriated for Overseas Contingency Operations.
FY 2022 funding totals include \$78.592 million Base with \$0.000 million Direct War and \$5.195 million for Enduring costs in the Base Budget.

MISO:
This project provides for the development, test and integration of MISO equipment. MISO are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct the seven phase MISO process (planning, targeting audience analysis, series development, product development and design, approval, production/distribution/dissemination, and measures of effectiveness) in support of combatant commanders.

Weapons Systems:
This project provides for next generation system development and Pre-Planned Product Improvements (P3I), testing, and integration of specialized weapon systems and weapon accessories to meet the unique requirements of SOF. Efforts include muzzle brakes and suppressors, and P3I for assault, sniper, and crew served weapons leveraging the latest technological advances to achieve overmatch capability against emerging threats.

Soldier Protection and Survival Systems:
This project funds development, testing, integration, rapid prototyping and evaluation of specialized equipment to meet the unique soldier protection and survival requirements of SOF, to include, but not limited to, individual survival equipment, hearing protection, clothing systems, load bearing equipment, Counter Radio Controlled Improvised Explosive Device (RC-IED) systems, Counter Unmanned Systems (aerial, ground and maritime), and personnel safety equipment to improve the mobility of SOF, while conducting varied missions. These missions are generally conducted in harsh and hostile environments, for unspecified periods and in locations requiring small unit autonomy.

Body Armor and Associated Equipment:
This project provides specialized equipment with ballistic protection to meet the unique soldier protection and survival requirements of SOF. Specialized ballistic equipment improves survivability and load bearing equipment impacting the mobility of SOF while conducting varied missions. This project enhances the SOF Personal

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	
<p>Equipment Advanced Requirements program by providing for the research, development, and testing of body armor plates, soft armor, helmets, eye protection, and other personal protective equipment to meet current ballistic threats that exist on the battlefield.</p> <p>Visual Augmentation, Lasers and Sensor Systems: This project provides for development, testing, and integration of specialized visual augmentation, laser and sensor systems equipment to meet the unique requirements of SOF and facilitate future Hyper-Enabled Operator capabilities. Programs in this area include binocular/monocular devices; next generation laser designation and geo-location systems; weapon aiming lasers, scopes and accessories; and training and simulation systems.</p> <p>Communications Equipment and Electronics Systems: This project provides for communication systems to meet emergent requirements to support SOF. SOF units require communications equipment that improves their warfighting capability without degrading their mobility. SOF Communications Equipment and Electronics is a continuing effort to develop smaller, lighter, more efficient and more robust SOF Command, Control, Communications, and Computer (C4) capabilities.</p> <p>Tactical Systems Development: This project provides for development, testing, and integration of specialized automation equipment to meet the unique requirements of SOF. Tactical systems provide forward deployed forces with advanced networking, automated data processing, storage, and display capabilities to support situational awareness, mission planning and execution, and Command and Control (C2) of forces. Digital Ecosystem provides SOF forces improved situational awareness of the battlespace by leveraging publicly available information.</p> <p>Tactical Radio Systems: This project is for the development of all SOF tactical radio programs. SOF units require radio communication equipment that improves their warfighting capability without degrading their mobility. United States Special Operations Command (USSOCOM) has developed an overall strategy to ensure that Tactical Radio Systems continue to provide SOF with the required capabilities throughout the 21st century. SOF Tactical Radios provide the critical C3 link between SOF Commanders and SOF Teams involved in operational missions and training exercises. They also provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies, and allied/coalition forces. Tactical Radios rapidly and seamlessly establish and maintain mobile and fixed C2 communications between infiltrated/operational elements and higher echelon headquarters, allowing SOF to operate with any force combination in multiple environments.</p> <p>Munitions Advanced Development: This project provides for the advanced engineering, operational system development, and qualification efforts related to SOF-peculiar and Foreign/Non-standard munitions and equipment. Funding supports development of Insensitive Munitions (IM) technology and evaluation, in accordance with statutory requirement set forth in U.S. Code, Title 10, Chapter 141, Section 2389 (December 2001). Testing is in accordance with the USSOCOM IM Strategic Plan. Funding also supports efforts to develop and improve MPE-M, GOPSS, and Stand-Off Precision Guided Munitions (SOPGM), including the development and integration of various technologies to enhance/modernize the SOPGMs delivered on to SOF and non-SOF platforms. When appropriate, these technologies will be pursued via rapid prototyping to develop, demonstrate and evaluate residual operational capabilities.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	81.514	65.307	55.509	-	55.509
Current President's Budget	76.628	64.095	78.592	-	78.592
Total Adjustments	-4.886	-1.212	23.083	-	23.083
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.212			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.691	-			
• Other Adjustments	-2.195	-	19.820	-	19.820
• Digital Ecosystem	-	-	3.263	-	3.263

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: D476: *Military Information Support Operations*

Congressional Add: *NGLS*

Congressional Add Subtotals for Project: D476

Project: S800: *Munitions Advanced Development*

Congressional Add: *SOPGM*

Congressional Add Subtotals for Project: S800

Congressional Add Totals for all Projects

	FY 2020	FY 2021
	3.868	-
Congressional Add Subtotals for Project: D476	3.868	-
	12.571	-
Congressional Add Subtotals for Project: S800	12.571	-
Congressional Add Totals for all Projects	16.439	-

Change Summary Explanation

Funding:

FY 2020: Net decrease of \$4.886 million is due to the transfer of funds to Small Business Innovative Research/Small Business Technology Research Transfer (SBIR/STTR) programs (\$2.691 million) and funding was made available to support emerging Command requirements in the year of execution (\$2.195 million).

FY 2021: Net decrease of \$1.212 million is due to a Congressionally directed reduction in MMP (\$1.178 million) and a Defense-Wide Congressionally directed reduction in Media Production Center (\$0.034 million).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command Date: May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>
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FY 2022: Net increase of \$23.083 million is due to an increase for MPE-M/GOPSS design configuration development, testing and evaluation, improvement, and subsequent Critical Design Review milestone activity (\$12.546 million), Digital Ecosystem (DE) expansion of data sources, analysis tool/application development, and managed attribution architecture development (\$3.263 million), initiating Visual Augmentation Systems (VAS) Joint Acquisition Task Force/Hyper Enabled Operator (JATF/HEO) transition of an integrated head-mounted sensor and AR display providing threat detection (\$2.912 million), continue SOPGM integration/development efforts (\$0.719 million), initiating on-operator power and data management efforts within the SOF Personal Equipment Advanced Requirements (SPEAR) program (\$1.670 million), Munitions Advanced Development new Maritime Disablement Operations (MDO) requirement and complimentary efforts (\$0.976 million), addressing Blue Force Tracking (BFT) capability enhancements outlined in the latest Capability Development Document version (\$0.500 million), and initiating Tactical Combat Casualty Care (TCCC) new USSOCOM Brain Health RDT&E line. This new effort is in support of the blast overpressure event capture with longitudinal tracking of SOF end users' neurocognitive health to support treatment and recovery (\$0.497 million).

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) D476 / <i>Military Information Support Operations</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
D476: <i>Military Information Support Operations</i>	49.647	5.565	4.261	3.168	-	3.168	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development and acquisition of Military Information Support Operations (MISO) equipment. MISO are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately, the behavior of foreign governments, organizations, groups, and individuals. This project funds transformational systems and equipment to conduct MISO in support of combatant commanders.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Fly-Away Broadcast System (FABS)	0.897	0.708	0.696
Description: FABS is a transit case fly-away broadcast system that utilizes commercial & industry standard technology to disseminate approved messaging to target audiences via Frequency Modulation (FM), Shortwave (SW), cellular Short Message Service (SMS) and Television (TV) transmitter.			
FY 2021 Plans: Continue testing and evaluation of new systems and components to enhance MISO broadcasts, to include development of Next Generation FABS (v4) to integrate key capabilities to enhance MISO Broadcasts for Next Generation Loud Speakers-Scatterable Media (NGLS-SM) and Software Defined Radio (SDR) implementation that improves efficiencies and reduces Size, Weight, and Power (SWAP). Begin implementation of Windows Tactical Assault Kit - Common Operating Picture (WINTAK/COP) enhancements.			
FY 2022 Plans: Continues testing and evaluation of new systems and components to enhance MISO broadcasts, to include development of Next Generation FABS (v4) to integrate key capabilities to enhance MISO Broadcasts for NGLS-SM and SDR implementation that improves efficiencies and reduces SWAP. Completes development of WINTAK/COP enhancements.			
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.012 million is due to cost share efficiencies in WINTAK/COP development and testing.			
Title: Next Generation Loud Speakers (NGLS)	0.800	0.879	0.885
Description: NGLS are portable systems capable of disseminating high quality recorded and live audio messages by MISO Forces in varied geographical area and climate conditions. NGLS consists of Dismounted and Mounted variants that are lighter,			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) D476 / <i>Military Information Support Operations</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>smaller, and louder than legacy speaker systems, with added clarity and durability. NGLS-SM is a hand-emplaced or air-delivered printed audio-visual device for disseminating delayed or on-cue messages to foreign target audiences.</p> <p>FY 2021 Plans: Continue development and evaluation of new systems and components to enhance MISO broadcasts. Complete NGLS-SM Increment 1 and NGLS-Dismounted GEN 2 with wireless End User Device. Complete MOBY Configurable Mission Module. Begin NGLS-SM Increment 2 and development of Windows Tactical Assault Kit - Common Operating Picture (WINTAK/COP) enhancements. Begin evaluation of NGLS-Sonic Projection.</p> <p>FY 2022 Plans: Continues development and evaluation of new systems and components to enhance MISO broadcasts. Completes NGLS-D GEN 2 with wireless End User Device and NGLS-SM INC 2 and development of WINTAK/COP enhancements. Continues NGLS-Sonic Projection development.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.006 million is due to development, test, and evaluation efforts for NGLS-SM.</p>				
<p>Title: Media Production Center (MPC)</p> <p>Description: MPC is a set of independent but inter-related multi-media production, editing, and archiving capabilities providing MISO Forces and other select organizations with options for imagery, audio, animation, and Audio/Video (AV) products of varying degrees of technical complexity and operational responsiveness.</p> <p>FY 2021 Plans: Initiate development of software application technologies on existing and new systems.</p> <p>FY 2022 Plans: Completes development and begins test and evaluation of software application technologies on existing and new systems.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$1.087 million due to completion of initial core development.</p>		-	2.674	1.587
Accomplishments/Planned Programs Subtotals		1.697	4.261	3.168
		FY 2020	FY 2021	
Congressional Add: NGLS		3.868	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) D476 / <i>Military Information Support Operations</i>

	FY 2020	FY 2021
FY 2020 Accomplishments: Congressional add continued development, test, and evaluation of distributable audio media and NGLS-SM.		
Congressional Adds Subtotals	3.868	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC1/0204OTHER: OTHER ITEMS <\$5M	103.059	82.691	62.722	-	62.722	-	-	-	-	-	-

Remarks

None.

D. Acquisition Strategy

- The FABS program has an evolutionary acquisition strategy. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.
- The NGLS program has an evolutionary acquisition strategy for the legacy NGLS Mounted and Dismounted and an incremental acquisition strategy for new developmental variants (NGLS-SM, NGLS-Sonic Projection). Commercial and government agencies will be leveraged for engineering, required certifications, functional and operating tests and acceptance support.
- The MPC program will pursue incremental development of advanced media and analytic software capabilities following commercial standards and best practices.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) D476 / <i>Military Information Support Operations</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Fly Away Broadcast Systems (FABS)	MIPR	Various : Various	5.204	0.897	Oct 2019	0.708	Feb 2021	0.100	Jul 2022	-		0.100	Continuing	Continuing	-
Next Generation Loud Speakers (NGLS)	Various	Various : Various	1.164	-		0.879	Feb 2022	0.885	Jan 2022	-		0.885	Continuing	Continuing	-
NGLS Congressional Add	Various	Various : Various	11.541	3.868	Apr 2021	-		-		-		-	0.000	15.409	-
Media Production Center (MPC)	C/Various	Various : Various	-	-		2.674	Feb 2021	-		-		-	Continuing	Continuing	-
Prior Year	C/Various	Various : Various	30.929	-		-		-		-		-	0.000	30.929	-
Subtotal			48.838	4.765		4.261		0.985		-		0.985	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NGLS	Allot	Various : Various	0.100	0.800	Apr 2020	-		-		-		-	Continuing	Continuing	-
FABS	MIPR	Various : Various	-	-		-		0.596	Mar 2022	-		0.596	Continuing	Continuing	-
MPC	C/Various	Various : Various	-	-		-		1.587	Jan 2022	-		1.587	Continuing	Continuing	-
Prior Year	MIPR	Various : Various	0.709	-		-		-		-		-	0.000	0.709	-
Subtotal			0.809	0.800		-		2.183		-		2.183	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.647	5.565	4.261	3.168	-	3.168	Continuing	Continuing	N/A

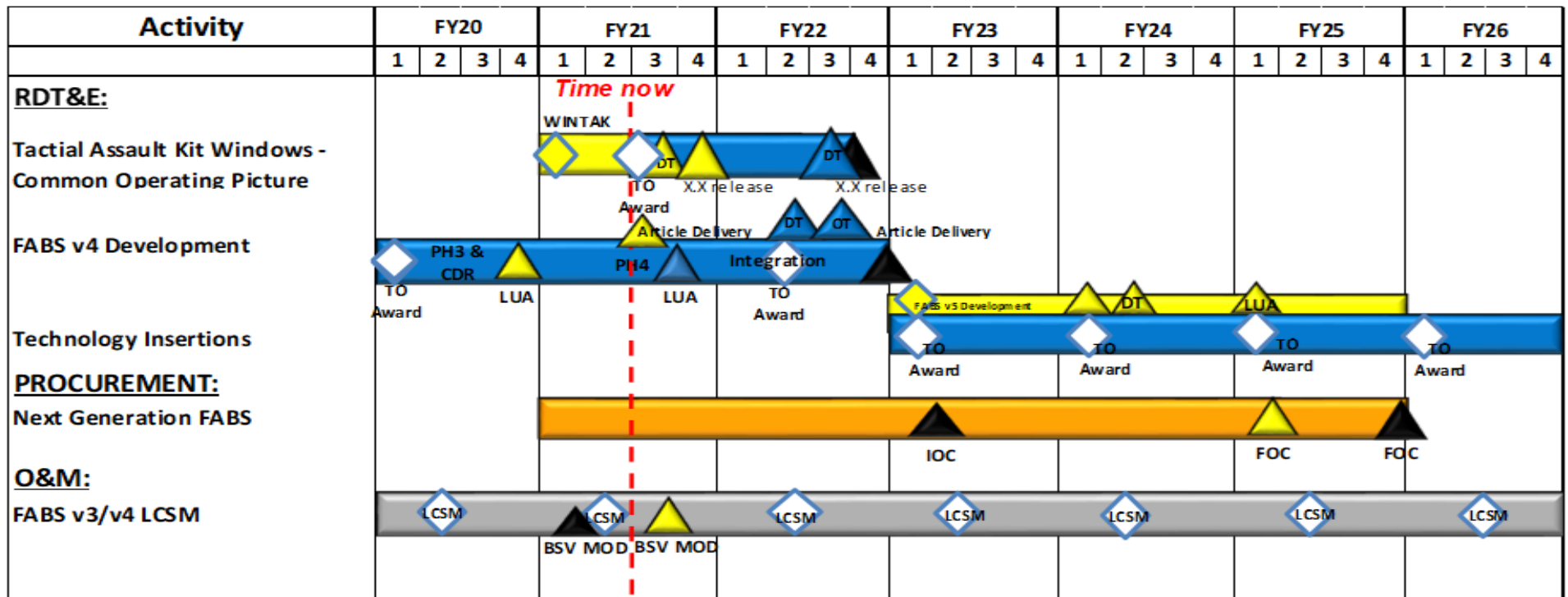
Remarks

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
D476 / Military Information Support Operations

Fly Away Broadcast System (FABS) Schedule

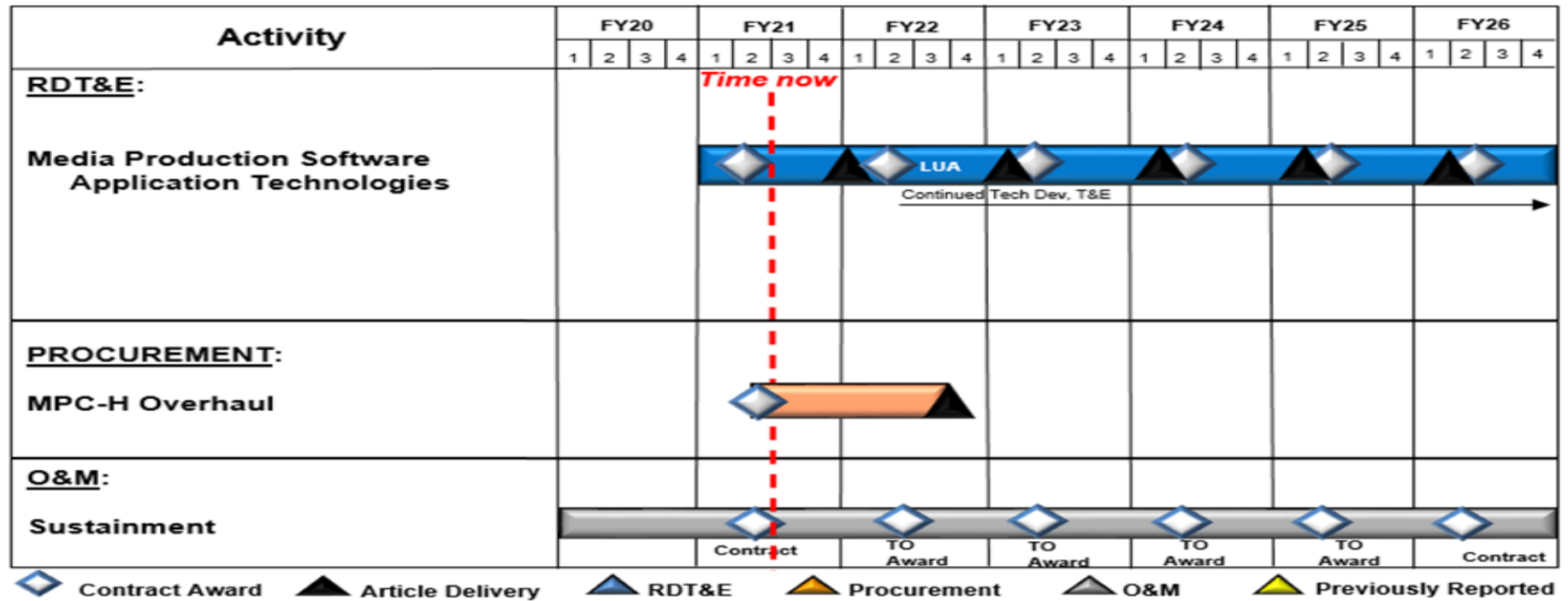


◆ Article Award
 ▲ Article Delivery
 ▲ RDT&E
 ▲ Procurement
 ▲ O&M
 ▲ Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) D476 / <i>Military Information Support Operations</i>

Media Production Center (MPC) Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) D476 / <i>Military Information Support Operations</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Fly Away Broadcast Systems (FABS)</i>				
Tactical Assault Kit Windows - Common Operating Picture (COP)	3	2021	3	2022
FABS (V4) Development	1	2020	4	2022
Technology Insertions	1	2023	4	2026
<i>Next Generation Loudspeakers (NGLS)</i>				
Scatterable Media (SM) Development, Test, and Evaluation INC 1	1	2020	1	2021
SM Development, Test, and Evaluation INC 2	2	2021	3	2022
Tactical Assault Kit Windows - COP	2	2021	3	2022
Dismounted GEN 2 Development, Test, and Evaluation	1	2020	3	2021
Configurable Mission Module (MOBY)	1	2020	4	2021
Sonic Projection Development	3	2021	3	2025
<i>Media Production Center (MPC)</i>				
Media Production Software Technologies	1	2021	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) S375 / <i>Weapons Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S375: <i>Weapons Systems</i>	6.041	1.509	1.604	1.514	-	1.514	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the next generation systems Pre-Planned Product Improvements (P3I), testing, and integration of specialized weapon systems and weapon accessories to meet the unique requirements of Special Operations Forces (SOF). The efforts include the product improvements and testing of the Suppressed Upper Receiver Group (SURG), Advanced Sniper Rifle (ASR), Machine Gun (MG) Barrel, Mid-Range Gas Gun (MRGG), Personal Defense Weapon (PDW), Hand Gun (HG) suppressor, Lightweight Machine Gun-Medium (LMG-M), and Advance Machine Gun (AMG). The product improvements will leverage the latest technological advances to achieve overmatch capability against current and emerging threats. These technologies will be pursued via rapid prototyping efforts when appropriate.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Weapons	1.509	1.604	1.514
Description: SOF weapons are developed to enable the operator to tailor the configuration of the weapon to the assigned mission and operational environment, enhancing the overall effectiveness of the weapons, which enables mission accomplishment and operator survivability. Weapons is designated a Middle Tier of Acquisitions (MTA) program which uses the rapid prototyping pathway and is executed using existing contracts, government agencies, and new contract competitively selected as appropriate.			
FY 2021 Plans: Continue development of enhanced capabilities to improve performance of individual sniper, rifle, and machine gun weapons.			
FY 2022 Plans: Continues development of enhanced capabilities to improve performance of individual sniper, rifle, and machine gun weapons to gain synergy on the Army's Next Generation efforts/gains.			
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.090 million is due to a reduction in testing and evaluation costs.			
Accomplishments/Planned Programs Subtotals	1.509	1.604	1.514

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PROC/0204WARRIOR: <i>Warrior Systems <\$5M</i>	344.003	342.606	284.548	-	284.548	-	-	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S375 / <i>Weapons Systems</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

Evolutionary acquisition, leveraging emerging technology and rapid prototyping efforts when appropriate. An evolutionary approach delivers capability in increments, recognizing, up front, the need for future capability improvements. Full and open competition with firm-fixed price contracts and other transaction authorities (OTAs).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S375 / <i>Weapons Systems</i>
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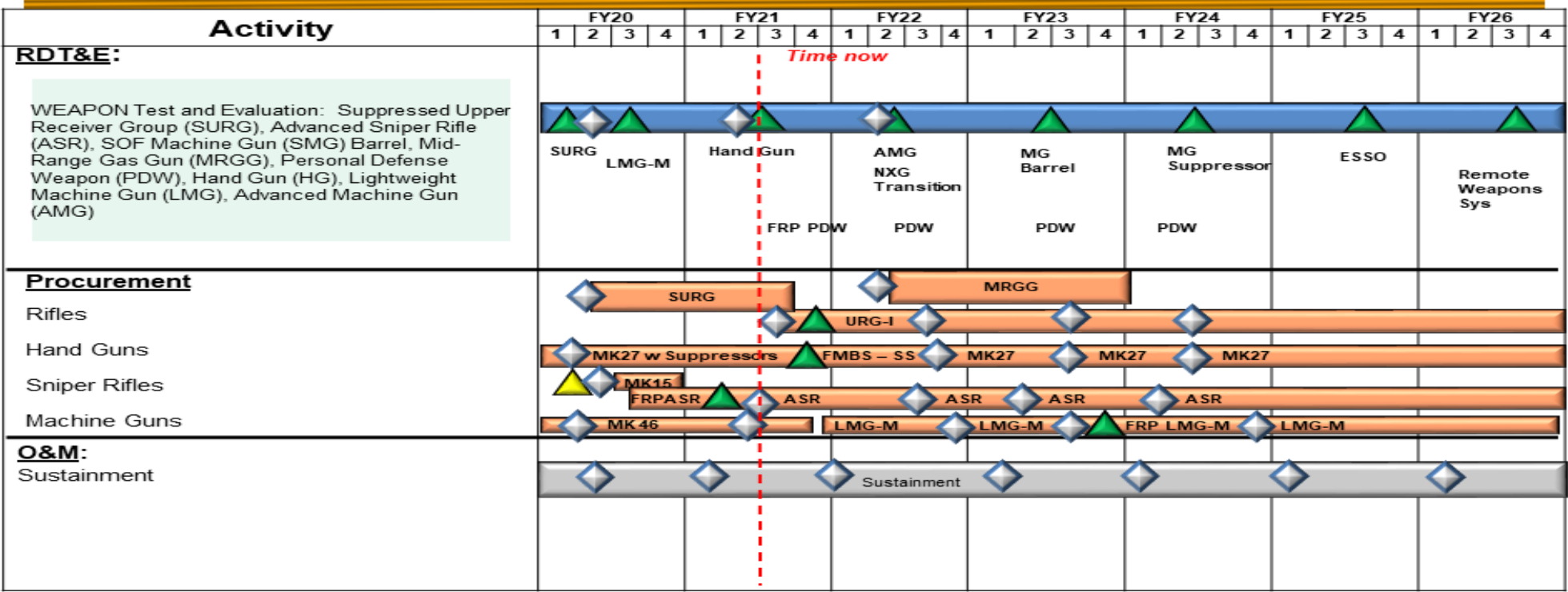
Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Weapon Test & Evaluation	MIPR	Various : Various	6.041	1.509	Jan 2020	1.604	Jan 2021	1.514	Jan 2022	-		1.514	Continuing	Continuing	-
Subtotal			6.041	1.509		1.604		1.514		-		1.514	Continuing	Continuing	N/A
Project Cost Totals			6.041	1.509		1.604		1.514		-		1.514	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S375 / <i>Weapons Systems</i>

Weapon Systems Schedule



▲ FOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S375 / <i>Weapons Systems</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Weapon Systems</i>				
Test & Evaluation: Suppressed Upper Receiver Group, Advanced Sniper Rifle, SOF Machine Gun Barrel, Mid-Range Gas Gun, Personal Defense Weapon, Hand Gun, Lightweight Machine Gun, Advanced Machine Gun	1	2020	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S385: <i>Soldier Protection and Survival Systems</i>	31.107	13.465	10.612	14.625	-	14.625	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project funds development, testing, integration, rapid prototyping and evaluation of specialized equipment to meet the unique soldier protection and survival requirements of Special Operations Forces (SOF), to include, but not limited to, individual survival equipment, hearing protection, clothing systems, load bearing equipment, Counter Radio Controlled Improvised Explosive Device (RC-IED) systems, Counter Unmanned Systems (aerial, ground and maritime), and personnel safety equipment to improve the mobility of SOF, while conducting varied missions. These missions are generally conducted in harsh and hostile environments, for unspecified periods and in locations requiring small unit autonomy. These technologies will be pursued via rapid prototyping efforts when appropriate.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SOF Personal Equipment Advanced Requirements (SPEAR)	0.256	1.232	2.980
Description: The SPEAR program provides for the research, development, testing and evaluation of a variety of individual and survival equipment to include: ballistic and environmental protective combat uniforms, load carriage systems, communications headsets, and visual augmentation system mounts.			
FY 2021 Plans: Continue research and development of land communications materiel solutions and environmental protective combat uniforms. Continue materials testing and incorporation into commodity lines. Continue wireless headset evaluations. Continue interoperability of headsets with radios and integrated communication systems.			
FY 2022 Plans: Initiates Land Communications Headset recompetete efforts. Continues environmental protective combat uniforms, materials testing, and incorporation into commodity lines, wireless headset evaluations, and begins power and data management efforts.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$1.748 million initiates on-operator power and data management efforts within the SPEAR program.			
Title: Tactical Combat Casualty Care (TCCC)	0.232	0.229	0.706
Description: TCCC provides lifesaving medical devices, ancillary equipment and Casualty Evacuation (CASEVAC) sets for SOF. The CASEVAC procures a suite of Food and Drug Administration (FDA) approved medical items including, but not limited to, intraosseous infusion devices, patient monitoring and assessment devices, emergency airway kits, as well as devices that provide SOF the capability to support extraction, mobility, transportation, and sustainment of casualties in forward areas. The TCCC			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>program fields essential lifesaving CASEVAC equipment and capabilities and is a platform to transition capabilities developed under the National Mission Force's Tactical Medical Programs. This capability provides significant ability to lessen battlefield losses by providing timely, critical lifesaving and evacuation capabilities to the forward-deployed SOF operators.</p> <p>FY 2021 Plans: Continue test support to include program management, market surveys, rapid prototyping, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC program. Continue the evaluation of enhanced medical monitoring systems capable of enabling telemedicine/telementoring for incorporation into the CASEVAC program.</p> <p>FY 2022 Plans: Continues the test support, market surveys, rapid prototyping, test article acquisition, test and evaluation and systems engineering in direct support of the CASEVAC program with continued focus on enabling telemedicine. The FY22 plan includes the initiation of the United States Special Operations Command (USSCOM) Brain Health Research, Development, Test, and Evaluation (RDT&E) line in support of the longitudinal tracking of SOF end users' neurocognitive health for treatment and recovery.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.477 million initiates the new USSOCOM Brain Health RDT&E line. This new effort is in support of the blast overpressure event capture with longitudinal tracking of SOF end users' neurocognitive health to support treatment and recovery.</p>				
<p>Title: Counter Radio Controlled-Improvised Explosive Device (RC-IED)</p> <p>Description: USSOCOM uses ground (mounted/dismounted) based jammers to provide Electronic Counter Measures (ECM) capabilities to counter radio frequency (RF) controlled devices. This program provides scalable ECM systems whose configuration and modularity address a mission critical capability to counter this threat globally. To stay ahead of emerging threats, USSOCOM has historically developed advanced techniques on an annual basis. Through strategic partnerships with the Services, and other government agencies, USSOCOM vastly improved program affordability while maintaining Joint Force compatibility. USSOCOM's Countering Weapons of Mass Destruction (CWMD) special mission remains the top hardware and special application module upgrades, SOCOM is able to use its ECM for its top priority mission and continue to apply advanced techniques against emerging threats across the spectrum of warfare including great power competition. All Next Generation ECM is designed to support SOF missions in great power competition, while maintaining cost effective counter violent extremist organization (CVEO) capabilities.</p> <p>FY 2021 Plans: Continue test support to the Counter RC-IED program. Continue system engineering, test and evaluation, test article acquisition, and market research of the ECM programs. Maintain range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems from state and non-state actors. Continue development and testing of ECM</p>		1.674	1.632	4.004

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>systems capability to include advanced software technique countermeasures and loadsets for mounted and dismounted systems. Continue implementation of Modi software refactoring, improving stability and future technology integration.</p> <p>FY 2022 Plans: Continues test support to the Counter RC-IED program. Continues system engineering, test and evaluation, test article acquisition, and market research of the ECM programs. Maintains range effectiveness and currency, ensuring the ability to accurately test against current and emerging threat systems from state and non-state actors. Continues development and testing of ECM systems capability to include advanced software technique countermeasures and loadsets for mounted and dismounted systems. Initiates Next Generation ECM development.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$2.372 million is due to initiating Next Generation ECM hardware and software development.</p>				
<p>Title: Counter Unmanned Aerial System (C-UAS)</p> <p>Description: SOF C-UAS enhances the SOF operator's ability to detect, identify, classify, locate, track, deter, defeat and exploit unmanned system threats. The funding in this program supports a Family of Systems (FoS) design, development, integration, prototyping and test of cutting edge technologies that deliver and integrate various capabilities including, but not limited to, interceptors, Radio Frequency (RF) detection and defeat, other passive detection, radar, and Electro-Optical and Infrared (EO/IR).</p> <p>FY 2021 Plans: Complete C-UAS Sensor Integration Module (SIM) FoS Middle Tier Acquisition rapid prototype and transitions to Army Rapid Capabilities and Critical Technologies Office (RCCTO) for continued development. Continue development and test of kinetic and non-kinetic capabilities of mounted, dismounted, and fixed-site expeditionary form factors to address emerging threats.</p> <p>FY 2022 Plans: Continues test and evaluation of sensor and effector capabilities of mounted, dismounted, and expeditionary fixed-site form factors to address emerging threats with a Systems Integration Partner (SIP).</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.601 million is due to streamlining contract support efforts and transition into a Systems Integration Partner (SIP).</p>		9.671	5.796	5.195
<p>Title: Personal Signature Management (PSM)</p> <p>Description: PSM provides for development, rapid prototyping, test, and evaluation of signature reducing materials and technology, in order to reduce the probability of detection by battlefield threat sensors.</p> <p>FY 2021 Plans:</p>		1.632	1.723	1.740

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Continue research, development, rapid prototyping, test and evaluation of next generation signature reducing solutions. Provide for program management, market research, test item acquisition and test and evaluation, in support of PSM efforts for both land and maritime operations.</p> <p>FY 2022 Plans: Continues research, development, rapid prototyping, test and evaluation of next generation signature reducing solutions. Provides for program management, market research, test item acquisition and test and evaluation, in support of PSM efforts for both land and maritime operations.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.017 million is due to increase in charges and cost of threat sensor exploitation.</p>			
Accomplishments/Planned Programs Subtotals	13.465	10.612	14.625

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

SPEAR: Contracts in support of SPEAR are a combination of Firm Fixed Price (FFP) five year Indefinite Delivery Indefinite Quantity (IDIQ) with single vendor awards, Source America mandatory sole sources, small business set asides and prime vendor style multiple awards.

TCCC: Operator & Medic Kits - Program managed by Program Manager - Special Operations Forces Survival, Support, and Equipment Systems (PM - SOF SSES) using US Army Medical Materiel Agency prime vendor contracts for equipment purchases and Special Operations Forces Support Activity (SOFSA) for warehousing and sustainment. CASEVAC Set - Program managed by PM - SOF SSES and utilizes and IDIQ Commercial-Off-The-Shelf (COTS) prime integrator contract.

RC-IED: USSOCOM collaborates with the DOD Electronic Counter Measures (ECM) managers and other government agencies in order to maintain Joint Force compatibility and improve program affordability. All next generation ECM development designed to support SOF missions in great power competition, while maintaining cost effective counter violent extremist organization (CVEO) capabilities. Centralized life cycle sustainment of SOF ECM inventory supports Theater Special Operations Command operational demand as Theater Provided Equipment (TPE), Component Continental United States home station training, and rapid deployment requirements. SOF collaborates with the Joint Services, Academia and other government agencies to maintain interoperability and cost effectiveness. SOF ECM will continue to leverage the SOF-to-Service transition of proven capabilities.

C-UAS: SOF C-UAS acquisition strategy focuses on the establishment of a SIP to work alongside Program Manager Counterproliferation. Together, we develop and integrate various sensors in mounted, dismounted and expeditionary fixed-site configurations that enhance SOF's ability to detect, identify, classify, locate, track,

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>
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deter, defeat, and exploit unmanned systems threats. While the services focus primarily on providing capability to address fixed site defense of homeland and Forward Operating Bases (FOBs); SOF requires an increased level of autonomy, lower size, weight, and power (SWaP), and limited signature solutions. Upon completion of various Combat Evaluations in FY20, C-UAS will transition into a Counter Unmanned Systems (CUxS) Program of Record with an approved Capabilities Development Document (CDD). Contracts are expected to be a combination of FFP and Cost type through full and open competition across the SOCOM focus areas. SOF C-UAS collaborates with the Joint C-UAS Office (JCO), Academia and other government agencies for solutions and to maintain interoperability and cost effectiveness when appropriate. SOF will continue to leverage the SOF-to-Service transition of proven capabilities where possible.

PSM: Signature reducing technologies will be embedded into SOF clothing and equipment via modified commercial-off-the-shelf variants. Contracts in support of fielding/sustainment of PSM clothing and equipment will be a combination of sole source FFP five year IDIQ contracts, Source America mandatory sole sources, small business set asides and prime vendor style multiple award contracts. PSM will utilize SOFSA for warehousing and sustainment.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S385 / Soldier Protection and Survival Systems</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SOF Personal Equipment Advanced Requirements (SPEAR) - Protective Combat Uniform (PCU)	Various	PM-SSES : Natick, MA	0.647	0.059	Jan 2020	0.400	Jan 2021	0.409	Jan 2022	-		0.409	Continuing	Continuing	-
SPEAR - Hearing Protection and Communications Headsets	Various	PM-SSES : Natick, MA	1.345	0.041	Jan 2020	0.300	Jan 2021	0.300	Jan 2022	-		0.300	Continuing	Continuing	-
SPEAR Modular Glove System (MGS)	Various	PM-SSES : Natick, MA	0.050	0.005	Jan 2020	0.030	Jan 2021	0.030	Jan 2022	-		0.030	Continuing	Continuing	-
SPEAR - Load Carriage System (LCS) and Backpacks	Various	PM-SSES : Natick, MA	0.090	0.017	Mar 2020	0.100	Mar 2021	0.100	Mar 2022	-		0.100	Continuing	Continuing	-
SPEAR - Power and Data Management	Various	PM-SSES : Natick, MA	-	-		-		0.750	Apr 2022	-		0.750	Continuing	Continuing	-
Counter Radio Controlled-Improvised Explosive Device (RC-IED) - Next Generation Capability Development	C/Various	Various : Various	-	-		-		2.327	Jun 2022	-		2.327	Continuing	Continuing	-
Counter Unmanned Aerial System (C-UAS) Emerging Threat Development (Dismount/Mount/ Expeditionary) Overseas Contingency Operations (OCO)	C/Various	Various : Various	-	1.741	Apr 2020	-		-		-		-	0.000	1.741	-
C-UAS Emerging Threat / Advanced Technology Development (Systems Integration Partner)	C/Various	Various : Various	-	2.551	Mar 2020	-		3.689	Mar 2022	-		3.689	Continuing	Continuing	-
C-UAS Emerging Threat / Advanced Technology Development (Systems Integration Partner) (OCO)	C/Various	Various : Various	-	-		3.527	Apr 2021	-		-		-	0.000	3.527	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command											Date: May 2021				
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>					Project (Number/Name) <i>S385 / Soldier Protection and Survival Systems</i>				

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
C-UAS Sensor Integration Module (SIM) Phase I: Concept Development (OCO)	C/VariOUS	Command, Control, Communications, Computers, and Counter-intelligence ISR Center, Night Vision & Electronic Sensors Directorate : Ft. Belvoir, VA	3.000	-		-		-		-		-	0.000	3.000	-
C-UAS SIM Phase II: Prototype Development	C/VariOUS	C5ISR Center, Night Vision & Electronic Sensors Directorate : Ft. Belvoir, VA	-	1.318	Mar 2020	-		-		-		-	0.000	1.318	-
C-UAS SIM Phase III: Operational Assessment and Test (OCO)	C/VariOUS	Various : Various	-	2.552	Apr 2020	-		-		-		-	0.000	2.552	-
Personal Signature Management (PSM) Development (Inc II and III)	Various	Various : Various	0.799	0.747	Jul 2020	0.861	Mar 2021	1.040	Mar 2022	-		1.040	Continuing	Continuing	-
Rotary Wing Aviation Helmet Congressional Add	C/VariOUS	PM-SSES : Natick, MA	1.500	-		-		-		-		-	0.000	1.500	-
Subtotal			7.431	9.031		5.218		8.645		-		8.645	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SPEAR - PCU testing/ Pre-Planned Product Improvement	Various	PM-SSES : Natick, MA	0.556	0.049	Mar 2020	0.100	Mar 2021	0.100	Mar 2022	-		0.100	Continuing	Continuing	-
SPEAR - MGS Test and Evaluation	Various	PM-SSES : Natick, MA	0.101	0.008	Jan 2020	0.045	Jan 2021	0.045	Jan 2022	-		0.045	Continuing	Continuing	-
SPEAR - Hearing Protection and Comms Headset Test & Evaluation	Various	PM-SSES : Natick, MA	1.878	0.058	Jan 2020	0.162	Jan 2021	0.162	Jan 2022	-		0.162	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S385 / Soldier Protection and Survival Systems</i>
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SPEAR - LCS/Body Armor Vest/Backpack Material and Prototype Test and Evaluation	Various	PM-SSES : Natick, MA	0.146	0.019	Feb 2020	0.095	Feb 2021	0.095	Feb 2022	-		0.095	Continuing	Continuing	-
SPEAR - Power and Data Managment	Various	PM-SSES : Natick, MA	-	-		-		0.989	Apr 2022	-		0.989	Continuing	Continuing	-
Tactical Combat Casualty Care (TCCC) CASEVAC Sets Development, Test and Evaluation	Various	PM-SSES : Natick, MA	1.738	0.232	Feb 2020	0.229	Jan 2021	0.209	Jan 2022	-		0.209	Continuing	Continuing	-
TCCC Brain Health Test and Evaluation	C/Various	PM-SSES : Natick, MA	-	-		-		0.497	Jan 2022	-		0.497	Continuing	Continuing	-
RC-IED Technology Insertion/Software/Techniques	C/Various	Various : Various	15.694	1.674	Apr 2020	1.632	Mar 2021	1.677	Mar 2022	-		1.677	Continuing	Continuing	-
C-UAS Test and Evaluation Support	C/Various	Various : Various	1.500	-		-		1.506	Nov 2021	-		1.506	Continuing	Continuing	-
C-UAS Test and Evaluation Support (OCO)	C/Various	Various : Various	-	1.509	Nov 2019	2.269	Mar 2021	-		-		-	0.000	3.778	-
PSM Test and Evaluation	Various	Various : Various	0.798	0.885	Jan 2020	0.862	Jan 2021	0.700	Feb 2022	-		0.700	Continuing	Continuing	-
Prior Year	MIPR	Various : Various	0.865	-		-		-		-		-	0.000	0.865	-
Prior Year (OCO)	Various	Various : Various	0.400	-		-		-		-		-	0.000	0.400	-
Subtotal			23.676	4.434		5.394		5.980		-		5.980	Continuing	Continuing	N/A

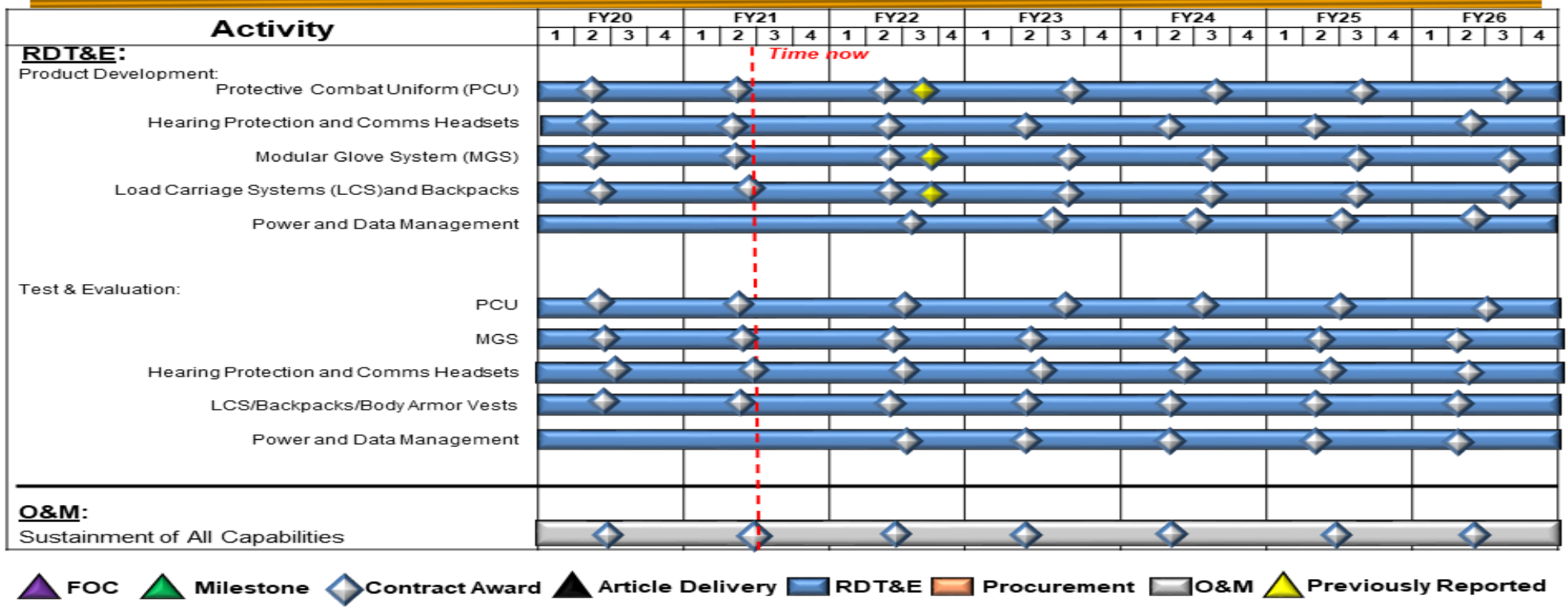
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	31.107	13.465	10.612	14.625	-	14.625	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems	Project (Number/Name) S385 / Soldier Protection and Survival Systems

Special Operations Forces Personal Equipment Advanced Requirements (SPEAR) Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

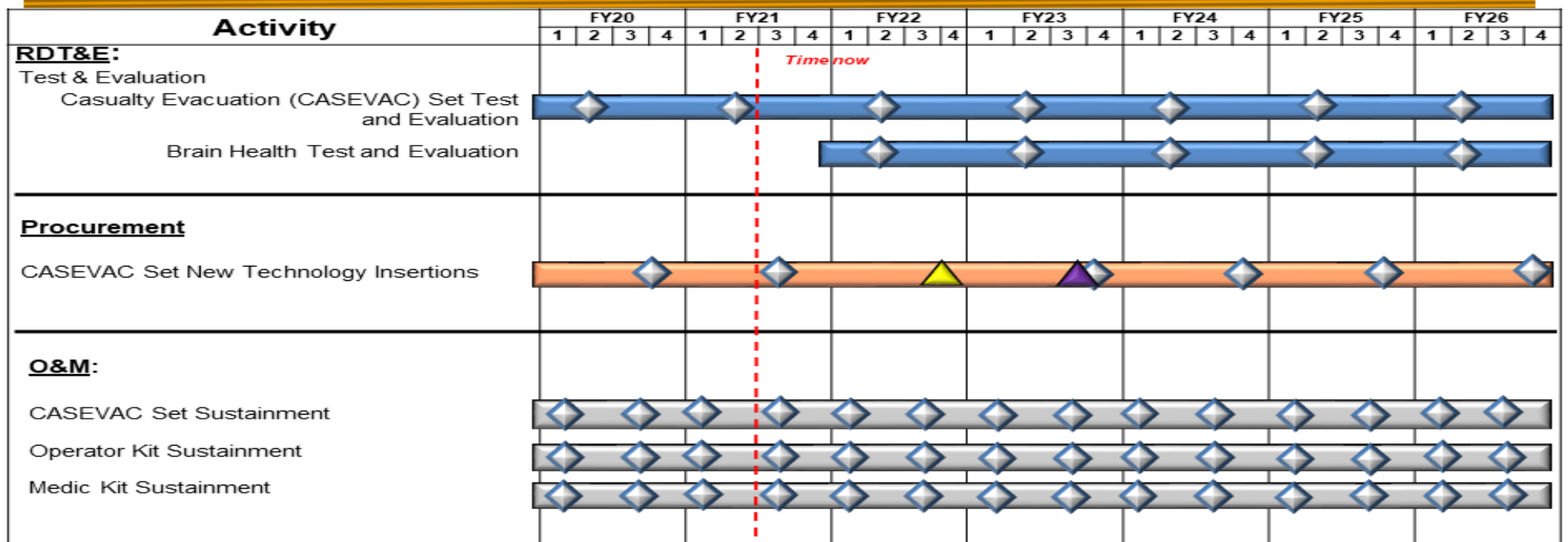
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S385 / Soldier Protection and Survival Systems

Tactical Combat Casualty Care (TCCC) Schedule

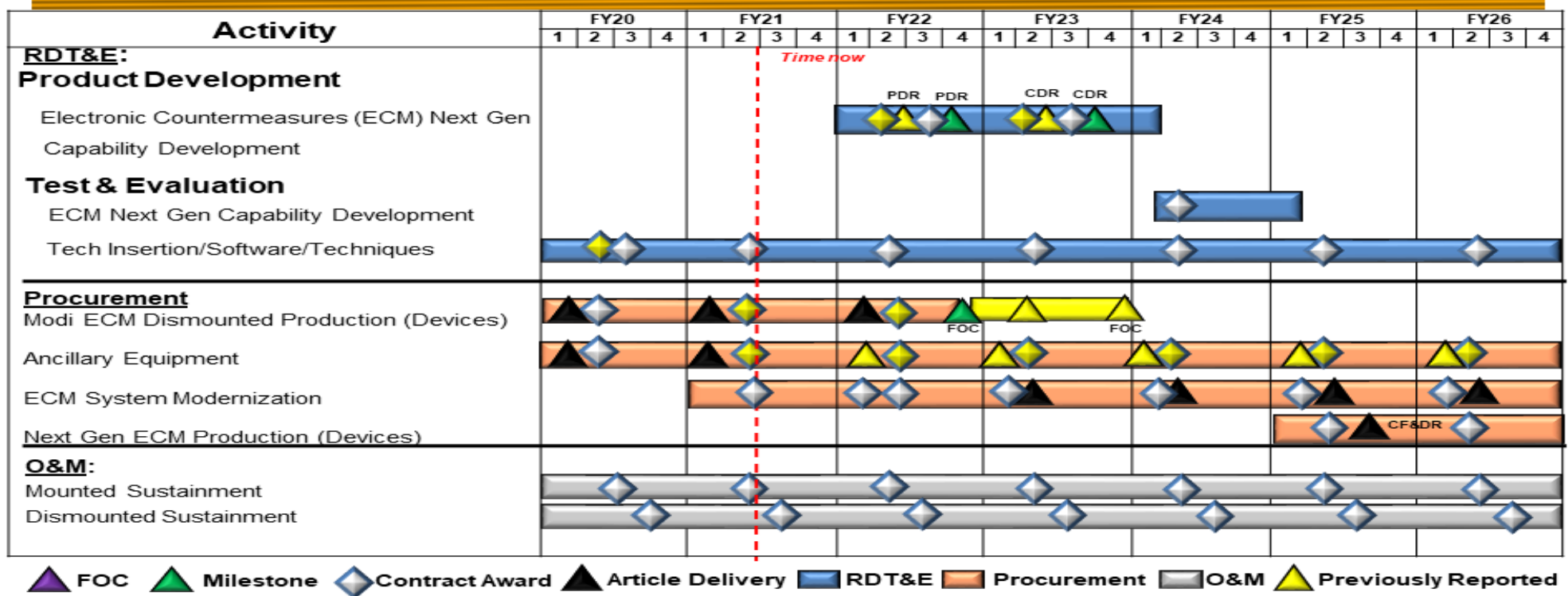


▲ FOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems	Project (Number/Name) S385 / Soldier Protection and Survival Systems

Counter Radio Controlled - Improvised Explosive Device (RC-IED) Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

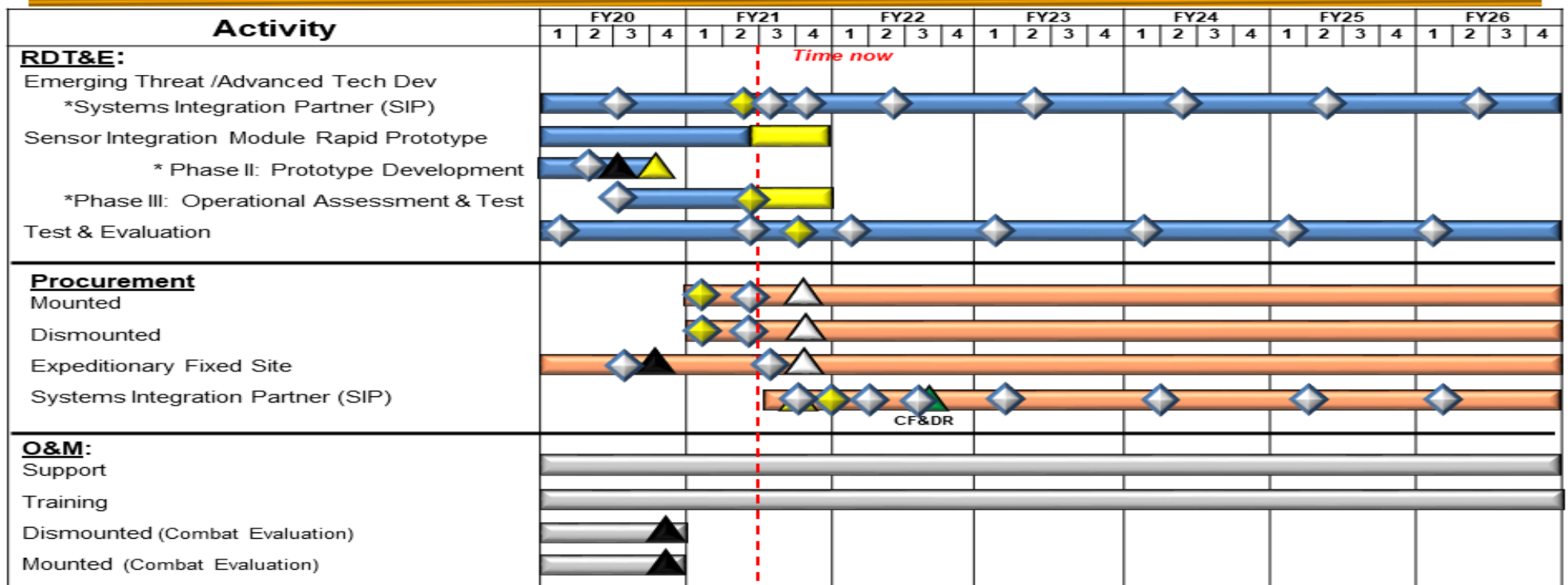
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S385 / Soldier Protection and Survival Systems

Counter Unmanned Aerial Systems Schedule



▲ FOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Soldier Protection and Survival Systems (SPEAR)</i>				
Protective Combat Uniform (PCU) Product Development	1	2020	4	2026
Hearing Protection & Comms Headsets Product Development	1	2020	4	2026
Modular Glove System (MGS) Product Development	1	2020	4	2026
Load Carriage System (LCS) and Backpacks Product Development	1	2020	4	2026
Power and Data Management Development	1	2020	4	2026
PCU Test & Evaluation	1	2020	4	2026
MGS Test & Evaluation	1	2020	4	2026
Hearing Protection & Comms Headsets Test & Evaluation	1	2020	4	2026
LCS/Backpack/Body Armor Vest Test & Evaluation	1	2020	4	2026
Power and Data Management Test & Evaluation	1	2020	4	2026
<i>Tactical Combat Casualty Care (TCCC)</i>				
TCCC Casualty Evacuation (CASEVAC) Sets Development, Test & Evaluation	1	2020	4	2026
TCCC Brain Health Test and Evaluation	4	2021	4	2026
<i>Counter Radio Controlled-Improvised Explosive Device (R-CIED)</i>				
Next Generation Electronic Countermeasures (ECM) Capability Development (Product Development)	1	2022	1	2024
Next Generation ECM Capability Development (Test & Evaluation Support)	2	2024	1	2025
Technology Insertion/Software/Techniques (Test & Evaluation Support)	1	2020	4	2026
<i>Counter Unmanned Aerial System (C-UAS)</i>				
C-UAS Emerging Threat /Advanced Technology Development (Systems Integration Partner)	1	2020	4	2026
Sensor Integration Module Rapid Prototype Product Development	1	2020	2	2021

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385 / <i>Soldier Protection and Survival Systems</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C-UAS FoS-SIM - Phase 2 (Prototype Development)	2	2020	3	2020
C-UAS FoS-SIM - Phase 3 (Prototype Operational Assessment and Test)	3	2020	2	2021
C-UAS Test and Evaluation Support	1	2020	4	2026
<i>Personnel Signature Management (PSM)</i>				
PSM Development (Incr II)	1	2020	4	2026
PSM Development (Incr III)	1	2020	4	2026
PSM Test & Evaluation	1	2020	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) S385A / <i>Body Armor and Associated Equipment</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S385A: <i>Body Armor and Associated Equipment</i>	8.443	1.717	1.738	1.684	-	1.684	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides specialized equipment to meet the unique operator protection and survival requirements of SOF, to include: Army Rangers; Army Special Forces; Navy Sea, Air, Land (SEAL) teams; Navy Special Boat Units; Air Force Operators; and Marine Raiders. Specialized ballistic equipment improves survivability impacting the mobility of SOF while conducting varied missions. These missions are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SOF Personal Equipment Advanced Requirement (SPEAR)-Ballistic Protection	1.717	1.738	1.684
Description: This project enhances the SPEAR program by supporting body armor helmets and eye protection. It also provides for the research, development, and testing of a variety of body armor and personal protective equipment.			
FY 2021 Plans: Continue foreign ammunition testing and threat validation to assess effectiveness of currently fielded personal protective equipment. Continue development and testing of lightweight body armor and helmets to upgrade systems that have been fielded. Continue evaluation of transparent armor products which include variable light transmission and laser lenses to upgrade systems that have been fielded. Continue development and testing of technologies to upgrade the maritime crewman helmet.			
FY 2022 Plans: Continues foreign ammunition testing and threat validation to assess effectiveness of currently fielded personal protective equipment. Continues development and testing of lightweight body armor and helmets to upgrade systems that have been fielded. Continues evaluation of transparent armor products which include variable light transmission and laser lenses to upgrade systems that have been fielded. Continues development and testing of technologies to upgrade the maritime crewman and rotary wing helmet.			
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.054 million was made available to support emerging critical Command requirements.			
Accomplishments/Planned Programs Subtotals	1.717	1.738	1.684

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385A / <i>Body Armor and Associated Equipment</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/0204WARRIOR:: <i>Warrior Systems<\$5M</i>	344.003	342.606	284.548	-	284.548	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

SPEAR ballistic protection equipment takes advantage of modified Commercial-Off-The-Shelf (COTS) or non-developmental items. As United States Special Operations Command required tailored solutions for SOF Mission sets, SPEAR items leveraged from industry are often on cutting edge of technology with modifications specific for SOF missions and require substantial testing in SOF environments. Utilizes Special Operations Forces Support Activity (SOFSFA) for warehousing and sustainment, Program Manager Special Operations Forces - Survival, Support, and Equipment Systems (PM - SOF SSES) has cradle to grave responsibility. Contracts in support of SPEAR are a combination of firm fixed price five year indefinite delivery indefinite quantity with single vendor awards, Source America mandatory sole sources, small business set asides and prime vendor style multiple award contracts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385A / <i>Body Armor and Associated Equipment</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SOF Personal Equipment Advanced Requirement (SPEAR) - Body Armor	Various	PM-SSES : Natick, MA	2.776	0.388	Jun 2020	0.387	Feb 2021	0.556	Feb 2022	-		0.556	Continuing	Continuing	-
SPEAR - Lightweight Ballistic Helmets	Various	PM-SSES : Natick, MA	1.843	0.377	May 2020	0.378	Jan 2021	0.390	Feb 2022	-		0.390	Continuing	Continuing	-
SPEAR - Eye Protection	Various	PM-SSES : Natick, MA	0.286	0.105	Jun 2020	0.116	Mar 2021	0.060	Mar 2022	-		0.060	Continuing	Continuing	-
Subtotal			4.905	0.870		0.881		1.006		-		1.006	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SPEAR - Body Armor	Various	PM-SSES : Natick, MA	1.959	0.377	Jun 2020	0.381	Apr 2021	0.378	Jun 2022	-		0.378	Continuing	Continuing	-
SPEAR - Lightweight Ballistic Helmet	Various	PM-SSES : Natick, MA	1.384	0.377	May 2020	0.381	Apr 2021	0.260	Jun 2022	-		0.260	Continuing	Continuing	-
SPEAR - Transparent Armor	Various	PM-SSES : Natick, MA	0.195	0.093	Jun 2020	0.095	Mar 2021	0.040	Mar 2022	-		0.040	Continuing	Continuing	-
Subtotal			3.538	0.847		0.857		0.678		-		0.678	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.443	1.717	1.738	1.684	-	1.684	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385A / <i>Body Armor and Associated Equipment</i>

Special Operations Forces Personal Equipment Advanced Requirements (SPEAR) - Body Armor Schedule



▲ FOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
 RDT&E
 Procurement
 O&M
 ▲ Previously Reported

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S385A / <i>Body Armor and Associated Equipment</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Body Armor and Associated Equipment</i>				
Body Armor Product Development	1	2020	4	2026
Lightweight Ballistic Helmets Product Development	1	2020	4	2026
Eye Protection Product Development	1	2020	4	2026
Body Armor Test & Evaluation	1	2020	4	2026
Lightweight Ballistic Helmets Test & Evaluation	1	2020	4	2026
Transparent Armor Test & Evaluation	1	2020	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S395 / <i>Visual Augmentation, Lasers and Sensor Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S395: <i>Visual Augmentation, Lasers and Sensor Systems</i>	15.096	3.168	2.171	5.047	-	5.047	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for development, testing and integration of specialized visual augmentation, binocular and monocular night vision devices, laser markers, laser designators, geo-location systems, weapon optics, weapon aiming lasers, sensor systems, visible lights, infrared imagers, clandestine pointers, simulators and accessories to meet the unique requirements of Special Operations Forces (SOF). These projects ensure SOF hyper-enabled operators will remain technologically superior to enemy threats and ensure mission success.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Visual Augmentation Systems (VAS)	3.168	2.171	5.047
Description: Sensor technologies being developed include image intensification thermal imaging, short wave infrared, multi-spectral, fusion, and other sensor types. Developments will decrease weight, increase range, increase situational awareness, provide data, image processing, image filtering, determine wind speed, observe bullet trace, and sensor fusion to be able to detect, identify, classify and engage targets at greater ranges. Some efforts may be tied to Hyper-Enabled Operator (HEO).			
FY 2021 Plans: Continue development and testing of visual augmentation, laser devices, and continue development and testing of simulators to improve situational awareness, sharing of data/images, target acquisition, and training.			
FY 2022 Plans: Continues development and testing of visual augmentation, laser devices, and continues development and testing of simulators to improve situational awareness, sharing of data/images, target acquisition, and training. Initiates the Joint Acquisition Task Force (JATF)/HEO transition of an integrated head-mounted sensor and augmented reality display providing threat detection. Real-time shared imaging and sensor discovery with distributed algorithm processing of a common operating picture.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$2.876 million will initiate the JATF/HEO transition of an integrated head-mounted sensor and Augmented Reality (AR) display providing threat detection.			
Accomplishments/Planned Programs Subtotals	3.168	2.171	5.047

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S395 / <i>Visual Augmentation, Lasers and Sensor Systems</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/0204WARRIOR: <i>Warrior Systems<\$5M</i>	344.003	342.606	284.548	-	284.548	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Evolutionary acquisition and leveraging emerging technologies. An evolutionary approach delivers capability in increments, recognizing, up front, the need for future capability improvements. Full and open competition; Contracts are a combination of five-year Firm Fixed Price (FFP) Indefinite Delivery Indefinite Quantity (IDIQ) and small business set asides at several location; primarily via Naval Surface Warfare Center, Crane Contracting office, USSOCOM Contracting Office and other contracting offices.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S395 / <i>Visual Augmentation, Lasers and Sensor Systems</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Visual Augmentation Systems (VAS) Product Development (Laser and Optic)	C/CPFF	USSOCOM : Tampa, FL	8.934	1.514	Apr 2020	1.000	Apr 2021	4.367	Mar 2022	-		4.367	Continuing	Continuing	-
Visual Augmentation Systems (VAS) Product Development (Simulator)	C/CPFF	USSOCOM : Tampa, FL	1.500	1.444	Apr 2020	0.481	Apr 2021	0.480	Apr 2022	-		0.480	Continuing	Continuing	-
Prior Year	C/CPFF	USSOCOM : Tampa, FL	1.500	-		-		-		-		-	Continuing	Continuing	-
Prior Year Overseas Contingency Operations (OCO)	C/CPFF	USSOCOM : Tampa, FL	2.667	-		-		-		-		-	0.000	2.667	-
Subtotal			14.601	2.958		1.481		4.847		-		4.847	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
VAS Test and Evaluation	C/CPFF	USSOCOM : Tampa, FL	0.495	-		-		-		-		-	0.000	0.495	-
VAS Optic Test and Evaluation	C/CPFF	USSOCOM : Tampa FL	-	0.105	Apr 2020	0.345	Apr 2021	0.100	Sep 2022	-		0.100	Continuing	Continuing	-
VAS Laser Test and Evaluation	C/CPFF	USSOCOM : Tampa FL	-	0.105	Apr 2020	0.345	Apr 2021	0.100	Aug 2022	-		0.100	Continuing	Continuing	-
Subtotal			0.495	0.210		0.690		0.200		-		0.200	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		15.096	3.168	2.171	5.047	-	5.047	Continuing	Continuing	N/A

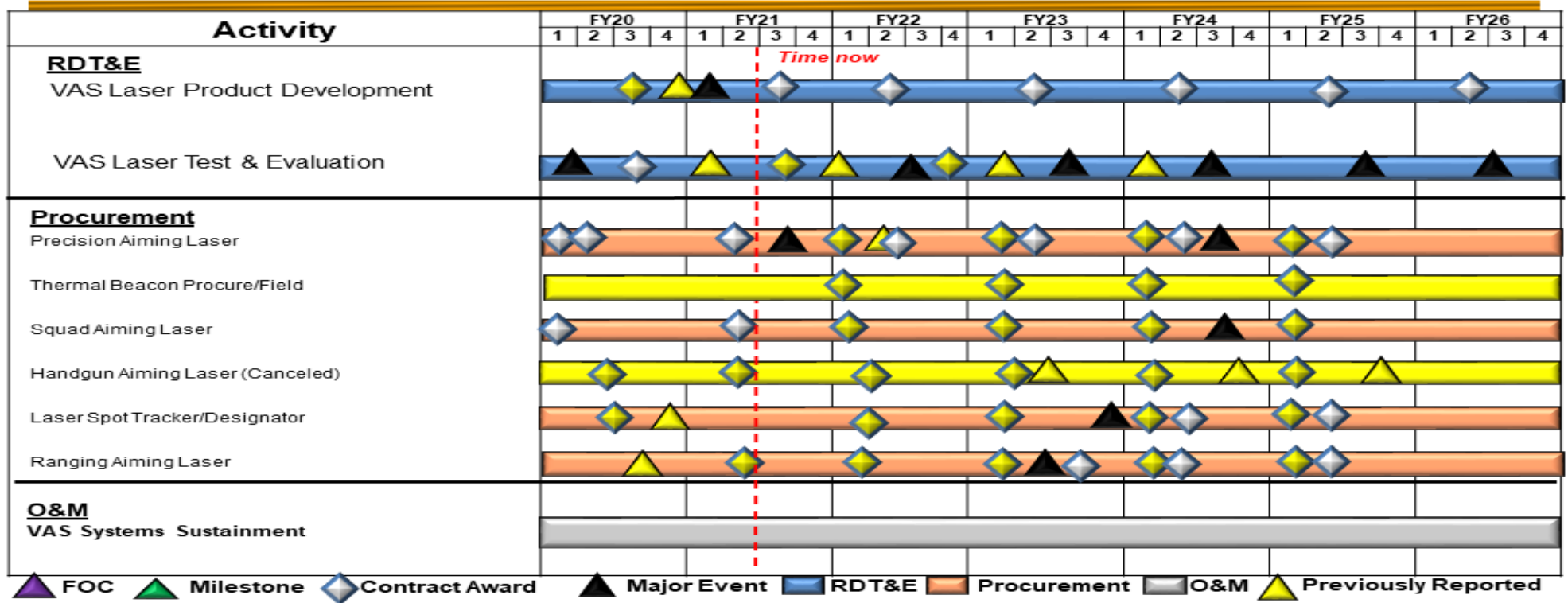
Remarks

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S395 / Visual Augmentation, Lasers and
Sensor Systems

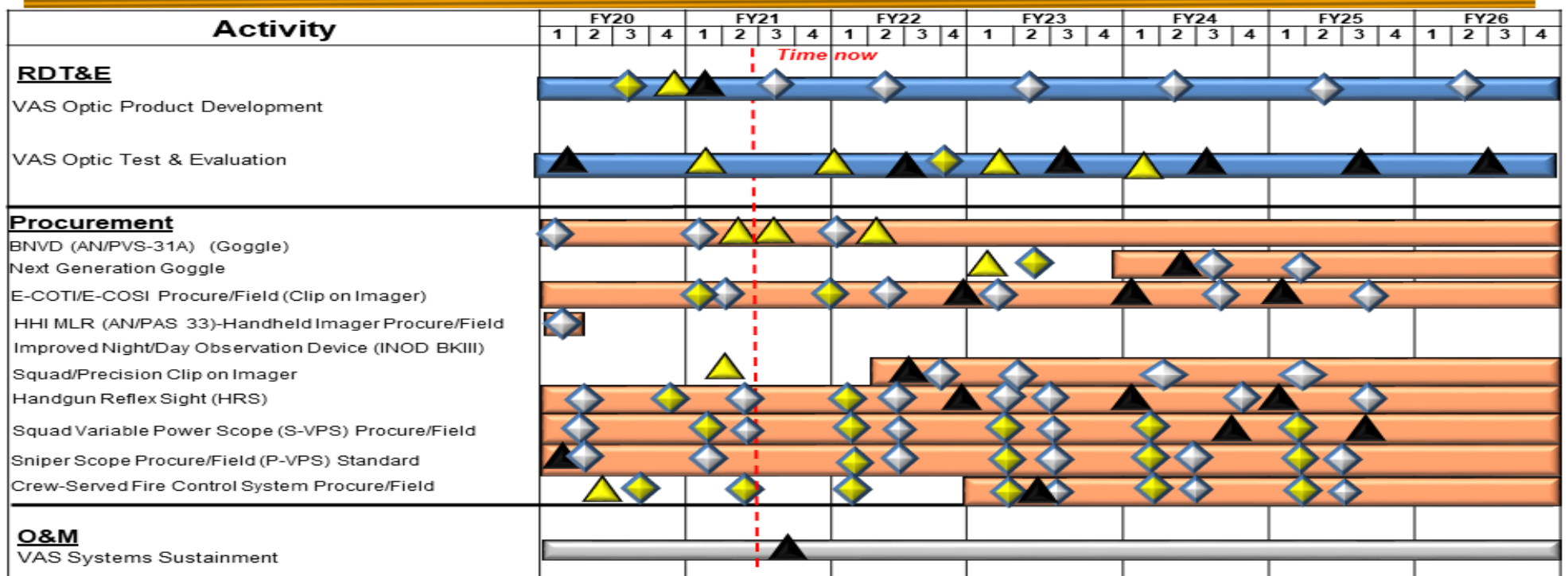
Visual Augmentation Systems Laser Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S395 / <i>Visual Augmentation, Lasers and Sensor Systems</i>

Visual Augmentation Systems Optic Schedule



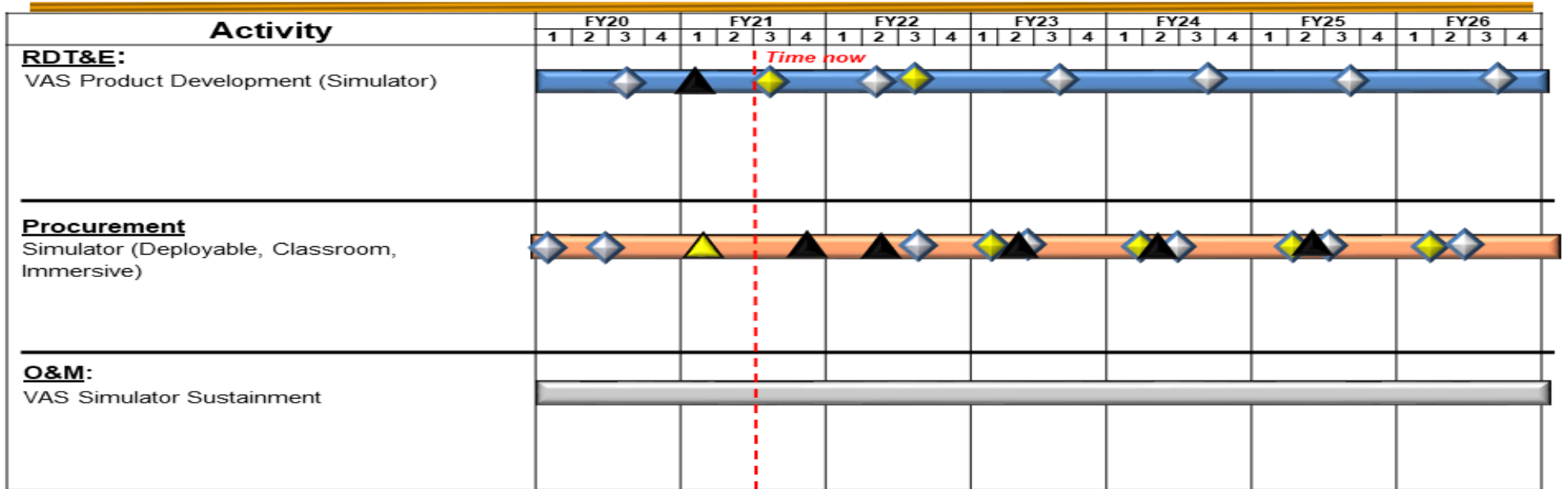
▲ FOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Major Event
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S395 / Visual Augmentation, Lasers and
Sensor Systems

Visual Augmentation Systems Simulator Schedule



▲ FOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S395 / <i>Visual Augmentation, Lasers and Sensor Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Visual Augmentation Systems</i>				
VAS Laser Development and Test	1	2020	4	2026
VAS Optic Development and Test	1	2020	4	2026
VAS Simulator Development and Test	1	2020	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
<i>S700: Communications Equipment and Electronics Systems</i>	44.234	16.738	26.431	21.456	-	21.456	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project provides for communication systems to meet emergent requirements to support Special Operations Forces (SOF). Communications Equipment and Electronics Systems is a continuing effort to develop smaller, lighter, more efficient and more robust SOF Command, Control, Communications, and Computer (C4) capabilities.

United States Special Operations Comand C4 systems comprise an integrated network of systems providing positive command and control and the timely exchange of information to all organizational echelons. The C4 systems that support this new architecture employ the latest standards and technology by transitioning from separate systems to full integration within the Global Information Grid (GIG). The GIG is a multitude of existing and projected national assets that allows SOF elements to operate with any force combination in multiple environments.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Satellite Deployable Node (SDN)	9.002	10.641	5.634
<p>Description: SDN is a family of deployable, super high frequency, multi-band, Satellite Communications (SATCOM) systems providing the transport path for high-capacity, voice, data, Video Teleconferencing (VTC), and Full Motion Video (FMV) at all levels of classification. It consists of SDN subprograms, transport for intelligence variants, technology insertions and Capital Equipment replacement.</p> <p>FY 2021 Plans: Continue assessments, tests, and evaluations for wide-band Communications On The Move (COTM) maritime, ground mobile, and airborne technologies. Continue assessments in Size, Weight and Power (SWaP) reduction across all SDN systems. Continue evaluation of High Throughput Satellite (HTS) constellations and terminals. Continue evaluation of resilience of systems in a degraded communications environment.</p> <p>FY 2022 Plans: Continues assessments, tests, and evaluations for wide-band COTM maritime, ground mobile, and airborne technologies. Continues assessments in SWAP reduction across all SDN systems. Continues evaluation of HTS constellations and terminals. Continues evaluation of resilience of systems in a degraded communications environment.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Decrease of \$5.007 million is due to technology development and reduced HTS service assessments.				
<p>Title: Civil Information Management (CIM)</p> <p>Description: The CIM Data Processing System (CIMDPS) is an automation system that assists active Civil Affairs (CA) and others engaged in civil-military operations to collect, process, analyze, maintain, mine, and deliver Civil Information and analysis products to support the Next Generation CIMDPS Systems.</p> <p>FY 2021 Plans: Complete development and integration of the Next Generation CIMDPS hardware platform in support of CA communities.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.010 million is due to CIMDPS program divestiture.</p>		-	0.010	-
<p>Title: Special Communications (SPCOM) Enterprise program</p> <p>Description: SPCOM includes organizations, practices, processes, services, networks, systems and subsystems that manage and provide clandestine exchange of information between elements (field-to-field, field-to-base, base-to-field) for worldwide deployed SOF units, often in austere environments with heavy adversarial monitoring. Acquisition efforts are structured for rapid, tailored development to counter adaptable emerging threats in all theaters of SOF sensitive missions.</p> <p>FY 2021 Plans: Continue segment development for the SPCOM enterprise; develop means and methods to provide near-term impact to operators. Continue development of anti-intrusion/anti-tamper capabilities. Continue extensive vulnerability assessments plus independent verification and validation. Acquisition efforts are structured for rapid, tailored development to counter adaptable emerging threats in all theaters of SOF sensitive missions.</p> <p>FY 2022 Plans: Continues segment development for the SPCOM enterprise; develops means and methods to provide near-term impact to operators. Continues development of anti-intrusion/anti-tamper capabilities. Continues extensive vulnerability assessments plus independent verification and validation. Acquisition efforts are structured for rapid, tailored development to counter adaptable emerging threats in all theaters of SOF sensitive missions.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.019 million is due to additional capability developments in support of SPCOM.</p>		7.736	11.201	11.220
<p>Title: Mission Command System Common Operational Picture (MCS/COP)</p>		-	4.579	4.602

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: MCS/COP provides shared situational awareness for Special Operations Forces Commanders across all domains at the tactical, operational, and strategic levels. The MCS/COP delivers a near-real time operational understanding of the intelligence and operational environment to support decision making.</p> <p>FY 2021 Plans: Begin rapid prototyping, product development, and operational testing and evaluation based upon dynamic and emergent operational requirements.</p> <p>FY 2022 Plans: Continues rapid prototyping, product development, and operational testing and evaluation based upon dynamic and emergent operational requirements.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.023 million will accelerate rapid prototyping and product development of near-real time intelligence and operational environment capabilities to support decision making.</p>			
Accomplishments/Planned Programs Subtotals	16.738	26.431	21.456

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PROC/0204WARRIOR: <i>Warrior Systems <\$5M</i>	344.003	342.606	284.548	-	284.548	-	-	-	-	-	-
• PROC/0204OTHER: <i>OTHER ITEMS <\$5M</i>	103.059	82.691	62.722	-	62.722	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

SDN is a fielded program with Evolutionary Technology Insertions (ETI) into all variants: Heavy, Medium, and Light, and wide-band COTM. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

SPCOM is an ETI effort to provide and support multiple field mission sets fully integrated with secure transports for complete end-to-end capabilities. In particular, rapid, phased prototyping is prioritized to both develop operationally-relevant prototypes but also to be flexible and agile in ensuring countermeasures against dynamically adapting special communication threats in all theaters. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>

CIM has an evolutionary acquisition strategy to enhance its capability to meet the CA community's emerging requirements.

MCS/COP employs the software acquisition pathway to facilitate rapid and iterative delivery of operational software to meet dynamic SOF requirements. Commercial, open and government sources are leveraged for required certifications, system level integration, functional, and operational testing and evaluations.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Satellite Deployable Node (SDN) Development	Various	Various : Various	11.350	6.375	Mar 2020	5.321	Jan 2021	1.125	Dec 2021	-		1.125	Continuing	Continuing	-
Civil Information Management Data Processing System (CIMDPS) Development	PO	SOF AT & L - KS : MACDILL AFB	1.788	-		0.010	Mar 2021	-		-		-	0.000	1.798	-
Special Communications (SPCOM) Enterprise Capability Development	C/Various	Various : Various	15.206	6.237	Jul 2020	9.330	Mar 2021	9.220	May 2022	-		9.220	Continuing	Continuing	-
SPCOM Technology Vulnerability Assessments	MIPR	MITRE : Bedford, MA	3.099	1.155	May 2020	1.423	Dec 2020	1.600	Apr 2020	-		1.600	Continuing	Continuing	-
Mission Command System Common Operational Picture (MCS/COP)	C/Various	Various : Various	-	-		2.292	Apr 2021	3.500	Mar 2022	-		3.500	Continuing	Continuing	-
Subtotal			31.443	13.767		18.376		15.445		-		15.445	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SDN Evaluation and Testing	Various	Various : Various	11.150	2.627	Apr 2020	5.320	Feb 2021	4.509	Dec 2021	-		4.509	Continuing	Continuing	-
SPCOM Independent Verification and Validation	MIPR	MITRE : Bedford, MA	1.641	0.344	Mar 2020	0.448	Dec 2020	0.400	Apr 2022	-		0.400	Continuing	Continuing	-
Mission Command System Common Operational Picture (MCS/COP)	C/Various	Various : Various	-	-		2.287	Apr 2021	1.102	Mar 2022	-		1.102	Continuing	Continuing	-
Subtotal			12.791	2.971		8.055		6.011		-		6.011	Continuing	Continuing	N/A

Project Cost Totals	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
	44.234	16.738	26.431	21.456	-	21.456	Continuing	Continuing	N/A

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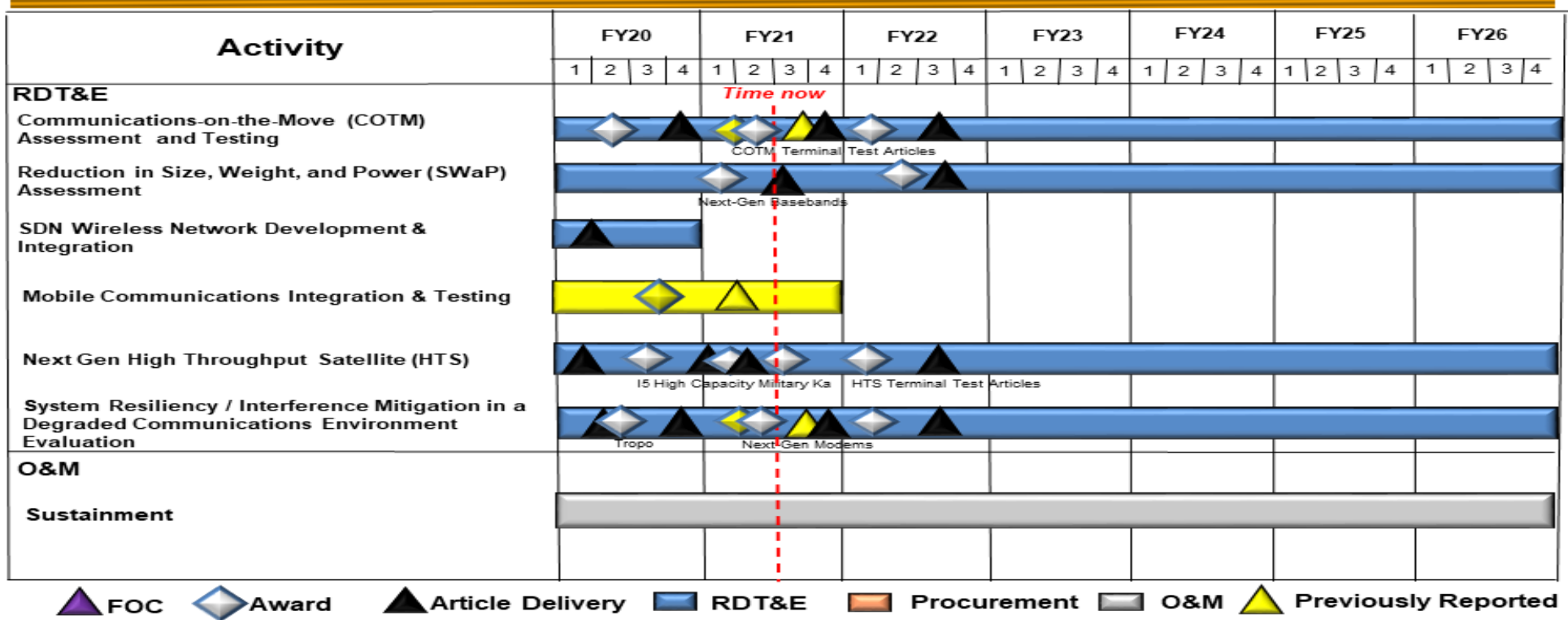
Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command							Date: May 2021			
Appropriation/Budget Activity 0400 / 7			R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>			Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>				
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>

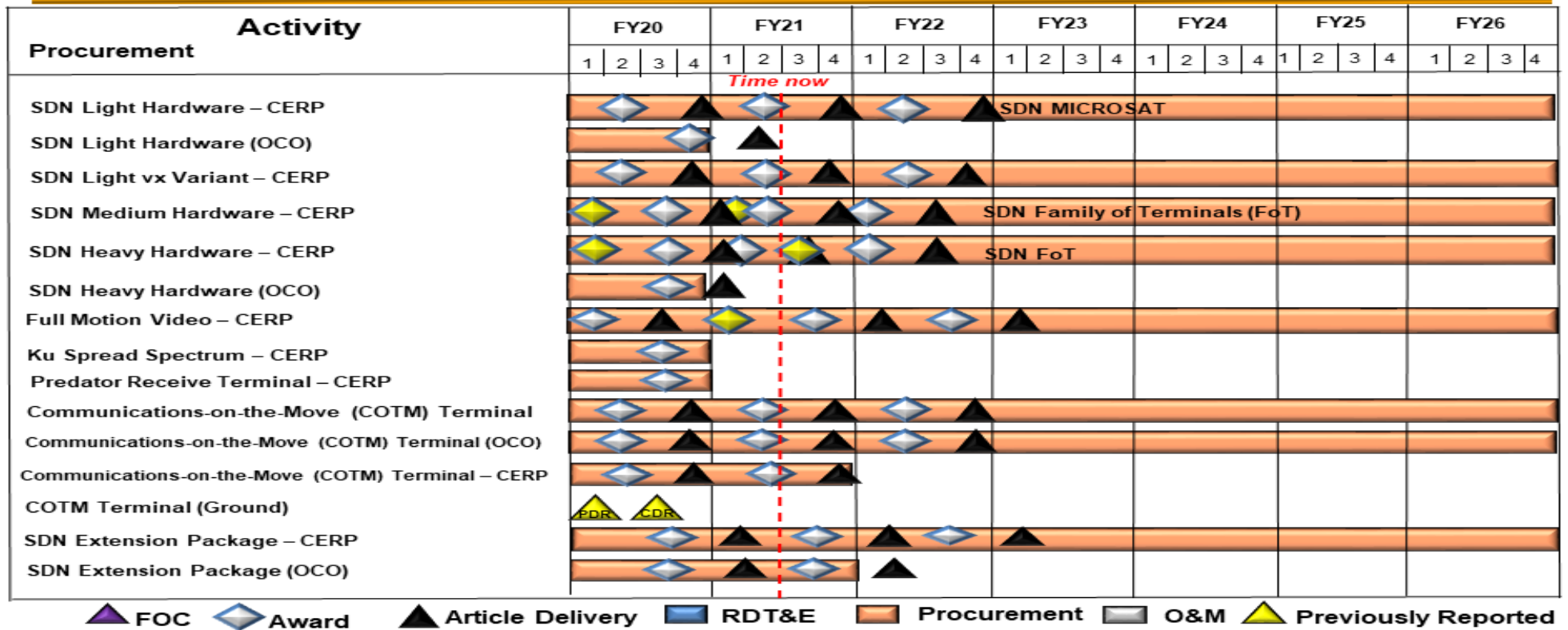
Satellite Deployable Node (SDN) Schedule



UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems	Project (Number/Name) S700 / Communications Equipment and Electronics Systems

SDN Schedule (con't)



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>

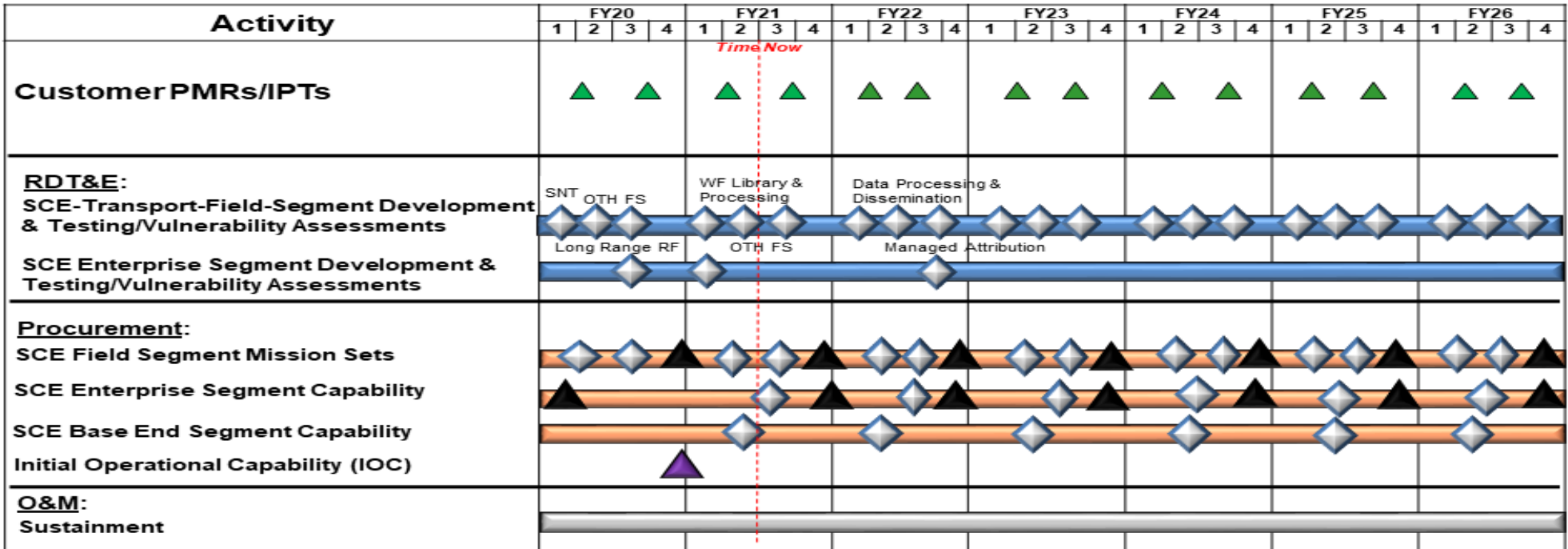
Civil Information Management Data Processing Schedule

Activity	FY20				FY21				FY22				FY23				FY24				FY25				FY26			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
RDT&E:																												
O&M:																												

Contract Award
 Article Delivery
 RDT&E
 Procurement
 O&M
 Previously Reported

Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>

Special Communications Enterprise (SPCOM) Schedule

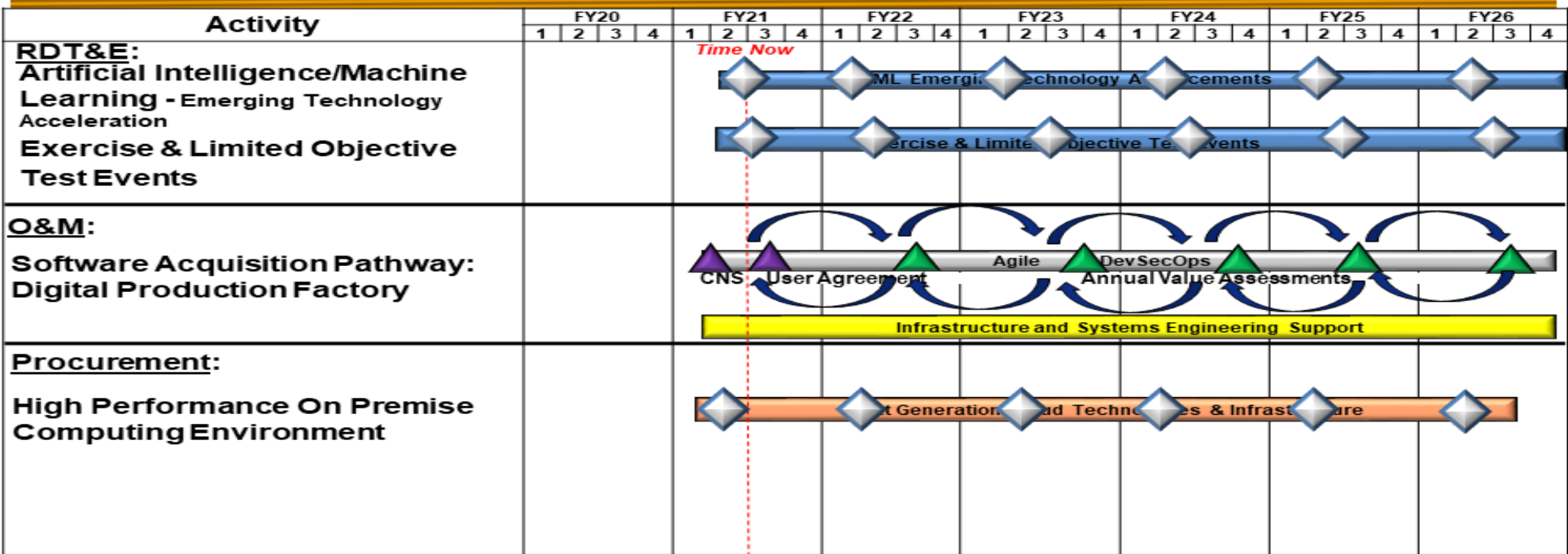


▲ IOC
 ▲ Milestone
 ◆ Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M

SNT: Secure Note Taking OTH FS: Over the Horizon Field Set
 RF: Radio Frequency WF: Waveform

Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>

Mission Command System (MCS)/ Common Operational Picture (COP) Schedule



▲ Capability Needs Statement
 ▲ Annual Value Assessment
 ◆ Contract Award
 ▲ Article Delivery
 ▲ Previously Reported
■ RDT&E
 ■ Procurement
 ■ O&M

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S700 / <i>Communications Equipment and Electronics Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>SOF Deployable Node (SDN)</i>				
Communications-on-the-Move (COTM) Assessment & Testing	1	2020	4	2026
Assess Reduction in Size, Weight, and Power (SWaP)	1	2020	4	2026
SDN Wireless Network Development & Integration	1	2020	4	2020
Next Generation High Throughput (HTS) Satellite Market Research	1	2020	4	2026
Evaluate System Resiliency / Interference Mitigation in Degraded Communications Environment Evaluation	1	2020	4	2026
<i>Civil Information Management (CIM)</i>				
Hardware Software Integration	1	2020	2	2021
<i>Special Communications (SPCOM) Enterprise Program</i>				
Transport - Field Segment Kit Development and Testing/Vulnerability Assessments	1	2020	4	2026
Enterprise Segment Development and Testing/Vulnerability Assessments	1	2020	4	2026
<i>Mission Command System Common Operational (MCS/COP)</i>				
Artificial Intelligence/Machine Learning (AI/ML)	3	2021	4	2026
Exercise & Limited Objective Test Events	3	2021	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S710 / <i>Tactical Systems Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S710: <i>Tactical Systems Development</i>	7.238	2.710	3.344	6.331	-	6.331	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for development, testing, and integration of specialized automation equipment to meet the unique requirements of Special Operations Forces (SOF). Specialized automation equipment will permit small, highly trained forces to conduct required operations across the entire spectrum of conflict. These operations are generally conducted in harsh environments, for unspecified periods and in locations requiring small unit autonomy. SOF must infiltrate by land, sea, and air to conduct unconventional warfare, direct action, or deep reconnaissance operations in denied areas against insurgent units, terrorists, or highly sophisticated threat forces. The requirement to operate in denied areas controlled by a sophisticated threat mandates that SOF systems remain technologically superior to threat forces to ensure mission success.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Tactical Local Area Network (TACLAN) Suites</p> <p>Description: TACLAN provides SOF operational commanders and forward deployed forces advanced networking, automated data processing, storage, and display capabilities to support situational awareness, mission planning and execution, and command and control of forces. The TACLAN consists of Suites, Mission Planning Kits, Field Computing Devices (FCD), and tactical work stations.</p> <p>FY 2021 Plans: Continue integration and testing of Evolutionary Technology Insertions (ETIs) for TACLAN FCD and Network Management Suite upgrades. Continue the development of Mobile Edge Computing capabilities for integration and assessment in the TACLAN Family of Systems.</p> <p>FY 2022 Plans: Continues integration and testing of ETIs for TACLAN FCD and Network Management Suite upgrades. Completes the development of Mobile Edge Computing capabilities for integration and assessment in the TACLAN Family of Systems.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.276 million is due to the completion of Mobile Edge Computing integration and assessments.</p>	2.710	3.344	3.068
<p>Title: Digital Ecosystem (DE)</p> <p>Description: Provide enterprise solutions to address SOF mission sets requiring collection, processing, and analysis of publicly available, non publicly available, and commercially available information. Mission sets supported include (but not limited to): Civil Affairs (CA), Counterintelligence (CI), Counter-Threat Finance (CTF), Identity Management (IdM)/Signature Management,</p>	-	-	3.263

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S710 / <i>Tactical Systems Development</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Information Operations (IO), Open Source Intelligence (OSINT), Operational Preparation of the Environment (OPE) and Targeting. Additional detail provided under separate cover, to include schedule.			
<i>FY 2022 Plans:</i> Develops, tests, and implements additional features. Continues incorporation of additional data sources, improves data fusion and display methods.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Increase of \$3.263 million is for expansion of data sources and analysis tool development. Funding for FY20 and FY21 is located in PE 1160408BB/Operational Enhancements.			
Accomplishments/Planned Programs Subtotals	2.710	3.344	6.331

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/0204OTHER: <i>OTHER ITEMS <\$5M</i>	103.059	82.691	62.722	-	62.722	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

- TACLAN - The TACLAN evolutionary acquisition strategy includes the use of commercial and government agency sources, that will be leveraged for required certifications, functional and operational test, and acceptance support.
- DE - In accordance with DoDI 5000.87, this program is transitioning to the Software Acquisition Pathway. The acquisition strategy under this pathway will promote continuous engineering and delivery of capability throughout the software lifecycle.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

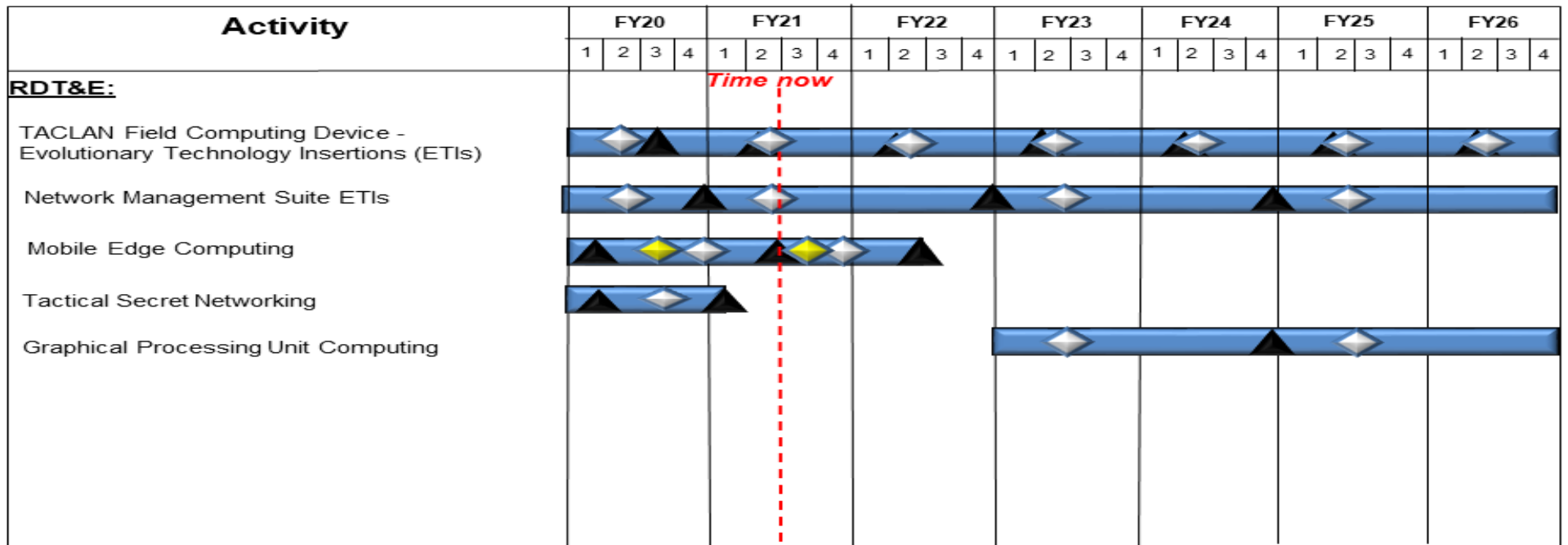
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / *Warrior Systems*

Project (Number/Name)
S710 / *Tactical Systems Development*

Tactical Local Area Network (TACLAN) Schedule



▲ FOC
 ◆ Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ▲ Previously Reported

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

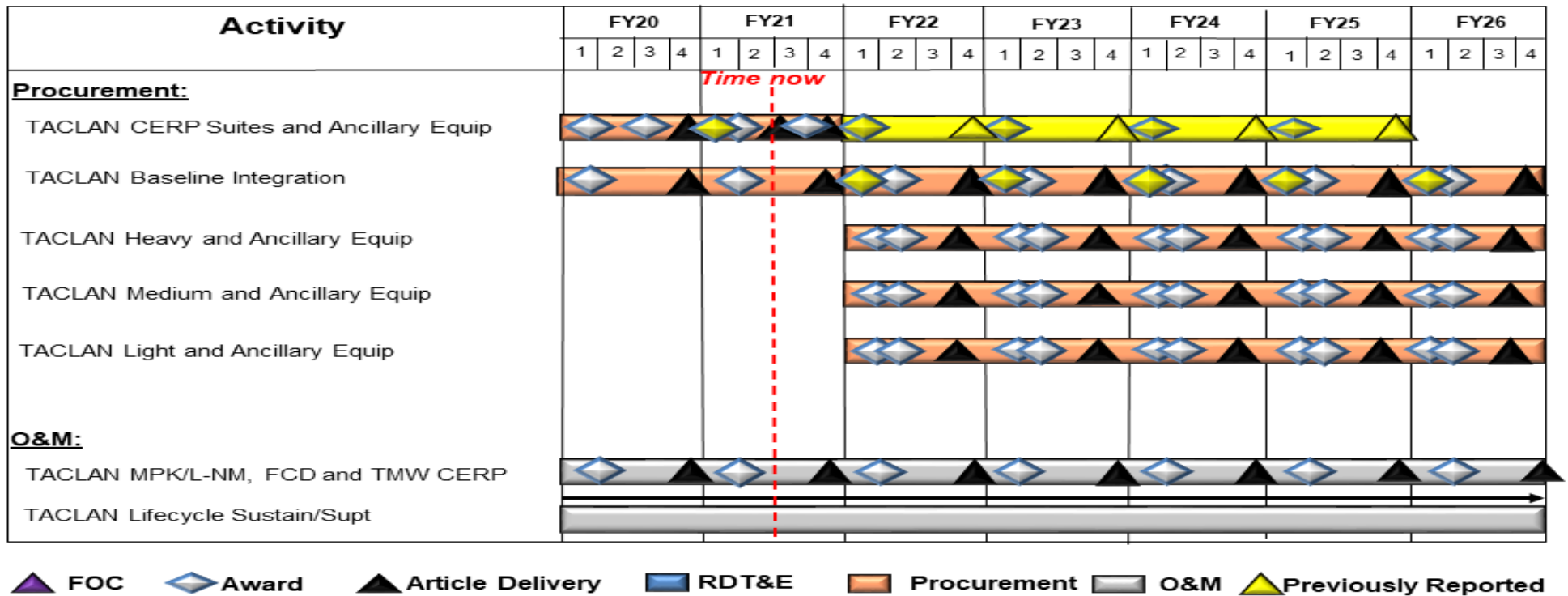
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S710 / Tactical Systems Development

TACLAN Schedule (con't)



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S710 / <i>Tactical Systems Development</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Tactical Local Area Network (TACLAN) Suites</i>				
TACLAN Field Computing Device (FCD) Upgrades	1	2020	4	2026
Network Management Suite ETIs	1	2020	4	2026
Mobile Edge Computing	1	2020	2	2022
Tactical Secret Networking	1	2020	1	2021
Graphical Processing Unit Computing	1	2023	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems				Project (Number/Name) S725 / Tactical Radio Systems			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S725: Tactical Radio Systems	32.835	10.627	7.940	2.999	-	2.999	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project is for the development of all Special Operations Forces (SOF) tactical radio programs. Tactical Radios provide the critical Command, Control, and Communications (C3) link between SOF Commanders and SOF Teams conducting operational missions and training exercises. They also provide interoperability with all Services, various agencies of the U.S. Government, Air Traffic Control, commercial agencies, and allied foreign forces. Tactical Radios rapidly and seamlessly establish and maintain mobile and fixed Command and Control (C2) communications between operational elements and higher echelon headquarters, allowing SOF to operate with any force combination in multiple environments.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SOF Tactical Communications (STC)	9.961	7.253	1.791
<p>Description: STC consists of Next-Generation SOF Communication Systems which replace most of the currently fielded SOF tactical radios. Capabilities include Real Time, Hostile and Friendly Force Information; Line of Sight (LOS) and Beyond LOS (BLOS) Communications; and access to Situational Awareness in the form of Intelligence Inputs, Broadcasts, and Networks.</p> <p>FY 2021 Plans: Complete A-Tactical Assault Kit development and integration. Continue Software Development Kit (SDK) Mission Module (MM) development. Begin High Throughput (HT) MM development and integration that will provide high throughput capability to existing Mobile Ad-hoc Networks (MANET). Continue Engineering Change Proposals (ECP) for Next Generation Handheld (NGHH) and Next Generation Manpack (NGMP). Complete NGMP user assessments. Continue High Frequency (HF) platform modernization incorporating two systems into a single Government-owned form factor that provides Low Probability Intercept/Detection (LPI/D) capabilities. Complete Line of Sight (LOS)/Below LOS contested communications/waveform development.</p> <p>FY 2022 Plans: Completes the second phase of development for the SDK MM and HT MM that will provide high throughput capability to existing MANET. Continues ECPs for the NGHH and NGMP, to include development of a Wide-Area Personal Area Network to reduce tactical radio footprints through the use of wireless technologies. Continues HF platform modernization incorporating two systems into a single Government-owned form factor that provides LPI/D capabilities. Begins next phase of contested communications/waveform development focusing on anti-jam capabilities.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$5.462 million is due to completion of HF Modernization and MM development.</p>			
Title: Blue Force Tracking (BFT)	0.666	0.687	1.208

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) <i>S725 / Tactical Radio Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: BFT is a family of devices used to remotely track and monitor SOF unit personnel. The capability enhances C2, threat warning, force protection, situational awareness, combat search and rescue, counter-fratricide, and battlefield visualization. This capability is unique to SOF because it requires the devices to be lightweight, portable, secure with a Low Probability of Intercept/Low Probability of Detection.</p> <p>FY 2021 Plans: Continue development and test of new capabilities in BFT equipment.</p> <p>FY 2022 Plans: Continues development and testing of new capabilities as outlined in the BFT Capability Development Document.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.521 million is due to addressing capability enhancements outlined in the latest Capability Development Document version.</p>			
Accomplishments/Planned Programs Subtotals	10.627	7.940	2.999

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PROC/0204WARRIOR: <i>Warrior Systems<\$5M</i>	344.003	342.606	284.548	-	284.548	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

- STC is a Commercial-Off-The-Shelf (COTS)/Non-Development Item program with Evolutionary Technology Insertions. Commercial and government agency sources will be leveraged for required certifications, functional and operational tests, and acceptance support.
- BFT is a fielded program with evolutionary technology insertions leveraging commercial and other government agency sources for required certifications, functional and operational tests, and technology updates.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

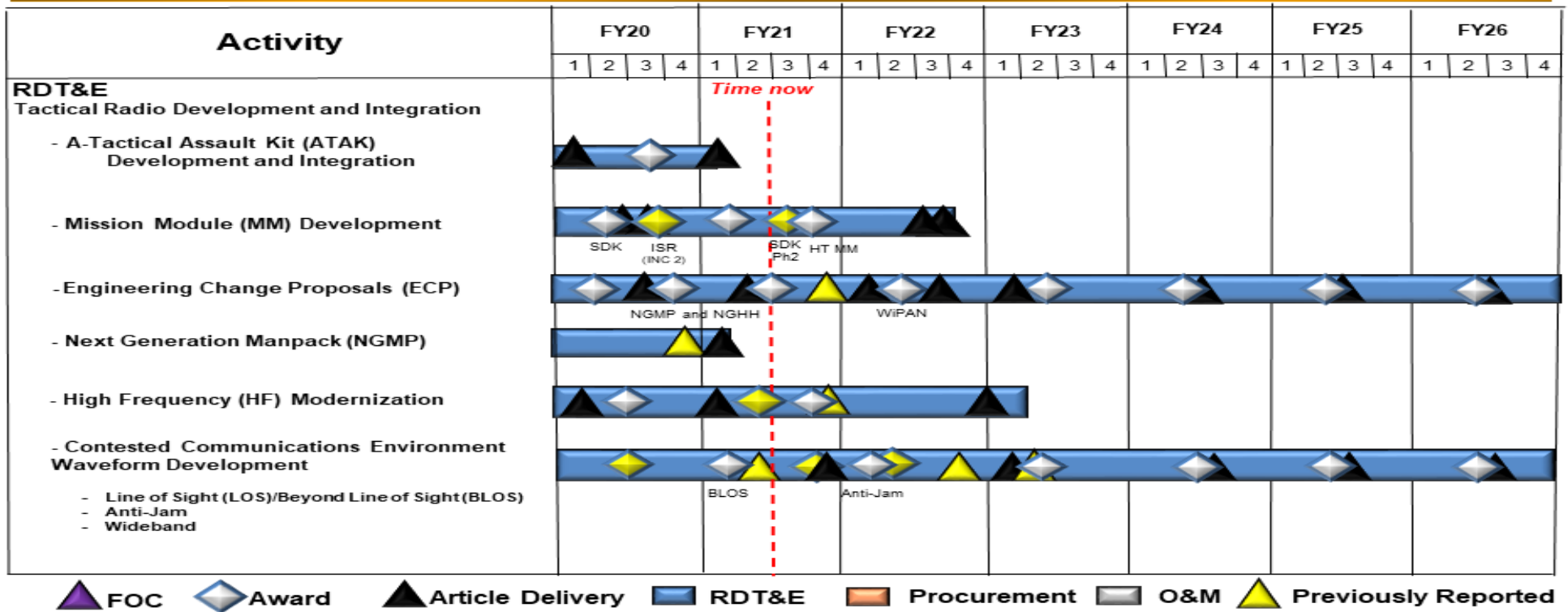
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S725 / Tactical Radio Systems

SOF Tactical Communications (STC)/ Next Generation Tactical Communications (NGTC) Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

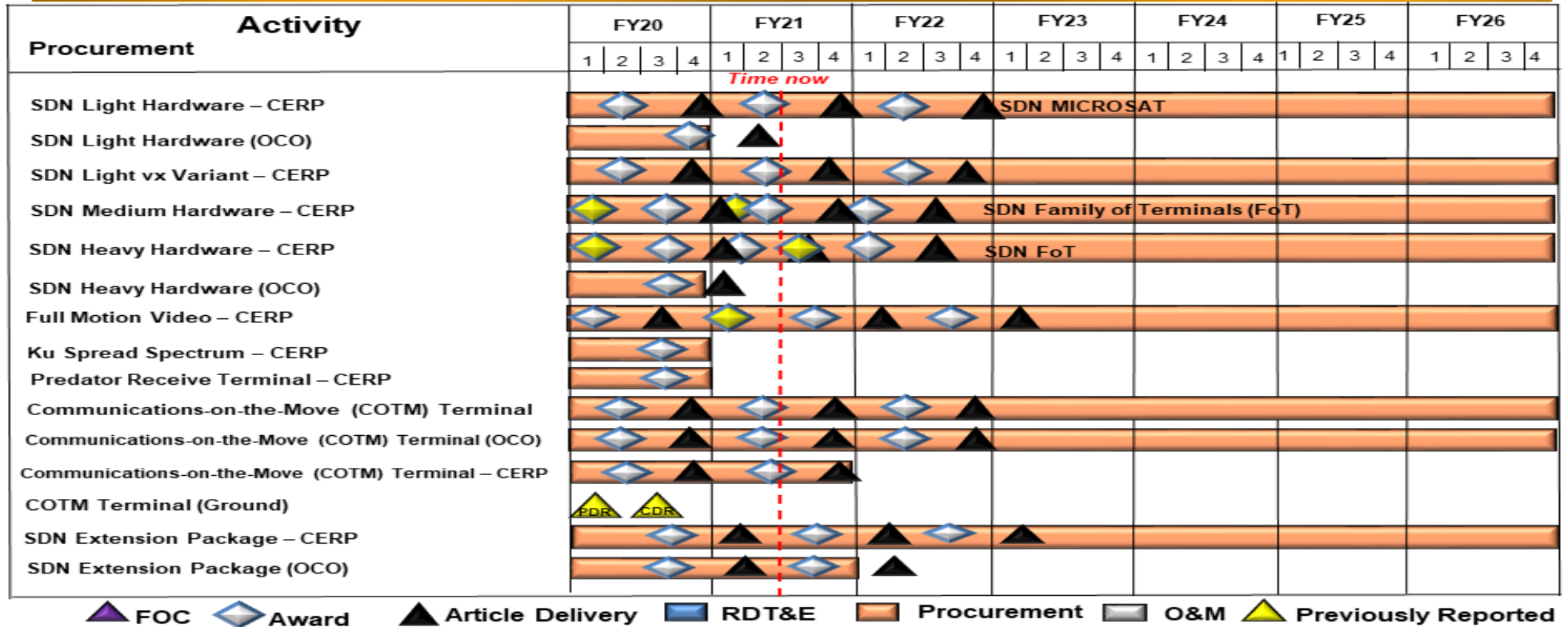
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S725 / Tactical Radio Systems

SDN Schedule (con't)



Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S725 / Tactical Radio Systems

Blue Force Tracking Schedule

Activity	FY20				FY21				FY22				FY23				FY24				FY25				FY26							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Customer PMRs/IPTs	▲		▲		▲		▲		▲		▲		▲		▲		▲		▲		▲		▲		▲		▲		▲		▲	
RDT&E: Rapid Prototyping, Product Development, and Device Integration	WF-B Integration Phase A				WF-B Integration Phase B				PR Integration																							
SOF Assessments & Operational Testing	▲	▲	▲		▲	▲	▲		▲	▲	▲		▲	▲	▲		▲	▲	▲		▲	▲	▲		▲	▲	▲		▲	▲	▲	
Procurement: Contract Awards	◆	◆			◆	◆			◆	◆			◆	◆			◆	◆			◆	◆			◆	◆			◆	◆		
Deliveries		▲				▲				▲				▲				▲				▲				▲				▲		
O&M: Lifecycle Sustainment Management & Fielding Support	[Grey bar representing O&M activity across all years]																															



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S725 / <i>Tactical Radio Systems</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>SOF Tactical Communications Radio</i>				
A-Tactical Assault Kit (ATAK) Development and Integration	1	2020	1	2021
Mission Module (MM) Development	1	2020	3	2022
Engineering Change Proposals (ECPs)	1	2020	4	2026
Next Generation (NGEN) Manpack (MP) Test and Evaluation	1	2020	1	2021
High Frequency (HF) Modernization	1	2020	1	2023
Contested Communications	1	2020	4	2026
<i>Blue Force Tracking</i>				
Rapid Prototyping, Product Development, and Device Integration	1	2020	4	2026
SOF Assessment & Operational Testing	1	2020	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>				Project (Number/Name) S800 / <i>Munitions Advanced Development</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S800: <i>Munitions Advanced Development</i>	95.396	21.129	5.994	21.768	-	21.768	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds advanced engineering, operational system development and qualification efforts related to specialized munitions and equipment to meet the unique requirements of SOF.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Stand-Off Precision Guided Munitions (SOPGM)</p> <p>Description: SOPGM provides for the integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms. This project received a congressional add in FY 2020.</p> <p>FY 2021 Plans: Continue engineering, integration and test on Small Glide Munitions (SGM).</p> <p>FY 2022 Plans: Continues the engineering, integration and testing on various technologies (munitions and warheads) within the precision guided munitions portfolio.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$1.101 million will continue SOPGM integration/development efforts.</p>	-	3.155	4.256
<p>Title: Munitions Advanced Development</p> <p>Description: The Munitions Advanced Development program provides for Insensitive Munitions (IM) technology development and evaluations that allow SOF munitions to pass testing which includes bullet impact, sympathetic detonation, fast cook off, slow cook off and shaped charge test. Testing is in accordance with the United States Special Operations IM Testing Plan. Munitions product improvements are tested in accordance with command priorities.</p> <p>FY 2021 Plans: Continue proof of concept development and IM testing on various munitions. Continue full scale testing to satisfy safety requirements in Military Standard 2105C (Department of Defense Test and Method Standard: Hazard Assessment Test for Non-Nuclear Munitions, 26 Sep 2006).</p> <p>FY 2022 Plans:</p>	0.569	0.549	1.549

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S800 / <i>Munitions Advanced Development</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Continues proof of concept development and IM testing on various munitions. Continues full scale testing to satisfy safety requirements in Military Standard 2105C (Department of Defense Test and Method Standard: Hazard Assessment Test for Non-Nuclear Munitions, 26 Sep 2006). Scalable Effects effort funding will enable developmental testing, initial operational test evaluations, and finalized safety certifications for operational approvals. Additional detail provided under separate cover.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Increase of \$1.000 million is due to new Maritime Disablement Operations (MDO) requirement and complimentary efforts. These programs require development, testing, safety classification and analyses, and validation before fielding. Additional details provided under separate cover.</p>			
<p><i>Title:</i> Maritime Precision Engagement Munition (MPE-M) Ground Organic Precision Strike System (GOPSS)</p> <p><i>Description:</i> Guided Rocket or propeller Systems provides for the engineering, integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms. MPE-M GOPSS is designated a Middle Tier Acquisition (MTA) program which uses the rapid prototyping pathway and is executing using existing contracts, government agencies, and new contracts competitively selected as appropriate.</p> <p><i>FY 2021 Plans:</i> Continue the engineering, integration and testing of service-common and recently developed precision guided munitions on SOF-unique platforms.</p> <p><i>FY 2022 Plans:</i> Enables continued development of MPE-M by funding the following: engineering services; munition magazines; munition aircraft, launchers, and payloads; control systems; system emulators; test and evaluation events to include range time and support, testing materials, and equipment; post-event processing with revised capability and programmatic documents. These efforts will generate a Critical Design Review package and prepare the MPE-M program for fleet safety certifications, Developmental and Operational Assessments, and production. Enables development of each echelon within the GOPSS through funding the following: integration of missile launcher onto mobile platforms; purchase of developmental test articles and test equipment, test and evaluation events to include range costs; performance of critical munitions safety assessments; post-event processing and analysis with revised capability and programmatic documents;. All of this will prepare GOPSS for Critical Design Review milestone packages and prepare the GOPSS program for weapons safety certifications, Developmental and Operational Assessments, and production.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i></p>	7.989	2.290	15.963

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S800 / <i>Munitions Advanced Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Increase of \$13.673 million is for design configuration development, testing and evaluation, improvement, and subsequent Critical Design Review milestone activity and will also enable the integration of MPE-M with the Naval Special Warfare Combatant Craft Medium (CCM) platform and subsequent weapon system safety certification.			
Accomplishments/Planned Programs Subtotals	8.558	5.994	21.768

	FY 2020	FY 2021
Congressional Add: SOPGM	12.571	-
FY 2020 Accomplishments: Continued SGM Unmanned Aerial System (UAS) integration (\$2.901 million) and began SGM collaborative strike enhancement (\$9.670 million) for SOPGM.		
Congressional Adds Subtotals	12.571	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/0203ORDN: <i>Ordnance Items <\$5M</i>	402.899	289.652	168.072	-	168.072	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

SOPGM: Integration and developmental testing of precision guided munitions will be conducted using government laboratories or industry partners depending on the munitions for various SOF platforms.

Munitions Advanced Development: Munitions and packaging redesign shall take place within government laboratories, as well as in industry, depending on the munitions. IM solutions shall be tested on a small scale for proof of principle. Planned product improvements are tested at Army, Navy, and Air Force test centers leveraging mid-tier acquisition authorities and Other Transaction Authorities (OTAs).

MPE-M/GOPSS: Integration and developmental testing of precision strike systems with follow-on government-led integration effort leveraging lessons learned from similar rapid integration and prototype efforts on other SOF platforms.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S800 / <i>Munitions Advanced Development</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Stand-off Precision Guided Munitions (SOPGM) Development	SS/ Various	Various : Various	-	-		3.155	Feb 2021	3.756	Mar 2022	-		3.756	Continuing	Continuing	-
SOPGM Small Glide Munitions (SGM)/MQ-9 Integration Congressional Plus Up	C/Various	Dynetics : AL	5.900	1.661	Feb 2020	-		-		-		-	0.000	7.561	-
SOPGM SGM Collaborative Strike Enhancement Congressional Plus Up	C/Various	Dynetics : AL	-	8.128	Feb 2020	-		-		-		-	0.000	8.128	-
Maritime Precision Engagement Munition (MPE-M) Aircraft Development	C/Various	Various : Various	0.400	4.323	Nov 2020	0.500	Nov 2020	9.850	Nov 2021	-		9.850	Continuing	Continuing	-
MPE-M - Payload development	C/Various	Various : Various	-	1.010	Dec 2020	-		1.200	Nov 2021	-		1.200	Continuing	Continuing	-
MPE-M Integration Development	C/Various	Various : Various	1.350	0.500	Aug 2020	1.000	Nov 2020	0.956	Nov 2021	-		0.956	Continuing	Continuing	-
Ground Organic Precision Strike System (GOPSS)	C/Various	Various : Various	-	2.067	Jan 2021	-		1.775	Nov 2021	-		1.775	Continuing	Continuing	-
Prior Year Funding - Base	C/Various	Various : Various	57.426	-		-		-		-		-	0.000	57.426	-
Prior Year Funding - Overseas Contingency Operations (OCO)	C/Various	Various : Various	0.002	-		-		-		-		-	0.000	0.002	-
Prior Year Funding - Congressional Plus Up	C/Various	Various : Various	8.268	-		-		-		-		-	0.000	8.268	-
Subtotal			73.346	17.689		4.655		17.537		-		17.537	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year	C/Various	Various : Various	1.100	-		-		-		-		-	0.000	1.100	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S800 / <i>Munitions Advanced Development</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Funding - OCO	C/Various	Various : Various	0.001	-		-		-		-		-	0.000	0.001	-
Prior Year Funding - Congressional Plus Up	C/Various	Various : Various	7.868	-		-		-		-		-	0.000	7.868	-
Subtotal			8.969	-		-		-		-		-	0.000	8.969	N/A

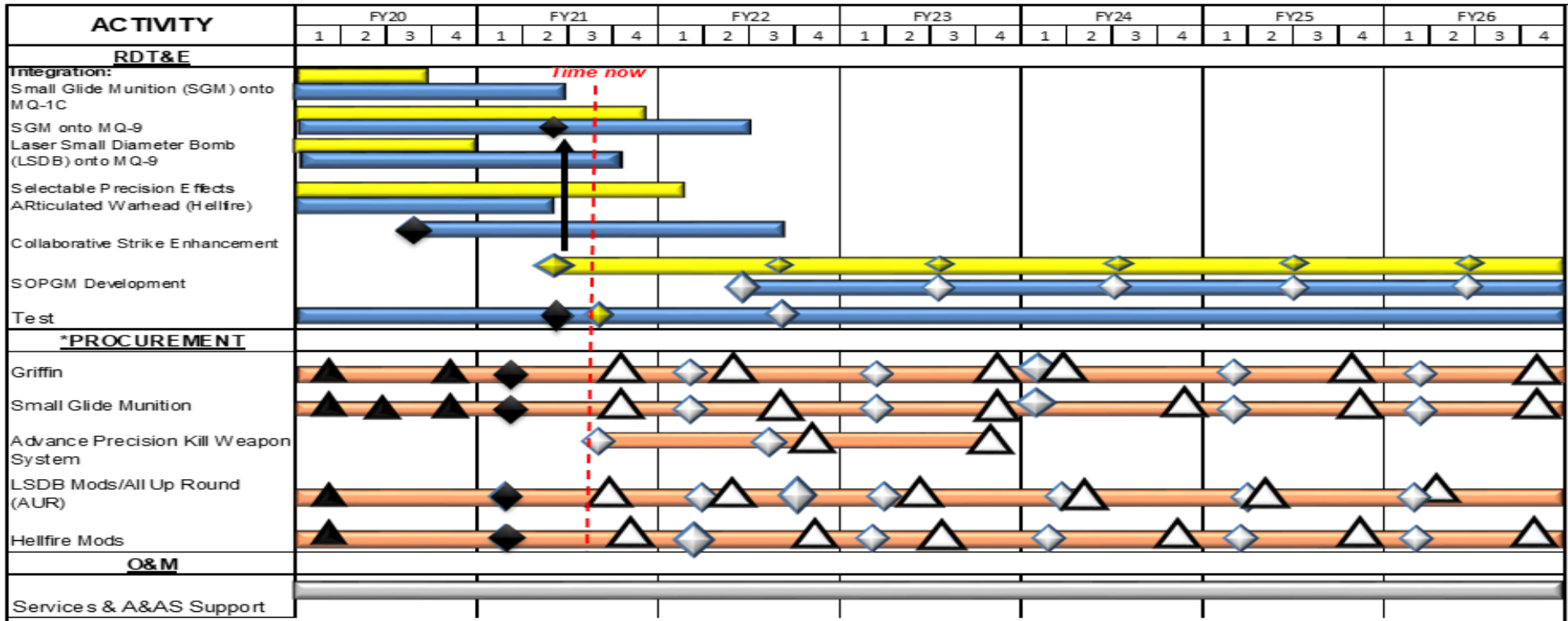
Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SOPGM SGM/MQ-9 Integration Congressional Plus up	C/Various	Dynetics : AL	-	1.240	May 2020	-		-		-		-	0.000	1.240	-
SOPGM SGM Collaborative Strike Enhancement Congressional Plus Up	C/Various	Dynetics : AL	-	1.542	May 2020	-		-		-		-	0.000	1.542	-
SOPGM Development	C/Various	Various : Various	-	-		-		0.500	Feb 2022	-		0.500	Continuing	Continuing	-
Munitions - Insensitive Munitions (IM) Evaluation	C/FFP	US Air Force Air Armaments Center : Eglin, AFB, FL	0.164	0.058	Dec 2019	0.060	Dec 2020	0.067	Dec 2021	-		0.067	Continuing	Continuing	-
Munitions - IM Testing	Allot	ARDEC : Picatinny Arsenal, NJ	0.840	0.363	Dec 2019	0.267	Dec 2020	0.268	Dec 2021	-		0.268	Continuing	Continuing	-
Munitions Advanced Development - Obtain Munitions Test Articles	C/FFP	General Dynamics : Canada	0.334	0.148	Dec 2019	0.222	Dec 2020	1.214	Dec 2021	-		1.214	Continuing	Continuing	-
MPE-M - Safety	Allot	NSWC : Indian Head, MD	0.300	0.089	Aug 2020	0.159	Jun 2021	0.419	Nov 2021	-		0.419	Continuing	Continuing	-
MPE-M - Payload Test	Allot	Redstone : Various	0.450	-		0.631	May 2021	0.468	Feb 2022	-		0.468	Continuing	Continuing	-
MPE-M - Test Ranges	Allot	NSWC : Indian Head, MD	-	-		-		1.295	Feb 2022	-		1.295	Continuing	Continuing	-
Prior Year Funding - Base	C/Various	Various : Various	2.313	-		-		-		-		-	0.000	2.313	-
Prior Year Funding - OCO	C/Various	Various : Various	0.406	-		-		-		-		-	0.000	0.406	-

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160431BB / Warrior Systems

Project (Number/Name)
S800 / Munitions Advanced Development

Stand-Off Precision Guided Munitions Schedule

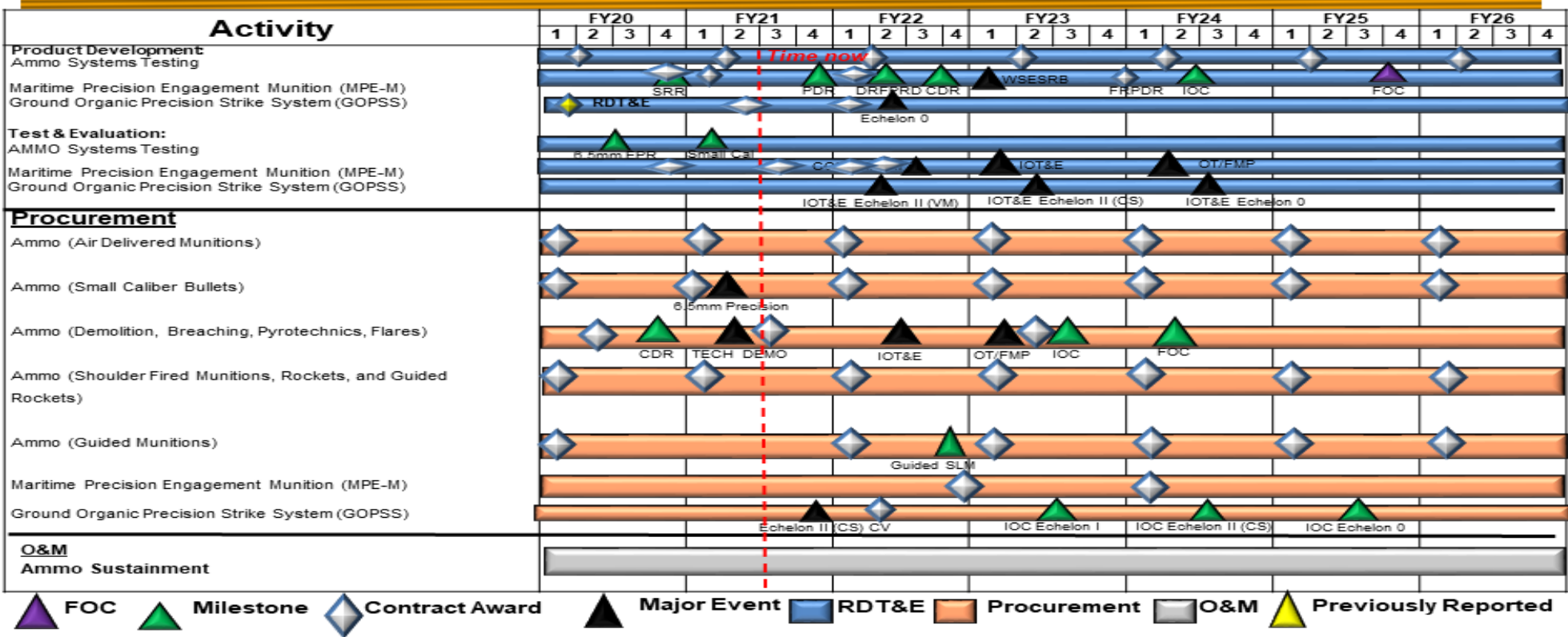


▲ Milestone ◆ Contract Award ▲ Article Delivery [Blue] RDT&E [Orange] Procurement [Grey] O&M [Yellow] Previously Reported

*Articles delivered monthly

Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / Warrior Systems	Project (Number/Name) S800 / Munitions Advanced Development

Munitions (Ordnance Items <\$5M) Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160431BB / <i>Warrior Systems</i>	Project (Number/Name) S800 / <i>Munitions Advanced Development</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Stand-off Precision Guided Munitions (SOPGM)</i>				
Small Glide Munitions (SGM) onto MQ-1C Integration	1	2020	2	2021
SGM onto MQ-9 Integration	1	2020	2	2022
Laser Small Diameter Bomb (LSDB) onto MQ-9 Integration	1	2020	3	2021
Selectable Warhead Hellfire (HF) Integration	1	2020	2	2021
SGM Collaborative Strike Enhancement	3	2020	3	2022
SOPGM Development	2	2022	4	2026
SOPGM Testing	1	2020	4	2026
<i>Munitions (Ordnance Items)</i>				
Ammo Systems Product Development	1	2020	4	2026
Maritime Precision Engagement Munition (MPE-M) Product Development	1	2020	4	2026
Ground Organic Precision Strike System (GOPSS) Product Development	1	2020	4	2026
Ammo Systems Test and Evaluation	1	2020	4	2026
MPE-M Test and Evaluation	1	2020	4	2026
GOPSS Test and Evaluation	1	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160432BB / <i>Special Programs</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	33.449	19.357	7.494	6.486	-	6.486	-	-	-	-	-	-
S500E: <i>Special Programs</i>	33.449	19.357	7.494	6.486	-	6.486	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	21.005	10.500	10.510	-	10.510
Current President's Budget	19.357	7.494	6.486	-	6.486
Total Adjustments	-1.648	-3.006	-4.024	-	-4.024
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-3.006			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.748	-			
• Realignment	-0.900	-	-	-	-
• Other Adjustments	-	-	-4.024	-	-4.024

Change Summary Explanation

Funding:

FY 2020: Net decrease of \$1.648 million is due to a transfer of funds to Small Business Innovative Research/Small Business Technology Research Transfer programs (SBIR/STTR) (\$0.748 million), details are provided under separate cover (\$0.900 million).

FY 2021: Net decrease of \$3.006 million details are provided under separate cover.

FY 2022: Decrease of \$4.024 million details are provided under separate cover.

Schedule: None.

Technical: None.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160434BB / <i>Unmanned ISR</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	98.627	42.457	17.154	18.006	-	18.006	-	-	-	-	-	-
S855: <i>Unmanned ISR</i>	98.627	42.457	17.154	18.006	-	18.006	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

NOTE: Unmanned Intelligence, Surveillance, and Reconnaissance (ISR) includes the consolidation of Special Applications for Contingencies (SAFC) (previously Program Element (PE) 0304210BB); MQ-1 Unmanned Aerial Vehicle (UAV), (previously PE 0305219BB); MQ-8, (previously PE 0305231BB); RQ-11, UAV (previously PE 1105232BB); and RQ-7 UAV, (previously PE 1105233BB).

This program element is part of the Military Intelligence Program (MIP). Unmanned ISR rapidly develops and deploys special capabilities to perform ISR for deployed Special Operations Forces (SOF) using non-traditional means. United States Special Operations Command (USSOCOM) has been designated as the Department of Defense lead for planning, synchronizing, and as directed, executing global operations against terrorist networks and targets. USSOCOM requires the capability to find, fix, and finish time-sensitive high-value fixed and fleeting targets at the unit and team level without placing personnel and units in harm's way. These targets can often only be identified with patient collection of information and require rapid, decisive action during the short periods in which they present themselves. This PE addresses the primary areas of ISR and Targeting capabilities for SOF. These technologies will be pursued via rapid prototyping efforts when appropriate.

FY 2020 funding totals include \$5.000 million appropriated for Overseas Contingency Operations.

FY 2021 funding totals include \$3.000 million appropriated for Overseas Contingency Operations.

FY 2022 funding totals include \$18.006 million Base with \$0.000 million Direct War and \$5.000 million for Enduring Costs.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	42.377	24.154	22.252	-	22.252
Current President's Budget	42.457	17.154	18.006	-	18.006
Total Adjustments	0.080	-7.000	-4.246	-	-4.246
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	0.080	-	-4.246	-	-4.246

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity
0400: *Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 1160434BB / *Unmanned ISR*

Change Summary Explanation

Funding:

FY 2020: Decrease of \$0.080 million was made available to support emerging Command requirements in the year of execution.

FY 2021: Decrease of \$7.000 million was due to a Congressionally directed reduction due to under execution.

FY 2022: Decrease of \$4.246 million is due to the planned shift of Automation, Autonomy, Architecture and Integration (A3I) support from SOF to Service.

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160434BB / <i>Unmanned ISR</i>				Project (Number/Name) S855 / <i>Unmanned ISR</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S855: <i>Unmanned ISR</i>	98.627	42.457	17.154	18.006	-	18.006	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project is part of the Military Intelligence Program (MIP). It rapidly develops and deploys special capabilities to perform Intelligence, Surveillance, and Reconnaissance (ISR) for deployed Special Operations Forces (SOF) using non-traditional means.

Group 1, 2, 3 and 4, Unmanned Aerial Systems (UAS) developmental efforts are to identify, develop, integrate, and test SOF-unique mission kits, mission payloads, air vehicle enhancements, and modifications to ground control stations. Based on stakeholder input and requirements, Special Applications for Contingencies (SAFC) develops and integrates UAS payloads to advance ISR capabilities that address dynamic and emergent operational needs of the SOF user. Efforts include improving imagery intelligence and electronic warfare payloads, capitalizing on developing technologies to reduce size, weight and power while addressing processing and data management challenges. This program also provides a mechanism for SOF user combat evaluation of emerging sensor technologies.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: SAFC	22.356	7.365	4.862
<p>Description: SAFC's evolutionary development projects quickly provide integrated, SOF-unique mission kits, mission payloads, air vehicle enhancements and ground control station upgrades to its user community. These efforts rapidly develop and integrate UAS air vehicles, payloads and other technologies to field ISR capabilities and address dynamic and emergent operational needs and vulnerabilities of the SOF user. Efforts include improving imagery intelligence and electronic warfare payloads, capitalizing on developing technologies to reduce size, weight and power while addressing processing and data management challenges. It also provides a mechanism for SOF user combat evaluation of emerging sensor technologies. SAFC applies focused Research & Development (R&D) for relatively low cost solutions to provide short lead-time contingency planning requirements where focused R&D will allow for test and evaluation of leading edge solutions to emergent problem sets.</p>			
<p>FY 2021 Plans: Continue development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short-notice requirements. Continue evaluation of unique sensor technologies, persistent stare and quick reaction systems.</p>			
<p>FY 2022 Plans: Continues development and combat evaluation of selected sensor delivery platforms and mounted or deliverable ISR capabilities for global contingencies including short-notice requirements. Continues evaluation of unique sensor technologies, persistent stare and quick reaction systems.</p>			
<p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / <i>Unmanned ISR</i>	Project (Number/Name) S855 / <i>Unmanned ISR</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Decrease of \$2.503 million is due to a reduction in development, integration, evaluation, and miniaturization capability into SOF Small Unmanned Aerial Systems (SUAS).			
<p>Title: Expeditionary Organic Tactical Airborne ISR Capability Set (EOTACS)</p> <p>Description: EOTACS systems are less than 55 pounds in weight and include fixed wing, Vertical Takeoff and Landing, and tethered platforms. Provides for rapid development and prototyping efforts to identify, develop, integrate, and test SOF-unique mission kits. Leverage SAFC development efforts.</p> <p>FY 2021 Plans: Group 1 UAS funding is incorporated into the EOTACS program starting in FY 2020. Continue integration and testing of SOF-unique mission kits, mission payloads, and modifications to the small tactical UAS and ground control station, to include but not limited to: improved capabilities for geo-location, collection of push-to-talk, communications, specialized tagging, tracking, and locating, and enhanced communications relay and work to miniaturize previously developed payloads.</p> <p>FY 2022 Plans: Continues integration and testing of SOF unique mission kits, mission payloads, and modifications to the small tactical UAS and ground control station, to include but not limited to: improved capabilities for geo-location, collection of push-to-talk, communications, specialized tagging, tracking, and locating, and enhanced communications relay and work to miniaturize previously developed payloads.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.006 million is to continue integration and testing of SOF unique mission kits, mission payloads and modifications to the small tactical UAS and ground control station.</p>	0.279	0.283	0.289
<p>Title: Multi-Mission Tactical Unmanned Aerial Service (MTUAS)</p> <p>Description: MTUAS are medium tactical systems, between 21 pounds and 55 pounds in weight. Identifies, develops, integrates, and tests SOF-unique mission kits, payloads, aircraft and ground control station modifications.</p> <p>FY 2021 Plans: Continue integration and testing of SOF-unique mission capabilities to meet new medium tactical UAS requirements, to include but not limited to: signals intelligence gathering, full motion video, geo-location, communications relay, Global Positioning System (GPS) anti-jam technology, and decreased footprint. Additionally, acquires test articles for planned upgrades. Award contract for future materiel solution to meet updated requirements.</p> <p>FY 2022 Plans: Continues integration and testing of SOF-unique mission capabilities to meet new medium tactical UAS requirements, to include but not limited to: signals intelligence gathering, full motion video, geo-location, communications relay, GPS anti-jam technology,</p>	7.854	3.489	5.748

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / <i>Unmanned ISR</i>	Project (Number/Name) S855 / <i>Unmanned ISR</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
and decreased footprint. Continues development and improvement of new platform material solution in order to meet updated requirements. FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$2.259 million is due to a need for further development of the future MTUAS platform in order to meet program's updated requirements.			
Title: Group 3 UAS Description: Group 3 UAS are systems, between 55 pounds and 1320 pounds in weight. Identifies, develops, integrates, and tests SOF-unique mission kits, payloads and ground control station modifications. FY 2021 Plans: Continue development and integration of SOF unique payloads and mission kits for use on the service provided RQ-21A Blackjack UAS. Focus areas in development include integration of signals intelligence payloads, reduction in ground station kit size, and operating independent of GPS. FY 2022 Plans: Continues development and integration of SOF unique payloads and mission kits for use on the service provided RQ-21A Blackjack UAS. Focus areas in development include integration of signals intelligence payloads, reduction in ground station kit size, and operating independent of GPS. FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$3.015 million is due to requirements for further SOF unique payload development and improvement.	5.000	3.000	6.015
Title: Group 4 UAS Description: Group 4 UAS are large systems that weigh greater than 1,320 pounds and fly higher than flight level 180. Provides for development efforts to identify, develop, integrate, and test SOF-unique mission kits. FY 2021 Plans: Develop, test, and integrate SOF peculiar emerging technology mission kits, mission payloads, weapons, and modification on MQ-1C UAVs, Ground Control Stations (GCS), and training systems. FY 2022 Plans: Develops, tests, and integrates SOF peculiar emerging technology mission kits, mission payloads, weapons, and modification on MQ-1C UAVs, Ground Control Stations (GCS), and training systems. FY 2021 to FY 2022 Increase/Decrease Statement:	6.968	3.017	1.092

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / <i>Unmanned ISR</i>	Project (Number/Name) S855 / <i>Unmanned ISR</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Decrease of \$1.925 million reflects the planned shift of Automation, Autonomy, Architecture and Integration (A3I) support from SOF to Service.			
Accomplishments/Planned Programs Subtotals	42.457	17.154	18.006

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PROC/0201UMNISR: <i>Unmanned ISR</i>	19.955	32.695	55.951	-	55.951	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

SAFC acquisition strategy is evolutionary and spiral-based for technology insertion and low volume procurement. SAFC utilizes existing competed contract vehicles to the maximum extent possible for minor development, integration and modification of Government-Off-The-Shelf (GOTS)/Commercial-Off-The-Shelf (COTS) equipment. Utilizes limited/full and open competition contracts and rapid acquisition tools for major developments.

EOTACS is an evolutionary acquisition program that delivers, integrates, and qualifies SOF-unique mission kits, mission payloads, air vehicle enhancements, and ground control station upgrades. These capabilities are defined through a thorough stakeholder's analysis in order to provide well and broadly defined capabilities. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some effort to the Original Equipment Manufacturer (OEM).

MTUAS uses evolutionary acquisition solutions that deliver, integrate, and qualify SOF-unique modular mission kits that may include: mission payloads, air vehicle enhancements, training systems, and ground control station upgrades. These capabilities are defined through available acquisition strategy that includes a thorough stakeholder's analysis to provide well and broadly defined capabilities. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible but may also leverage Other Transactional Authorities (OTAs) when sensible. Proprietary considerations may direct some effort to the OEM on a sole source basis.

Group 3 UAS are evolutionary acquisition projects that deliver, integrate, and qualify SOF-unique mission kits, mission payloads, air vehicle enhancements, and ground control station upgrades. These capabilities are defined through a thorough stakeholder's analysis in order to provide well and broadly defined capabilities. Contracting methods depend on the type of development effort. Competitive source selection will be conducted as much as possible. Proprietary considerations may direct some efforts to the OEM.

Group 4 UAS is an evolutionary acquisition program that develops, tests, and integrates SOF peculiar emerging technology mission kits, mission payloads, weapons, and modifications on MQ-1C UAVs, GCS, and training systems. Group 4 UAS provides rapid prototype activities and technology maturation events to increase

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
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situational awareness and lethality. Contract types include a mix of cost type and fixed price. Proprietary issues with the aircraft and GCS software as well as aircraft modification may require sole source contracting to the original equipment manufacturer. Group 4 UAS leverages service common Contractor Logistics Support (CLS) and developmental activities and contracts for aircraft and ancillary equipment development, improvement, and sustainment.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / <i>Unmanned ISR</i>	Project (Number/Name) S855 / <i>Unmanned ISR</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Special Applications for Contingencies (SAFC) Platform/Payload Development and Integration	MIPR	Various; Various : Various	7.715	0.706	Jan 2020	4.570	Dec 2020	3.157	Dec 2021	-		3.157	Continuing	Continuing	-
SAFC - NAVSEA / JHU / APL	C/Various	JHU/ APL : Various	3.558	4.000	Nov 2019	-		-		-		-	0.000	7.558	-
SAFC - NIWC: Beyond Line of Sight (BLOS) Laser Mod Payload Auto Target Recognition Development and Integration	C/Various	Various : Various	1.020	2.100	Feb 2020	-		-		-		-	0.000	3.120	-
SAFC Naval Air Warfare Center Aircraft Division (NAWC - AD)	C/Various	Various : Various	-	4.324	Nov 2020	-		-		-		-	0.000	4.324	-
Expeditionary Organic Tactical Airborne Intelligence, Surveillance, and Reconnaissance Capability Set (EOTACS) Payload Integration	MIPR	Various : Various	0.808	0.279	Jul 2020	0.283	Mar 2021	0.289	Dec 2022	-		0.289	Continuing	Continuing	-
Multi-Mission Tactical Unmanned Aerial Service (MTUAS)/Payloads Development and Integration	MIPR	Various : Various	10.852	7.224	Mar 2020	2.136	Jun 2021	3.505	Feb 2022	-		3.505	Continuing	Continuing	-
Group 3 UAS Platform/ Payload Development and Integration	MIPR	Various : Various	-	-		-		2.076	Nov 2021	-		2.076	Continuing	Continuing	-
Group 3 UAS Platform/ Payload Development and Integration (OCO)	MIPR	Various : Various	4.467	2.392	Mar 2020	1.194	Mar 2021	-		-		-	0.000	8.053	-
Group 4 UAS Platform/ Payloads Development and Integration	MIPR	Various : Various	12.032	6.681	Mar 2020	2.434	Mar 2021	0.885	Mar 2022	-		0.885	Continuing	Continuing	-
Prior Year Effort	Various	Various : Various	16.994	-		-		-		-		-	0.000	16.994	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / Unmanned ISR	Project (Number/Name) S855 / Unmanned ISR
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Effort - Congressional Add	Various	Various : Various	11.000	-		-		-		-		-	0.000	11.000	-
Subtotal			68.446	27.706		10.617		9.912		-		9.912	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SAFC Platform/Payload Integration	MIPR	Various : Various	1.532	0.600	Jan 2020	0.500	Jan 2021	0.213	Dec 2021	-		0.213	Continuing	Continuing	-
MTUAS Platform/Payload Support	MIPR	Various : Various	0.918	0.500	Jan 2020	0.976	Jan 2021	1.618	Jan 2022	-		1.618	Continuing	Continuing	-
Group 3 UAS Platform/ Payload Mission Kits (OCO)	MIPR	Various : Various	-	2.003	May 2020	1.276	Mar 2021	-		-		-	0.000	3.279	Continuing
Group 3 UAS Platform/ Payload Mission Kits	MIPR	Various : Various	-	-		-		2.000	Apr 2022	-		2.000	Continuing	Continuing	-
Subtotal			2.450	3.103		2.752		3.831		-		3.831	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SAFC Sensor Testing, Evaluation and Demonstration	MIPR	Various; Various : Various	12.718	0.280	Nov 2019	1.295	Dec 2020	0.965	Dec 2021	-		0.965	Continuing	Continuing	-
SAFC - NAVSEA - JHU / APL	C/Various	Various : Various	1.000	1.200	Feb 2020	-		-		-		-	0.000	2.200	-
SAFC - NIWC: Beyond Line of Sight (BLOS) Laser Mod Payload Auto Target Recognition Development and Integration	C/Various	Various : Various	0.400	0.400	Feb 2020	-		-		-		-	0.000	0.800	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / Unmanned ISR	Project (Number/Name) S855 / Unmanned ISR
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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC NAWC - AD	C/Various	Various : Various	-	1.200	Feb 2020	-		-		-		-	0.000	1.200	-
SAFC NextTech Solutions (NTS) Inc.	C/Various	Various : Various	-	1.000	Jun 2020	-		-		-		-	0.000	1.000	-
MTUAS Platform/Payload Test and Evaluation	MIPR	Various : Various	1.447	0.130	Mar 2020	0.377	Dec 2021	0.625	Mar 2022	-		0.625	Continuing	Continuing	-
Group 3 UAS Test and Evaluation	MIPR	Various Vendors During Integrations : Various : Various	-	-		-		1.939	Jan 2022	-		1.939	Continuing	Continuing	-
Group 3 UAS Test and Evaluation (OCO)	MIPR	Various Vendors During Integrations : Various	0.533	0.605	Jan 2020	0.530		-		-		-	0.000	1.668	-
Group 4 UAS Test and Evaluation	Various	Various : Various Vendors During Integration	0.388	0.287	Mar 2020	0.583	Mar 2021	0.207	Mar 2022	-		0.207	Continuing	Continuing	-
Prior Year	Various	Various : Various	5.393	-		-		-		-		-	0.000	5.393	-
Subtotal			21.879	5.102		2.785		3.736		-		3.736	Continuing	Continuing	N/A

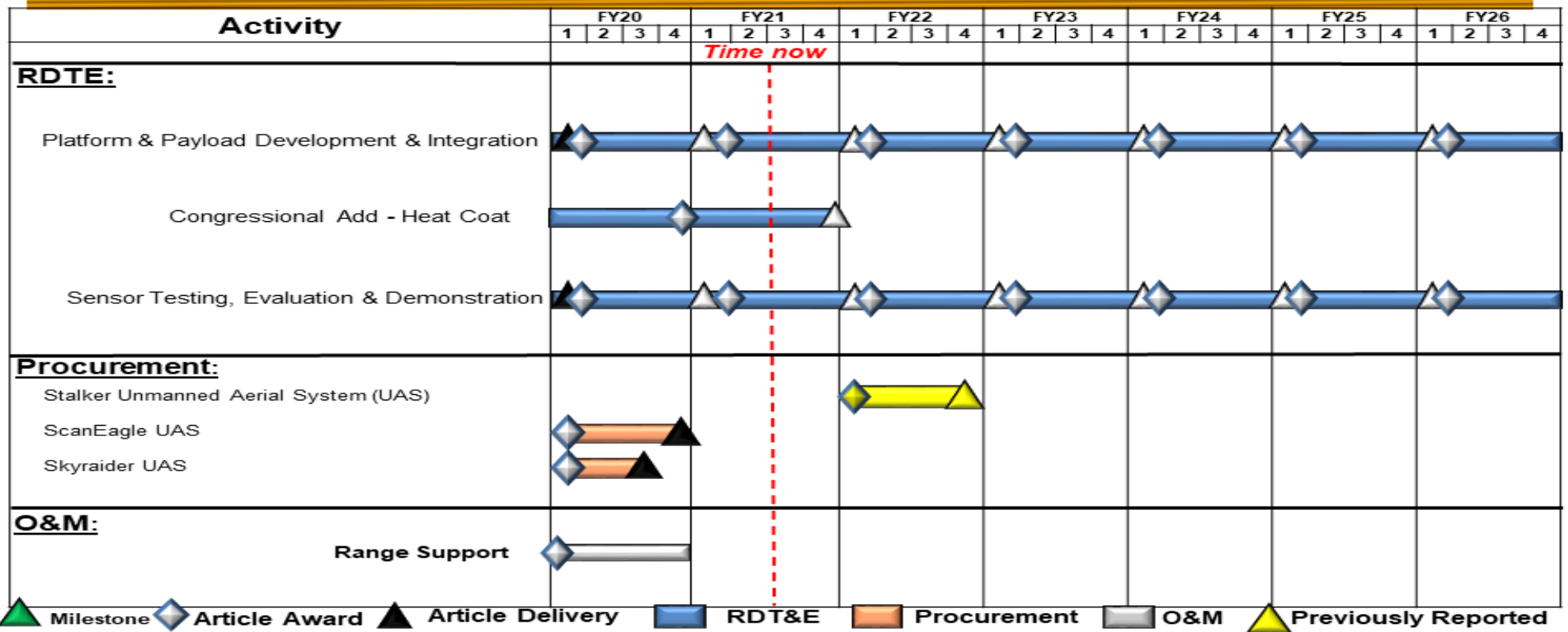
Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SAFC Sensor Testing, Evaluation and Demonstration Management	MIPR	Various : Various	3.355	1.615	Mar 2020	1.000	Dec 2020	0.527	Mar 2021	-		0.527	Continuing	Continuing	-
SAFC NexTech Solutions (NTS) Inc.	C/Various	Various : Various	-	4.931	Jun 2020	-		-		-		-	0.000	4.931	-
Prior Year Effort	Various	Various : Various	2.497	-		-		-		-		-	0.000	2.497	-
Subtotal			5.852	6.546		1.000		0.527		-		0.527	Continuing	Continuing	N/A

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160434BB / Unmanned ISR

Project (Number/Name)
S855 / Unmanned ISR

Special Application For Contingencies (SAFC) Schedule

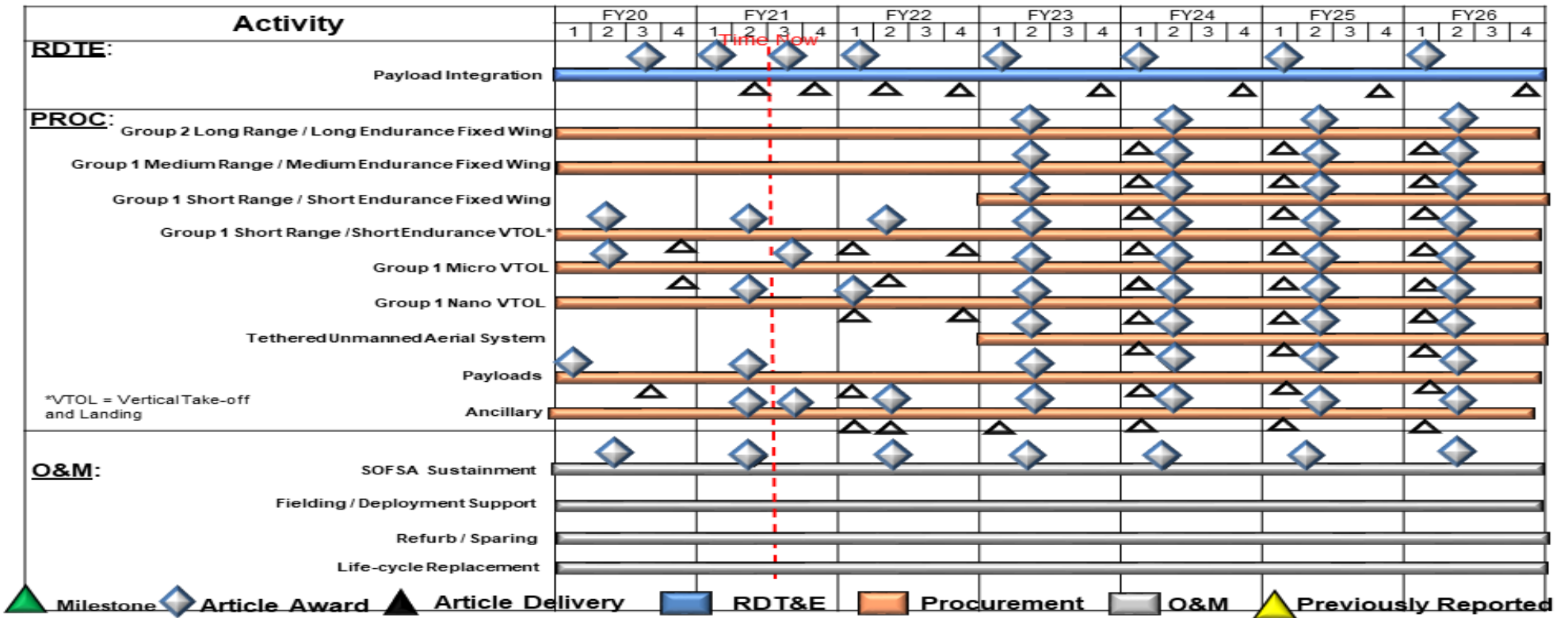


Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160434BB / Unmanned ISR

Project (Number/Name)
S855 / Unmanned ISR

Expeditionary Organic Tactical Airborne System (EOTACS) Schedule

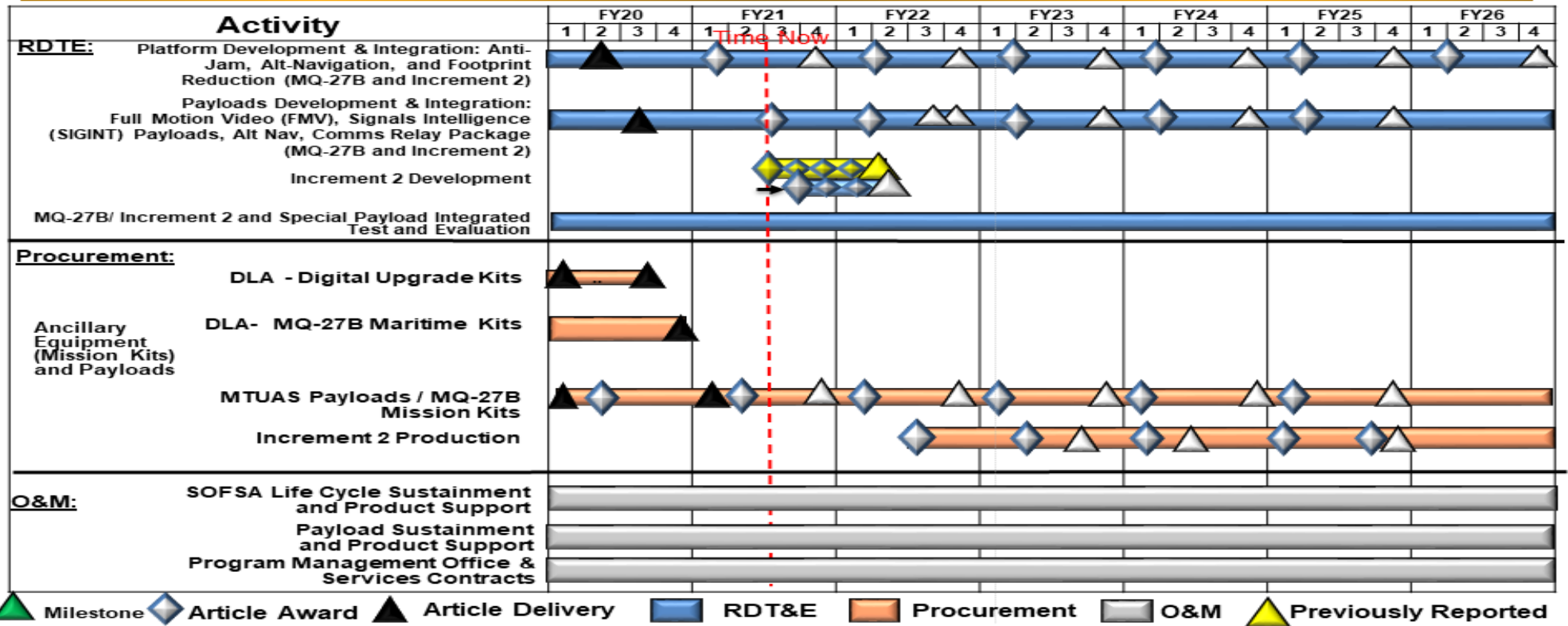


Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160434BB / Unmanned ISR

Project (Number/Name)
S855 / Unmanned ISR

Multi-Mission Tactical Unmanned Aerial System (MTUAS) Schedule

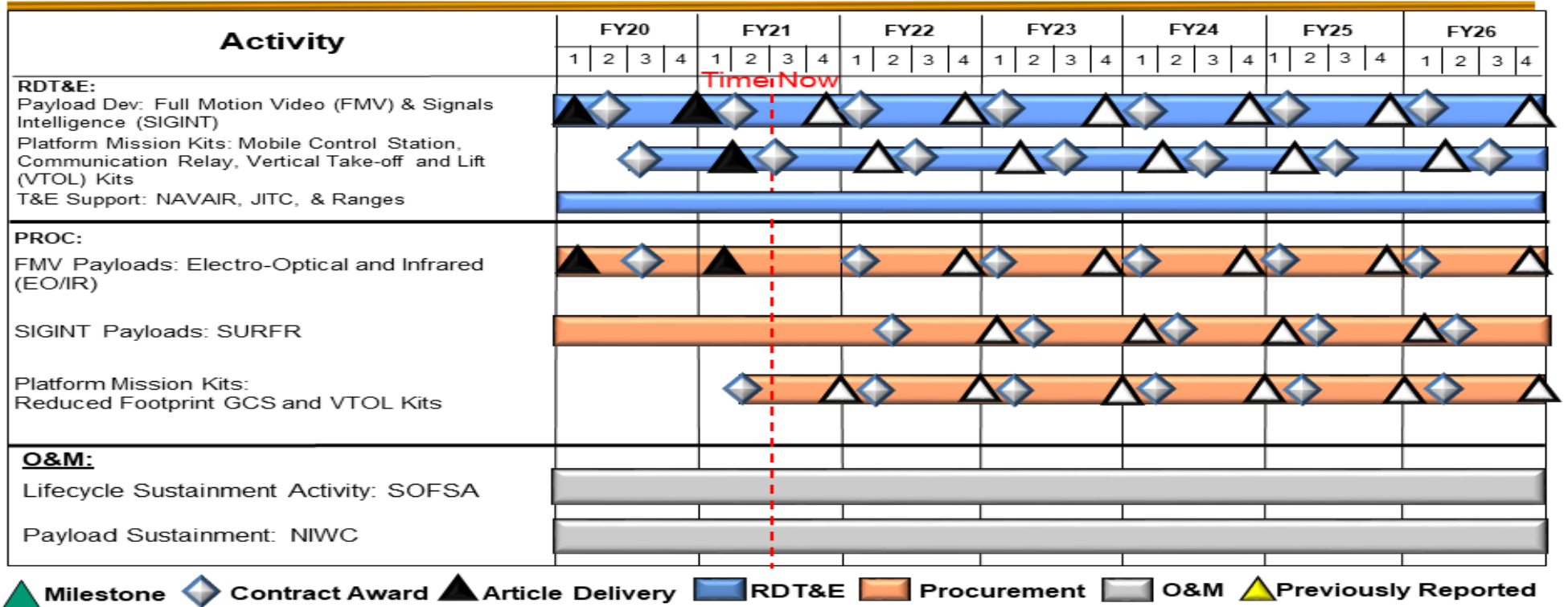


Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160434BB / Unmanned ISR

Project (Number/Name)
S855 / Unmanned ISR

Group 3 Unmanned Aerial Systems Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

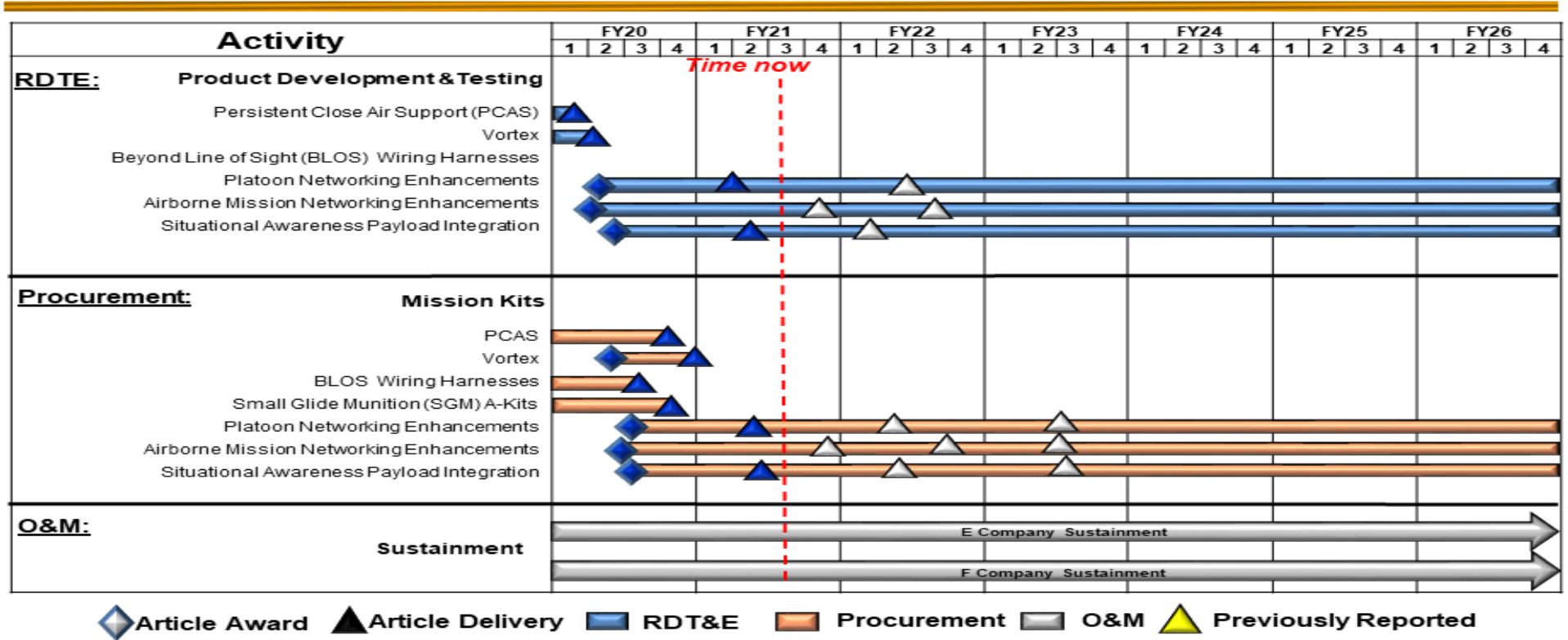
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160434BB / *Unmanned ISR*

Project (Number/Name)
S855 / *Unmanned ISR*

Group 4 UAS: MQ-1C Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160434BB / <i>Unmanned ISR</i>	Project (Number/Name) S855 / <i>Unmanned ISR</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Special Application for Contingencies (SAFC)</i>				
Product Development, Support, and Management	1	2020	4	2026
Test and Evaluation	1	2020	4	2026
Anti-Icing Development on TigerShark	1	2020	4	2021
<i>Group 1 Unmanned Aerial System (UAS)/Expeditionary Organic Tactical Airborne ISR Capability Set (EOTACS)</i>				
Payload Integration; Test Range Support	1	2020	4	2026
<i>Group 2 Multi-Mission Tactical Unmanned Aerial System (MTUAS)</i>				
Platform/Payload Development and Integration	1	2020	4	2026
Platform/Payload Test & Evaluation	1	2020	4	2026
<i>Group 3 UAS</i>				
Payload Development	1	2020	4	2026
Platform/Mission Kits Development and Integration	2	2020	4	2026
Platform/Payload Test & Evaluation	1	2020	4	2026
<i>Group 4 UAS</i>				
Persistent Close Air Support (PCAS) Integration	1	2020	1	2020
Vortex Integration	1	2020	2	2020
Platoon Networking Enhancements	2	2020	4	2026
Airborne Mission Networking Enhancements	2	2020	4	2026
Situational Awareness Sensor Integration	2	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160480BB / <i>SOF Tactical Vehicles</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	34.947	11.104	14.256	7.703	-	7.703	-	-	-	-	-	-
S910: <i>SOF Tactical Vehicles</i>	34.947	11.104	14.256	7.703	-	7.703	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element provides for the development and testing of a variety of capability upgrades to Special Operations Forces (SOF) Vehicles and ancillary equipment. Current SOF tactical vehicles are categorized into Light, Medium, Heavy, and Commercial, and include the following: Light Tactical All-Terrain Vehicles (LTATV), Ground Mobility Vehicles (GMV 1.1), Mine Resistant Ambush Protected (MRAP) vehicles, Non Standard Commercial Vehicles (NSCV), Joint Light Tactical Vehicle (JLTV), and SOF Coms kits for Stryker. The SOF mission mandates that SOF vehicles remain technologically superior, operate in multiple environments, and be able to meet any threat to provide a maximum degree of survivability. These technologies will be pursued via rapid prototyping efforts when appropriate.

The FY 2022 funding request was reduced by \$7.808 million to account for the availability of prior year execution balances.

FY 2022 Fiscal Balancing: -\$0.884 million decrease is attributed to the reductions necessary to accommodate budget realities and directed strategy driven changes. Reduces Family of Special Operations Vehicles (FSOV) Test and Evaluation (T&E) on GMV 1.1 Hybrid electric prototypes.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	11.150	9.263	4.191	-	4.191
Current President's Budget	11.104	14.256	7.703	-	7.703
Total Adjustments	-0.046	4.993	3.512	-	3.512
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.007			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.397	-			
• Other Adjustments	0.351	-	3.512	-	3.512

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: S910: *SOF Tactical Vehicles*

Congressional Add: *Next Generation Combat Vehicles*

	FY 2020	FY 2021
	-	5.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command	Date: May 2021
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160480BB / <i>SOF Tactical Vehicles</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Congressional Add Subtotals for Project: S910	-	5.000
Congressional Add Totals for all Projects	-	5.000

Change Summary Explanation

Funding:

FY 2020: Net decrease of \$0.046 million is due to the transfer of funds to Small Business Innovative Research/Small Business Technology Research Transfer programs (SBIR/STTR) (\$0.397 million) and funding made available from PE 1160431BB to support emerging command requirements in the year of execution (\$0.351 million).

FY 2021: Net increase of \$4.993 million is due to Congressional program increase for Next Generation Combat Vehicles (\$5.000 million) and a Defense Wide (DW) non-programmatic reduction (\$0.007 million).

FY 2022: Increase of \$3.512 million is in support of modernizing the Family of Special Operations Vehicles (FOSOV) fleet in support of the National Security Strategic Guidance. Modernization efforts include LTATV autonomy, signature management/reduction, and NSCV vulnerability evaluation.

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160480BB / <i>SOF Tactical Vehicles</i>				Project (Number/Name) S910 / <i>SOF Tactical Vehicles</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S910: <i>SOF Tactical Vehicles</i>	34.947	11.104	14.256	7.703	-	7.703	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Family of Special Operations Vehicles (FSOV) program develops, tests, and evaluates Special Operations Forces (SOF) Tactical Vehicles and associated modifications. FSOV engages in annual technology insertion efforts, to include rapid prototyping/fielding efforts targeted at ground vehicle capability enhancements across the mobility, survivability, payload, and durability spectrum. The SOF mission mandates that SOF vehicles remain technologically superior, operate in multiple environments and be able to meet any threat to provide a maximum degree of survivability. The current family of SOF tactical vehicles include: light mobility vehicles, medium mobility vehicles, non-standard commercial vehicles, and heavy mobility vehicles.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: FSOV	11.104	9.256	7.703
<p>Description: Funding provides for design/engineering, test, and evaluation costs related to capability upgrades in the following areas: Survivability, Lethality, Signature Management, Mobility/Performance, Communications, and Product Development. These capability upgrades and Engineering Change Proposals (ECPs) are incorporated across the FSOV portfolio of vehicles Non-Standard Commercial Vehicle (NSCV), Ground Mobility Vehicle (GMV 1.1), Light Tactical All-Terrain Vehicle (LTATV), Mine Resistant Ambush Protected (MRAP) vehicle, and the Joint Light Tactical Vehicle (JLTV).</p>			
<p>FY 2021 Plans: Continue design/development and integration of ECPs that implement capability upgrades and improve the performance of the NSCV, GMV 1.1, LTATV, MRAP, and JLTV vehicles. Initiate test and evaluation for hybrid/electric GMV 1.1 and Purpose Built NSCV. In addition, FSOV will initiate integration and test of designated Counter-Unmanned Aerial System (C-UAS)/Precision Strike Systems (PSS) on vehicle platforms to ensure performance of both systems with minimal adverse impacts. FY 2021 also includes technology development and insertion efforts for Autonomous LTATV, Acoustic Signature Reduction, Transferable Armor, and other SOF modification upgrades. Complete Purpose-Built NSCV testing.</p>			
<p>FY 2022 Plans: Continues design/development and integration of ECPs that implement capability upgrades and improves the performance of the NSCV, GMV 1.1, LTATV, MRAP, and JLTV platforms. FSOV will continue integration and test of designated Counter-Unmanned Aerial System (C-UAS)/Precision Strike System (PSS) on vehicles platforms. In addition, initiates development and Test and Evaluation phase of autonomous integration into LTATV. FY 2022 also includes the technology development and/or insertion efforts for Alternative Position Navigation Timing (A-PNT), Signature Reduction, 360 degree situational awareness, NSCV Blast Vulnerability study, and other SOF mobility platform efforts.</p>			
<p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / <i>SOF Tactical Vehicles</i>	Project (Number/Name) S910 / <i>SOF Tactical Vehicles</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Decrease of \$1.553 million is due to completion of Purpose-Built NSCV testing.			
Accomplishments/Planned Programs Subtotals	11.104	9.256	7.703

	FY 2020	FY 2021
Congressional Add: Next Generation Combat Vehicles	-	5.000
FY 2021 Plans: Program increase will be used to collaborate with the Army on carbon fiber and lightweight carbon foam materials, as well as enhance our existing efforts		
Congressional Adds Subtotals	-	5.000

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/0204TACVEH: <i>Tactical Vehicles</i>	119.107	33.148	26.806	-	26.806	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Apply SOF-Peculiar modifications to service common or Commercial Off The Shelf (COTS) vehicles whenever possible. Otherwise, incorporate purpose-built, Non-Developmental Item, or modified COTS vehicles if/when service solution is unavailable.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / <i>SOF Tactical Vehicles</i>	Project (Number/Name) S910 / <i>SOF Tactical Vehicles</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Special Operations Vehicles (FSOV) Ground Mobility Vehicle (GMV) 1.1 Capability Enhancements / Engineering Change Proposal (ECP) Development	Various	Various : Various	13.886	1.708	Dec 2019	1.350	Nov 2020	1.222	Feb 2022	-		1.222	Continuing	Continuing	-
FSOV Non-Standard Commercial Vehicle (NSCV) Capability Enhancements / ECP Development	Various	Various : Various	1.156	5.648	May 2020	1.650	Nov 2020	-		-		-	0.000	8.454	-
FSOV Light Tactical All-Terrain Vehicle (LTATV) Capability Enhancements / ECP Development	Various	Various : Various	0.985	-		0.700	Jul 2021	3.031	Dec 2021	-		3.031	Continuing	Continuing	-
Mine Resistant Ambush Protected (MRAP) Capability Enhancements/ ECP Development	Various	Various : Various	-	0.586	Sep 2020	1.100	Nov 2020	2.300	Jan 2022	-		2.300	Continuing	Continuing	-
FSOV Joint Light Tactical Vehicle (JLTV) Capability Enhancements / ECP Development	Various	Various : Various	-	0.750	Apr 2020	1.000	Nov 2020	-		-		-	0.000	1.750	-
FSOV GMV 1.1 and NSCV Survivability Enhancement/ Improvement Efforts	Various	Various : Various	1.134	0.452	Nov 2019	0.450	Feb 2021	0.650	Apr 2022	-		0.650	Continuing	Continuing	-
Next Generation Combat Vehicles Congressional Plus-Up	Various	Various : Various	-	-		5.000	May 2021	-		-		-	0.000	5.000	-
Prior Year Funding	Various	Various : Various	0.385	-		-		-		-		-	0.000	0.385	-
Prior Year Funding (OCO)	C/Various	Various : Various	0.725	-		-		-		-		-	0.000	0.725	-
Subtotal			18.271	9.144		11.250		7.203		-		7.203	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / <i>SOF Tactical Vehicles</i>	Project (Number/Name) S910 / <i>SOF Tactical Vehicles</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Funding	Various	Various : Various	4.445	-		-		-		-		-	0.000	4.445	-
Subtotal			4.445	-		-		-		-		-	0.000	4.445	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GMV 1.1 Test and Evaluation Validation Efforts (Automotive, Command, Control, Communications, Computers, and Intelligence (C4I), Ballistics, Operator Events)	Various	Various : Various	0.339	0.382	Aug 2020	1.363	Jan 2021	0.250	Mar 2022	-		0.250	Continuing	Continuing	-
NSCV Test and Evaluation Validation Efforts (Automotive, C4I, Ballistics, Operator Events)	Various	Various : Various	2.203	0.397	Jun 2020	1.643	Nov 2020	0.250	Mar 2022	-		0.250	Continuing	Continuing	-
LTATV Test and Evaluation Efforts	Various	Various : Various	-	1.181	Aug 2020	-		-		-		-	0.000	1.181	-
Prior Year Funding	Various	Various : Various	9.689	-		-		-		-		-	0.000	9.689	-
Subtotal			12.231	1.960		3.006		0.500		-		0.500	Continuing	Continuing	N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals		34.947	11.104	14.256	7.703	-	-	7.703	Continuing	Continuing	N/A

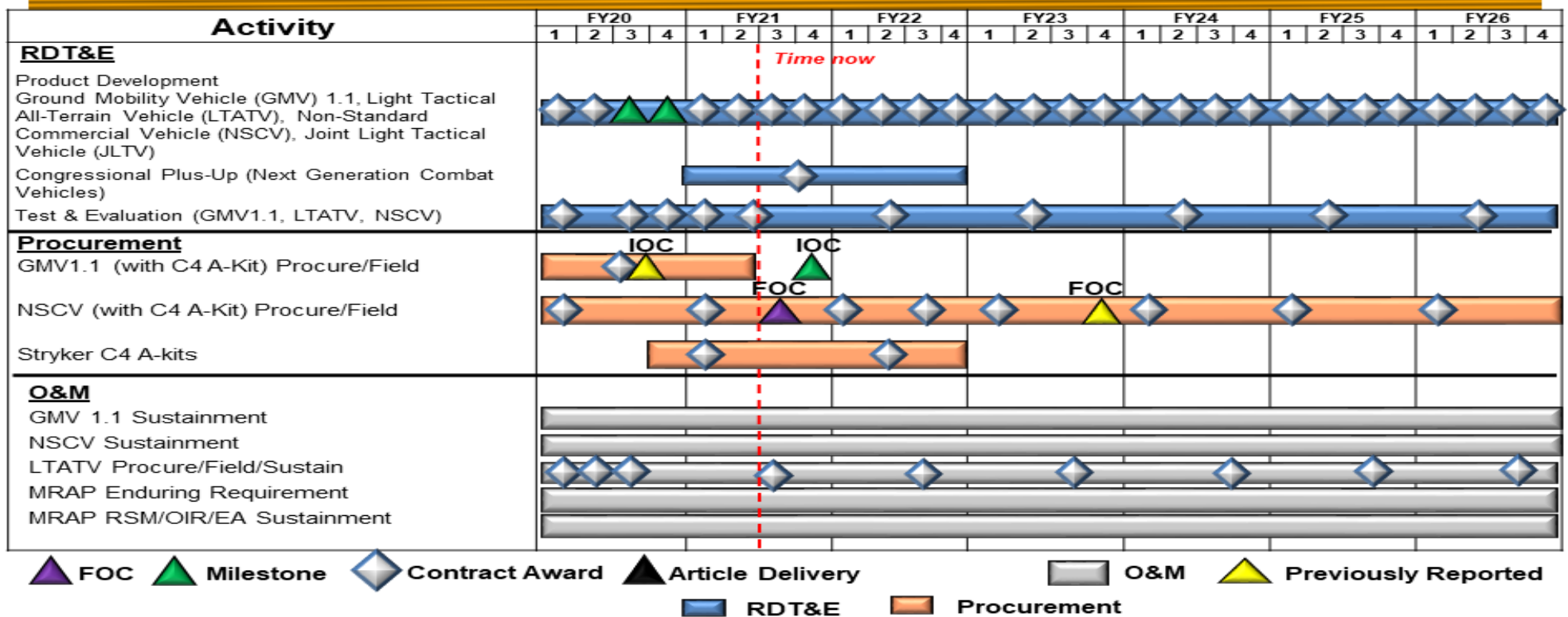
Remarks

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160480BB / SOF Tactical Vehicles

Project (Number/Name)
S910 / SOF Tactical Vehicles

Family of Special Operations Vehicles (FSOV) Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160480BB / <i>SOF Tactical Vehicles</i>	Project (Number/Name) S910 / <i>SOF Tactical Vehicles</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Family of Special Operations Vehicles (FSOV)</i>				
Product Development [Ground Mobility Vehicle (GMV) 1.1, Light Tactical All-Terrain Vehicle (LTATV), Non-Standard Commercial Vehicle (NSCV), Joint Light Tactical Vehicle]	1	2020	4	2026
Next Generation Combat Vehicles Congressional Plus-Up	1	2021	4	2022
Test & Evaluation (GMV 1.1, LTATV, NSCV)	1	2020	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	507.919	70.738	68.538	58.430	-	58.430	-	-	-	-	-	-
S0417: <i>Underwater Systems</i>	456.711	47.976	51.810	41.124	-	41.124	-	-	-	-	-	-
S1684: <i>Surface Craft</i>	51.208	22.762	16.728	17.306	-	17.306	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element provides for Engineering and Manufacturing Development (EMD) of Special Operations Forces (SOF) Surface and Undersea Mobility platforms. This program element also provides for pre-acquisition activities to quickly respond to new requirements for SOF surface and undersea mobility, looking at multiple alternatives to include cross-platform technical solutions, service-common solutions, Commercial-Off-The-Shelf technologies, and new development efforts. These technologies will be pursued via rapid prototyping efforts when appropriate.

The Underwater Systems project provides for EMD of combat submersibles, SOF combat diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component, prototype development, and exploitation of emerging technology opportunities to deliver enhanced capabilities) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions.

The Surface Craft project provides for EMD of medium and heavy surface combatant craft, combatant craft mission equipment, and pre-planned product improvement and technology insertion engineering changes to meet the unique requirements of SOF. This project element also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully engage the enemy and conduct operations associated with SOF maritime missions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>
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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	72.626	59.882	51.099	-	51.099
Current President's Budget	70.738	68.538	58.430	-	58.430
Total Adjustments	-1.888	8.656	7.331	-	7.331
• Congressional General Reductions	-	-0.044			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	8.700			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.700	-			
• SBIR/STTR Transfer	-2.588	-			
• Other Adjustments	-	-	7.331	-	7.331

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: S0417: *Underwater Systems*

Congressional Add: *SOF Combat Diving*

	FY 2020	FY 2021
	3.000	8.700
Congressional Add Subtotals for Project: S0417	3.000	8.700
Congressional Add Totals for all Projects	3.000	8.700

Change Summary Explanation

Funding:

FY 2020: Net decrease of \$1.888 million is due to transfer of funds to Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) reductions (-\$2.588 million) and an increase was to support DDS modernization efforts and testing (\$0.700 million).

FY 2021: Net increase of \$8.656 million to support of SOF Combat Diving Propulsion (\$4.200 million) and Communication (\$4.500 million) and Congressional direction reduction for excess to need (\$-0.044 million).

FY 2022: Net increase of \$7.331 million is due to an increase to support SOF Combat Diving prototyping, developmental testing/operational testing (DT/OT), and technical management of the increased prototyping efforts for new capabilities aligning with Component requirements (\$0.750 million), an increase to support SEAL Delivery Vehicle (SDV) MK 11 development enhancements (\$3.027 million), an increase to support continued development and testing of Maritime Precision Engagement (MPE) on Combatant Craft Medium (CCM) (\$4.500 million) and funding made available to support emerging critical Command requirements (\$-0.946 million).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity
0400: *Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 1160483BB / *Maritime Systems*

Schedule: None.

Technical: None.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command										Date: May 2021		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>				Project (Number/Name) S0417 / <i>Underwater Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S0417: <i>Underwater Systems</i>	456.711	47.976	51.810	41.124	-	41.124	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project provides for Engineering and Manufacturing Development (EMD) of combat underwater submersibles, Special Operations Forces (SOF) combat diving systems, underwater support systems, and underwater equipment. This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to respond to emergent requirements. These submersibles, equipment, and diving systems are used by SOF in the conduct of infiltration/extraction, personnel/material recovery, hydrographic/inland reconnaissance, beach obstacle clearance, underwater ship attack, and other missions. The capabilities of the submersible systems, diving systems, and unique equipment provides small, highly trained forces the ability to successfully engage the enemy and conduct clandestine operations associated with SOF maritime missions. These technologies will be pursued via rapid prototyping efforts when appropriate.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Shallow Water Combat Submersible (SWCS) / SEAL Delivery Vehicle Mark 11 (SDV MK 11)</p> <p>Description: SWCS provides for the design, development, and test of one EDM and 10 production units to replace the legacy MK 8 MOD 1 SEAL Delivery Vehicle (SDV) system. The material solution for SWCS is the SDV MK 11. SWCS is a free-flooding combat submersible mobility platform suitable for transporting and deploying SOF and their payloads for a variety of SOF missions. SWCS will be deployable from a Dry Deck Shelter (DDS), surface ships, and land. The SWCS system includes the SWCS vehicle and SWCS support equipment comprised of Mission Support Equipment (MSE), Pack-Up Kit (PUK), and Transportation and Handling (T&H). It also includes integration efforts with the current DDS and development of product improvements accomplished throughout the lifecycle of the system. SWCS line item is transitioning to SDV in FY22 to better align with historical terminology and material solution.</p> <p>FY 2021 Plans: Continue Pre-Planned Product Improvement (P3I). P3I enhancements include, but are not limited to, Propulsor, Power and Energy, Acoustic and Radio Frequency indicators and warning capabilities, Electro-Optical Infrared (EO/IR) sensor development, payload improvements, and self recovery.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$1.411 million is due to transfer of funding line to SEAL Delivery Vehicle (SDV).</p>	1.143	1.411	-
<p>Title: SEAL Delivery Vehicle (SDV MK 11)</p> <p>Description: The SDV MK 11 (Acquisition program name: SWCS) provides for the design, development and test of one EDM and 10 production units to replace the legacy MK 8 MOD 1 SDV system. The SDV MK 11 is a free-flooding combat submersible mobility platform suitable for transporting and deploying SOF and their payloads for a variety of SOF missions. The SDV MK</p>	-	-	4.348

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>11 will be deployable from a DDS, surface ships, and land. The MK 11 system includes the MK 11 vehicle and MK 11 support equipment, comprised of Mission Support Equipment (MSE), Pack-Up Kit (PUK), and Transportation and Handling (T&H). It also includes integration efforts with the current DDS and development of product improvements accomplished throughout the lifecycle of the system.</p> <p>FY 2022 Plans: Continues SDV MK 11 Pre-Planned Product Improvement (P3I). P3I enhancements include, but are not limited to, Power and Energy, Acoustic and Radio Frequency indicators and warning capabilities, Electro-Optical Infrared (EO/IR) sensor, payload improvements, and self recovery.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$4.348 million is due to transfer of funding line from SWCS.</p>			
<p>Title: Dry Combat Submersible (DCS)</p> <p>Description: DCS provides for the advanced development, engineering, manufacturing, and testing efforts for a surface-launched, dry, diver lock-in/lock-out vessel capable of inserting and extracting SOF and/or payloads into denied areas of one Engineering Development Model (EDM) and two production units. USSOCOM tested one submersible prototype to validate test methodologies, commercial classification, and SOCOM safety certification processes and will continue to use the prototype to evaluate capability enhancing technologies and reduce risk in the DCS program. This program includes funding for enhanced warfighter capabilities such as Mid-Water Column Lock-In/Lock-Out, depressurization pump, and submarine interoperability.</p> <p>FY 2021 Plans: Continue incorporation of Pre-Planned Product Improvement (P3I) to increase the operational capability of DCS. Continue government acceptance testing on DCS 2. Continue DCS Next Engineering and Manufacturing Development efforts.</p> <p>FY 2022 Plans: Continues the incorporation of P3I to increase the operational capability of DCS to include Navy submarine/grey hull interoperability, efforts to address obsolescence, and the continued insertion of Undersea Craft Mission Equipment (UCME) developed technologies. Begins government acceptance testing of DCS 3. Continues DCS Next requirements development, modeling, and simulation efforts.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$4.249 million is due to DCS 1 completing operational testing in FY 2021 as well as continuing the transition of DCS Block I to sustainment.</p>	15.606	17.292	13.043
<p>Title: Dry Deck Shelter (DDS) Modernization</p>	9.167	1.206	1.057

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Description: DDS provides for the Pre-Planned Product Improvement (P3I), testing, and integration of specialized underwater systems to meet the unique requirements of SOF, and compatibility with the submarine fleet. The current DDS is a certified diving system which attaches to modified host submarines that provides for insertion of SOF forces and platforms. Funding supports product improvements to the current DDS, as well as associated diver equipment for in-service submarine support systems, unmanned underwater vehicles, and follow on development efforts for future SOF payloads.</p> <p>FY 2021 Plans: Continue development of field changes necessary to extend the useful life of the DDS and increases capacity to carry larger payloads. Continue the transition study of the Ship, Submersible, Guided Missile, Nuclear (SSGN) to Virginia (VA) Class host platform.</p> <p>FY 2022 Plans: Continues development of field changes necessary to extend the useful life of the DDS and increases capacity to carry larger payloads.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.149 million is due to transition study completion of the SSGN to VA Class host platform.</p>			
<p>Title: SOF Combat Diving (CBDIV)</p> <p>Description: SOF Combat Diving provides the EMD, testing, and rapid prototyping of SOF peculiar diving equipment providing the SOF combat diver the ability to engage the enemy and conduct operations. SOF Combat Diving will support the SDV, SWCS, DCS, and surface craft with the conduct of infiltration/extraction, material recovery, underwater ship attack, beach clearance, and other missions. Technologies include, but are not limited to, commercial and developmental life support, maneuverability and propulsion, diver navigational accuracy and situational awareness, environmental protection, and communications between dive teams as well as between divers and external vessels/craft. SOF Combat Diving is designated a Middle Tier of Acquisition (MTA) program, which uses the rapid prototyping pathway.</p> <p>FY 2021 Plans: Continue development, to include test and evaluation for environmental protection, navigation, communication and propulsion capabilities, and begin shallow water underwater breathing apparatus development.</p> <p>FY 2022 Plans: Continues development capabilities, prototyping, to include test and evaluation of environmental protection, navigation, communication and propulsion, and an excursion capable Underwater breathing apparatus equipment material solution analysis and advanced component prototype development.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>	2.580	2.161	3.183

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Increase of \$1.022 million supports the material solution analysis and advanced component prototype development of five underwater breathing apparatus, provides for development test of the prototypes, and funds initial manned testing and evaluation activities.			
<p>Title: Undersea Craft Mission Equipment (UCME)</p> <p>Description: UCME provides a rapid response capability to support SOF underwater craft and diver systems, subsystems, and their emerging requirements. UCME provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability to leverage and exploit emerging technologies within the maritime SOF undersea capability portfolio. UCME focuses on spearheading specific Technology Readiness Level (TRL) 6 technology for compatibility, maturity, marinization, and successful transition to SOF undersea craft programs.</p> <p>FY 2021 Plans: Continue development of undersea survivability enhancements; underwater and maritime domain communications; enhanced situational awareness and Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) unique power and energy capabilities; other capability enhancements and enabling technologies for assured access, which supports the Interim National Security Strategic Guidance (INSSG).</p> <p>FY 2022 Plans: Continues development of undersea survivability enhancements; underwater and maritime domain communications; enhanced C5ISR and Situational Awareness (C5ISR/SA); unique power and energy capabilities; other capability enhancements and enabling technologies for assured access and against near peer threats, which supports the INSSG.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$1.167 million is due to anticipated maturation of the Acoustic Intercept Receiver (AIR) for Unmanned Underwater Vehicle (UUV) (MK 18 Mod 1) within the C5ISR/SA technology focus area to a readiness level for effective transition to a program of record.</p>	16.480	19.692	18.525
<p>Title: MK18 Mod 1 Unmanned Underwater Vehicle (UUV)</p> <p>Description: MK 18 Mod 1 UUV enables access to contested/denied areas in the maritime domain, provides maritime special reconnaissance capabilities and reduces risk to personnel and manned platforms. This program develops and integrates SOF-peculiar (SOF-P) modifications to the Service Common, MFP-2 funded, Mark 18 Mod 1 UUV.</p> <p>FY 2021 Plans:</p>	-	1.000	0.968

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>Begin payload development/integration for Beyond Line Of Sight (BLOS) capability via cognitive router effort, encrypted communications, underwater launch and recovery, and artificial intelligence. Begin development/integration for Acoustic Intercept Receiver.</p> <p>FY 2022 Plans: Continues payload development/integration for Beyond Line Of Sight (BLOS) capability via cognitive router effort, encrypted communications, underwater launch and recovery, and artificial intelligence. Continues development/integration for Acoustic Intercept Receiver. Conducts non-recurring engineering (NRE) of the Block C SOF-P UUV.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.032 million is due to funding made available to support emerging critical Command requirements.</p>			
<p>Title: Combatant Craft Light (CCL)</p> <p>Description: CCL is a small combatant craft that supports deployment of six combat equipped SOF operators and their payloads for selected missions in multiple threat environments. Its compact form factor provides SOF with versatile mission transportability, deployment, and utility capabilities.</p> <p>FY 2021 Plans: Complete integration and testing of Low Rate Initial Production (LRIP) craft.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.348 million is due to the completion of integration and testing and the shift to full rate production.</p>	-	0.348	-
Accomplishments/Planned Programs Subtotals	44.976	43.110	41.124

	FY 2020	FY 2021
<p>Congressional Add: SOF Combat Diving</p> <p>FY 2020 Accomplishments: Continue development of SOF Diver propulsion. Specific development on STIDD's Diver Propulsion Device (DPD) in areas of increased battery capacity with improvements to Battery Status Indicator, cabling and connectors, increased depth rating and development improvements to battery charging time of the STIDD DPD.</p> <p>FY 2021 Plans: Continues development of SOF Diver propulsion. Specific efforts target development, testing, certification, shore based use, Submarine and Surface craft carry-on approval of multiple battery subsystems supporting Collective and Individual diver propulsion devices. Continues development of SOF Diver communication. Unique system design improvements required for SOF diver use, developmental testing, and evaluation of resulting engineering development model systems. Specific efforts target development of C3SA</p>	3.000	8.700

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>

	FY 2020	FY 2021
diver underwater communication, diver-to-diver voice communication and the development and testing of battery certification.		
Congressional Adds Subtotals	3.000	8.700

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PROC/0210US: <i>Underwater Systems</i>	58.942	20.556	17.227	-	17.227	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

- SWCS uses full and open competition with a down select to a single contractor. The full spectrum of contracting activities are being utilized for any integration and subsystem requirements, using existing contracts where appropriate, government agencies, and new contracts as necessary. Sole source Justification and Approval (J&A) was approved and awarded to deliver final production articles to meet Full Operational Capability (FOC).
- SDV MK 11 uses full and open competition to award to a single contractor. The full spectrum of contracting activities are being employed for subsystem and integration requirements, using existing contracts where appropriate, government agencies, and new contracts as necessary. Sole source Justification and Approval (J&A) was approved and awarded to deliver final production Articles to meet FOC.
- DCS Block I uses full and open competition, resulting in the selection of a single prime contractor and award of a Fixed Price Incentive Firm Target contract for three vessels. DCS Next continues market research in FY21.
- The DDS is currently in sustainment through a maintenance and service contract which was competitively sourced, and awarded for a five-year period. The modernization and engineering/change efforts for the six DDS in inventory are executed utilizing the existing services contract.
- SOF Combat Diving is designated an MTA program which supports rapid prototyping and is executed using existing contracts, government agencies, and new contracts competitively selected as appropriate.
- UCME will use streamlined Federal Acquisition Regulation (FAR) contracting with existing or planned Indefinite Delivery, Indefinite Quantity, Blanket Order Agreement, University Affiliated Research Center, and Federally Funded Research and Development Center contracts and use Non-FAR Acquisition Authorities and Other Transaction Authority agreements, where appropriate.
- UUV Program will augment a Navy service common man-portable UUV with purpose built, modular, plug-and-play sensors and payloads to meet SOF requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
0400 / 7	PE 1160483BB / <i>Maritime Systems</i>	S0417 / <i>Underwater Systems</i>

- CCL engineering and manufacturing development was sole source. Program Management Office is evaluating limited competition for follow-on production contract contingent on cost tradeoffs and completeness of technical data.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Shallow Water Combat Submersible (SWCS) Engineering Changes	C/Variou	Various : Various	1.197	0.589	Jan 2020	1.203	Jan 2021	-		-		-	Continuing	Continuing	-
SEAL Delivery Vehicle (SDV)	C/Variou	Various : Various	-	-		-		4.348	Jan 2022	-		4.348	Continuing	Continuing	-
Dry Combat Submersible (DCS) Next Engineering and Manufacturing Development (EMD)	C/Variou	Various : Various	-	1.912	Feb 2020	5.500	Feb 2021	6.000	Jan 2022	-		6.000	Continuing	Continuing	-
DCS Enhancements / Pre-Planned Product Improvement (P3I) Changes	C/Variou	Various : Various	11.416	4.241	Nov 2019	7.242	Nov 2020	3.404	Nov 2021	-		3.404	Continuing	Continuing	-
Dry Deck Shelter (DDS) Modernization	C/CPFF	Oceaneering International Inc. Marine Services Division : Chesapeake, VA	34.898	8.696	Jan 2020	-		-		-		-	0.000	43.594	-
DDS Field Changes	C/Variou	Oceaneering International Inc. Marine Services Division : Chesapeake, VA	-	-		0.872	Jan 2021	0.991	Jan 2022	-		0.991	Continuing	Continuing	-
Special Operation Forces (SOF) Combat Diving-Unique Diving Technologies	Various	Various : Various	6.244	1.881	Nov 2019	1.458	Feb 2021	1.876	Nov 2021	-		1.876	Continuing	Continuing	-
SOF Combat Diving (Congressional Add)	C/Variou	Various : Various	-	3.000	Nov 2019	8.700	Mar 2021	-		-		-	0.000	11.700	-
Undersea Craft Mission Equipment (UCME) Survivability, Navigation, C5ISR/SA, Power & Energy enhancements and other assured access technologies	C/Variou	Various : Various	-	15.965	Feb 2020	19.101	Dec 2020	17.948	Nov 2021	-		17.948	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MK18 Mod 1 Unmanned Underwater Vehicle (UUV)	C/Various	Various : Various	-	-		1.000	Aug 2021	0.968	Mar 2022	-		0.968	Continuing	Continuing	-
Prior Year Funding	Various	Various : Various	314.717	-		-		-		-		-	0.000	314.717	-
Prior Year Funding (Congressional add)	C/Various	Various : Various	14.100	-		-		-		-		-	0.000	14.100	-
Subtotal			382.572	36.284		45.076		35.535		-		35.535	Continuing	Continuing	N/A

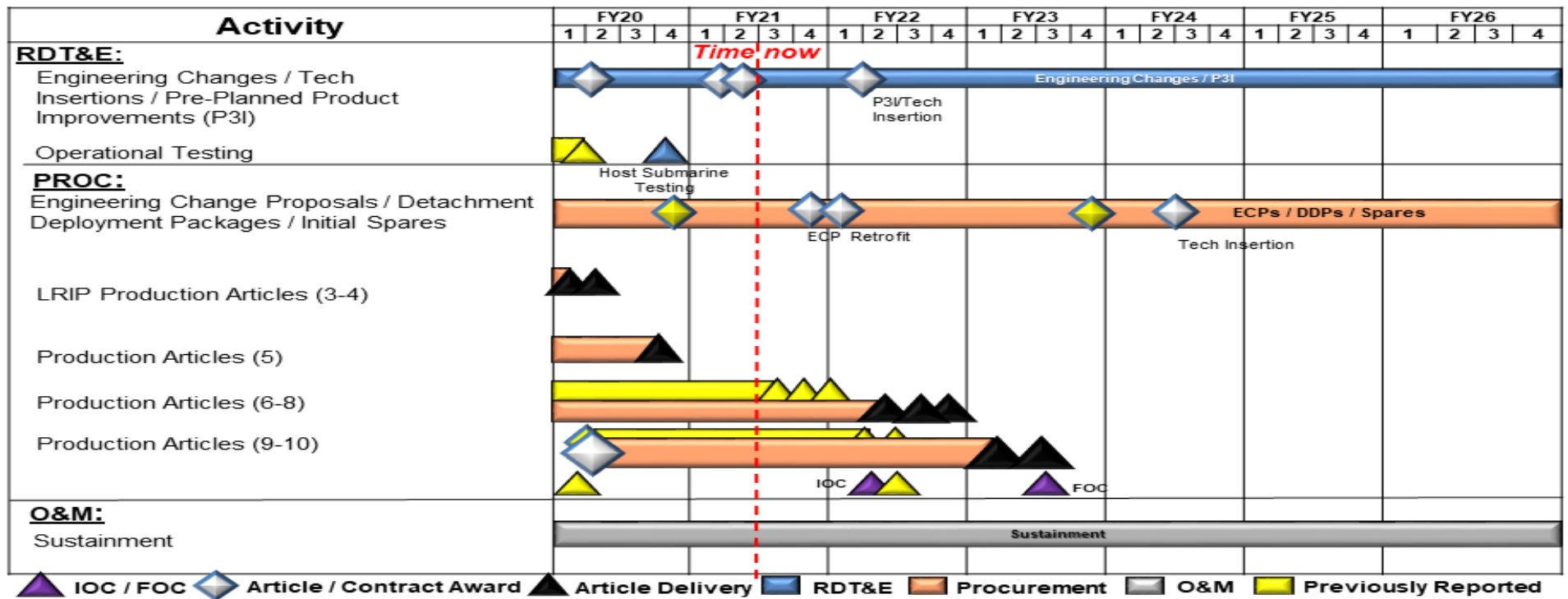
Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior Year Funding	Various	Various : Various	9.094	-		-		-		-		-	0.000	9.094	-
Subtotal			9.094	-		-		-		-		-	0.000	9.094	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SWCS	Various	PSU ARL / JHU-APL : Laurel, MD / State College, PA	3.392	0.554	Nov 2019	0.208	Nov 2020	-		-		-	Continuing	Continuing	-
DCS	C/Various	Various : Various	19.600	7.519	Nov 2019	4.000	Oct 2020	2.000	Oct 2021	-		2.000	Continuing	Continuing	-
SOF Combat Diving	Various	Various : Various	1.621	0.530	Oct 2019	0.520	Oct 2020	1.119	Oct 2021	-		1.119	Continuing	Continuing	-
CCL	C/Various	Various : Various	-	-		0.348	Dec 2020	-		-		-	0.000	0.348	-
Prior Year Funding	Various	Various : Various	9.320	-		-		-		-		-	0.000	9.320	-
Subtotal			33.933	8.603		5.076		3.119		-		3.119	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>

SEAL Delivery Vehicle MK 11 Shallow Water Combat Submersible Schedule

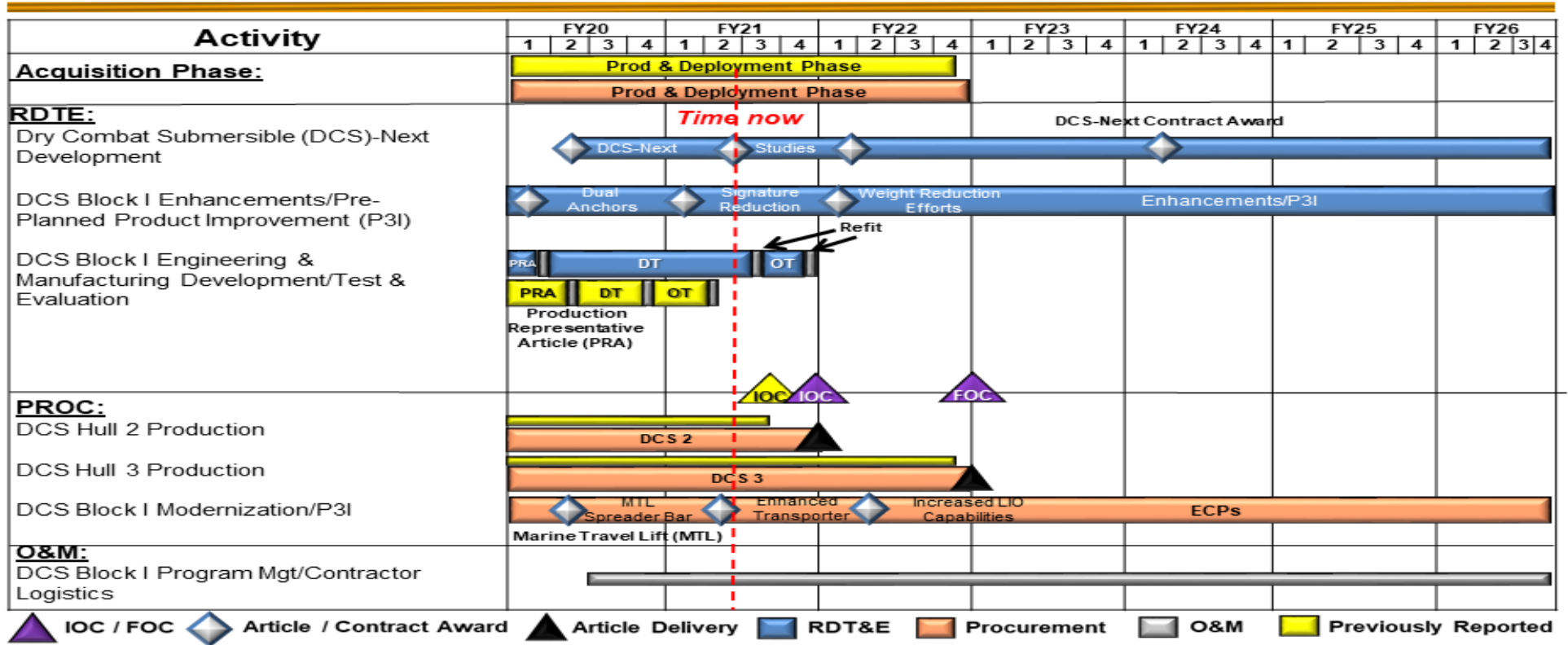


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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command Date: May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems	Project (Number/Name) S0417 / Underwater Systems
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Dry Combat Submersible Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

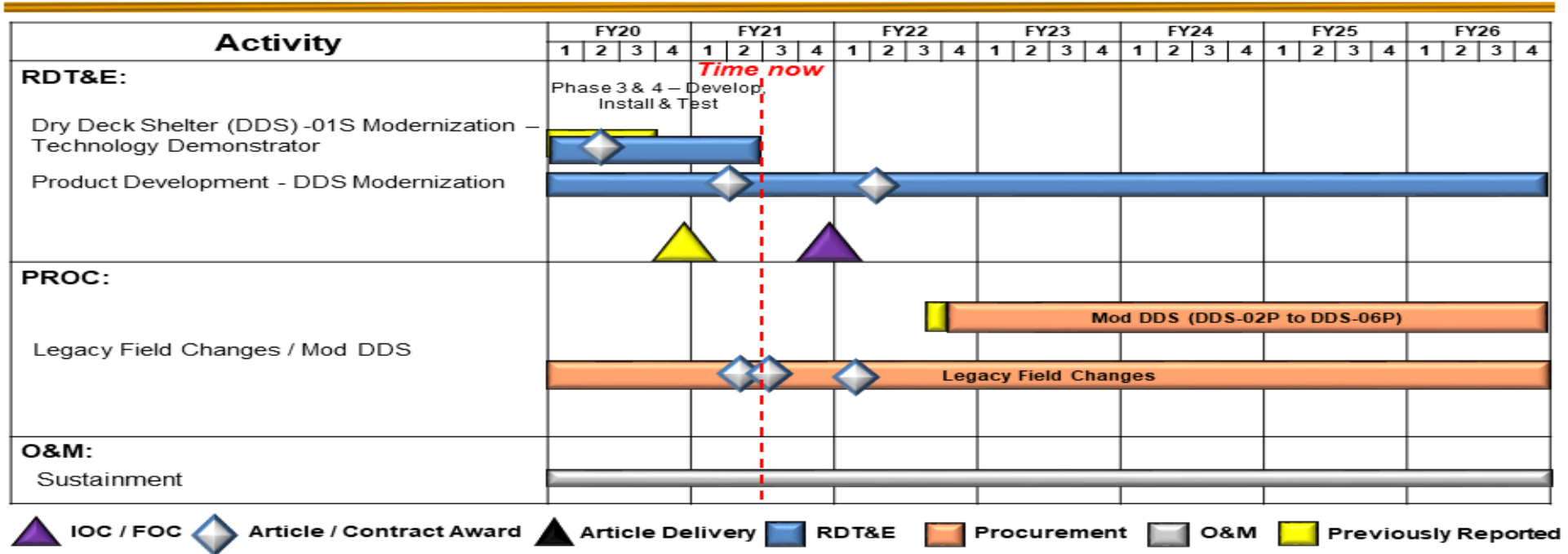
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S0417 / Underwater Systems

Dry Deck Shelter Schedule

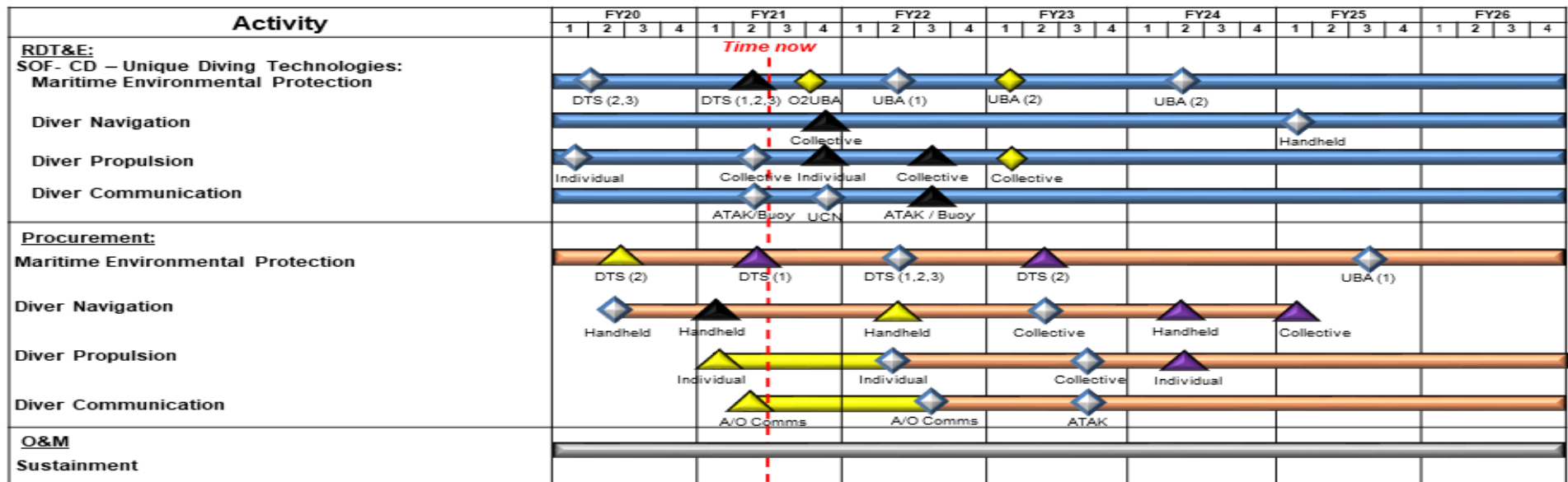


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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command Date: May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / Maritime Systems	Project (Number/Name) S0417 / Underwater Systems
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Special Operations Forces (SOF) Combat Diving (CD) Schedule



- | | | | | | | |
|-----|--------------------------|------------------|-------|-------------|-----|---------------------|
| FOC | Article / Contract Award | Article Delivery | RDT&E | Procurement | O&M | Previously Reported |
|-----|--------------------------|------------------|-------|-------------|-----|---------------------|
- DTS – Diver Thermal System
 (1) Thermal Tube Suits
 (2) Thermal Electrical Systems
 (3) Thermal Chemical Systems
- UBA – Underwater Breathing Apparatus
 (1) Shallow Water Excursion O2 UBA
 (2) HEO2 UBA
- ATAK – Android Tactical Assault Kit
 A/O – Acoustic / Optical
 Buoy – Communications Floating Buoy
 UCN – Underwater Communications Network
 (for Diver Comms and Situational Awareness)

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

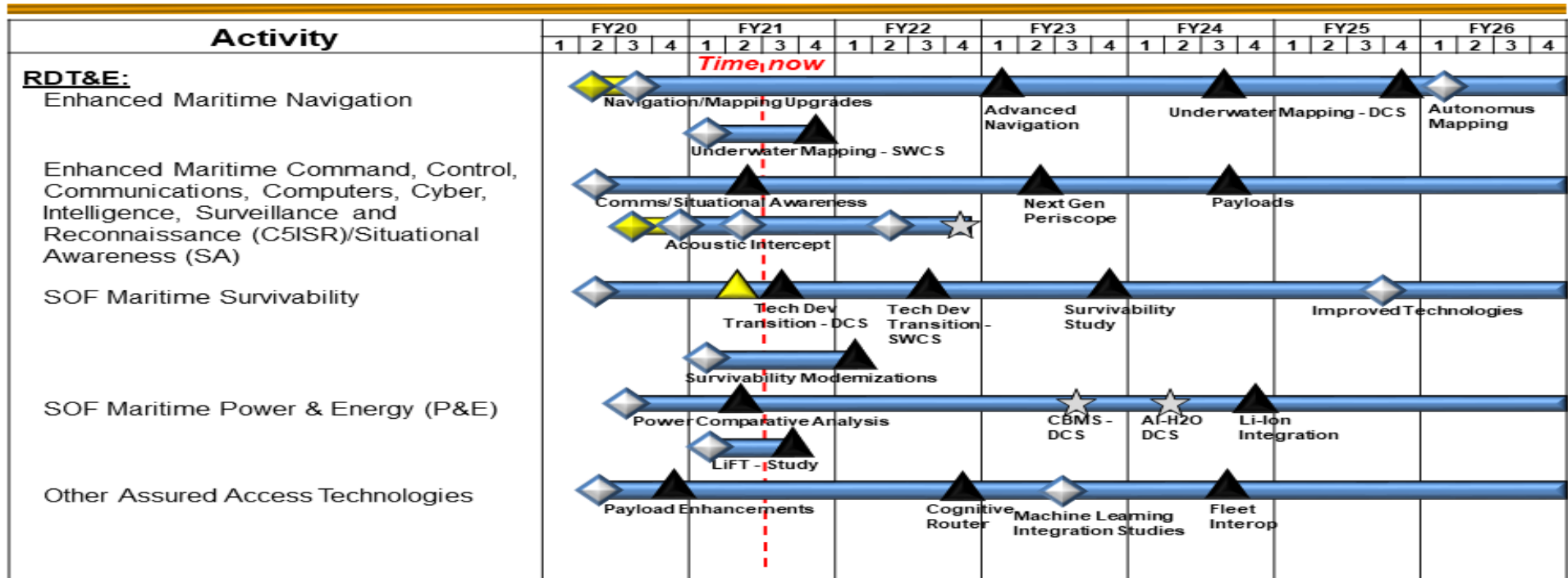
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S0417 / Underwater Systems

Undersea Craft Mission Equipment Schedule



IOC/FOC
 Article / Contract Award / Obligation
 Article Delivery
 Article Transition
 RDT&E
 PROC
 O&M
 Previously Reported

CBMS – Critical Battery Management System

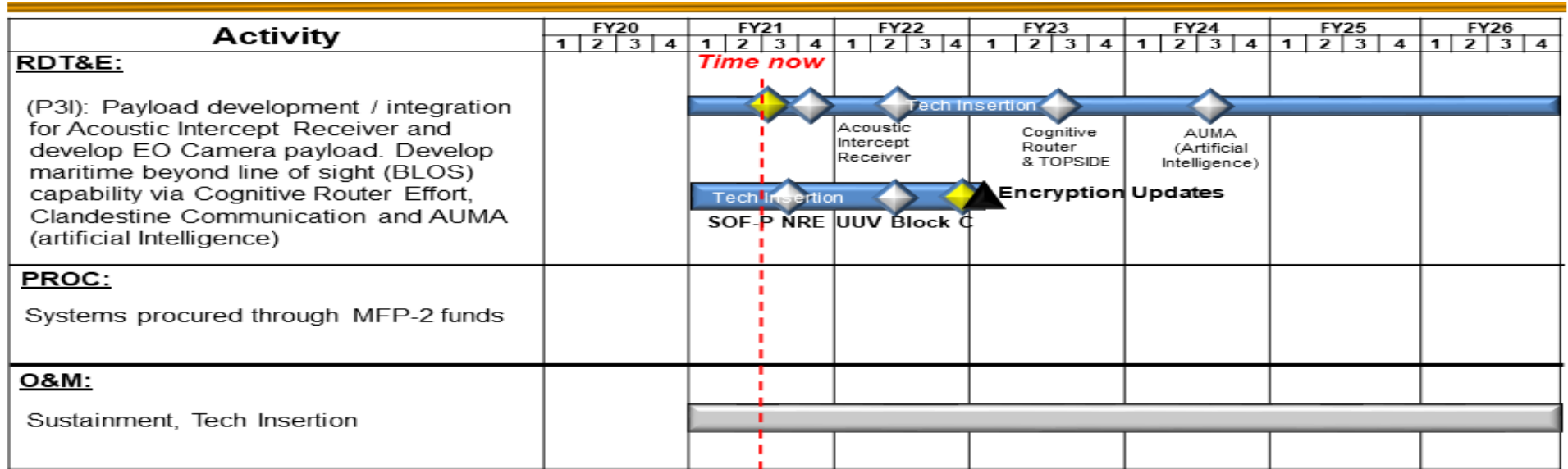
Al-H2O – Aluminum Seawater Battery

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>
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MK 18 Mod 1 Unmanned Underwater Vehicle Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

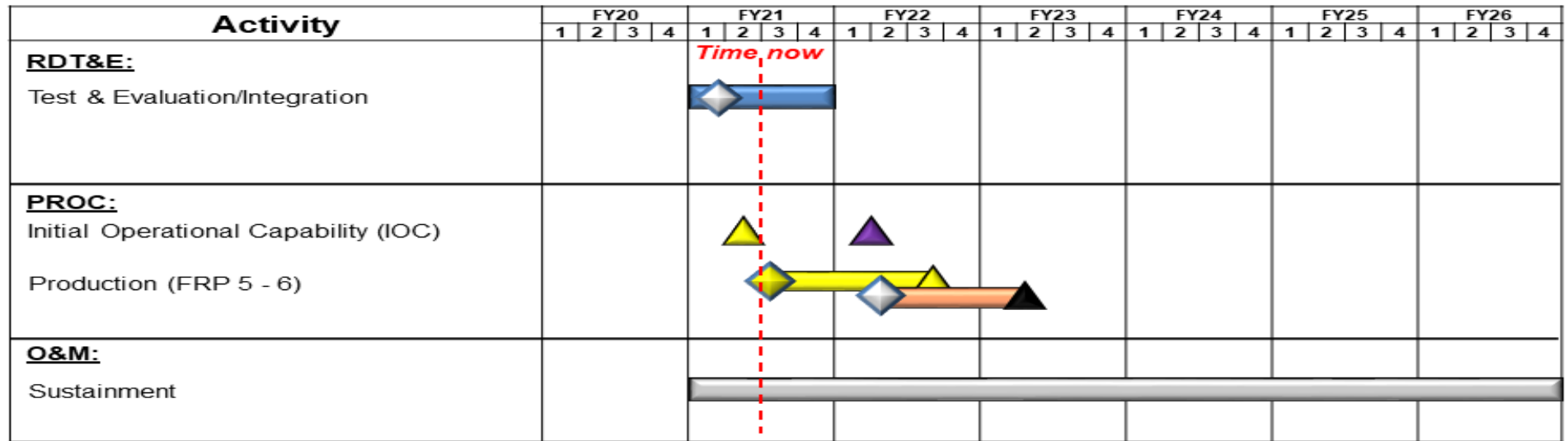
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S0417 / Underwater Systems

Combatant Craft Light Schedule



▲ IOC / FOC
 ◆ Article / Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ■ Previously Reported

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Shallow Water Combat Submersible (SWCS)</i>				
Enhancements/Pre-planned Product Improvements (P3I)	1	2020	4	2021
Operational Testing	3	2020	4	2020
<i>SEAL Delivery Vehicle (SDV)</i>				
Enhancements/P3I	1	2022	4	2026
<i>Dry Combat Submersibles (DCS)</i>				
DCS Next	2	2020	4	2026
Enhancements/P3I	1	2020	4	2026
Production Representative Article (Engineering and Manufacturing Development)	1	2020	1	2020
Developmental Test and Evaluation	2	2020	2	2021
Operational Test and Evaluation	3	2021	4	2021
<i>Dry Deck Shelter Modernization (DDS)</i>				
Phase 3 & 4 Development	1	2020	2	2021
Product Development DDS Modernization	1	2020	4	2026
<i>Special Operation Forces (SOF) Combat Diving</i>				
Maritime Environmental Protection Rapid Prototyping, Test, and Integration	1	2020	4	2026
Diver Navigation Rapid Prototyping, Test, and Integration	1	2020	4	2026
Diver Propulsion Rapid Prototyping, Test, and Integration	1	2020	4	2026
Diver Communication Rapid Prototyping, Test, and Integration	1	2020	4	2026
<i>Undersea Craft Mission Equipment (UCME)</i>				
Enhanced Maritime Navigation	3	2020	4	2026
Enhanced Maritime Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR)/Situational Awareness (SA)	2	2020	4	2026

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S0417 / <i>Underwater Systems</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SOF Maritime Survivability	2	2020	4	2026
SOF Maritime Power & Energy (P&E)	3	2020	4	2026
Other Assured Access Technologies	2	2020	4	2026
<i>MK18 Mods 1 Unmanned Underwater Vehicle (UUV)</i>				
MK18 Mods 1 UUV P3I	1	2021	4	2026
Tech Insertion	1	2021	1	2023
<i>Combatant Craft Light (CCL)</i>				
Test and Evaluation/Integration	1	2021	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>				Project (Number/Name) S1684 / <i>Surface Craft</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
S1684: <i>Surface Craft</i>	51.208	22.762	16.728	17.306	-	17.306	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for engineering and manufacturing development of small, medium, heavy and assault surface combatant craft, combatant craft mission equipment, and Pre-Planned Product Improvement (P3I) and technology insertion engineering changes to meet the unique requirements of Special Operations Forces (SOF). This project also provides for pre-acquisition activities (materiel solutions analysis, advanced component development and prototypes) to quickly respond to new requirements for maritime craft and subsystems. The craft capabilities and unique equipment provide small, highly trained forces the ability to successfully conduct operations associated with SOF maritime missions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
<p>Title: Combatant Craft Medium (CCM)</p> <p>Description: CCM is a semi-enclosed multi-mission combatant craft for platoon-size maritime mobility in maritime contested environments. It is multi-mission capable, including Maritime Interdiction, Insert/Extract, and Visit, Board, Search, and Seizure (VBSS) Operations. CCM is Naval Special Warfare's (NSW) craft-of-choice for long-range, high-payload SOF mobility operations in contested environments. CCM has NSW's best Iron Triangle: 40 knot (kt) speed; 4 crew + 19 passengers (pax)/10,000 pound (lb) payload; and 600 nautical miles (nm) range. CCM payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 60 feet long, CCM is C-17/C-5 transportable and can launch/recover by well deck or shore based trailer.</p> <p>FY 2021 Plans: Continue survivability enhancements, and Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) upgrades. Continue aft enclosure development and testing.</p> <p>FY 2022 Plans: Begins aft enclosure craft integration and testing. Continues survivability enhancements, and C5ISR upgrades. Completes JTWS integration.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$1.254 million reflects completion of Combatant Craft Forward Looking Infrared Radar (CCFLIR) integration effort and delay of craft-specific Maritime Precision Engagement (MPE) efforts.</p>	2.809	2.243	0.989
<p>Title: Combatant Craft Heavy (CCH)</p> <p>Description: CCH provides platoon-size maritime surface mobility. The current CCH is the Sea, Air, Land Insertion, Observation and Neutralization (SEALION) craft. SEALION is a fully-enclosed, climate-controlled, semi-submersible craft that operates in</p>	3.788	0.925	0.933

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S1684 / <i>Surface Craft</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>contested environments. SEALION is NSW's most versatile and survivable combatant craft and the craft-of-choice for sensitive maritime intelligence, surveillance, and reconnaissance missions. Iron Triangle: 40 kt speed; 7 crew + 12 pax / 3,300 lb payload; and 400 nm range. SEALION payload capacity enables inclusion of shock mitigating seats, which is critical for ride quality, operator tactical readiness, and operator health. At 77+ feet long, SEALION is C-17/C-5 transportable and can launch/recover by well deck, shore based mobile travel lift, or crane.</p> <p>FY 2021 Plans: Continue development and integration of upgraded situational awareness enhancement and completes integration of Joint Threat Warning System (JTWS). Completes development of tech data package for CCH Capital Equipment Replacement Program (CERP) (replacement of CCH-1).</p> <p>FY 2022 Plans: Continues development and integration of upgraded situational awareness enhancement.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.008 million is due to capability maturity and technology integration planning for CCH replacement scheduled for FY23.</p>			
<p>Title: Combatant Craft Mission Equipment (CCME)</p> <p>Description: CCME provides a rapid response capability to support SOF combatant craft systems, subsystems, and their emerging requirements. CCME provides technology refresh efforts to correct system deficiencies, improve asset life, and enhance mission capability to leverage and exploit emerging technologies within the maritime SOF surface capability portfolio. CCME focuses on spearheading specific Technology Readiness Level (TRL) 6 technology for compatibility, maturity, design for the marine environment, and successful transition to SOF combatant craft programs.</p> <p>FY 2021 Plans: Continue evaluation of candidate solutions for technology development including shock mitigation, family of antennas, situational awareness, Maritime Tactical Mission Network (MTMN) and enhanced Global Positioning System (GPS). Continue development, to include test and evaluation of solution for Digital Radar. Expand investment in enhanced survivability, navigation, C5ISR and Situational Awareness (SA), power & energy, and other assured access technologies. Continue Link 16 integration.</p> <p>FY 2022 Plans: Continues evaluation and development of surface survivability enhancements; enhanced C5ISR/SA capabilities; unique power and energy capabilities such as hybrid electric propulsion; Assured Position, Navigation, and Timing (PNT); and enabling</p>	6.249	7.381	7.788

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command		Date: May 2021		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S1684 / <i>Surface Craft</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
technologies for assured access and against near peer threats, which supports the Interim National Security Strategic Guidance (INSSG).				
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.407 million is due to increased investment in enhanced survivability, C5ISR/SA, and other assured access technologies.				
Title: Combatant Craft Assault (CCA)		1.273	0.532	1.049
Description: CCA is a combatant craft for squad-size maritime mobility operations in contested environments. CCA is NSW's best craft for Visit, Board, Search, Seizure operations. It is the craft-of-choice for maritime interdiction and boarding operations because of the open deck space, maneuverability, and interoperability with an Afloat Forward Staging Base. Iron Triangle: 40 kt speed; 5 crew + 10 pax/5,000 lb payload; and 300 nm range. At 41 feet long, CCA is air transportable by C-130/C-17/C-5 and can launch/recover by crane, davit, well deck, or shore based trailer.				
FY 2021 Plans: Continue integration and testing of CCFLIR2 mast design and Communications box/Tactical Operations Center Network (TOCNET).				
FY 2022 Plans: Continues integration and testing of CCFLIR2 mast design and Communications box/TOCNET. Begins and completes JTWS integration.				
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$0.517 million is due to the JTWS emerging capability.				
Title: Maritime Precision Engagement (MPE)		8.643	5.647	6.547
Description: MPE is a family of standoff, loitering, man-in-the-loop weapons systems deployed on combatant craft and capable of targeting individuals, groups, vehicles, high value targets, and small oceangoing craft with low collateral damage. MPE consists of combatant craft alterations, integration of the MK 50 Remote Weapon System (RWS), and munition launcher systems. Munitions for this effort are funded through PEO SOF Warrior.				
FY 2021 Plans: Continue detailed design and development of craft modifications, a MK 50 RWS B-Kit production representative article, and operator control station to develop a fully integrated operational capability. Continue prototype development and initial testing of the munition launcher B-Kit to produce an MPE launcher Engineering Development Model (EDM) for installation on the CCM test				

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S1684 / <i>Surface Craft</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>article. Additional work will be performed in the design and subsequent integration of similar MPE launcher capabilities into the CCH platform.</p> <p><i>FY 2022 Plans:</i> Continues development of craft modifications and operator control station to refine a fully integrated operational capability. Continues development and testing of the munition launcher B-kit to refine the EDM-2 MPE launcher and EDM-2 MK 50 RWS B-Kit. Continues development of CCM A-kit modifications and testing in preparation for transition to production. Begins planned product improvements.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Increase of \$0.900 million is due to comprehensive integration and testing requirements.</p>			
Accomplishments/Planned Programs Subtotals	22.762	16.728	17.306

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PROC/0204SCCS: <i>Combatant Craft Systems</i>	48.462	33.278	17.080	-	17.080	-	-	-	-	-	-

Remarks
N/A

D. Acquisition Strategy

- CCM was a two-phase source selection process. Phase I involved a Small Business Set-Aside competition for two vendors to design, build and deliver test articles. Phase II selected a single vendor to provide a fully integrated baseline craft system for test and evaluation with options for production, engineering support, and contractor logistics support.
- CCH SEALION I & II were transitioned from United States Navy advanced technology demonstrator craft to USSOCOM. Sustainment for SEALION I & II is conducted via Special Operations Forces Support Activity (SOFSA). SEALION III is Sole Source to the Original Equipment Manufacturer (OEM) in order to take advantage of previous Government investments in manufacturing infrastructure for SEALION I & II.
- CCME will use streamlined Federal Acquisition Regulation (FAR) contracting with existing or planned Indefinite Delivery, Indefinite Quantity (IDIQ), Blanket Order Agreement (BOA), University Affiliated Research Center (UARC), and Federally Funded Research and Development Center (FFRDC) contracts and use Non-FAR Acquisition Authorities and Other Transaction Authority (OTA) agreements and MIPRs, where appropriate.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
0400 / 7	PE 1160483BB / <i>Maritime Systems</i>	S1684 / <i>Surface Craft</i>

- CCA will continue to develop, test, and integrate C5ISR capability enhancements required to increase the crafts performance characteristics, reliability, and survivability. Recently awarded five-year indefinite delivery - IDIQ contract supporting Capital Equipment Replacement Program.
- MPE will employ Government engineering expertise and lessons learned to develop a common launch system for NSW combatant craft. Low inventory of production units will be procured through Naval Surface Warfare Center (DAHLGREN).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S1684 / <i>Surface Craft</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Combatant Craft Medium (CCM)	C/Various	Various : Various	16.669	2.809	Nov 2019	2.243	Nov 2020	0.989	Nov 2021	-		0.989	Continuing	Continuing	-
Combatant Craft Heavy (CCH)	C/Various	Various : Various	6.780	3.788	Jan 2020	0.925	Jan 2021	0.933	Jan 2022	-		0.933	Continuing	Continuing	-
Combatant Craft Mission Equipment (CCME)	C/Various	Various : Various	8.459	5.489	Nov 2019	7.381	Nov 2020	7.788	Nov 2021	-		7.788	Continuing	Continuing	-
Combatant Craft Assault (CCA)	C/Various	NSWC-Carverock : Norfolk, VA	2.122	1.273	Nov 2019	0.532	Nov 2020	1.049	Nov 2021	-		1.049	Continuing	Continuing	-
Maritime Precision Engagement (MPE)	C/Various	NSWC : Dahlgren, VA	6.743	8.482	Dec 2019	5.437	Dec 2020	6.301	Dec 2021	-		6.301	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	4.215	-		-		-		-		-	0.000	4.215	-
Subtotal			44.988	21.841		16.518		17.060		-		17.060	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CCME	C/Various	Various : Various	1.735	0.239	Nov 2019	-		-		-		-	0.000	1.974	-
Prior Year Costs	C/Various	Various : Various	1.672	-		-		-		-		-	0.000	1.672	-
Subtotal			3.407	0.239		-		-		-		-	0.000	3.646	N/A

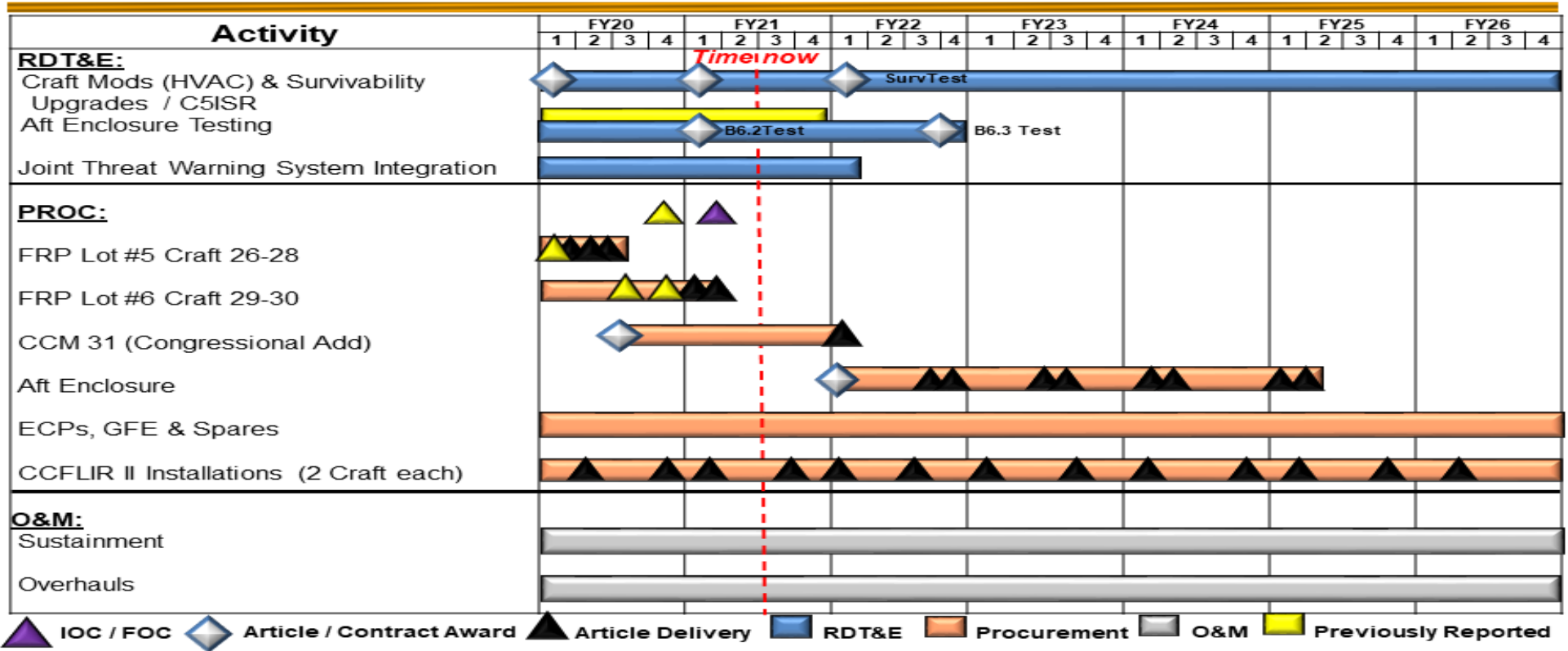
Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CCME	C/Various	Various : Various	-	0.521	Nov 2019	-		-		-		-	0.000	0.521	-
MPE	C/Various	Various : Various	-	0.161	Dec 2019	0.210	Dec 2020	0.246	Dec 2021	-		0.246	Continuing	Continuing	-
Prior Year Costs	C/Various	Various : Various	2.813	-		-		-		-		-	0.000	2.813	-
Subtotal			2.813	0.682		0.210		0.246		-		0.246	Continuing	Continuing	N/A

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S1684 / Surface Craft

Combatant Craft Medium MK 1 Schedule

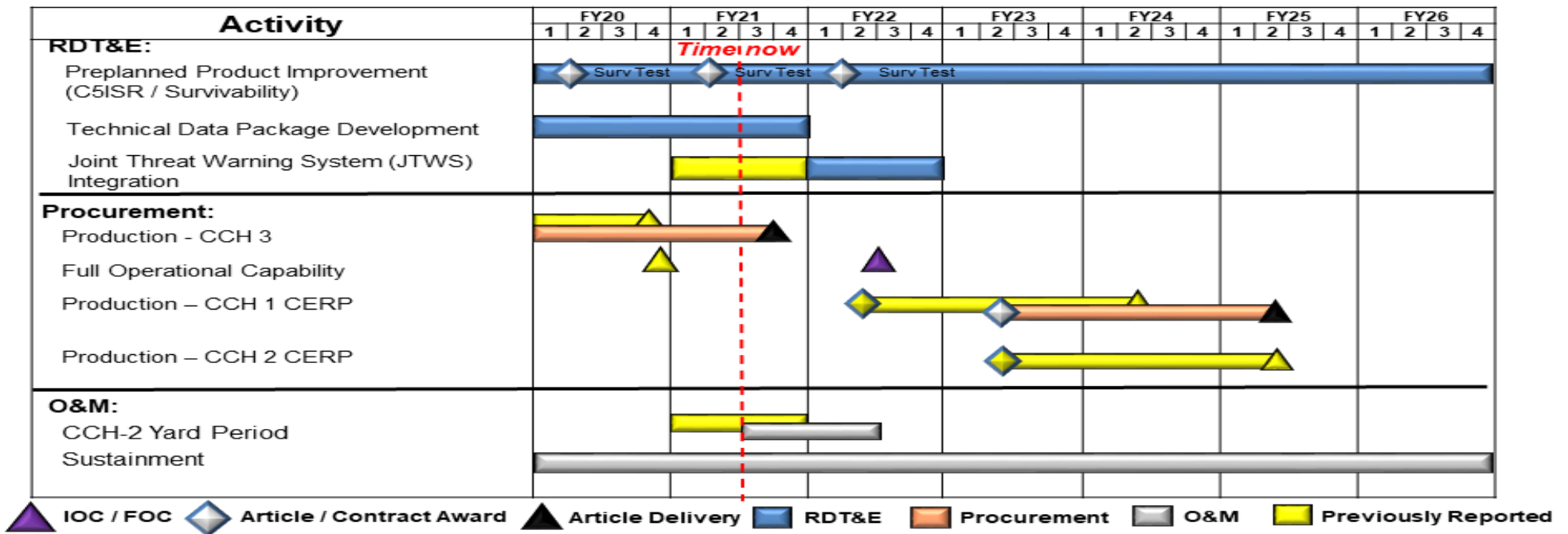


Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S1684 / Surface Craft

Combatant Craft Heavy PEO-Managed Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

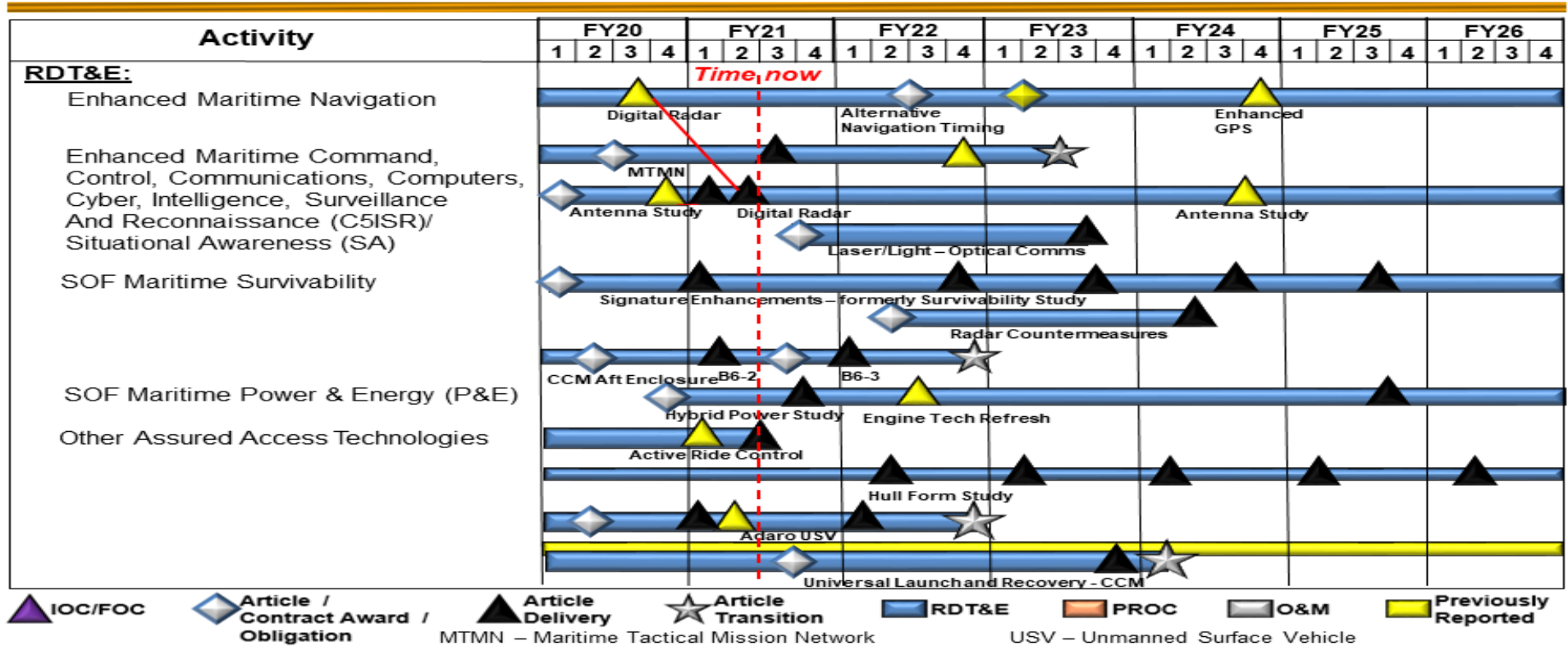
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S1684 / Surface Craft

Combatant Craft Mission Equipment Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

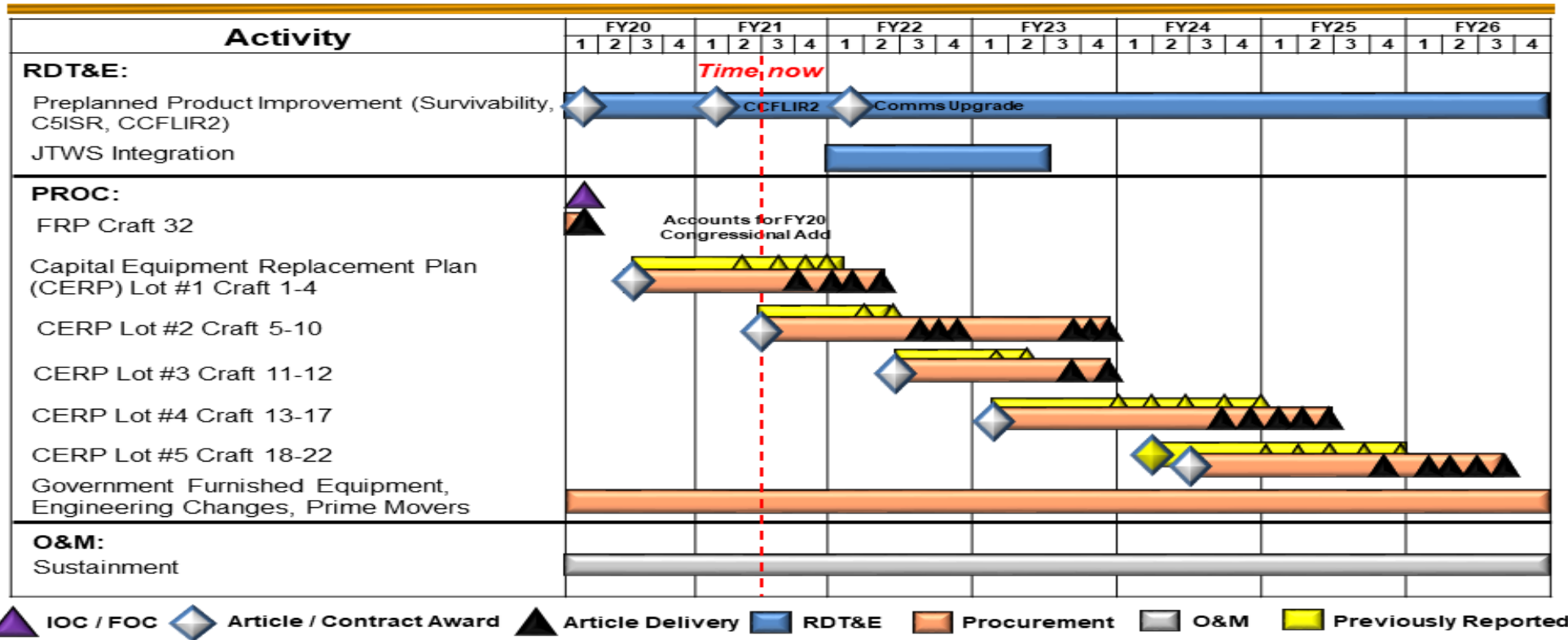
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S1684 / Surface Craft

Combatant Craft Assault Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2022 United States Special Operations Command

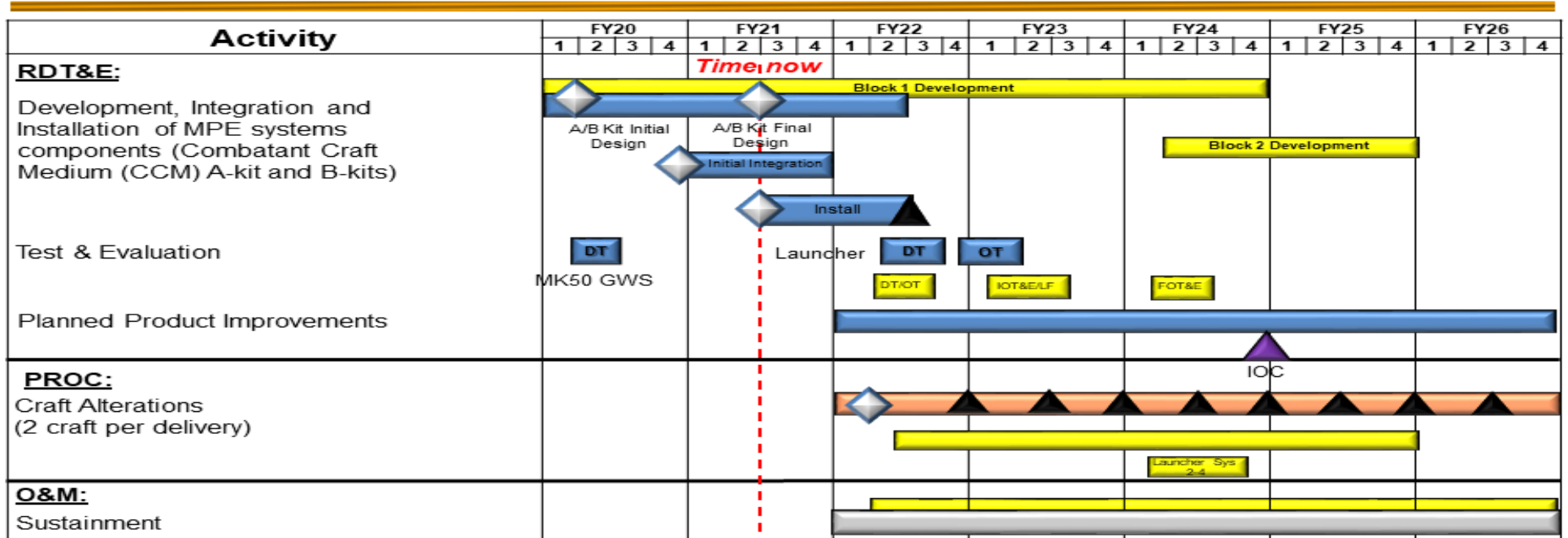
Date: May 2021

Appropriation/Budget Activity
0400 / 7

R-1 Program Element (Number/Name)
PE 1160483BB / Maritime Systems

Project (Number/Name)
S1684 / Surface Craft

Maritime Precision Engagement Schedule



▲ IOC / FOC
 ◆ Article / Contract Award
 ▲ Article Delivery
 ■ RDT&E
 ■ Procurement
 ■ O&M
 ■ Previously Reported

GWS – Gun Weapon System

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 United States Special Operations Command		Date: May 2021
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 1160483BB / <i>Maritime Systems</i>	Project (Number/Name) S1684 / <i>Surface Craft</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Combatant Craft Medium (CCM)				
Weapons, Survivability, Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) and Combatant Craft Forward Looking Infrared (CCFLIR2)	1	2020	4	2026
Aft Enclosure Development	1	2020	4	2022
Joint Threat Warning System (JTWS) integration	1	2020	1	2022
Combatant Craft Heavy (CCH)				
Preplanned Product Improvement (Weapons / C5ISR / Survivability)	1	2020	4	2026
Technical Data Package Development	1	2020	4	2021
Joint Threat Warning System (JTWS) integration	1	2022	4	2022
Combatant Craft Mission Equipment (CCME)				
Enhanced Maritime Navigation	1	2020	4	2026
Enhanced Maritime C5ISR/SA	1	2020	4	2026
SOF Maritime Survivability	1	2020	4	2026
SOF Maritime Power & Energy (P&E)	3	2020	4	2026
Other Assured Access Technologies	1	2020	4	2026
Combatant Craft Assault (CCA)				
Preplanned Product Improvement (Survivability, Weapons, C5ISR, CCFLIR2)	1	2020	4	2026
Joint Threat Warning System (JTWS) Integration	1	2022	3	2023
Maritime Precision Engagement (MPE)				
Development, Integration and Installation of MPE systems components	1	2020	2	2022
Developmental Test/Operational Test	4	2020	2	2023
Pre-Planned Product Improvements (P3I)	1	2022	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160489BB / <i>Global Video Surveillance Activities</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	63.257	5.363	4.602	0.000	-	0.000	-	-	-	-	-	-
S500C: <i>Global Video Surveillance Activities</i>	63.257	5.363	4.602	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element is part of the Military Intelligence Program. Details are provided under separate cover.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	5.363	4.606	5.024	-	5.024
Current President's Budget	5.363	4.602	0.000	-	0.000
Total Adjustments	0.000	-0.004	-5.024	-	-5.024
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other	-	-	-5.024	-	-5.024

Change Summary Explanation

Funding:

FY2020: None.

FY2021: Decrease of \$0.004 million details are provided under separate cover.

FY2022: Decrease of \$5.024 million details are provided under separate cover.

Schedule: None.

Technical: None.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 United States Special Operations Command **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1160490BB / <i>Operational Enhancements Intelligence</i>
---	---

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	121.836	9.962	11.603	10.990	-	10.990	-	-	-	-	-	-
S500D: <i>Operational Enhancements Intelligence</i>	121.836	9.962	11.603	10.990	-	10.990	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project is part of the Military Intelligence Program. This project is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	9.962	11.612	11.031	-	11.031
Current President's Budget	9.962	11.603	10.990	-	10.990
Total Adjustments	0.000	-0.009	-0.041	-	-0.041
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.009			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other	-	-	-0.041	-	-0.041

Change Summary Explanation

Funding:

FY2020: None.

FY2021: Decrease of \$0.009 million details are provided under separate cover.

FY2022: Decrease of \$0.041 million details are provided under separate cover.

Schedule: None.

Technical: None.

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**Department of Defense
Fiscal Year (FY) 2022 Budget Estimates**

May 2021



Washington Headquarters Services

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Washington Headquarters Services • Budget Estimates FY 2022 • RDT&E Program

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Exhibit R-2s..... Volume 5 - 1251

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Footnotes

FY 2020 Actuals

Includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

FY 2021 Enacted

Includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

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Department of Defense
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Research, Development, Test & Eval, DW	10,920	999	918
Total Research, Development, Test & Evaluation	10,920	999	918

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Department of Defense
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Management Support	10,920	999	918
Total Research, Development, Test & Evaluation	10,920	999	918
 Summary Recap of FYDP Programs -----			
Research and Development	10,920	999	918
Total Research, Development, Test & Evaluation	10,920	999	918

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Summary Recap of Budget Activities -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Management Support	10,920	999	918
Total Research, Development, Test & Evaluation	10,920	999	918
 Summary Recap of FYDP Programs -----			
Research and Development	10,920	999	918
Total Research, Development, Test & Evaluation	10,920	999	918

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Defense-Wide
FY 2022 President's Budget
Exhibit R-1 FY 2022 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 May 2021

Appropriation -----	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request
Washington Headquarters Services	10,920	999	918
Total Research, Development, Test & Evaluation	10,920	999	918

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Defense-Wide
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
--	-----	-----	---	-----	-----	-----	-
180	0606589D8W	Defense Digital Service (DDS) Development Support	06	10,920	999	918	U
		Management Support		10,920	999	918	
Total Research, Development, Test & Eval, DW				10,920	999	918	

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Washington Headquarters Services
 FY 2022 President's Budget
 Exhibit R-1 FY 2022 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

04 May 2021

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Element Number	Program Item	Act	FY 2020 Actual*	FY 2021 Enacted**	FY 2022 Request	Se
--	-----	-----	---	-----	-----	-----	-
180	0606589D8W	Defense Digital Service (DDS) Development Support	06	10,920	999	918	U
		Management Support		10,920	999	918	
Total Washington Headquarters Services				10,920	999	918	

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Washington Headquarters Services • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
180	06	0606589D8W	Defense Digital Service (DDS) Development Support.....	Volume 5 - 1251

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Washington Headquarters Services • Budget Estimates FY 2022 • RDT&E Program

Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
Defense Digital Service (DDS) Development Support	0606589D8W	180	06.....	Volume 5 - 1251

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Washington Headquarters Services **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0606589D8W I <i>Defense Digital Service (DDS) Development Support</i>
--	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	1.000	10.920	0.999	0.918	-	0.918	-	-	-	-	Continuing	Continuing
281: <i>Defense Digital Service (DDS)</i>	1.000	10.920	0.999	0.918	-	0.918	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Launched in November 2015, and formally chartered under DoD Directive 5105.87 in January 2017, Defense Digital Service (DDS) is charged with bringing the best available technology in an efficient way into the DoD. The DDS serves as an organization composed of commercially experienced software developers, software designers, product managers, and problem solvers within the DoD, who utilize best-in-class private sector practices, talent, and technology to transform the way digital services are delivered within the Department.

The DDS uses design and technology to improve government services, strengthen national defense, and care for military members and their families. For FY 2022, DDS will continue previous innovative efforts, leverage public and private sector initiatives, and pursue innovative solutions to transform technology and improve and expand modern digital services and capabilities across the Department.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	1.000	0.999	0.999	-	0.999
Current President's Budget	10.920	0.999	0.918	-	0.918
Total Adjustments	9.920	0.000	-0.081	-	-0.081
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	9.920	-	-0.081	-	-0.081

Change Summary Explanation

Decrease of \$0.081 million reflects reduced contract costs associated with counter-unmanned aerial solutions.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Washington Headquarters Services										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0606589D8W / <i>Defense Digital Service (DDS) Development Support</i>				Project (Number/Name) 281 / <i>Defense Digital Service (DDS)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
281: <i>Defense Digital Service (DDS)</i>	1.000	10.920	0.999	0.918	-	0.918	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DDS builds software prototypes and implements proof-of-concept tests for key Department projects that support missions and long term goals of the Department to modernize its offensive and defensive technological capabilities. This funding will allow DDS to determine which private sector software development best practices and/or technology work best for the Department. DDS research and development is one of the Secretary of Defense's top priorities with the intent of advancing and modernizing technology, especially software systems, critical to the successful implementation of a variety of Department and war fighter missions. DDS requirements are driven by challenging technical problems identified by the Secretary of Defense where technology is failing the Department's mission and could impede the lethality and effectiveness of the war fighter. These technical problems vary in scope and complexity, but at a minimum, when resolved, have a positive impact on the war fighter's mission and capabilities. DDS involvement may be in the development of new code, product management, advising on code development processes and releases, and hacking or re-writing existing policies or processes that are antiquated or otherwise unnecessary. DDS engages on highly troubled projects to quickly implement fixes that ultimately reduce schedule slip, increase security, lower costs, improve user experiences, and accelerate performance.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2020	FY 2021	FY 2022
Title: Defense Digital Service (DDS)	10.920	0.999	0.918
<p>Description: DDS has provided services and tools that have improved and saved the lives of Service members and their families, and provided technological superiority in areas critical to national defense. DDS successfully completed the System for Automated Background Evaluation and Review prototype and continues counter-unmanned aerial systems (cUAS) work, as well as, the Hack the Pentagon program with multiple bug bounties including Hack the Air Force 5, Hack the Army 3, Hack the PFPA 2, Hack the Kessel Run, and a partnership with DARPA centered around hardware security. DDS continues to support cyber adversary detection and negation via multiple projects, including a domain name system security project. DDS has transitioned the MilMove/DP3 project to TRANSCOM and completed the Army Cyber Soldier training curriculum updates.</p> <p>FY 2021 Plans: The Rogue Squadron project was transferred to DDS from Defense Innovation Unit in FY 2020 and is on-going in FY 2021. Rogue Squadron's primary function is to rapidly field low-cost cUAS solutions using commercial sector best practices. To date Rogue Squadron has fielded Dowding (a web based common operating picture), WindTalker (a highly accurate DJI drone detection system), and RIZER (a firmware update to safely enable blue force UAS operations).</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Washington Headquarters Services		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0606589D8W / <i>Defense Digital Service (DDS) Development Support</i>	Project (Number/Name) 281 / <i>Defense Digital Service (DDS)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<p>In FY 2021, SABER development will move from prototype to a minimally viable product and have initial capability of delivering an automated background investigation on new military accessions with no foreign travel history and only domiciled in states that participate in the National Law Enforcement Telecommunications System.</p> <p>FY 2022 Plans: In FY 2022, DDS plans to develop mature cUAS solutions for the warfighter. DDS will further expand detection capabilities, ruggedization, and integration capabilities. DDS will also enhance mitigation capabilities via drone-on-drone defeat capabilities ("Drogon") and for a middleware platform to enhance cUAS system interoperability and facilitate development of a data lake to improve drone analysis, detection, and defeat capabilities.</p> <p>The Rogue Squadron project will continue in FY 2022 to improve cUAS capabilities, including enhanced detection and defeat capabilities. DDS is currently looking to leverage its highly accurate WindTalker drone detection capability to allow for precise drone-to-drone engagement and defeat. Additionally, DDS is looking to build interoperability with other cUAS systems (NINJA, CORIAN) to achieve greater effect across a wider range of drones and to support building a data lake of drone signature information.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease of \$0.081 million reflects reduced contract costs associated with counter-unmanned aerial solutions.</p>			
Accomplishments/Planned Programs Subtotals	10.920	0.999	0.918

C. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>	
• O&M: BA 4, PE 0901589D8W	5.587	4.121	3.174	-	3.174	-	-	-	-	-	Continuing	Continuing
• O&M: BA 4, PE 0901598D8W	1.500	0.000	0.000	0.000	0.000	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy
N/A

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