## Department of Defense Fiscal Year (FY) 2018 Budget Estimates

May 2017



## The Joint Staff

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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The Joint Staff • Budget Estimates FY 2018 • RDT&E Program

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#### Department of Defense FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

			FY 2017		FY 2017	FY 2017	
		FY 2017	Total	FY 2017	Total	Less Enacted	FY 2017
		PB Request	PB Requests*	PB Request	PB Requests*	Div B	Remaining Req
	FY 2016	with CR Adj	with CR Adj	with CR Adj	with CR Adj	P.L.114-254**	with CR Adj
Appropriation	Base + OCO	Base	Base	000	000	000	000
		20 222				1	
Research, Development, Test & Eval, DW	77,021	68,586	73,886				
matel Deserver Development mark ( Developments	77 001	C0 E0C	72 006				
Total Research, Development, Test & Evaluation	11,021	68,586	12,000				

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#### Department of Defense FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

	FY 2017 Total PB Requests** with CR Adj	FY 2017 Total PB Requests* with CR Adj	FY 2017 Less Enacted Div B P.L.114-254**	FY 2017 Remaining Req with CR Adj	FY 2018	FY 2018	FY 2018
Appropriation	Base+UCU+SAA	base + 000	000	Base + 000	Dase	000	IOCAL
					110 141		110 141
Research, Development, Test & Eval, DW	68,586	73,886	<i>t</i> :	73,886	116,141		116,141
Total Research, Development, Test & Evaluation	68,586	73,886		73,886	116,141		116,141

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#### Department of Defense FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

Summary Recap of Budget Activities	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Advanced Component Development And Prototypes	21,700	23,642	23,642				
Management Support	50,526	41,080	46,380				
Operational System Development	4,795	3,864	3,864				
Total Research, Development, Test & Evaluation	77,021	68,586	73,886				
Summary Recap of FYDP Programs		8					Ŷ
General Purpose Forces	7,825	10,502	10,502				
Intelligence and Communications	10,404	857	857				(F
Research and Development	55,839	56,401	61,701	: <del>6</del>			
Training Medical and Other							8 <b>7</b>
Administration and Associated Activities	2,953	826	826	8			с <b>.</b>
Total Research, Development, Test & Evaluation	77,021	68,586	73,886				

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#### Department of Defense FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

а. <sup>90</sup> ж	FY 2017 Total PB Requests**	FY 2017 Total PB Requests*	FY 2017 Less Enacted Div B	FY 2017 Remaining Req			No.
Summary Recap of Budget Activities	with CR Adj Base+OCO+SAA	with CR Adj Base + OCO	P.L.114-254** OCO	with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Advanced Component Development And Prototypes	23,642	23,642		23,642	23,638		23,638
Management Support	41,080	46,380		46,380	89,466		89,466
Operational System Development	3,864	3,864		3,864	3,037		3,037
Total Research, Development, Test & Evaluation	68,586	73,886		73,886	116,141		116,141
Summary Recap of FYDP Programs						8	
General Purpose Forces	10,502	10,502		10,502	10,749		10,749
Intelligence and Communications	857	857		857	673		673
Research and Development	56,401	61,701		61,701	60,219		60,219
Training Medical and Other					44,500		44,500
Administration and Associated Activities	826	. 826		826			
Total Research, Development, Test & Evaluation	68,586	73,886		73,886	116,141	25 	116,141

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#### Defense-Wide FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

Summary Recap of Budget Activities	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
Advanced Component Development And Prototypes	21,700	23,642	23,642				
Management Support	50,526	41,080	46,380				
Operational System Development	4,795	3,864	3,864	р	4 -		
Total Research, Development, Test & Evaluation	77,021	68,586	73,886	2			
Summary Recap of FYDP Programs		£		ι.			
General Purpose Forces	7,825	10,502	10,502				
Intelligence and Communications	10,404	857	857				
Research and Development	55,839	56,401	61,701	10	2		е. <sup>в</sup>
Training Medical and Other		3 - 25					
Administration and Associated Activities	2,953	826	826				
Total Research, Development, Test & Evaluation	77,021	68,586	73,886				

#### Defense-Wide FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

Summary Recap of Budget Activities	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Advanced Component Development And Prototypes	23,642	23,642		23,642	23,638		23,638
Management Support	41,080	46,380	12 	46,380	89,466		89,466
Operational System Development	3,864	3,864		3,864	3,037		3,037
Total Research, Development, Test & Evaluation	68,586	73,886		73,886	116,141		116,141
Summary Recap of FYDP Programs				,X			
General Purpose Forces	10,502	10,502		10,502	10,749		10,749
Intelligence and Communications	857	857		857	673		673
Research and Development	56,401	61,701		61,701	60,219	2 <sup>0</sup> 2 2	60,219
Training Medical and Other					44,500		44,500
Administration and Associated Activities	826	826		826			
Total Research, Development, Test & Evaluation	68,586	73,886		73,886	116,141		116,141

#### Defense-Wide FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

Appropriation	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO
The Joint Staff	77,021	68,586	73,886		* e *		
Total Research, Development, Test & Evaluation	77,021	68,586	73,886				

#### Defense-Wide FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

17 May 2017

<u>"</u>	FY 2017	FY 2017	FY 2017 Less Enacted	FY 2017			
Appropriation	PB Requests** with CR Adj Base+OCO+SAA	PB Requests* with CR Adj Base + OCO	Div B P.L.114-254** OCO	Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total
The Joint Staff	68,586	73,886		73,886	116,141		116,141
Total Research, Development, Test & Evaluation	68,586	73,886		73,886	116,141		116,141

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#### Defense-Wide FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	S e c
104	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	21,700	23,642	23,642					J
	Advan	ced Component Development And Protot	ypes	21,700	23,642	23,642					
145	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	34,139	32,759	38,059					U
171	0204571J	Joint Staff Analytical Support	06	5,983	7,464	7,464				7	U
174	0303166J	Support to Information Operations (IO) Capabilities	06	10,404	857	857	*		: 1 57	1	J
183	0804767J	COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	06							9	J
	Manag	ement Support		50,526	41,080	46,380					
195	0208043J	Planning and Decision Aid System (PDAS)	07	1,842	3,038	3,038					IJ
247	0902298J	Management HQ - OJCS	07	2,953	826	826				ा	IJ
	Opera	tional System Development		4,795	3,864	3,864					
Tota:	l Research,	Development, Test & Eval, DW		77,021	68,586	73,886					

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#### Defense-Wide FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

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

Line No 	Program Element Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	S e C I
104	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	23,642	23,642		23,642	23,638		23,638	ט
	Advan	ced Component Development And Prototy	pes	23,642	23,642		23,642	23,638		23,638	8
145	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	32,759	38,059		38,059	36,581		36,581	U
171	0204571J	Joint Staff Analytical Support	06	7,464	7,464		7,464	7,712		7,712	U
174	0303166J	Support to Information Operations (IO) Capabilities	06	857	857		857	673		673	U
183	0804767J	COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	06	A H	2			44,500		44,500	U
	Manage	ement Support		41,080	46,380		46,380	89,466		89,466	
195	0208043J	Planning and Decision Aid System (PDAS)	07	3,038	3,038		3,038	3,037		3,037	U
247	0902298J	Management HQ - OJCS	07	826	826		826	10 10	5		U
	Opera	tional System Development		3,864	3,864		3,864	3,037		3,037	
Total	L Research,	Development, Test & Eval, DW		68,586	73,886		73,886	116,141		116,141	

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#### The Joint Staff FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

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

Program Line Element No Number	Item	Act	FY 2016 Base + OCO	FY 2017 PB Request with CR Adj Base	FY 2017 Total PB Requests* with CR Adj Base	FY 2017 PB Request with CR Adj OCO	FY 2017 Total PB Requests* with CR Adj OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj OCO	Sec.
104 0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	21,700	23,642	23,642			ŝ	ä	U
Advanced Cor	mponent Development And Prototypes		21,700	23,642	23,642					
145 0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	34,139	32,759	38,059	10				U
171 0204571J	Joint Staff Analytical Support	06	5,983	7,464	7,464					U
174 0303166J	Support to Information Operations (IO) Capabilities	06	10,404	857	857				8	υ
183 0804767J	COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	06		a					5 2	υ
Management S	Support		50,526	41,080	46,380					
195 0208043J	Planning and Decision Aid System (PDAS)	07	1,842	3,038	3,038			8 <sup>2</sup>	68	U
247 0902298J	Management HQ - OJCS	07	2,953	826	826	1				υ
Operational	System Development		4,795	3,864	3,864					
Total The Joint	t Staff		77,021	68,586	73,886					

R-1C1F: FY 2018 President's Budget Request (Published Version), as of May 17, 2017 at 09:25:30

#### The Joint Staff FY 2018 President's Budget Request Exhibit R-1 FY 2018 President's Budget Request Total Obligational Authority (Dollars in Thousands)

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

Program Line Element No Number	Item	Act	FY 2017 Total PB Requests** with CR Adj Base+OCO+SAA	FY 2017 Total PB Requests* with CR Adj Base + OCO	FY 2017 Less Enacted Div B P.L.114-254** OCO	FY 2017 Remaining Req with CR Adj Base + OCO	FY 2018 Base	FY 2018 OCO	FY 2018 Total	S e C I
104 0604826J	Joint C5 Capability Development, Integration and interoperability	04	23,642	23,642		23,642	23,638	e de la construction de la const	23,638	ΰ
Advanced Co	mponent Development And Prototypes		23,642	23,642		23,642	23,638		23,638	20
145 0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	32,759	38,059		38,059	36,581		36,581	U
171 0204571J	Joint Staff Analytical Support	06	7,464	7,464		7,464	7,712		7,712	U
174 0303166J	Support to Information Operations (IO) Capabilities	06	857	857		857	673		673	U
183 0804767J	COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	06					44,500		44,500	U
Management	Support		41,080	46,380	· · · · · · · · · · · · · · · · · · ·	46,380	89,466		89,466	
195 0208043J	Planning and Decision Aid System (PDAS)	07	3,038	3,038	51	3,038	3,037	12	3,037	U
247 0902298J	Management HQ - OJCS	07	826	826		826	2 			U
Operational	System Development		3,864	3,864		3,864	3,037		3,037	
	ð									
Total The Join	t Staff		68,586	73,886		73,886	116,141		116,141	

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### The Joint Staff • Budget Estimates FY 2018 • 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
104	04	0604826J	Joint C5 Capability Development, Integration, and Interoperability Assessments	Volume 5 - 1

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
145	06	0605126J	Joint Integrated Air & Missile Defense Organization (JIAMDO)Volur	ne 5 - 21
171	06	0204571J	Joint Staff Analytical SupportVolun	ne 5 - 39
174	06	0303166J	Support to Information Operations Capability (IO) CapabilitiesVolur	ne 5 - 49
183	06	0804767J	COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA Volur	ne 5 - 53

### The Joint Staff • Budget Estimates FY 2018 • RDT&E Program

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

Line #	Budget Activity	Program Element Number	Program Element Title Pa	ge
195	07	0208043J	Planning and Decision Aid System (PDAS) Volume 5 -	69
247	07	0902298J	Management HQ - OJCSVolume 5 -	71

### The Joint Staff • Budget Estimates FY 2018 • RDT&E Program

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

Program Element Title	Program Element Number	Line #	BA Page
COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	0804767J	183	06Volume 5 - 53
Joint C5 Capability Development, Integration, and Interoperability Assessments	0604826J	104	04Volume 5 - 1
Joint Integrated Air & Missile Defense Organization (JIAMDO)	0605126J	145	06Volume 5 - 21
Joint Staff Analytical Support	0204571J	171	06Volume 5 - 39
Management HQ - OJCS	0902298J	247	07Volume 5 - 71
Planning and Decision Aid System (PDAS)	0208043J	195	07Volume 5 - 69
Support to Information Operations Capability (IO) Capabilities	0303166J	174	06Volume 5 - 49

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#### The Joint Staff • Budget Estimates FY 2018 • RDT&E Program Exhibit R-1 (Listing by Budget Activity, then Program Element Number)

#### BA# 04: Advanced Component Development & Prototypes (ACD&P)

Cost (\$ in Millions)

Line#	BA#	PE#	PE Title	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
104	04	0604826J	Joint C5 Capability Development, Integration, and Interoperability Assessments	0.000	21.700	23.642	23.638	-	23.638
Total: Advanced Component Development & Prototypes (ACD&P)				0.000	21.700	23.642	23.638	-	23.638

#### BA# 06: RDT&E Management Support

#### Cost (\$ in Millions)

Line#	BA#	PE#	PE Title	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
145	06	0605126J	Joint Integrated Air & Missile Defense Organization (JIAMDO)	343.535	34.139	38.059	36.581	-	36.581
171	06	0204571J	Joint Staff Analytical Support	13.516	5.983	7.464	7.712	-	7.712
174	06	0303166J	Support to Information Operations Capability (IO) Capabilities	23.875	10.404	0.857	0.673	-	0.673
183	06	0804767J	COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	-	0.000	0.000	44.500	-	44.500
Total: RDT&E	Manag	ement Support		380.926	50.526	46.380	89.466	-	89.466

### The Joint Staff • Budget Estimates FY 2018 • RDT&E Program Exhibit R-1 (Listing by Budget Activity, then Program Element Number)

#### **BA# 07: Operational Systems Development**

				Cost (\$ in Millions)						
Line#	BA#	PE#	PE Title	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	
195	07	0208043J	Planning and Decision Aid System (PDAS)	12.919	1.842	3.038	3.037	-	3.037	
247	07	0902298J	Management HQ - OJCS	15.722	2.953	0.826	0.000	-	0.000	
Total: Operatior	nal Sys	stems Development	28.641	4.795	3.864	3.037	-	3.037		

Exhibit R-2, RDT&E Budget Iten	xhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint StaffDate: May 2017											
Appropriation/Budget Activity 0400: Research, Development, Te Advanced Component Developme	est & Evalua ent & Prototy	tion, Defen /pes (ACDo	se-Wide I B. &P)	A 4:	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability Development, Integration, and Interoperability</i> <i>Assessments</i>							'y
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	0.000	21.700	23.642	23.638	-	23.638	23.148	20.809	20.809	20.809	Continuing	Continuing
001: C5 Assessments and Analyses	0.000	10.196	12.898	12.898	-	12.898	12.361	10.022	10.022	10.022	Continuing	Continuing
002: C5 Capability Development	0.000	7.079	6.594	6.590	-	6.590	6.637	6.637	6.637	6.637	Continuing	Continuing
003: Joint Fires C2 Interoperability	0.000	4.425	4.150	4.150	-	4.150	4.150	4.150	4.150	4.150	Continuing	Continuing

#### 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. This was a new PE for FY 2016 and consolidates legacy U. S. Joint Forces Command (JFCOM) PEs that transitioned to the Joint Staff in FY 2013 after JFCOM disestablishment. The following PEs are no longer used: 0604828J - Joint Fires Integration and Interoperability Team (JFI), 0604787J - Joint Systems Integration Command (JSI), and 0607828J - Joint Integration and Interoperability (JII).

B. Program Change Summary (\$ in Millions)	<u>FY 2016</u>	<u>FY 2017</u>	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	21.700	23.642	23.638	-	23.638
Current President's Budget	21.700	23.642	23.638	-	23.638
Total Adjustments	0.000	0.000	0.000	-	0.000
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-	-			
<ul> <li>SBIR/STTR Transfer</li> </ul>	-	-			
<ul> <li>Prior Year Carryover</li> </ul>	0.000	-	-	-	-

#### **Change Summary Explanation**

Decrease in funding for FY 2019 thru FY 2022 is a result of mandated 25% Management Headquarters Activities (MHA) reductions prescribed by the 2016 NDAA.

Exhibit R-2A, RDT&E Project Ju	ustification:	FY 2018 T	he Joint Sta	aff						Date: May	/ 2017							
Appropriation/Budget Activity 0400 / 4						<b>am Elemen</b> 26J / Joint C ent, Integrat bility Assess	<b>t (Number</b> / 5 Capabilit ion, and sments	Name) ⁄	<b>Project (N</b> 001 / <i>C5 A</i>	ject (Number/Name) I C5 Assessments and Analyses								
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost						
001: C5 Assessments and Analyses	0.000	10.196	12.898	12.898	-	12.898	12.361	10.022	10.022	10.022	Continuing	Continuing						
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-								
based findings and recommenda effective, interoperable capabiliti control, communications, compu efforts focused on emerging cap digital datalinks, and coalition da	itions for acti es. Conduct ters, and cyt abilities in wi ta exchange	ion through interoperat per (C5), ar ireless devi s.	the formal bility assess of systems i ces and sec	DoD decisi ments and n response curity, tactio	on-making µ analyses th to operatic cal comman	processes u nat evaluate onal issues a d and contro	sed to valid capability a and shortfal ol and netw	ate operation and interope ls. Conductor orking, sate	onal require rability of fig t integration llite commu	ments and elded and e and integr inications, a	apply fundir emerging con ation assess advanced se	ng to field mmand, sment scure						
B. Accomplishments/Planned F	vrograms (\$	in Million	<u>s)</u>						FY	2016 I	FY 2017	FY 2018						
<b>Description:</b> Conduct analysis a U.S. National Security requireme DoD decision-making processes capabilities. Conduct interoperab emerging command, control, com shortfalls. Conduct integration an security, tactical command and c data exchanges.	nd assessm nts. Provide used to valid ility assessm munications nd integration ontrol and no	ent activitie timely, fact date operati nents and a s, computer n assessme etworking, s	s to inform a s-based find ional require nalyses tha rs, and cybe ent efforts for satellite corr	and enhand dings and r ements and t evaluate o r (C5), and ocused on e imunicatior	ce Joint war ecommenda l apply fund capability ar systems in emerging ca ns, advance	fighter capa ations for ac ing to field e nd interopera response to apabilities in d secure dig	bilities in su tion through ffective, int ability of fie operationa wireless de gital datalinl	upport of n the formal eroperable Ided and al issues and evices and ks, and coa	d ition	10.190	12.000	12.030						
FY 2016 Accomplishments: Conducted eight (8) integration in systems; thirty-four (34) Coalition recommendations and one hundr provided C2 Systems and Persis FY 2016 assessment, analysis an Environment (MPE)/NATO/Multir and Services Standards, and Cyb	nitiatives of n Interoperab red-ten (110) tent C4 Envi nd integratio national Enga per Capabilit	iew capabil ility Assura ) findings of ronment su n initiatives agement, Jo y Developn	ities; twenty nce and Va r observatio pport by lev were focus pint Fires Co nent. The n	-five (25) ir lidation (Cl ns; eight (8 veraging tra ed on: Join ombat Iden nost import	nteroperabili AV) events ) exercises nining events to C2 Capab tification, Co ant projects	ity assessm that provide and events s for capabil ility Develop ounter Unm included:	ents of joint d eighty-fiv conducted lity develop oment, Miss anned Aeria	and coalitions e (85) in the field; ment efforts an Partner al Systems,	on and s. Data									

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff Date: May 2017												
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	<b>Project (Number/Name)</b> 001 <i>I C5 Assessments and Analyses</i>										
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018							
(1) Friendly Force Tracking (FFT) Ground to Air (G2A) Situational Assessment and Coalition partner ground to air situational awareness systems. Validated th processed a high volume of data, and the data management/processing capab fratricide.	<ul> <li>Conducted an operational assessment of U hat the systems received correct information d ility correctly sorted track data to reduce risk o</li> </ul>	S lata, of										
(2) Joint Operational Long Term Evolution Deployable (JOLTED) Tactical Cellu Demonstration (JCTD) Technical Manager – JOLTED TACTICS is an Internet I secure cellular communications to tactical users at much higher data rates than innovations in Fourth Generation (4G) LTE Cellular technologies and mobile Ka to deliver megabits of data to mobile and dismounted teams armed with mobile the JCTD Technical Manager C4AD conducted the operational assessments to resulted in transition agreements to field the system being executed with PM W managers.	ular System (TACTICS) Joint Capability Techn Protocol (IP) based system designed to provid n other tactical networks. This system leverag a band spread spectrum satellite communicati e devices such as smartphones or netbooks. o prove the system's validity. The successful of /IN-T, NAVAIR, and PdM Nett Warrior as prog	iology de jes ions As JCTD gram										
(3) Air Operation Center (AOC) and Joint Operations Center (JOC) C2 Informa events) – Provided a persistent operational cyber environment to USPACOM w operational command and control systems and networks.	tion Systems (C2IS) Capability Integrations (s /here Blue Teams and Red Teams interacted	ix (6) with										
(4) Automated NATO Database Interface Interoperability Assessments – Assest between the US Joint Targeting Toolbox (JTT) and the NATO Joint Targeting S coalition targeting by automating the transfer of targeting data, reducing manpo	ssed the automated exchange of targeting data System (JTS) which enables faster joint and ower requirements, and data entry errors.	a										
(5) C17 Hatch Mount Satellite Antenna (HMSA) Operational Assessment – The support on-board mission commander's requirement for communications capal entry operations. The successful operational assessment resulted in operation fielded, but there has not yet been a fielding decision.	o e m be											
(6) Commercial Solutions for Classified (CSFC)/Secure Wireless Local Area Ne - Assisted the National Security Agency in the development, assessment, and t encryption solution. This capability supports communicating over classified wire	etwork (SWLAN) Integration Assessments fixed site deployment of a Suite B software eless networks without encryption hardware.											

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		Date: N	1ay 2017								
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	<b>Project (Number/Name)</b> 001 / C5 Assessments and Analyses									
B. Accomplishments/Planned Programs (\$ in Millions)		ſ	FY 2016	FY 2017	FY 2018						
(7) Coalition Warrior Interoperability Exercise 2016 (CWIX16) – Supported the Mission Networking (FMN) specifications, participating countries use of them, a in a federated environment. Conducted an assessment of FMN Spiral Specific US Mission Partner Environment (MPE) networking.	technical validation of eleven (11) Federated and the interoperability of these networked ser- cations as an extension of CIAV and related the	vices em to									
(8) Executive Command and Control-Generation Next (EC2 GenNext) Data at Rest Technical Solution – Provided Senior Leadership with an e-reader solution that uses a Windows Surface Pro tablet running an NSA approved data at rest security solution. The capability provides Executive/Senior Leaders with access to classified material on a device that is NSA approved secure and unclassified when powered down.											
(9) Distributed Assured and Dynamic Configuration (DADC) Support – Assessed DADC's capability to detect/repair equipment misconfigurations and C2 system's version incompatibilities to optimize network performance in USPACOM.											
(10) USPACOM Targeting and ISR Interoperability Assessment – Conducted a assessment of joint targeting and command/decision systems.	an initial PACOM HQ and Service/Coalition										
(11) Black Dart – Led data collection and analysis on the integration of counter-UAS (C-UAS) operational architectures, operational concepts, and tactics, techniques, and procedures (TTPs) during BLACK DART event. Evaluated current and proposed operational concepts for C-UAS operations, providing recommendations based on qualitative/quantitative findings to stakeholders. Supported organizations include JS, all Services, Combatant Commands, DHS, and select U.S. and foreign acquisition programs (both fielded & emerging technologies).											
(12) Squad-X – Provided quantitative/qualitative data collection and analysis to baseline current U.S. small unit mission command technologies in support of DARPA's Squad-X project. This baseline objectively describes the accuracy, completeness, and timeliness of current capabilities, as well as their interoperability with current/future Mission Partner Environments. Technologies injected in follow-on phases of the project will be measured against this baseline, supporting future development and procurement decisions based on measurable improvements in effectiveness and interoperability.											
(13) CAS JT&E – Leading DOT&E effort for Digitally-Aided Close Air Support ( (TTPs) Standardization development. The nomination, endorsed by all Service DACAS TTP Standardization Joint Test with Joint Deployable Analysis Team (	DACAS) Tactics, Techniques, and Procedures as and USSOCOM, resulted in implementation JDAT) tasked to direct and support these effor	of the ts.									

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		Date: N	1ay 2017							
Appropriation/Budget Activity 0400 / 4	<b>Projec</b> 001 / 0	oject (Number/Name)								
B. Accomplishments/Planned Programs (\$ in Millions)		Γ	FY 2016	FY 2017	FY 2018					
(14) Bold Quest Technical Demonstration – Designed, built, accredited, and and coalition partners. Enabled actions include establishment of transport no domain services, sustainment of network core services, data collection from joining procedures, and all required documentation.	managed the Bold Quest exercise networks for loodes, institution of quality of service policies, cross remote and field nodes, Voice over IP services,	JS ss								
(15) BOLD Quest Exercise Analysis – Conducted evaluations of demonstrate analysis of interoperability gaps and integration shortfalls relating to the follow Surveillance, and Reconnaissance (CISR), Digitally Aided Close Air Support Results inform U.S. Joint, all Services, and Coalition (to include NATO) partne capabilities.	ed Joint/Coalition capabilities, resulting in detaile wing: Joint Fires Capabilities, Coalition Intelliger (DACAS), and Joint Close Air Support (JCAS). her decisions to field interoperable and integrated	d nce, d								
<b>FY 2017 Plans:</b> Conduct interoperability assessments and analysis in both field and persister interoperability of fielded and emerging command, control, communications, to operational issues and shortfalls. FY 2017 focus areas include: Command Partner Environment, and operations in Cyberspace Capability Development in wireless devices, modem technology, RF communications, and small secu control capabilities to match emerging requirements with near-term technology	nt environments that evaluate capability and computers, and cyber (C5), systems in response d and Control, Counter UAS, Joint Fires, Mission t. This includes the impact of technology advance ure digital capabilities on warfighter command an gy solutions.	e es id								
<ul> <li>Projects include:</li> <li>(1) Bold Quest 2017 Technical Demonstration – Design, build, accreditation, networks for US and coalition partners.</li> <li>(2) Counter-UAS (C-UAS) – Data collection and analysis during BLACK DAR</li> <li>(3) Small Unit Joint C2 Capabilities – Quantitative/qualitative data collection at (4) Joint Expeditionary Integration C5ISR Integration Kit Assessments – Integrissues reported from operating forces, and support the transition of SOF "best programs.</li> <li>(5) 4G LTE Security as a Commercial Solutions for Classified (CSfC) Securit the NSA, integrate and demonstrate the viability of using the native security of classified information.</li> <li>(6) Automated NATO Database Interface (ANDI) Interoperability Assessment of targeting data between the US Joint Targeting Toolbox (JTT) and the NAT manpower requirements and data entry errors by automating the transfer of the security of the transfer of the transfer</li></ul>	assessment, and management of the exercise RT or similar events. and analysis of DARPA's Squad-X project. grate and assess emerging technologies, respon st practices" to conventional forces and acquisition ty Layer 4G LTE CSfC Pilot – In partnership with of LTE as a security layer for the transmission of t – Continue to assess the automated exchange TO Joint Targeting System (JTS) which reduces targeting data.	nd to on								

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	Date: N	1ay 2017							
Appropriation/Budget Activity 0400 / 4	<b>Proje</b> 001 / 0	ct (Number/Name) C5 Assessments and Analyses							
B. Accomplishments/Planned Programs (\$ in Millions)		ſ	FY 2016	FY 2017	FY 2018				
<ul> <li>(7) HAMMERHEAD JCTD (P) and Mounted Long-Term Evolution (LTE) Node Toragon) – Conduct a technical assessment of multi-purpose airborne pods sup tactical datalinks, and intelligence sensors.</li> <li>(8) Classified Reconfigurable Operational Wireless Network (CROWN) Capabili secure "Campus" wireless architecture based on layered software encryption in (NSA).</li> <li>(9) Proximity Lock Technology (PLT) Integration Assessment – Assess a proximation automatic locking capability for classified tactical mobile devices, partnership w (10) Virtual Enterprise Mobile Security (VEMS) Integrated Solutions – Assess the Infrastructure (VMI) as a way to enable classified tactical communications on u (11) Coalition Interoperability Assurance and Validation (CIAV) – Resolute Support ongoing overseas operations through continued interoperability assessed.</li> </ul>	s, able y NSA. ents tion								
mission threads. <b>FY 2018 Plans:</b> Conduct interoperability assessments and analysis in both field and persistent interoperability of fielded and emerging command, control, communications, co to operational issues and shortfalls. A comprehensive Joint Task Force (JTF) e operational assessment process and support cyber training, capability develop coordination with the Department of Defense Cyber Range Environment (DECI C5 laboratory environment that allows for a rapidly reconfigurable joint, coalitio including participation in the Coalition Interoperability and Assurance Validation live setting, a deployable capability allows the collection and analysis of decisic from the operational to lowest tactical echelons of command. This objective, jo acquisition, and systems employment decisions based on quantifiable performs FY 2018 focus areas include: Capability development in Command and Contro Virtual), Joint Fires Support, and operations in Cyberspace, plus Joint Test and (DACAS). C5 Assessments and Analyses activities are conducted through both connect joint and coalition system of systems operational environments to other national and multi-national operational, research, and test networks leveraging assessment capability (including contested joint environments) that allows range of quantitative data in replicated operational environments.	environments that evaluate capability and omputers, and cyber (C5) systems in response environment will support the integration and ment and assessments, separately and in RE). This is achieved by maintaining a persisten n, and inter-agency interoperability assessmer of (CIAV) which supports on-going war efforts. I on quality data for command and control opera int analysis supports capability development, ance in replicated operational environments. I, Mission Partner Environment (Federated and Evaluation of Digitally Aided Close Air Suppo n: persistent, reconfigurable C5 laboratories th operational venues/exercises; and, a deployal ge instrumentation and the collection and analy	ent nts, in a tions d rt at icross ble ysis							

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff			Date: N	lay 2017				
Appropriation/Budget Activity       R-1 Program Element (Number/Name)       Project (Number/Name)         0400 / 4       PE 0604826J / Joint C5 Capability       001 / C5 Assessments and Anal         Development, Integration, and       Interoperability Assessments       01 / C5 Assessments and Anal								
B. Accomplishments/Planned Programs (\$ in Millions)		Γ	FY 2016	FY 2017	FY 2018			
Projects include:								
<ul> <li>(1) Coalition Interoperability Assurance Validation (CIAV) Assessments – Concessivems supporting coalition mission threads. CIAV assessments validate configuration of the end of</li></ul>	luct interoperability assessments of coalition nplete and timely exchange of critical informati- trively and efficiently. nical integration and assessments of advanced capabilities that address warfighter requirement ment – Assess Joint and Coalition fire support d provide findings and observations. remonstrate an integrated wide area network al private networks between two or more sites. fort – Provide C2 systems, a common operation into the Navy Defensive Cyber Operation DoD EP) environment. essessment and management of the exercise or similar FY18 events. le a persistent and distributed cyber environmed	on I Its. nal						
	Accomplishments/Planned Programs Sub	totals	10.196	12.898	12.898			

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

N/A

<u>Remarks</u>

#### 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.

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staf	<b>Date:</b> May 2017	
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	<b>Project (Number/Name)</b> 001 <i>I C5 Assessments and Analyses</i>
<u>E. Performance Metrics</u> (1) Conduct a minimum of fifteen (15) interoperability assessments d Program Managers, Combatant Commands, all Services, and Agenc	esigned to identify Joint and Coalition interoperability is is	ssues and recommend fixes/solutions to
(2) Conduct a minimum of one (1) broad-spectrum Counter-UAS (C-lidentified C-UAS capability gaps and interoperability shortfalls for particular terms of the second	UAS) analysis event; providing data collection, analysis thers including: Joint, all Services, Intergovernmental,	s, and recommendations that directly address and Coalition stakeholders.
(3) Provide C2 Systems and Persistent command, control, communic Exercises to satisfy Combatant Command training objectives, includi	cations, and computers (C4) Environment supporting a ng the cyber threat to mission systems.	t least two (2) Combatant Command
(4) Support up to four (4) Squad-X experiment events, providing obje C2 capabilities for U.S. small units.	ective analysis on performance and interoperability that	directly informs the acquisition of improved
(5) Support a minimum of thirty (30) Coalition Interoperability Assuration findings to resolve end-to-end mission based interoperability issues, and U.S. Mission Partner Environment (MPE) implementation plans.	nce and Validation (CIAV) events and provide a minim validate Tactics, Techniques, and Procedures, and su	um of one hundred (100) observations/ pport NATO Future Mission Networking (FMN
(6) Provide analyses for at least six (6) field assessments/demonstra will inform continued development of evaluated capabilities, including	tions in the areas of Joint Fires Capabilities, C2, CISR acquisition/fielding decisions and system TTPs.	, DACAS, and FMN/MPE. Analyses results
(7) Provide C2 Systems and Persistent C4 Environment supporting a objectives.	at least four (4) individual/team training events per year	to meet Cyber training and certification
(8) Provide C2 Systems and Persistent C4 Environment to support a	t least four (4) Cyber Assessments promoting Cyber ca	apability development.
(9) Integrate at least two (2) new capabilities per year supporting Co Computing program requirements.	mbatant Command, Service, Agency, and Commercia	I Solutions for Classified and Mobile

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 The Joint Staff												Date:	Date: May 2017				
Appropriation/Budget Activity 0400 / 4						R-1 Pro PE 060 Develop Interopo	ogram Ele 4826J / Jo oment, Int erability A	ement (N oint C5 C tegration, ssessme	(Number 5 Assessr	r/ <b>Name)</b> ments and	Analyse	s					
Test and Evaluation (\$ in Millions)				FY 2	2016	FY 2	2017	FY 2 Ba	2018 Ise	FY 2 O(	2018 CO	FY 2018 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		
Contract Management and Engineering Technical Services	C/CPFF	Various : Norfolk, Suffolk, Eglin	-	10.196	Mar 2016	12.898	Oct 2016	12.898	Oct 2017	-		12.898	-	-	-		
		Subtotal	-	10.196		12.898		12.898		-		12.898	-	-	-		
Prior Years		Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2	2018 CO	FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract			
Project Cost Totals - 10.196						12.898		12.898		-		12.898	-	-	-		

**Remarks** 

xhibit R-4, RDT&E Schedule Profile: FY 2018 The Joint Staff																							Dat	<b>te:</b> May 2017						
Appropriation/Budget Activity 0400 / 4						R Pl D In	-1 Pi E 06 evelo teroj	rog 04 opr per	<b>gran</b> 826 men rabil	n Ele J / J ht, In lity A	eme oint tegr	ent C5 ratio	(Nur Cap on, ai nent:	<b>nbe</b> babill nd s	r/Na ity	me)		<b>Pro</b> 00 <sup>-</sup>	<b>Project (Number/Name)</b> 001 <i>I C5 Assessments and Analyses</i>											
		F١	Y 20	)16		FY 20		017		F		FY 2018		3		FY 20 <sup>7</sup>		2019		FY	( 2020			FY 2021		1		FY 2022		2
	•	1 2	2	3	4	1	2	2 3	3	4 <sup>·</sup>	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Joint C5I																									÷				÷	<u>.</u>
										_																				-

hibit R-4A, RDT&E Schedule Details: FY 2018 The Joint Staff			Date: May	2017			
propriation/Budget Activity 00 / 4	<b>R-1 Program Element (Numbe</b> PE 0604826J <i>I Joint C5 Capabi</i> Development, Integration, and Interoperability Assessments	er/Name) <sup>ility</sup>	Project (Number/Nam 001 / C5 Assessments	(Number/Name) Assessments and Analyses			
Sch	edule Details						
	Si	tart	Er	nd			
Events by Sub Project	Quarter	Year	Quarter	Year			
Joint C5I		-	· · ·				
C5 Assessments and Analyses	1	2018	4	2018			

Exhibit R-2A, RDT&E Project Ju	stification:	FY 2018 T	he Joint Sta	aff						Date: May	/ 2017						
Appropriation/Budget Activity 0400 / 4						<b>am Elemen</b> 26J <i>I Joint C</i> ent, Integrat bility Assess	<b>t (Number/</b> 5 Capability ion, and sments	Name) ⁄	<b>Project (N</b> 002 / C5 C	c <b>t (Number/Name)</b> C5 Capability Development							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost					
002: C5 Capability Development	0.000	7.079	6.594	6.590	-	6.590	6.637	6.637	6.637	6.637	Continuing	Continuing					
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-							
A. Mission Description and Bud Lead C2 capability development a Capability Development, C4 Arch	<b>get Item Ju</b> and integrat itectures, D	ustification tion in order tata and Se	to achieve rvices, and	an interdep Interoperat	pendent join pility and Inte	t force. This egration.	s will be acc	omplished	through fou	r focus area	as:						
B. Accomplishments/Planned P	<u>rograms (</u> \$	in Millions	<u>s)</u>						FY	2016	FY 2017	FY 2018					
<i>Title:</i> C5 Capability Development <i>Description:</i> Lead C2 capability development and integration in order to achieve an interdependent joint force. This will be accomplished through four focus areas: Capability Development, C4 Architectures, Data and Services, and Interoperability and Integration.										7.079	6.594	6.590					
FY 2016 Accomplishments: Led C2 capability development an areas:	id integratic	on to achiev	e an interde	ependent jo	int force. Th	nis was acco	omplished th	nrough four	focus								
(1) Capability Development – Join Business Case Analysis (BCA) for J) – a cyber enhanced Enterprise Command (CCMD) command and analysis for FY18-22 identifying ker requirements and validation duties web browsers for Navy – Marine C of Deployable Joint C2 kits; JROC Combatant Command and Service management for Situational Aware Collaboration Services (DCS).	t Staff lead r a propose Common C d control (C ey warfighte s for Joint C Corps Interr validation e collaborat eness Servi	and Requir d \$99M rec operational I 2) Integrate er requireme 2 Governan et (NMCI); of Air Opera ion on struct ices in the J	ements Wo apitalization Picture to fa d Priority Li- ents resultin nce and Ma COP overla ations Cente ctural chang loint C2 por	rking Group n of the Glo acilitate glob st Capabilit ng in JROC nagement. ays for Goog er Weapons jes to targe tfolio; and a	o lead for Do bal Comma oally integra y Gap Analy approval. E Results ind gle Earth us s System (A ting databas a warfighter	oD CIO & O nd and Con ted operatio ysis review a executed CJ cluded: add sers; consoli AOC WS) mo ses; formaliz assessmen	SD/AT&L – trol System ons. Led Co and Operat CSI 3265.0 itional DoD dated mana odernizatior zed requiren t of the Def	directed – Joint (GC mbatant ional Priorit 1 – directed -compliant agement n efforts; ments ense	CCS-								
(2) C4 Architectures - Expanded to Warfighting Mission Area (WMA)	he scope of Architecture	f Joint Inforr Portal by 3	mation Envi 30% and inc	ronment (Jl creased the	IE) and DoE user base	0 CIO archite by 30% from	ecture content n 5200 to 70	ent on the 000+ users.									
Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staf	ff		Date: N	lay 2017													
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Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	<b>Proje</b> 002 /	roject (Number/Name) )2 / C5 Capability Development														
B. Accomplishments/Planned Programs (\$ in Millions)		ſ	FY 2016	FY 2017	FY 2018												
Staffed, analyzed and validated 51 JIE Architectures ranging from sol reference architectures in collaboration with CCMDs. Developed selec capability objectives. Assisted in the development of the JIE Security DoDIN architecture and engineering practices. Produced six mission System of System architecture attributes, covering Cyberspace Opera Homeland Security Border Security Operations, Humanitarian Assista three analytical studies related to Joint Suppression of Enemy Air Def methodology for development of mission threads.	lutions architectures, Engineering Design Specification ected architectures and design specifications in support / Classification Guide to provide classification guidance thread architectures, enabling the definition and evalua ations, Joint Suppression of Enemy Air Defense (2 threan ance/Disaster Relief, and Intelligence Enabling. Conduct fense. Supported NATO in the creation of guidelines an	s and of JIE of for ation of eads), cted nd															
(3) Data and Services - Developed an updated Federal Government vetted and approved National Information Exchange Model Military Operations Domain that was successfully demonstrated and used by DOD, Department of Homeland Security and NATO member nations for increased Command and Control interoperability. Established and began execution of a DOD campaign plan to align and provide warfighter interoperability across five different existing command and control tactical and messaging data standards now in operational use by DOD and mission partners. Developed and submitted for formal DOD vetting and approval, a command and control cyber symbology Military Standard to provide standardized C2 Common Operational Picture representations in a transregional threat environment across Combatant Commands.																	
(4) Interoperability and Integration - Led the development and implem of effort and speed of command with mission partners known as Miss and standards for Unclassified Information Sharing Services (UISS), of of MPE into Senior Leader and Joint Professional Military Education ( NATO's Federated Mission Networking (FMN) implementation to main General Officer/SES level U.S. representative to the FMN Management working groups that coordinate FMN capability development, Coalitio Membership and Exit Instructions (JMEI) development, cyber security NATO and 6 non-NATO nations which are implementing FMN.	nentation of improved Combatant Command (CCMD) usion Partner Environment (MPE) by developing required development of the annual MPE Action Plan, and integ (JPME) programs, Joint Doctrine and Joint Training. Shintain alignment with MPE, through participating as the ent Group and providing U.S. representatives to the FM in Interoperability Assurance and Validation (CIAV), Joi y, training, and other interoperability activities across 27	nity ments rration naped Flag/ IN ning, 7															
<i>FY 2017 Plans:</i> (1) Capability Development – Continue to serve as direct liaison betwee the capability lifecycle, to include prioritization of requirement and develop Identification Database (NRID) and the Decision Support Tool (DST) needs and potential solutions. Develop and seek JROC approval of F upon top-down Integrated Priorities List and bottom-up warfighter req	veen operational users and materiel developers through velopment efforts. Manage the Net-Enabled Requirement to provide accessibility and visibility into C2 capability FY 2019/2020 Joint C2 Operational Requirements base puirements. Host three Joint C2 Integration Workshops	nout ents ed to															

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff			Date: N	lay 2017	
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	<b>Project (</b> 1 002 / <i>C5</i>	Number/I Capability	Name) ⁄ Developmer	nt
B. Accomplishments/Planned Programs (\$ in Millions)		F	Y 2016	FY 2017	FY 2018
synchronize Joint C2 materiel development efforts. Coordinate with the war mission partners, to identify common requirements and priorities, as well as common needs and capability gaps. Produce/coordinate an Information Sy for an Enterprise Common Operational Picture capability for JROC approva and subordinate Capability Packages for Targeting and Geospatial Intelligen Operational Design and Joint Planning Process, Joint Friendly Force Tracki assessment of newly developed Command and Control of the Operational E between GCCS-J and AOC WS program offices to ensure synchronized reli- Facilitate warfighter prioritization of GCCS-J Global COP requirements for in (2) C4 Architectures - Improve WMA Architecture Portal usability and develop tools and services. Continue to improve the guality of and expand the amount	rfighter community, to include multinational and o materiel and non-materiel solutions to address s stem-Capability Development Document (IS-CDI I. Further, produce Capability Definition Package nce, Maritime Tactical C2, Unified Action Plan CC ng, and Enterprise Force Structure. Coordinate Environment capabilities. Facilitate collaboration ease of capabilities with effective data exchanges incremental capability development and release.	ther imilar/ D) es DP, S. zation			
available on the WMA Architecture Portal. Establish and populate Joint Sta Capability Board (FCB) portfolio architecture content on the WMA Architecture sharing, integration, analysis, and re-use. Validate JIE architectures, functio design specifications to increase compliance with JIE architecture standards of FYDP 2019 - 2023 Capability Gap Assessment (CGA), specifically the FC Joint C2 Reference Architecture in conjunction with DISA Services Develop guidance/governance/production priorities to Chairman's priorities. Provide Assessment and the Chairman's Net Assessment. Support coalition partner	v Net				
(3) Data and Services - Develop, promote and integrate data and services r and policy to support improved warfighter interoperability and information sh Government departments and agencies. Collaborate with Allied Command Core Data Framework as a means to achieve coalition interoperability. Aligr Messaging standards with enterprise information sharing. Develop and pro Exchange Data Model, Military Operations domain. Refine and mature enter procedures with the DoD CIO and Services.	equirements, standards, technical specifications, naring with joint, mission partners and other U.S. Transformation (NATO) to develop the NATO n and standardize emerging Tactical Data Link ar mulgate a major release of the National Informati rprise IT service lifecycle management processes	nd on s and			
(4) Interoperability and Integration – Support emergent cyber priorities throu analysis and assessments and support the development of the Persistent T cyberspace domain. Support C4/cyber system developers with operational/c including integration of data collection and analysis instrumentation. Continu	ghout all Department focus areas by performing raining Environment (PTE) to emulate the C4/ developmental Cyber Security testing and assess ue to lead the implementation of improved Comba	sment, atant			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	<b>Date:</b> May 2017					
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	Project (Number/Name) 002 / C5 Capability Development				
B. Accomplishments/Planned Programs (\$ in Millions)		ſ	FY 2016	FY 2017	FY 2018	
Command (CCMD) unity of effort and speed of command with mission partners partner nations by leading the continuing implementation of the JROC approve recommendations (known as Mission Partner Environment (MPE)). Facilitate u environment opportunities to further explore and validate the potential for MPE in exercises STEADFAST COBALT and JUDICIOUS RESPONSE). Support the capability within the CCMDs. Lead the development and maturation of DoD MF baseline technical document for establishing federated mission networks.	vorks a					
<b>FY 2018 Plans:</b> 1) Capability Development – Continue to sustain and utilize the Net-Enabled Ret the Decision Support Tool (DST) to provide accessibility and visibility into C2 ca stakeholders and materiel developers. Develop/coordinate the annual Joint C2 host four Joint C2 Integration Workshops. Align capability requirements and JC development, and ensure warfighter equities are represented through Joint C2 processes. Develop Capability Definition Packages and Capability Packages to and Control Information Exchange (C2IE), and Joint Planning Services capabili for same. Update CJCSI/M 3265.01, "Joint C2 Governance and Management," enterprise-level, globally integrated operations. Ensure requirements developm functional, cyber, and Joint Information Environment capability areas and equit Enterprise COP incrementally developed capabilities.	nd 1 mal I ria					
(2) C4 Architectures – Update the WMA Architecture Development Standards t Provide foundational components of the WMA Enterprise Architecture by popul and available FCB portfolio Areas/Communities of Interest architecture content Combatant Command, services and DoD agencies by broadening access, inter architecture artifacts and data sets through federation and standardized data et (NIEM). Provide architecture development and analysis efforts as required to s Lines of Operations.	ts. evant el nd					
(3) Data and Services – Continue to develop, promote, and integrate data and specifications, and policy to support improved warfighter interoperability and into other U.S. Government departments and agencies. Socialize and perform proor Framework, to achieve coalition interoperability and demonstrate operational emotions.	services requirements, standards, technical formation sharing with joint, mission partners a f of concept activities of the NATO Core Data ffectiveness. Continue to align and standardize	and e				

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Stat	Date: N	Date: May 2017			
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	Project (Number/N 002 / C5 Capability	t		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018	
emerging Tactical Data Link and Messaging standards with enterpris as the common interoperability information exchange standard for ne IT enterprise service lifecycle management processes, procedures, a (4) Interoperability and Integration – Support cyber priorities through assessments and supporting materiel developers. Review and monit System (MPE-IS) to ensure it meets the operational requirements of implementation to ensure it remains aligned with MPE, including rela and risk mitigation activities that leverage CIAV and the BOLD QUES that are complementary to DoD MPE Joining Instructions. Support de and Coalition cyber force readiness, cyber defense of coalition networ Partner Environment	e information sharing. Support the implementation of NIE and capabilities. but all Department focus areas by performing analysis, or the continued development of the MPE-Information the CCMDs and Services. Continue to shape FMN ted capability development (e.g. Spiral 2.0 specifications ST capability demonstration) and FMN Framework JMEIs evelopment and maturation of DECRE C2IS to support US orks, integration, interoperability, and survivability of Missi	M ent S on			
	Accomplishments/Planned Programs Subt	otals 7.079	6.594	6.590	
C. Other Program Funding Summary (\$ in Millions) N/A Remarks D. Acquisition Strategy Biannual review of C4/Cyber resources includes an examination of the	he current and future Budget/Spend Plan, Lines of Effort,	and Acquisition St	rategy.		

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.

## E. Performance Metrics

1) Secure JROC approval of the FY 2019 Joint C2 operational priorities defining C2 capability needs/gaps providing senior level oversight and direction to Joint C2 capability development.

(2) Secure DoD approval for seven (7) JCIDS requirements documents to support materiel development of Joint C2, Adaptive Planning/Execution, Global-Theater Security Cooperation, Readiness, and Cross Functional information technology capabilities enabling timely delivery of materiel solutions to meet warfighter capability needs/gaps.

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		<b>Date:</b> May 2017
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	<b>Project (Number/Name)</b> 002 / C5 Capability Development
(3) Ensure Joint C2 requirements development supports the DoD-directed Be C2 system capabilities to CCMDs and Services, i.e., GCCS-J Global (COP & access of Joint C2 data and applications, Joint Planning and Execution Services	etter Buying Power 100% by continuing the rapi I3), Agile Client – an x86 (PC-based) infrastruc ces to replace legacy systems.	d development and fielding of virtualized ture, Enterprise Widget Storefront for web
(4) Provide two (2) planned releases of Global-Theater Security Cooperation for CCMDs/Services allowing G-TSCMIS use in a disconnected, intermittent, exchange capability between security levels.	Management Information System (G-TSCMIS) or limited bandwidth (DIL) environment, as wel	capability on both NIPRnet & SIPRnet I as providing an initial cross domain data
(5) Validate the architectures and engineering design specifications for twenty	y-seven (27) JIE and MPE projects.	
(6) Conduct three (3) National Information Exchange Model Military Operation sharing via promulgation of one Domain content update.	ns Domain Configuration Control Board sessior	is to improve and increase information
(7) Lead a minimum of six (6) Enterprise Service and Data Panels (ESDP) wi Services and Authoritative Data Sources.	th the goal to improve and increase the interop	erability and reusability of DOD Enterprise
(8) Include mission partnering concepts in four (4) Combatant Command and	d Service exercises.	
(9) Establish at least two (2) new or enhanced information/sharing and collab	poration areas NLT 30 Jun 18.	
(10) Establish and refine processes and procedures to ensure FMN implement	ntation is included in two (2) NATO exercises.	

Exhibit R-2A, RDT&E Project J	ustification	FY 2018 T	he Joint Sta	aff						Date: May	/ 2017	
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name)Project (Number/Name)PE 0604826J / Joint C5 Capability003 / Joint Fires C2 InteroperabilityDevelopment, Integration, andInteroperability Assessments						ty	
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
003: Joint Fires C2 Interoperability	0.000	4.425	4.150	4.150	-	4.150	4.150	4.150	4.150	4.150	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
B. Accomplishments/Planned	Programs (\$	es. Conduct sponsibilitie orandum of <b>in Millions</b>	s. Conduct Agreement	JFS Execu (MOA) sig	5)/Joint Clo itive Steerin natories are	se Air Supp g Committee accomplish	ort (JCAS) e (ESC) sta iing schoolł	and CID-FF ndardizatio nouse traini	n team acci ng in compl	ans to fulfill reditation v iance with	the Memora	cted, and ndas. FY 2018
<i>Title:</i> Joint Fires C2 Interoperable	ility									4.425	4.150	4.150
<b>Description:</b> Execute Joint Staff of Cyber capabilities with comma perspective at the tactical level. Strategy goals to increase intero	f-sponsored and and cont These efforts perability wit	Bold Quest rol of Conve directly su h allies and	systems-of- entional and pport 2014 partners.	-systems in I Special O Quadrennia	teroperabili perations Fo al Defense F	ty assessme orce missior Review and	ent, includin ns from a m 2016 Nation	g integratio ultinational nal Military	n			
<b>FY 2016 Accomplishments:</b> Conducted Joint Staff sponsored all U.S. Services and U.S. Speci the integration of ground-to-air s call-for-fire and close air support Savannah, GA.	l Bold Quest al Operation ituational aw operations t	Coalition C s Command areness cap hrough live,	apability De d successful pabilities; in , virtual, con	emonstratio Ily expandir tegrated air struction di	n and Asse ng utility of I r & missile c ismounted c	ssment invo Mission Part lefense thre operations a	lving fourte ner Enviror ads; and di t Ft Stewart	en (14) nati iment conce gitally enha t, GA and	ons, epts; nced			
Led accreditation visits to ten (10 Observer (JFO) Schoolhouses. / meet standardized performance	)) Joint Term Accreditation metrics, ena	inal Attack of U.S. and bling enhar	Controller (, d partner na nced trust ar	JTAC); 1 Fo tion school nd interope	orward Air C houses ens rability durir	Controller (A ured trained ng current ar	irborne); an l and qualifi nd future co	d 7 Joint Fi ed personn mbat opera	res el itions.			
<b>FY 2017 Plans:</b> Execute Joint Staff-sponsored B capabilities with command and c at the tactical level. Continue inc	old Quest sy control of Cor corporating M	stems-of-sy nventional a lission Partr	vstems inter Ind Special ner Environi	operability Operations ment conce	assessmen Force miss pts to incre	t, including i ions from a ase Allied ai	ntegration of multination nd coalition	of Cyber an al perspecti interoperat	d ISR ive pility.			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff			Date: M	ay 2017		
Appropriation/Budget Activity 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604826J <i>I Joint C5 Capability</i> <i>Development, Integration, and</i> <i>Interoperability Assessments</i>	Project (N 003 / Join	oject (Number/Name) 3 I Joint Fires C2 Interoperability			
B. Accomplishments/Planned Programs (\$ in Millions)		F	( 2016	FY 2017	FY 2018	
These efforts directly support the 2016 National Military Strategy and the CJC visits of current JFS ESC member programs and provided staff assistance for training and certification programs.	S' focus areas. Continue leading accreditation development of new start close air support-rela	ted				
<b>FY 2018 Plans:</b> Plan and execute Joint Staff-sponsored Bold Quest 2018 systems-of-systems of Cyber and ISR capabilities with command and control of Conventional and multinational perspective at the tactical level. These efforts directly support th focus areas. Continue leading accreditation visits of current JFS ESC member development of close air support-related training and certification programs.	interoperability assessment, including integration Special Operations Force missions from a 2016 National Military Strategy and the CJCS' r programs and provided staff assistance for	on				
	Accomplishments/Planned Programs Subt	otals	4.425	4.150	4.150	
C. Other Program Funding Summary (\$ in Millions)		i		t		

N/A

#### <u>Remarks</u>

## 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.

## E. Performance Metrics

1) Lead development of situational awareness and cooperative/non-cooperative identification capabilities that enable U.S. and NATO/Coalition warfighters to identify friendly, enemy, and neutral forces for "shoot/don't shoot" decisions.

(2) Synchronize Service testing, acquisition and fielding of Mode 5 IFF capability, with focus on Full Operational Capability (FOC) in 2020. Monitor Service fielding progress of one hundred sixty-nine (169) platform types.

(3) Complete Definition Package for Block 2 of Digitally Aided Close Air Support (DACAS) coordinated implementation in conjunction with participating Service programs of record. Effort will enable over twenty (20) U.S. and partner nation systems to be more interoperable in the CAS mission area.

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		<b>Date:</b> May 2017	
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (N	umber/Name)
0400 / 4	PE 0604826J / Joint C5 Capability	003 I Joint	Fires C2 Interoperability
	Development, Integration, and		
	Interoperability Assessments		

(4) Expand digital call-for-fire solution development to include enhanced multi-national interoperability with six (6) partner nations.

(5) Conduct Accreditation Assessments for fourteen (14) of thirty current signatory schoolhouses (8 Joint Terminal Attack Controller (JTAC), 2 Forward Air Controller (Airborne), and 4 Joint Fires Observer (JFO) Schoolhouses).

(6) Lead development and refinement of four (4) U.S. and NATO joint fires-related doctrine and Tactics, Techniques, and Procedures (TTP) publications.

(7) Lead planning, coordination and execution of two (2) Bold Quest systems of systems interoperability assessment to facilitate U.S. and coalition integration.

(8) Plan and conduct quarterly Joint Fire Support and Combat ID-Friendly Force Tracking Executive Steering Committee and working group meetings to address identified shortfalls in those mission areas.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff											Date: May 2017		
Appropriation/Budget Activity0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6:RDT&E Management Support					<b>R-1 Program Element (Number/Name)</b> PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)								
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
Total Program Element	343.535	34.139	38.059	36.581	-	36.581	36.469	33.901	33.500	33.500	Continuing	Continuing	
P001: Core	119.901	14.339	14.329	9.343	-	9.343	10.271	10.271	10.476	10.476	Continuing	Continuing	
P002: Homeland	67.544	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
P003: Black Dart	23.039	2.444	3.000	3.000	-	3.000	3.300	3.300	3.366	3.366	Continuing	Continuing	
P004: Joint Distributed Engineering Plant	14.248	3.000	2.500	2.738	-	2.738	2.900	2.475	2.533	2.533	Continuing	Continuing	
P005: Nimble Fire	61.539	8.000	12.230	16.000	-	16.000	14.500	13.500	12.650	12.650	Continuing	Continuing	
P006: Cruise Missile Combat Identification (CID)	57.264	6.356	6.000	5.500	-	5.500	5.498	4.355	4.475	4.475	Continuing	Continuing	

## A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization(JIAMDO) is the organization within the Department of Defense (DoD) 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 (JS), JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community's proponent for characteristics, 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, and 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 liaison offices at major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the 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 at the 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.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The	Joint Staff			Date:	<b>Date:</b> May 2017				
<b>Appropriation/Budget Activity</b> 0400: Research, Development, Test & Evaluation, Defense-Wi RDT&E Management Support	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile Defense Organization (JIAMDO)</i>								
B. Program Change Summary (\$ in Millions)	FY 2016	<u>FY 2017</u>	FY 2018 Base	FY 2018 OCO	FY 2018 Total				
Previous President's Budget	33.983	32.759	32.581	-	32.581				
Current President's Budget	34.139	38.059	36.581	-	36.581				
Total Adjustments	0.156	5.300	4.000	-	4.000				
<ul> <li>Congressional General Reductions</li> </ul>	-	-							
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-							
<ul> <li>Congressional Rescissions</li> </ul>	-	-							
<ul> <li>Congressional Adds</li> </ul>	-	-							
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-							
<ul> <li>Reprogrammings</li> </ul>	0.156	-							
<ul> <li>SBIR/STTR Transfer</li> </ul>	-	-							
<ul> <li>Additional Support to P005: Nimble Fire</li> </ul>	-	0.000	4.000	-	4.000				
<ul> <li>FY17PB Amend: Addition funds for JRICM (JIAMDO-Core)</li> </ul>	-	5.300	-	-	-				

#### **Change Summary Explanation**

JIAMDO-Core: JIAMDO moved its offices out of contracted facilities into government-owned facilities and merged its processes with those of the Joint Staff J8, avoiding the need for administrative and security support contracts, rent, and the various support costs associated with rental offices.

JIAMDO-Core (FY17): \$5.3 million is required to address emergency warfighting readiness requirements. Joint Regional IAMD Capability Mix (JRICM) II is a DepSecDef and JROC directed Regional IAMD study, directing the Joint Staff, Joint Integrated Air and Missile Defense Organization (JIAMDO), in coordination with USSTRATCOM, USCYBERCOM, Intelligence Communities, Agencies and Services to assess the impact of emerging non-kinetic capabilities to supplement regional IAMD.

JIAMDO-Homeland: Program development and management were handed off to the Air Force. JIAMDO retains only requirements and integration oversight responsibilities not requiring program funding.

JIAMDO-Nimble Fire: Increased funding for FY 2018 will be used to hold two large Nimble Fire events in support of U.S. Fleet Forces Command, USPACOM, USSTRATCOM and USEUCOM. Additionally, funds will be used to improve Electronic Warfare, Multi-spectral Environment, Advanced Capability Model, and Space Warfare.

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff											2017		
Appropriation/Budget Activity 0400 / 6					R-1 Progra PE 060512 Defense O	am Elemen 26J / Joint Ir rganization	<b>t (Number/</b> ntegrated Ai (JIAMDO)	Name) r & Missile	Project (N P001 / Cor	ect (Number/Name) / Core			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
P001: Core	119.901	14.339	14.329	9.343	-	9.343	10.271	10.271	10.476	10.476	Continuing	Continuing	
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-			

#### A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee joint Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff, JIAMDO supports the Chairman of the Joint Chiefs of Staff in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community's proponent for characteristics, requirements, and capabilities in IAMD, and is the joint IAMD proponent within the DoD's resource allocation structures. JIAMDO also leads IAMD mission area and utility analyses, integrates IAMD within the Force Protection joint capability area, and conducts evaluations and demonstrations of joint IAMD architectures and concepts.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with USSTRATCOM and USNORTHCOM in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the 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 at the direction of the CJCS, JIAMDO supports USSTRATCOM in development of the IAMD Prioritized Capability List, the Global Integrated IAMD Assessment, and analysis of the Ballistic Missile Defense System (BMDS). 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.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Core	14.339	14.329	9.343
<b>Description:</b> Provides overall staff support for JIAMDO operations in the area of ballistic missile defense, air and cruise missile defense, homeland defense, requirements management, combat identification, modeling & simulation, all other JIAMDO analytical functions and products, senior level briefings, and all travel costs for government and contractor support personnel (including Combatant Commander liaison personnel). This includes performing analyses, demonstrations, and programmatic assessments of technology, operations, requirements, and weapons systems. In coordination with Services and CCMDs, JIAMDO Core also funds the definition, assessment, development, and approval of Joint IAMD Operational Concepts, Operational Architectures, and capability requirements to guide the Department's joint/interagency/combined fully integrated and net-centric capable IAMD (including defense against cruise missiles, unmanned aerial vehicles, and ballistic missiles). JIAMDO Core also provides funding to:			

Appropriation/Budget Activity R-1 Program Element (Number/Name)	Project (Number/					
1400 / 6 PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) Project (Number/Name) Project (Number/Name)					
3. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018			
Manage relevant Congressional interaction and CCMD interface through a cadre of liaisons collocated with major headquar Directly support and sponsor homeland air surveillance related demonstration and analysis activities Run the IAMD Working Group and co-chair the Protection Functional Capabilities Board focusing CCMD, Joint Staff, and Se collaboration efforts in generation of joint concepts and development of the IAMD architecture and roadmap Develop U.S. positions for, and provide the U.S. head of delegation to, the NATO Air and Missile Defense Committee JIAMDO Core further enables strategic planning development, infrastructure, security, travel, and other support activities. Fu Days 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, all other JIAMDO analytical functions and products, senior level briefings, and all travel costs for government and contractor support personnel (including Combatant Commander liaison personnel). Additionally, the JIAMDO CORE budget f daily on-site security management personnel to meet DoD, National Industrial Security Program Operating Manual (NISPOM pother security regulations, for all administrative and support functions related to higher security classifications, as well as bas perfere supplies and furgitions.	ers ervice nding ), unds , and c					
<b>FY 2016 Accomplishments:</b> Performed Air and Cruise Missile Defense, and Ballistic Missile Defense directed studies in support of the Chairman and rela program support activities including: contracting, finance, systems engineering and technical assistance, administration, sec communications, leased space, and supply. Provided contracted expertise in support of studies and analysis directed by Congress, Defense Planning Guidance, Resource Management Decisions, Joint Requirements Oversight Council, and other higher sources. Additional reductions in contract advisory and assistance services are projected. Awarded new SETA contra Aug 2016.	ed ırity, ct in					
<b>FY 2017 Plans:</b> Continue performing Ballistic Missile Defense studies as directed by higher authority and provide contracted expertise in support of all JIAMDO analytical and requirements management activities. Pursue further changes in program support activities as a result of reorganization and office move to the Pentagon. Ancillary support functions such as administrative, security, communications, Information Technology, and finance will no longer require JIAMDO funding as they will be provided by the Systems Engineering and Technical Assistance contract will still be in place to provide necessary mission support.	ies IS.					
FY 2018 Plans: Continue performing Ballistic Missile Defense studies as directed by higher authority and provide contracted expertise in support all JIAMDO analytical and requirements management activities.	oort					
Accomplishments/Planned Programs Sub	otals 14.339	14.329	9.343			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff Date: May 2017							
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile</i> <i>Defense Organization (JIAMDO)</i>	<b>Project (Number/Name)</b> P001 / Core					
C. Other Program Funding Summary (\$ in Millions) N/A							
<u>Remarks</u>							
<u>D. Acquisition Strategy</u> N/A							
E. Performance Metrics							
(1) Support two major Nimble Fire exercises during FY 2018.							
(2) Conduct two IAMD Working Groups and at least one Functional Capabilitie	es Board per month.						
(3) Conduct the annual Black Dart Counter-Unmanned Aerial System technol	ogy demonstration.						
(4) Support U.S. Representative to NATO Air Defense Council and Missile Desupporting functions.	efense Committee including 2 overseas meeting	gs per year and numerous lower-level					
(5) Develop and maintain operational architecture compliance with DoD Archi	tectural Framework (DODAF) standards.						
(6) Ensure 100% of all government employee travel is in accordance with the accordance with applicable regulations.	Joint Federal Travel Regulation/Joint R	egulation and all contractor travel is in					
(7) Maintain all unclassified/classified LANs on a daily basis in accordance wi	th the Joint Staff's Office of the Chief Informatic	on Officer guidance/policy.					
(8) Ensure all computers, NIPRNET/SIPRNET, are refreshed according to ap	plicable policy/guidance.						

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff								Date: May	2017			
Appropriation/Budget Activity 0400 / 6					<b>R-1 Progra</b> PE 060512 <i>Defense O</i>	a <b>m Elemen</b> 6J <i>I Joint Ir</i> rganization	<b>t (Number/</b> ntegrated Ai (JIAMDO)	Name) r & Missile	Project (N P002 / Hor	<b>ject (Number/Name)</b> 02 <i>I Homeland</i>		
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P002: <i>Homeland</i>	67.544	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

The Homeland program transitioned to a USAF-led Program of Record across the Future Year Defense Program in the beginning of FY 2016. JIAMDO will retain operational and requirements oversight.

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff									Date: May	2017		
Appropriation/Budget Activity 0400 / 6					R-1 Progra PE 060512 Defense O	am Elemen 26J / Joint Ir rganization	<b>t (Number/</b> ntegrated Ai (JIAMDO)	Name) r & Missile	Project (N P003 / Blac	ject (Number/Name) 3 I Black Dart		
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P003: Black Dart	23.039	2.444	3.000	3.000	-	3.000	3.300	3.300	3.366	3.366	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

#### A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense (DoD) chartered to plan, coordinate, and oversee Joint Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff, JIAMDO supports the Chairman of the Joint Chiefs of Staff in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the operational community's proponent for characteristics, requirements, and capabilities in IAMD, and is the joint IAMD proponent within the DoD's resource allocation structures. JIAMDO also leads AMD mission area and utility analyses, integrates air and missile defense within the Force Protection joint capability area, and conducts evaluations and demonstrations of joint IAMD architectures and concepts.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains liaison offices at major CCMD locations to facilitate coordination of integration issues and requirements. In particular, JIAMDO maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the U.S. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review the 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 at the direction of the CJCS, JIAMDO supports USSTRATCOM in development of the IAMD Prioritized Capability List, the Global Integrated Air and Missile Defense Assessment, and analysis of the Ballistic Missile Defense System (BMDS). 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.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Black Dart Counter Unmanned Aircraft Systems Technology Demonstration	2.444	3.000	3.000
<ul> <li>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 (CUAS) technology from readily-available commercial and governmental products. Objectives include:</li> <li>Execute live-fly, live-fire CUAS technology demonstration to assess and validate existing and emerging Integrated Air and Missile Defense (IAMD) capabilities</li> <li>Present emerging solutions to inform requirements decision-making</li> <li>Identify and develop IAMD operational concepts, system interoperability, and operational architectures for the CUAS mission set</li> <li>Advocate for Warfighters' desired CUAS capabilities and affordable, integrated solutions</li> </ul>			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		Date: N	/lay 2017				
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile</i> <i>Defense Organization (JIAMDO)</i>	Project (Number/ P003 / Black Dart	Project (Number/Name) PO03 / Black Dart				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018			
<ul> <li>FY 2016 Accomplishments:</li> <li>Most tactically relevant BLACK DART to date:</li> <li>Flew 355 sorties from 25 different UAS variants</li> <li>Flew tactical ISR and Attack flight profiles from 16 geographically dispersed late Developed detailed threat scenarios based on direct input from Combatant Commateriel and non-materiel requirements to the warfighter</li> <li>Created a contested electromagnetic spectrum for CUAS sensors</li> <li>Provided a venue for rapid capability delivery to the Warfighter:</li> <li>Developed innovative materiel and non-materiel solutions that enhance all photoe the UAS threat</li> <li>Refined non-kinetic negation system techniques and capabilities through 89 sensors</li> <li>Provided a venue for innovation and collaboration:</li> <li>Expanded interagency participation to demonstrate C-UAS options in both Tite</li> <li>Multiple cross-governmental development programs were exercised to include</li> <li>Increased observation from coalition partners from the Pacific operational the</li> </ul>	aunch locations commanders to provide specific recommendation ases of the Joint Engagement Sequence vers separate negation events le 10 and Title 50 operational environments e DoD/DoE and DoD/DHS ater	ons us					
<b>FY 2017 Plans:</b> Continue FY 2016 plans including: Demonstrate UAS capabilities to employ wit (BVR) weapons in a counter-UAS role. Explore 'On-the-Move' capabilities. Excuper capabilities. Expand scenarios to include dynamic and contested electron	thin visual range (WVR) and beyond visual rar pand the breadth, complexity, and integration magnetic spectrum.	nge of					
<b>FY 2018 Plans:</b> Continue FY 2017 Plans including: Expand coalition partner participation. Deve littoral, and maritime domains.	elop scenarios integrating systems across land	l,					
	Accomplishments/Planned Programs Sub	totals 2.444	3.000	3.000			
C. Other Program Funding Summary (\$ in Millions) N/A <u>Remarks</u> D. Acquisition Strategy N/A							

Exhibit R-2A, RDT&E Project Justification: FY 2018 Th	he Joint Staff	Date: May 2017
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile</i> <i>Defense Organization (JIAMDO)</i>	Project (Number/Name) P003 / Black Dart
<u>E. Performance Metrics</u> (1) Complete events within schedule and budget. Events	provide useful data to improve C-UAS capability.	
(2) Document gaps, develop and substantiate hardware,	software, and employment concepts.	
(3) Field C-UAS capability.		

Exhibit R-2A, RDT&E Project Ju	aff						Date: May	2017				
Appropriation/Budget Activity 0400 / 6					R-1 Progra PE 060512 Defense O	am Elemen 26J / Joint Ir rganization	<b>t (Number/</b> ntegrated Ai (JIAMDO)	Name) r & Missile	Project (N P004 / Join	Project (Number/Name) P004 I Joint Distributed Engineering Plant		
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P004: Joint Distributed Engineering Plant	14.248	3.000	2.500	2.738	-	2.738	2.900	2.475	2.533	2.533	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

#### A. Mission Description and Budget Item Justification

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
<i>Title:</i> Joint Distributed Engineering Plant (JDEP)	3.000	2.500	2.738
<b>Description:</b> Conducted a joint test event to assess the interoperability of joint, IAMD weapon systems that leveraged commercial-off-the-shelf (COTS) Networks to perform Joint Integrated Fire Control. This effort provided users the means to create family-of-system (FoS) environments by linking existing capabilities using hardware, software, and operators in a live-fly environment.			
<b>FY 2016 Accomplishments:</b> Fund an appropriate joint distributed test event to assess the interoperability of joint, IAMD weapons systems. Provide users the means to create FoS environments by linking existing capabilities using hardware, software, and operator-in-the-loop. Link			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		Date: N	lay 2017	
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name)ProPE 0605126J / Joint Integrated Air & MissileP00Defense Organization (JIAMDO)P00	ject (Number/l 4 / Joint Distrik	Name) outed Enginee	ring Plant
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
existing Service and Joint combat system engineering and test sites via distributive weapons system hardware-in-the-loop Coalition Correlation/Decorrelation Intervaccelerated change to the Military Standard 6016 default parameter values, projoint and Allied link networks.	ited communications. Conducted a high-fidelity operability Test (C/DIT) which identified and omoting increased IAMD interoperability across the			
<b>FY 2017 Plans:</b> Fund an appropriate joint/coalition IAMD interoperability program and test even test and evaluations to improve the Joint Common Tactical Airspace Picture (C and constructive test event utilizing real-world C-UAS data within a hardware-in communications; determine IAMD capability requirements and verify architectur current weapon systems; and evaluate concepts of operations and tactics, tech				
<b>FY 2018 Plans:</b> Fund an appropriate joint distributed test event to assess the interoperability of the means to create FoS environments by linking existing capabilities using har existing Service and Joint combat system engineering and test sites via distributimes by leveraging existing facilities.	e			
	Accomplishments/Planned Programs Subtota	<b>s</b> 3.000	2.500	2.738
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A <u>Remarks</u> <u>D. Acquisition Strategy</u> N/A				
<ul> <li><u>E. Performance Metrics</u></li> <li>(1) Each JDEP event develops measures of effectiveness (MOE) &amp; measures</li> <li>(2) Complete events within schedule and budget.</li> <li>(3) Events provide useful data to improve Air Missile Defense interoperability,</li> <li>(4) Events must be linked to the current approved IAMD Architecture, provide</li> </ul>	of performance (MOP) based on an eighteen mor with implemented and recommended corrective cl joint benefit, contribute to Joint Interoperability, an	th test planning anges. d address IAMI	g and event pr D ICD capabili	ocess. ty gaps.

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff									Date: May	2017		
Appropriation/Budget Activity 0400 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile</i> <i>Defense Organization (JIAMDO)</i>				Project (N P005 / Nim	ject (Number/Name) 15 / Nimble Fire		
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P005: Nimble Fire	61.539	8.000	12.230	16.000	-	16.000	14.500	13.500	12.650	12.650	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

#### A. Mission Description and Budget Item Justification

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: JIAMDO Nimble Fire	8.000	12.230	16.000
<b>Description:</b> The Deputy Secretary of Defense assigned responsibility for IAMD development at the Virtual Warfare Center to JIAMDO. Nimble Fire is the Department's only joint IAMD operator-in-the-loop modeling and simulation capability exploring the Chairman of the Joint Chiefs of Staff's top 5 most 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 explore joint IAMD capabilities and concepts in the FYDP (+2) timeframe combining 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 from the Department's analytical agenda and CCMD operational plans. JIAMDO brings together stakeholders across the engineering, analytical, and tactical communities to conduct multiple events to assess Joint interoperability of Service and MDA programs of record, explore			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		Date: N	1ay 2017		
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile</i> <i>Defense Organization (JIAMDO)</i>	Project (Number/Name) P005 / Nimble Fire			
B. Accomplishments/Planned Programs (\$ in Millions)	ſ	FY 2016	FY 2017	FY 2018	
concepts of employment, inform tactics, techniques and procedures and conce CCMD integrated priorities and future operational plans, and inform senior lead	ре				
<b>FY 2016 Accomplishments:</b> In response to JROC tasking, JIAMDO built upon FY 2015 accomplishments ex- support of the Services, MDA, USEUCOM, USPACOM, and USSTRATCOM and instrumental in successfully executing two additional events in support of the Jo and the Navy respectively. Across all four events executed in FY 2016, Nimble for the Department and Services through identifying real-world system issues, s simulation environment for other users. Major accomplishments include: • Identifying real-world issues on multiple systems including E-2, E-3, Integrated (IBCS), and F-15. Issues fed back to program offices to take corrective action • Impact of advanced capabilities on tactical fight (details classified) • Human-machine and Link-16 network challenges associated with executing in • Potential benefits of future sensors, weapons and capabilities (e.g., next gene • Concepts of employment (CONEMPS) for 4th and 5th generation fighters emp Service tactics, techniques and procedures (e.g., Air Force 3-1) • USMC operator feedback on CAC2S tactical display and CTN interface identific functionality • Continued exploration of Naval Integrated Fire Control – Counter Air (NIFC-CA <b>FY 2017 Plans:</b>					
<ul> <li>Execute two Nimble Fire events in support of U.S. Fleet Forces Command, US material support for two additional Service and/or program office events. Addit VWC environment and IAMD systems and capabilities:</li> <li>Electronic Warfare improvements in coordination with USSTRATCOM, Joint E Combat (JEPAC), the Services and MDA to better model red and blue electron impacts, and conduct analysis of its impact on the tactical fight. E.g., Eagle Pa (EPAWSS) for F-15, Integrated Defensive Electronic Countermeasures (IDECM Improvement Program (SEWIP) for Aegis, basic electromagnetic interference e modeling</li> <li>Multi-spectral Environment improvements include upgrading the simulation bac capabilities such as Infrared Search and Track (IRST) sensors and kill chains, o higher-fidelity threat signatures</li> </ul>	PACOM, USSTRATCOM and USEUCOM. Pr ionally, accomplish significant upgrades to the Electromagnetic Preparedness for Advanced ic attack and electronic protection, visualize ssive-Active Warning Survivability Systems <i>A</i> ) for F/A-18E, Surface Electronic Warfare effects, and foundation for representing GPS ackbone and service models to better handle environmental effects such as rain and clouds,	ovide , and			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	Date:	May 2017		
Appropriation/Budget Activity 0400 / 6	Project (Number P005 / Nimble Fin	/Name) e		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
<ul> <li>Advanced Capability Model improvements include expanded integrated fire control – Counter Air (NIFC-CA) and fighter-centric kill chains, if as the new IAMD Radar (AMDR) for Aegis, Link-16 network enhancements, fut energy. Additionally, integrate an Advanced Gun Weapon System model into the control challenges and contributions to the overall defense of critical assets</li> <li>Space Warfare – integrate higher fidelity representations of Overhead Persiste (N2T) contributions to the tactical fight</li> <li>Non-Program of Record Experimentation of innovative uses of existing senso E.g., ground-based sensors providing fire-control quality tracking to tactical air picture and joint engagement sequence</li> <li>Explore integration of offensive and defensive capabilities (kinetic and non-kir USEUCOM</li> </ul>	ontrol concepts involving capabilities such as N ncorporation of advanced sensor capabilities s sure threat kill chains and capabilities, and direct he environment to explore tactical command a ent Infrared (OPIR) assets and national to tact rs and weapons across traditional IAMD assets assets, contributions of unmanned assets to the netic) in protection of select critical assets in	laval uch oted nd cal s. e air		
<ul> <li>FY 2018 Plans:</li> <li>Execute two large Nimble Fire events in support of U.S. Fleet Forces Comman Provide material support for two additional Service and/or program office event the VWC environment and IAMD systems and capabilities:</li> <li>Electronic Warfare improvements in coordination with USSTRATCOM, JEPAG blue electronic attack and electronic protection, visualize impacts, and conduct Eagle Passive-Active Warning Survivability Systems (EPAWSS) for F-15, Integ (IDECM) for F/A-18E, Surface Electronic Warfare Improvement Program (SEW effects, and foundation for representing GPS modeling</li> <li>Multi-spectral Environment improvements include upgrading the simulation bac capabilities such as Infrared Search and Track (IRST) sensors and kill chains, in higher-fidelity threat signatures</li> <li>Advanced Capability Model improvements include expanded integrated fire control – Counter Air (NIFC-CA) and fighter-centric kill chains, i as the new IAMD Radar (AMDR) for Aegis, Link-16 network enhancements, fut energy. Additionally, integrate an Advanced Gun Weapon System model into the control challenges and contributions to the overall defense of critical assets</li> <li>Space Warfare – integrate higher fidelity representations of Overhead Persist (N2T) contributions to the tactical fight</li> </ul>	d, USPACOM, USSTRATCOM and USEUCON s. Additionally, accomplish significant upgrade C, the Services and MDA to better model red a analysis of its impact on the tactical fight E.g. prated Defensive Electronic Countermeasures (IP) for Aegis, basic electromagnetic interference ackbone and service models to better handle environmental effects such as rain and clouds, pontrol concepts involving capabilities such as N ncorporation of advanced sensor capabilities such the environment to explore tactical command a ent Infrared (OPIR) assets and national to taction	A. es to nd ce and laval uch cted nd cal		

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	Date: I	/lay 2017		
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605126J <i>I Joint Integrated Air &amp; Missile</i> <i>Defense Organization (JIAMDO)</i>	Project (Number/Name) P005 I Nimble Fire		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
<ul> <li>Non-Program of Record Experimentation of innovative uses of existing sensor E.g., ground-based sensors providing fire-control quality tracking to tactical air picture and joint engagement sequence</li> <li>Explore integration of offensive and defensive capabilities (kinetic and non-ki USEUCOM</li> </ul>	ors and weapons across traditional IAMD asset assets, contributions of unmanned assets to the netic) in protection of select critical assets in	ts. he air		
	Accomplishments/Planned Programs Sub	totals 8.000	12.230	16.000
<ul> <li>C. Other Program Funding Summary (\$ in Millions) N/A</li> <li>Remarks</li> <li>D. Acquisition Strategy N/A</li> <li>E. Performance Metrics <ul> <li>(1) Complete events within schedule and budget.</li> <li>(2) Document gaps and shortfalls.</li> <li>(3) Inform the Joint Capabilities Board (JCB) on results and findings.</li> <li>(4) Specific details are classified.</li> </ul> </li> </ul>				

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff								Date: May	2017			
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605126J I Joint Integrated Air & Missile Defense Organization (JIAMDO)Project (Number/Name P006 I Cruise Missile Co 					<b>1e)</b> Combat Ide	ntification	
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P006: Cruise Missile Combat Identification (CID)	57.264	6.356	6.000	5.500	-	5.500	5.498	4.355	4.475	4.475	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Cruise Missile Combat Identification (CID)	6.356	6.000	5.500
<b>Description:</b> Establishes joint requirements for emerging national and tactical combat identification technology and positions it for fielding to frontline weapon systems and the warfighter. Monitors, assesses, and enhances current joint Air and Cruise Missile Defense Combat ID programs.			
FY 2016 Accomplishments: Details of this program are classified.			
FY 2017 Plans:			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff			<b>Date:</b> May 2017			
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name)ProjePE 0605126J / Joint Integrated Air & MissileP006Defense Organization (JIAMDO)(CID)	ct (Number/I I Cruise Miss	Name) ile Combat Id	lentification		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018		
Details of this program are classified.						
<i>FY 2018 Plans:</i> Details of this program are classified.						
	Accomplishments/Planned Programs Subtotals	6.356	6.000	5.500		
C. Other Program Funding Summary (\$ in Millions) N/A Remarks D. Acquisition Strategy Not required for Budget Activities 1, 2, 3 and 6. E. Performance Metrics Details of this program are classified.						

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Exhibit R-2, RDT&E Budget Iten	Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff									Date: May	2017	
<b>Appropriation/Budget Activity</b> 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support				R-1 Program Element (Number/Name) PE 0204571J / Joint Staff Analytical Support								
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	13.516	5.983	7.464	7.712	-	7.712	6.870	5.135	5.134	5.134	Continuing	Continuing
P001: Future Joint Force Development	4.410	5.983	5.564	5.712	-	5.712	5.470	5.135	5.134	5.134	Continuing	Continuing
P002: Global Force Management Data Initiative (GFM DI)	9.106	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P003: GFM DI Enterprise Force Structure (EFS) Integration	0.000	0.000	1.900	2.000	-	2.000	1.400	0.000	0.000	0.000	Continuing	Continuing

## A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) family of programs provides defense analytical support capabilities for The Joint Staff (TJS) and Combatant Commands (CCMDs). JSAS encompasses the developmental tools and infrastructure required to conduct analyses and formulates the results to best assist the Chairman in fulfilling his statutory responsibilities. Key deliverables provided by JSAS include development and implementation of Joint Concepts, wide-ranging force structure assessments, course of action development for the Joint Force environment, analyses and studies 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 2016</u>	<u>FY 2017</u>	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	5.983	7.464	6.312	-	6.312
Current President's Budget	5.983	7.464	7.712	-	7.712
Total Adjustments	0.000	0.000	1.400	-	1.400
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-	-			
SBIR/STTR Transfer	-	-			
<ul> <li>Additional support for Global Force</li> </ul>	0.000	0.000	1.400	-	1.400
Management Data Initiative (GFM DI)					

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff		Date: May 2017
<b>Appropriation/Budget Activity</b> 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0204571J / Joint Staff Analytical Support	

#### Change Summary Explanation

FY 2018: Increase in funding to P003 GFM DI to complete development and fielding of Joint Planning Services pilot that is fully integrated with Joint Planning and Execution Services Framework.

FY 2019 thru FY 2022: Decrease in funding for FY 2019 thru FY 2022 is a result of mandated 25% Management Headquarters Activities (MHA) reductions prescribed by the 2016 NDAA.

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff							Date: May	2017				
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name)Project (NumberPE 0204571J / Joint Staff Analytical SupportP001 / Future Joint				<b>umber/Nan</b> ure Joint Fo	n <mark>e)</mark> rce Develop	oment	
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P001: Future Joint Force Development	4.410	5.983	5.564	5.712	-	5.712	5.470	5.135	5.134	5.134	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) program supports the Chairman of the Joint Chiefs of Staff (CJCS) Title 10, Section 153 statutory responsibilities that directs the analytical support, management, development, evaluation, and implementation of joint concepts in order to advance the operational effectiveness of the future Joint Force and enable the introduction of new capabilities. The Joint Concepts Program assists the CJCS in the formulation of "best military advice" by providing a long-term (out to 20 years) vision of how the Joint Force will be developed to respond to the future operating environment characterized by trans-regional, multi-domain, and multi-functional challenges. Key deliverables include: The Joint Operating Environment (JOE); Capstone Concept for Joint Operations (CCJO); identification, development, and implementation of Joint Concepts statute operating environment challenges and achieve objectives of the National Military Strategy (NMS); and CJCSI 3010 Guidance for Development and Implementation of Joint Concepts.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Future Joint Force Development	5.983	5.564	5.712
<b>Description:</b> FY 2016 efforts focused on supporting the President's "Sustaining U.S. Global Leadership Priorities for the 21st Century Defense" with emphasis on concept assessment of the Chairman's Capstone Concept for Joint Operations, implementing the Joint Operational Access Concept, and developing new operational concepts to support achievement of the NMS. Specific work focused on joint concept development, implementation, and assessment through the Iron Crucible Wargaming series resulting in joint capability gap analysis and recommendations for non-materiel solutions that will improve current and future joint force capability including operating in anti-access and area denial (A2/AD) environments, joint command & control, counterterrorism, and defeating threats in all domains, including cyber.			
<b>FY 2016 Accomplishments:</b> FY 2016 efforts focused on completing the update of the Capstone Concept for Joint Operations: Joint Force 2030 (CCJO) (in draft with the CJCS at the end of FY 2016), publishing the Joint Operating Environment 2035 (JOE), developing a new Family of Joint Concepts framework aligned with the NMS, and developing five new Joint Concepts with the Joint Concept Community to guide and shape future joint force development. Active implementation included 14 Joint Concepts into Doctrine, Organization, Training, Materiel Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) processes during FY 2016 resulting in 3 studies, 5 Capabilities-Based Assessments (CBA), 14 DOTMLPF-P Change Requests (DCR), 1 Initial Capabilities Document (ICD), 3 Capability Development Documents (CDD), 1 Capability Production Document (CPD), and development of 3 Joint Knowledge Online (JKO) courses. The final update for the Joint Operational Access Concept Implementation Plan was signed May 2016 signaling that appropriate DOTMLPF-P processes are developing capabilities critical to addressing Anti-Access/			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	Date: M	<b>Date:</b> May 2017		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name)ProjectPE 0204571J / Joint Staff Analytical SupportP001 /	t (Number/N Future Joint	<b>ame)</b> Force Develc	opment
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
Area Denial (A2/AD) challenges. 18 legacy concepts were approved by the Dir 3010 was approved Aug 2016 with improved terminology and process description implementation. Initiated the pilot year of the DepSecDef directed Warfighting OSD-funded projects designed to spur and support warfighting field experiment develop innovative capabilities, and new operational and organizational constru-	rector of the Joint Staff for archival. The CJCSI ions to guide joint concept development and Lab Incentive Fund (WLIF) program, resulting in 13 ts, demonstrations, and operational user input to ucts to address emerging warfighter challenges.			
<b>FY 2017 Plans:</b> Complete CJCS approval of the CCJO. In partnership with selected CCMDs at Family of Joint Concepts needed to address the 4+1 strategic challenges expressudy to inform our understanding of the challenges of the future operating environment of the challenges of the future operating environment of the concepts from FY 2016 and initiate 2 new Joint Concepts aligned to the Nation approved Joint Concepts IAW CJCSI 3010. Expand multinational partnerships Joint Staff 2017 efforts by integrating Joint Concepts across the Joint Staff to into lead execution and oversight of the DepSecDef directed WLIF program to specific terms.	nd the Services, begin developing the approved essed in the NMS, out to 2035. Continue futures ironment. Complete development of 5 new Joint nal Military Strategy (NMS). Continue implementing in futures and concept development. Support form capability development decisions. Continue pur innovative force development.			
<b>FY 2018 Plans:</b> Continue support for CJCS's NMS and CCJO. In partnership with selected CC approved Family of Joint Concepts needed to address the 4+1 strategic challer futures study to inform our understanding of the challenges of the future operat new Joint Concepts from FY 2017 and initiate 2 new Joint Concepts aligned to Concepts IAW CJCSI 3010. Continue multinational partnerships in futures and Concepts across the Joint Staff to inform capability development decisions. ConceptSecDef directed WLIF program to spur innovative force development.	MDs and the Services, continue developing the nges expressed in the NMS, out to 2035. Continue ing environment. Complete development of 2 the NMS. Continue implementing approved Joint concept development. Continue integrating Joint ontinue to lead execution and oversight of the			
	Accomplishments/Planned Programs Subtotals	5.983	5.564	5.712
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A <u>Remarks</u> <u>D. Acquisition Strategy</u> N/A				

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff			<b>Date:</b> May 2017
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (N	umber/Name)
0400 / 6	PE 0204571J I Joint Staff Analytical Support	P001 / Fut	ure Joint Force Development

#### E. Performance Metrics

Concept development performance metrics are derived from the Chairman's Title 10 responsibilities and CJCSI 3010.02E Guidance for Developing and Implementing Joint Concepts and, as such, support the purpose of informing the Department's senior leadership by examining military problems and providing an azimuth for future joint force development.

Performance measure 1 – Identify and develop Joint Concepts to examine military challenges and propose innovative joint solutions and associated capabilities in support of defense needs and priorities.

Metrics: Aligns with and informs the NMS. Informed by rigorous futures analysis. Creates relevance and advocacy among operations, plans, and force development communities.

Performance measure 2 – Lead the development of Joint Concepts in collaboration with joint and multinational partners.

Metrics: Joint Concepts governance system promotes "best military advice" for the CJCS. Ideas and solutions are rigorously and objectively evaluated within a joint and multinational context. Joint concepts are continually monitored to ensure consistency, relevancy, and utility throughout their life cycle.

Performance measure 3 – Implement Joint Concepts.

Metrics: Transition plans promote informed decisions for joint force development. Leverage, integrate or inform related capability development programs for maximum efficiency and effectiveness.

Exhibit R-2A, RDT&E Project Ju	stification	FY 2018 T	he Joint Sta	aff						Date: May	2017	
Appropriation/Budget Activity       R-1 Program Element (Number/Name)       Proje         0400 / 6       PE 0204571J / Joint Staff Analytical Support       P002         Initial       Initial					<b>Project (N</b> P002 / Glo Initiative (0	<b>ject (Number/Name)</b> )2 I Global Force Management Data ative (GFM DI)						
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P002: Global Force Management Data Initiative (GFM DI)	9.106	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
The Joint Staff Analytical Support (CCMDs). JSAS encompasses f fulfilling his statutory responsibiliti Issue Resolution Tool (CIRT), bot Management Implementation Gui system for Joint Staff personnel to RDT&E efforts for GFM DI ended	t (JSAS) far the develop ies. Under th which wil idance Forc o be entere I in FY 2015	nily of prog mental tool the umbrel I meet requ es For (Ase d, near-rea	rams provid s and infras lla of analyti irements se signment an I-time, into t	es defense tructure rec cal support t forth in Tit d Apportior he automat	analytical s juired to con tools are th tle 10 U.S.C ment) table ed Forces F	support capa nduct analys ne Automate C. and the U es. Addition For Process	abilities for t ses and forr ed Global Fo nified Comr nally, the Joi	the Joint St mulates the prce Manag mand Plan int Organiza	aff (TJS) an results to b gement Tool (UCP) for a ational Serv	d Combata est assist t (AGT) and utomating t er (JOS) wi	nt Comman he Chairma the Collabo he Global F Il be the ena	ds n in orative orce abler
B. Accomplishments/Planned P	rograms (\$	in Million	<u>s)</u>						FY	2016 I	FY 2017	FY 2018
Title: N/A										0.000	-	-
Description: N/A												
<b>FY 2016 Accomplishments:</b> N/A												
					Accomplis	shments/PI	anned Prog	grams Sub	ototals	0.000	-	-
<u>C. Other Program Funding Sum</u> N/A <u>Remarks</u> <u>D. Acquisition Strategy</u> N/A <u>E. Performance Metrics</u> N/A	<u>mary (\$ in</u>	<u>Millions)</u>										

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff									Date: May	2017		
Appropriation/Budget Activity 0400 / 6				<b>R-1 Program Element (Number/Name)</b> PE 0204571J <i>I Joint Staff Analytical Support</i>					<b>Project (Number/Name)</b> P003 <i>I GFM DI Enterprise Force Structure</i> ( <i>EFS</i> ) Integration			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P003: GFM DI Enterprise Force Structure (EFS) Integration	0.000	0.000	1.900	2.000	-	2.000	1.400	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

#### A. Mission Description and Budget Item Justification

Global Force Management Data Initiative (GFM DI) Enterprise Force Structure (EFS) integration effort provides the next steps for GFM Mission Application enhancements intrinsic to balancing global force demand against the total military force. This complex and multi-variant task requires modernized technologies that must provide integrated information by linking authoritative force structure data (derived from the GFM DI Organizational Servers) to C2 data (resident in GFM mission applications). The Joint Staff Operations Directorate is responsible for GFM Allocation and is the Functional Manager of the GFM mission applications. Accordingly, the Joint Staff Operations Directorate will employ a joint strategy for efficiently fulfilling Enterprise Force Structure (EFS) data utility.

The DoD must quickly transition from legacy systems that promulgate data disparity across the Defense enterprise in order to meet National military objectives that have evolved from large force scenarios to operations that include small-to-full scale activities. As stated in both the NSS and NMS, our adversaries demonstrate the ability to readily transition from non-kinetic to kinetic means. 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 seamlessly exchange information in a manner that keeps pace with globally changing threats to rapidly and accurately accomplish force sourcing activities to support SecDef allocation decisions. TJS is mandated to utilize the Service Org Server (OS) EFS data to enhance managing, assessing, and displaying the 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 JROCMs, the Capability Development Document (CDD) for GFM DI; Joint Command and Control (JC2) Capability Definition Package (CDP); Joint Operation Planning Process (JOPP) and Assessment CDP; and Force Planning & Deployment Planning/Execution CDP.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
<i>Title:</i> Critical upgrades to GFM Mission Applications directly supporting Enterprise Force Structure Integration.	-	1.900	2.000
<b>Description:</b> The GFM Mission DI EFS integration effort requires RDT&E funds to upgrade GFM Mission Applications in order to operationalize the 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 the Automated Global Force Management Tool (AGT) Full Operation Capability (FOC). In order to complete the GFM DI tasks, efforts must begin as early as possible to ensure all GFM DI planned milestones, reflected in Section E, are realized and thereby enable a Global Visibility Capability. GFM applications managed by the Joint Staff are used by the JSAS family of programs. This effort to fund critical upgrades is a precondition to GFM DI EFS Integration.			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	Date: N	<i>l</i> lay 2017					
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name)ProPE 0204571J / Joint Staff Analytical SupportP0(El	Project (Number/Name) Nort P003 / GFM DI Enterprise Force Structure (EFS) Integration					
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018			
<b>FY 2017 Plans:</b> Specific RDT&E work will focus on development of a Joint Force Capabilities C Service force structure and GFM data aggregated in a prototype Global Laydow a budget constrained environment to fulfill the DoD CIO "DoD Cloud Way Forw that flattens the legacy "Silos of Databases" paradigm by leveraging decentraliz CIO foundational IT changes with enhanced cybersecurity that provides informa Control mission partner environment without redundant or duplicative resources development of the Joint Force Capability Catalog (JFCC) virtual application wi Tool (FEI PAT) utilizing dynamic force visibility that provides timely, accurate an motion for the 34 GFM leading indicators and Combatant Commanders initial fo OPLANS. The Initial Operating Capability (IOC) will be achieved by first aggres Laydown Server to link Service generated Organization Unique Identifiers (OUI the Joint C2 relationships to the Allocation process (OPCON and TACON Links OUID/ Unit Identification Code (UIC) linkages in Joint Operation Planning and E Deployment Data (TPFDDs), then map them to GFM allocation information (Fo [RFF], Deployment Order/Line Number [DEPORD/LNR]), and Assignment of the	Patalog (JFCC) that draws upon authoritative wn Server (GLS). This approach is essential in ard" focused on service-oriented architecture zed infrastructure services. It will enable DoD ation sharing within the Joint Command and s. The strategy will result in initial incremental th a Force Element Inventory Predictive Analysis and dynamic data representing U.S. Forces in precerequirements as identified in the NMS priority gating the Service Org Server data into the Globa DS) for force elements identified to establish s). This will provide the capability to establish the Execution System (JOPES) Time-Phased Force rce Tracking Number [FTN], Request for Forces in Forces For Unified Commands						
<b>FY 2018 Plans:</b> Specific RDT&E work will focus on the continued incremental development of the will operationalize the DoD directed GFM DI by linking full DoD Service force star Readiness, Availability, Employment/Location) within the GLS thereby providing military forces. The GLS algorithms will enable the GFM mission applications to and accurate decision making to assist the Chairman in providing best military that uses the GLS algorithms to streamline operations planning and GFM exect The FY 2018 strategy will focus on a Unit Type Capabilities registration function readiness and unit type reporting process by obtaining on-hand forces (personal format. The FY 2018 incremental development of the JFCC virtual application at the true inventory of force availability based on Service employable entities (Unit the use of on-hand Service Force capabilities identified down to the Service-de executive decision making and GFM mission execution.	he Joint Force Capabilities Catalog (JFCC) that rructure to dynamic GFM factors (Capabilities, g a dynamic representation of the disposition of all o present meaningful information required for time advice. The JFCC will serve as a user interface ution in support of CCMD Warfighter requirements hality within the JFCC that will unify the unit-based hel and equipment) via the EFS (GFM DI) standar and associated dynamic force visibility will provide it Types) and sustainability factors, to enable fined lowest deployable entities (Unit Types) for	y  d					
	Accomplishments/Planned Programs Subtota	ls -	1.900	2.000			
			t				

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	<b>Date:</b> May 2017	
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0204571J <i>I Joint Staff Analytical Support</i>	<b>Project (Number/Name)</b> P003 I GFM DI Enterprise Force Structure (EFS) Integration
C. Other Program Funding Summary (\$ in Millions)		
N/A Remarks		
D. Acquisition Strategy		
<b>E. Performance Metrics</b> The JSAS efforts will result in a Global Laydown Server and Joint Force Capal GFM and Joint future force integration along with implementation of concepts t combatant commanders' unforeseen contingency requirements. This is a cost- statutory responsibilities while improving current and future joint force manage	bilities Catalog that supports a Global Visibility to meet the information requirements needed t effective yet full spectrum approach to suppor ment, and are measured by the following:	Capability (GVC) allowing for enhanced o support timely and dynamic response to t and assist the Chairman in fulfilling his
(1) Meet IOC that enables rapid generation of GFM decision-making informatic Service force capability, readiness, availability and current employment data.	on for Policy-makers and warfighting Combata	nt Commands based on authoritative
(2) Reducing the manual process of assembling Capability, Readiness, Availal decision-making. Mining this data is currently a labor-intensive, time-consumin aggregation requires EFS Data services and Web Service Interfaces supportin (CP) and is critical to operationalizing the force structure data and achieve GFI	bility, Employment (CRAE) data, is the first ste g process and significantly impedes rapid resp g a Joint Force Capabilities Catalog (JFCC) a M DI Next Steps Allocation.	p to providing enhanced force management oonse capabilities. Automating this data s described in the EFS Capability Package
(3) Services, CCMDs, Joint Staff and OSD will be able to efficiently manage (c process, and with an authoritative common view of the sourcing-to-employmer Unique Identifier (OUID) attributes from the GFM DI Org Servers (OS) to the U	ollect and analyze) force generation data supp It tracking of forces. This is accomplished by th Init Identification Code (UIC) resident in JOPE	porting GFM in far less time than the current ne automated linking of the Organization S.
(4) The JFCC will enable the rapid generation of information when making time consistent force structure instance data and consistently applied data "types" we deployment planning, execution, and distribution processes.	e-sensitive decisions and allow a Joint Planner vith force structure data referenced over time i	to inculcate the association of standard and n the GFM sourcing solution generation and
(5) Ability to meet the VCJCS guidance to meet the GFM DI Full Operating Ca	pability (FOC) by FY 2020 for GFM Allocation.	

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Exhibit R-2, RDT&E Budget Item	n Justificat	ion: FY 201	8 The Joint	Staff						Date: May	2017	
Appropriation/Budget Activity 0400: Research, Development, Te RDT&E Management Support	est & Evalua	ation, Defen	se-Wide I B	A 6:	<b>R-1 Program Element (Number/Name)</b> PE 0303166J <i>I Support to Information Operations Capab</i>				apability (IO) Capabilities			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018         FY 2018         Cost To         Total           OCO         Total         FY 2019         FY 2020         FY 2021         FY 2022         Complete         Cost					Total Cost		
Total Program Element	23.875	10.404	0.857	0.673	-	0.673	0.673	0.673	0.781	0.781	Continuing	Continuing
001: Information Operations Range	23.875	10.404	0.857	0.673	- 0.673 0.673 0.673 0.781 0.781 Continuing						Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

#### A. Mission Description and Budget Item Justification

The Joint Information Operations Range (JIOR) provides DoD a closed-loop, persistent, geographically distributed network to conduct training, testing, and experimentation in support of Computer Network Attack (CNA)/Computer Network Defense (CND) in a threat representative environment with realistic and relevant targets and command & control systems of interest. JIOR uniquely provides Services, Combatant Commanders (CCMD), and other government agencies the ability to test deployment and collaboratively gain insights into advanced Cyberspace, Information Operations (IO), and Electronic Warfare (EW) capabilities under current and future operational environment conditions. JIOR integrates other cyberspace ranges, replicates critical infrastructure, cyber targets, Internet traffic, and opposing forces. These provide the capacity to meet Presidential policy and CJCS mandates for training and certification of 6000+ cyber warriors by 2017 and DoD/Interagency cyber vulnerability assessments. The JIOR security construct allows users to develop, test, and secure their unique cyber capabilities and protect their identity during range activities. The JIOR conducts multiple, simultaneous, and disparate training, testing, and experimentation events.

B. Program Change Summary (\$ in Millions)	<u>FY 2016</u>	<u>FY 2017</u>	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	10.404	0.857	0.673	-	0.673
Current President's Budget	10.404	0.857	0.673	-	0.673
Total Adjustments	0.000	0.000	0.000	-	0.000
Congressional General Reductions	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
Congressional Adds	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-	-			

#### **Change Summary Explanation**

Decrease from FY 2016 to FY 2017 due to realignment of funds to Operations and Maintenance (O&M).

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Information Operations Range	10.404	0.857	0.673

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff		Date: N	lay 2017	
<b>Appropriation/Budget Activity</b> 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support	<b>R-1 Program Element (Number/Name)</b> PE 0303166J / Support to Information Operations Ca	apability (IO)	Capabilities	
C. Accomplishments/Planned Programs (\$ in Millions)	Γ	FY 2016	FY 2017	FY 2018
<b>Description:</b> The Joint Information Operations Range (JIOR) is a closed-loop is encrypted tunneling over existing networks to conduct training, testing, and exp (IO), Electronic Warfare (EW), Computer Network Attack (CNA)/Computer Network areas in a threat representative environment.	network that forms a live-fire range utilizing perimentation in support of Information Operations work Defense (CND)), and Cyberspace mission			
FY 2016 Accomplishments: Continued FY 2015 efforts:				
<ul> <li>(1) Expanded national, DoD, and Inter-Agency awareness and support regardin</li> <li>(2) Improved the threat representation and operational relevance of the networ</li> <li>(3) Improved the integration of LVC simulations with other Joint training and test</li> </ul>	ng IO and cyber related activities. k. sting communities and infrastructures.			
<b>FY 2017 Plans:</b> The Joint Staff conducted a thorough program review and determined the major O&M appropriation for proper execution.	prity of IO Range expenses were better suited to the			
Continues FY 2016 efforts:				
<ul> <li>(1) Expand national, DoD, and Inter-Agency awareness and support regarding</li> <li>(2) Improve the threat representation and operational relevance of the network.</li> <li>(3) Improve the integration of LVC simulations with other Joint training and test</li> </ul>	IO and cyber related activities. ting communities and infrastructures.			
<i>FY 2018 Plans:</i> (1) Continues FY 2017 efforts. (2) Evaluate and deploy network automation tools to better manage the JIOR.				
	Accomplishments/Planned Programs Subtotals	10.404	0.857	0.673
D. Other Program Funding Summary (\$ in Millions) N/A Remarks <u>E. Acquisition Strategy</u> N/A				

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff	Date: May 2017
<b>Appropriation/Budget Activity</b> 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support	<b>R-1 Program Element (Number/Name)</b> PE 0303166J / Support to Information Operations Capability (IO) Capabilities
F. Performance Metrics	
The Joint Staff conducted a thorough program review and determined the ma execution.	ajority of IO Range expenses were better suited to the O&M appropriation for proper
Measures: JIOR modernization results in reduced network reconfiguration ti	time for use and reuse of DoD Enterprise Cyber Range Environment (DECRE) ranges.
- Number of Defense Research and Engineering Network (DREN) circuits reacted (Cost).	emaining and rate of replacement with Defense Information Systems Network (DISN) circuits
- Estimated man-hours saved due to transforming manual paper-driven plan	ning processes to on-demand automated services (Schedule).
- Sufficient capacity & agility to support Cyber Mission Forces force developm	ment and MDAP/C2 systems cybersecurity assessments & testing (Outcomes).
- Improved rapid response for short-notice mission rehearsal requirements fr	from days to on-demand (Outcomes).

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Exhibit R-2, RDT&E Budget Item	n Justificat	tion: FY 201	18 The Joint	Staff						Date: May	2017	
<b>Appropriation/Budget Activity</b> 0400: Research, Development, Te RDT&E Management Support	est & Evalua	ation, Defen	se-Wide I B	A 6:	<b>R-1 Progra</b> PE 080476 <i>MHA</i>	am Elemen 37J / COCO	<b>t (Number/</b> M Exercise	Name) Engageme	nt and Trair	ing Transfo	rmation (CE	E2T2) -
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	44.500	-	44.500	42.940	40.071	40.063	41.044	Continuing	Continuing
758: Joint National Training Capability (JNTC)	-	0.000	0.000	32.550	-	32.550	31.370	29.052	29.044	30.025	Continuing	Continuing
761: Joint Simulations Systems (JSS)	-	0.000	0.000	1.103	-	1.103	1.067	1.000	1.000	1.000	Continuing	Continuing
769: Joint Knowledge Development & Distribution Capability (JKDDC)	-	0.000	0.000	4.168	-	4.168	4.126	4.108	4.108	4.108	Continuing	Continuing
701: Air Force Joint National Training Capability (JNTC)	-	0.000	0.000	2.964	-	2.964	2.917	2.869	2.869	2.869	Continuing	Continuing
772: Navy Joint National Training Capability (JNTC)	-	0.000	0.000	3.715	-	3.715	3.460	3.042	3.042	3.042	Continuing	Continuing

#### 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 and enhance joint warfighting readiness by building training capabilities that support the operational readiness of the force. The elements associated with this coordinated effort consist of:

- Joint National Training Capability (JNTC)

- Joint Simulation System (JSS)

- Joint Knowledge Development & Distribution Capability (JKDDC)

- USSTRATCOM SPACE CYBER
- Air Force Joint National Training Capability (JNTC)
- Navy Joint National Training Capability (JNTC)

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 experiences using a managed set of globally distributed capabilities and activities. The program resources Service and

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 The Joint Staff		Date: May 2017
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	
0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6:	PE 0804767J / COCOM Exercise Engagement and Trainin	ng Transformation (CE2T2) -
RDT&E Management Support	МНА	

SOF joint training and enabling capabilities that improve interoperability and realism of tactical and operational joint training between the Services and USSOCOM. JNTC enables joint collective training for Combatant Commands and Services by developing relevant joint training content and ensuring global distributed access. The enabling capabilities support the Services and USSOCOM in their requirement to provide trained and ready forces in support of Combatant Command operational requirements. This program will focus efforts on improving, rather than consuming readiness and create a ready surge force consistent with Chairman's guidance.

JSS: The Joint Simulation System (JSS), consisting of the Joint Theater Level Simulation (JTLS) and the Joint Conflict and Tactical Simulation (JCATS), provides a low cost, distributed or deployable, web-based joint training capability with a small technical and operator footprint. JSS funding provides warfighters with joint simulations and tools that enhance and enable Joint training across Services, Combatant Commands, Combat Support Agencies, NATO, and multinational partners. The Joint simulations and tools provided by JSS funding are critical enablers that support the delivery of trained, capable, and interoperable joint forces. JSS's intent is to maintain a capability to share simulation environments with coalition partners by continuing limited investments to ensure JTLS and JCATS remain relevant and provide reliable, low-cost, small footprint, distributed, and deployable joint training solutions.

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 T2 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 (externally funded): and, administration of the Senior Enlisted Joint Professional Military Education (SEJPME) program. JKO expends research, development test and evaluation (RDTE) funding for leading edge technology review, market research, and integration to directly enhance specific aspects of the training capability as required to support Combatant Commanders, CE2T2 Program Goals and Objectives, and the Chairman Joint Chiefs of Staff (CJCS) training guidance. JKO satisfies all requirements necessary to provide the CE2T2 stakeholders with a distributed learning capability and access to web-based training content, learning resources, and distributed online training tools.

USSTRATCOM CYBER: The USSTRATCOM CYBER funding provided architecture and analysis support to Space Security and Defense Program (SSDP) and the JOINT SPACE OPERATIONS CENTER (JICSpOC) through Modeling, Simulation and Analysis (MS&A); Trade-Off Analysis; Concept Development; Scenario Development; and Military Utility Analysis.

Air Force JNTC: The 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. The Air Force supports development of cross-domain solutions that enable the integration of systems with disparate security requirements, and significantly increases the training audience to additional joint and coalition participants. Additionally, the Air force supports the integration of tactical models into the virtual environment.

Navy JNTC: These funds enable the Navy to develop unique maritime capabilities that integrate JLVC elements into a seamless joint training environment. The Navy program activities include conducting research, development, test and evaluation, and cross-service architecture certification on joint-capable systems. Additionally, the program develops cross-domain architectures for U.S. and Coalition Forces and ensures sister service modeling/simulation and instrumentation efforts follow a unified standard.

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Th	ne Joint Staff			Date:	May 2017
Appropriation/Budget Activity	lide I DA G	R-1 Program El	ement (Number/Name)	)	constantion (OFOTO)
RDT&E Management Support	nde i ba o:	MHA	JOCOM Exercise Engag	gement and Training Tra	(CE212) -
B. Program Change Summary (\$ in Millions)	<u>FY 2016</u>	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	0.000	0.000	44.500	-	44.500
Current President's Budget	0.000	0.000	44.500	-	44.500
Total Adjustments	0.000	0.000	0.000	-	0.000
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-	-			

#### **Change Summary Explanation**

COCOM Exercise Engagement and Training Transformation (CE2T2) transfers to The Joint Staff in FY 2018 in PE 0804767J from 0804767D8Z. All Prior Year, FY 2016 and FY 2017 data will be reported by OSD P&R.

Exhibit R-2A, RDT&E Project Ju	stification	: FY 2018 T	he Joint Sta	aff						Date: May	2017	
Appropriation/Budget Activity 0400 / 6					<b>R-1 Program Element (Number/Name)</b> PE 0804767J / COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA			<b>Project (Number/Name)</b> 758 / Joint National Training Capability (JNTC)				
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
758: Joint National Training Capability (JNTC)	-	0.000	0.000	32.550	-	32.550	31.370	29.052	29.044	30.025	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

#### Note

COCOM Exercise Engagement and Training Transformation (CE2T2) transfers to The Joint Staff in FY 2018 in PE 0804767J from 0804767D8Z.

#### A. Mission Description and Budget Item Justification

Investment in the Joint National Training Capability (JNTC) program will enable Service and Combatant Commands to train as they operate. The net funding increase from FY 2016 through FY 2018 represents planned growth and internal reprogramming decisions to accelerate development of a cloud-enabled joint training environment. The funding requested continues to modernize joint training capabilities into a single integrating architecture for Joint Training that is aligned to the DoD Chief Information Officer IT mandates. Funding supports the development of cloud-enabled modular training application services. Program intent is to reduce dependence on touch labor, and mitigate the impact of reductions in operation and sustainment funding. Focus must be maintained to deliver operationally relevant training environments and respond to changes in global security landscape and the warfighter's operational environment. JNTC enables the Department of Defense to be responsive to the warfighters' pace of changing operational concepts, threat environments, and best practices. In FY 2018, this investment continues expanding capabilities and access for Service and Combatant Command trainers to plan and execute joint training. Funds support improved relevance and realism of training by providing capabilities that replicate the contemporary and future operating environment.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Joint National Training Capability (JNTC)	-	-	32.550
<b>Description:</b> JNTC provides the technical standards, architecture (blueprint), and development processes required to integrate/ link joint training programs. The Joint Training Environment is envisioned as an integrated network of training sites and nodes, and accessible joint training and force development services. By leveraging existing training programs and initiating specific actions, JNTC develops credible opposing force capabilities and expanded access to assets typically unavailable to the training audience. This enhances the integration of joint training objectives into Service training events. Funding in this account supports the technical integration of Joint and Service modeling and simulation training capabilities. The resulting capabilities enable selective aggregation of training audiences at the Combatant Command, Joint Task Force, and Component Command Headquarter levels. The funding supports modernization of the Joint Training Environment (JTE) to increase warfighter access to semi-automated training enablers within the Joint Training Synthetic Environment (JTSE) through web-based, modular cloud capabilities.			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint	Staff	Date:	May 2017			
Appropriation/Budget Activity       R-1 Program Element (Number/Name)       Project         0400 / 6       PE 0804767J / COCOM Exercise       758 / J         Engagement and Training Transformation (CE2T2) - MHA       (JNTC)			<b>ect (Number/Name)</b> I Joint National Training Capability <sup>-</sup> C)			
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018		
The Adaptive Training Capability Program (ATCP) is a subordinat responsive to the warfighters' pace of changing operational conce advances joint capabilities and interoperability by addressing eme of globally distributed JLVC enablers. ATCP funding promotes joi supporting Combatant Command training requirements and CJCS Annual Training Guidance.	te component of JNTC that enables the Joint Force to be epts, threat environments, and best practices. ATCP funding erging joint training requirements through a managed set int context to Service training programs and joint enablers S High Interest Training Issues identified in the Chairman's	g				
<b>FY 2018 Plans:</b> • Integrate the role player access capability into the Joint Training • Continue to mature Joint Training Tool modular services to reac 2019. This includes smart graphics that allow planners to describ Training Tool service modules to replicate the movement of forces of the operation that can drive a training scenario and stimulate the • Continue Joint Training Tool scenario development to support a • Continue to mature Joint Training Tool cloud capabilities and ex	Tool environment. h a Tier 1 and 2 joint training initial operating capability in F be an operation with graphics which auto-initiates the Joint s, adjudicate interaction with opposing forces, and return res he appropriate decision points. broader range of joint training options. plore cloud hosting options for the long-term.	Y sults				
	Accomplishments/Planned Programs Sub	totals -	-	32.550		
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A <u>Remarks</u> <u>D. Acquisition Strategy</u> N/A						
<b>E. Performance Metrics</b> RDT&E development efforts are evaluated based on the performativity with warfighter requirements. Performance metrics include, but a	ance metrics below. This ensures the Joint Force Trainer care not limited to: access, cost, realism, relevance, and tech	apabilities develog nology and are de	oment effort syn fined below.	nchronizes		
<ul> <li>E. Performance Metrics</li> <li>RDT&amp;E development efforts are evaluated based on the performation with warfighter requirements. Performance metrics include, but a</li> <li>Access – Develop design standards that enable participation action demands.</li> </ul>	ance metrics below. This ensures the Joint Force Trainer care not limited to: access, cost, realism, relevance, and technorss DoD and, as applicable, with Coalition Partners. Make	apabilities develop nology and are de the environment a	oment effort syn fined below. available to me	nchronizes et user		

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		<b>Date:</b> May 2017
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0804767J / COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	<b>Project (Number/Name)</b> 758 I Joint National Training Capability (JNTC)
<ul> <li>Relevance – Maintain operational relevance through adaptation to the c</li> <li>Technology – Sustain the training environment network through develop services.</li> </ul>	changing operational environment. pments for distributed home station training that inc	clude modular cloud-enabled training
Measures:		
<ul> <li>Cost - Vendors provide ordered hours and projected costs remain within Schedule - Task completions (software enhancements, bug fixes, and o Performance - Product results, outcomes or milestones meet specified cases.</li> <li>DoD Demand - Number of Commands, Services, and Agencies using J</li> <li>Partner Nation Demand - Number of partner nations using Joint Staff de</li> </ul>	In 10 percent of government estimates. cyber security requirements) delivered within 6 mor requirements and successfully pass more than 80 Joint Staff developed training products. eveloped training products.	nths of government estimate. percent of operational assessment test

Appropriation/Budget Activity 0400 / 6       Project (Number/Name) PE 0804767J / COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA       Project (Number/Name) 761 / Joint Simulations       Project (Number/Name) 761 / Joint Simulations         COST (\$ in Millions)       Prior Years       FY 2016       FY 2017       FY 2018 Base       FY 2018 OCO       FY 2018 Total       FY 2019       FY 2020       FY 2021         761: Joint Simulations Systems (JSS)       -       0.000       0.000       1.103       -       1.103       1.067       1.000       1.000         Quantity of RDT&E Articles       -       -       -       -       -       -       -         Note COCOM Exercise Engagement and Training Transformation (CE2T2) transfers to The Joint Staff in FY2018 in PE 0804767J from 0804767       From 0804767	Date: May	2017	
COST (\$ in Millions)Prior YearsFY 2016FY 2017FY 2018 BaseFY 2018 OCOFY 2018 TotalFY 2019FY 2020FY 2021761: Joint Simulations Systems (JSS)-0.0000.0001.103-1.1031.0671.0001.000Quantity of RDT&E ArticlesNote COCOM Exercise Engagement and Training Transformation (CE2T2) transfers to The Joint Staff in FY2018 in PE 0804767J from 080470A. Mission Description and Budget Item Justification	<b>ct (Number/Name)</b> Joint Simulations Systems (JSS)		
761: Joint Simulations Systems       -       0.000       1.103       -       1.103       1.067       1.000       1.000         Quantity of RDT&E Articles       -       <	FY 2022	Cost To Complete	Total Cost
Quantity of RDT&E Articles       -	1.000	Continuing	Continuing
Note COCOM Exercise Engagement and Training Transformation (CE2T2) transfers to The Joint Staff in FY2018 in PE 0804767J from 080470 A. Mission Description and Budget Item Justification	-		
The Joint Simulation System (JSS) will decompose, harvest, and reuse DoD investment in joint simulations to develop cloud-enabled more reaching Initial Operating Capability in FY 2016. JSS will further development of existing Joint Conflict and Tactical Simulation (JCATS) a Simulation (JTLS) as required, to remain relevant and responsive to meet Combatant Command training requirements as the Joint Traini JSS will provide design and development of web-based applications used as services in CEMS environment.	dular servi and Joint T ng Environ	ces (CEMS) heater Leve iment is imp	), el lemented.
B. Accomplishments/Planned Programs (\$ in Millions)	2016 F	Y 2017	FY 2018
Title: Joint Simulation System (JSS)	-	-	1.103
<b>Description:</b> This effort provides warfighters with joint simulations and tools that enhance and enable Joint training across Services, Combatant Commands, agencies and coalition partners. These joint simulations and tools are part of an overall Joint Live Virtual Constructive baseline of training capabilities. They represent a set of training enablers, and "certified systems" that are interoperable and acceptable for usage within the joint training environment. The joint simulations and tools provided by JSS are critical enablers that support the delivery of trained, capable, and interoperable Joint Forces.			
FY 2018 Plans: • Modernize Joint Theater Level Simulation graphical user interface to take advantage of established open source and commercial enhancements.			
<ul> <li>Develop the Joint Theater Level Simulation Combat Systems Prototype into a web-based modular capability in support of the Joint Training Synthetic Environment.</li> <li>Virtualize and eliminate the Joint Theater Level Simulation and Joint Conflict and Tactical Simulation client server architecture in</li> </ul>			
pursuit of a fully web-based service.			4 4 6 6
Accomplishments/Planned Programs Subtotals	-	-	1.103

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		<b>Date:</b> May 2017
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0804767J / COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	<b>Project (Number/Name)</b> 761 <i>I Joint Simulations Systems (JSS)</i>
C. Other Program Funding Summary (\$ in Millions)		
N/A		
<u>Remarks</u>		
D. Acquisition Strategy N/A		
<ul> <li>E. Performance Metrics</li> <li>RDT&amp;E development efforts are evaluated based on performance metrics. The synchronizes with warfighter requirements. Performance metrics include, but a</li> <li>Time – Will the effort enable the Joint Force Trainer (subject matter expert) to Cost – Will the effort enable the Joint Force Trainer (subject matter expert) to capabilities allow?</li> <li>Realism – Will the effort enable the Joint Force Trainer (subject matter expert) to capabilities allow?</li> <li>Fidelity – Will the effort enable the Joint Force Trainer (subject matter expert) allow?</li> </ul>	is ensures the development of Joint Force Tra are not limited to: time, cost, realism, and fidel o prepare and execute training more timely that prepare and execute training at a more effect t) to create a training environment that is close to create more detailed capabilities in the trai	ainer (subject matter experts) capabilities lity and are defined below. an current capabilities allow? tive and efficient cost than current er to the real world environment than current ning environment than current capabilities
Measures: • Cost - Vendors provide ordered hours and projected costs remain within 10 p • Schedule - Task completions (software enhancements, bug fixes, and cyber • Performance - Product results, outcomes or milestones meet specified requir cases. JTLS and JCATS availability of use in support of all training activities re • DoD Demand - Number of exercises/events supported by JTLS and JCATS. • Partner Nation Demand - Number of partner nations using Joint Staff develop	percent of government estimates. security requirements) delivered within 6 mon rements and successfully pass more than 80 p emains above 95 percent. ped training products (active foreign military sa	ths of government estimate. percent of operational assessment test ales cases).

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff											<b>Date:</b> May 2017		
Appropriation/Budget Activity 0400 / 6						R-1 Program Element (Number/Name) PE 0804767J / COCOM Exercise Engagement and Training TransformationProject (N 769 / Join 				<b>lumber/Name)</b> t Knowledge Development & n Capability (JKDDC)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
769: Joint Knowledge Development & Distribution Capability (JKDDC)	-	0.000	0.000	4.168	-	4.168	4.126	4.108	4.108	4.108	Continuing	Continuing	
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-			

#### Note

COCOM Exercise Engagement and Training Transformation (CE2T2) transfers to The Joint Staff in FY2018 in PE 0804767J from 0804767D8Z.

#### 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 (P&R) CE2T2 Program Goals & Objectives guidance, CJCS High Interest Training Issues, Joint Staff training priorities, and JKO Stakeholders (Combatant Commands, Services, and Combat Support Agencies, Interagency, and Multinational) prioritized training requirements. JKO supports a career-long joint learning continuum, joint professional military education, and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. JKO research and development will improve all components of the Joint Content Management Architecture including:

• JKO Learning Content Management System (LCMS): 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. JKO LCMS is necessary to develop, host and deliver JKO courses and track/report students' progress, completions and survey results more effectively and efficiently. JKO LCMS extends web-based, distributed access to mission-critical joint training requirements. There are currently over 2.7 million registered users of the JKO LCMS.

• 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. Specifically, C/JTF 'battle staffs' will be adequately trained, as individuals and the staffs collectively, based on SGST development and implementation throughout the joint training enterprise. JKO integration of SGST simulation exercise scenarios and prerequisite JKO courses enable blended learning training support to large-scale, collective training exercises that augment the Joint Event Learning Cycle and in meeting combatant commanders exercise objectives.

• JKO mobile application training device development: Development and enhancements facilitate the global distribution of web-based joint training content on portable, hand-held platforms (cell phones and tablets). JKO Mobile App extends access to training courses and learning resources to personal use of mobile phones and tablets.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Joint Knowledge Development & Distribution Capability (JKDDC)	-	-	4.168

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff		Date: N	1ay 2017				
Appropriation/Budget Activity 0400 / 6	Project 769 / Jo Distribu	<b>Project (Number/Name)</b> 769 I Joint Knowledge Development & Distribution Capability (JKDDC)					
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018		
<ul> <li>Description: Joint Knowledge Online (JKO) advance technology initiatives p Management System (LCMS) application, Small Group Scenario Trainer (SG training capability, and mobile courseware training applications. These capal training and preparation of hundreds of thousands of military and civilian pers theaters of operation prior to serving in their assigned Combined/Joint Task F and enhancements are required to develop, host, deliver, track/report and su results more effectively and efficiently. C/JTF "battle staffs" will be better train on SGST development and implementation throughout the joint training enter development facilitates the global distribution of web-based joint training cont personnel.</li> <li>FY 2018 Plans:</li> <li>Develop, test and deliver 2 JKO Learning Content Management System (LCM and a more effective and efficient online training management application tha systems. Requirements will be derived from CCMD user feedback and DoD Chairman's Training Guidance to provide a DoD enterprise-wide online trainin training and support - as required by the Services - and support individual and Ground Task Force (SP-MAGTF) missions. JKO anticipates these enhancem projected ~50,000 daily log-ins and ~550,000 monthly course completions by will directly benefit thousands of individuals by providing them global 24/7 acc participate in CCMD exercises and real world missions. JKO will also focus o individuals' training records and readiness reporting as the JKO LCMS extern personnel management systems. JKO will continue to enhance functionality • Develop, test, and deliver 4 JKO Small Group Scenario Trainer (SGST) des resulting in a more effective and efficient training capability integrated within t (LCMS). JKO anticipates these enhancements will improve the quality of the resulting in their heightened preparedness for real world operations. The SG Blended Learning Training component in approximately 8 CCMD collective trainor CCMD required small functional teams and C/JTF "battle staff</li></ul>	rimarily include the JKO Learning Content ST) desktop modeling and simulation based bilities increase access to, and facilitate the connel deploying to Combatant Command (CCM Force (C/JTF) billets. JKO LCMS development pport students' completions, progress and surve ned, as individuals and the staffs collectively, bar prise. JKO mobile courseware training device ent on portable, hand-held platforms for DoD MS) releases resulting in improved cybersecurity t is interoperable with DoD personnel managen training priorities directed by DASD(R) and the ng toolkit, and develop content for pre-exercise d unit training for Special Purpose - Marine Air nents will improve access and the ease of use for DoD personnel. Improvements to the JKO LCI cess to mandatory joint training as they prepare in enhancements to improve the management of ds information sharing and web services with Do based on user experience and feedback. ktop modeling and simulation application release he JKO Learning Content Management System training experience for CCMD exercise particip ST will be used as part of the OSD endorsed aining exercises to prepare individuals serving or raining proficiency improvement will be measure	AD) ey ased y, nent or the MS to f oD ses ants on ed					

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff			Date: N	lay 2017			
Appropriation/Budget Activity 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0804767J / COCOM Exercise Engagement and Training Transformation (CE2T2) - MHA	<b>Project (Number/Name)</b> 769 I Joint Knowledge Development & Distribution Capability (JKDDC)					
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018		
• JKO will assess, refine, and continue executing its comprehensive plan to entraining products. JKO's planned components include courseware and video content leveraging other DoD agencies, interagency, and multinational training course anticipates the development and conversion of ~200 training courses, eBooks cost for classroom training and thousands of hours delivered onsite and on de JKO will continue to enhance its mobile capability based on user experience a	hance the JKO mobile application and mobile conversions to portable hand-held devices while ware ported to the JKO mobile application. JK , Podcasts, job aids, and videos resulting in re- mand to DoD personnel mobile platforms world nd feedback.	e O duced dwide.					
	Accomplishments/Planned Programs Sub	totals	-	-	4.168		
<ul> <li>C. Other Program Funding Summary (\$ in Millions) N/A</li> <li>Remarks</li> <li>D. Acquisition Strategy N/A</li> <li>E. Performance Metrics</li> <li>Joint Staff prescribed performance metrics include, but are not limited to: time</li> <li>Time – Will the effort enable the Joint Force Trainer (subject matter expert) to Cost – Will the effort enable the Joint Force Trainer (subject matter expert) to capabilities allow?</li> <li>Realism – Will the effort enable the Joint Force Trainer (subject matter expert capabilities allow?</li> <li>Fidelity – Will the effort enable the Joint Force Trainer (subject matter expert allow?</li> <li>Measures:</li> <li>Identify, develop, test and implement 15 or more cyber-security, operational,</li> <li>Identify, develop, test and implement 6 or more cyber-security, operational,</li> </ul>	, cost, realism, and fidelity and are defined bel o prepare and execute training more timely that o prepare and execute training at a more effect rt) to create a training environment that is close ) to create more detailed capabilities in the trai and functional JKO LCMS requirements. and functional JKO SGST requirements. and functional JKO mobile App requirements.	ow. In currer tive and er to the ning env	nt capabilitie efficient cos real world e vironment th	s allow? t than current nvironment th an current ca	t nan current pabilities		

PE 0804767J: COCOM Exercise Engagement and Training T... The Joint Staff

Exhibit R-2A, RDT&E Project Ju	ustification	: FY 2018 T	he Joint Sta	aff						Date: May	2017	
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name)ProjePE 0804767J / COCOM Exercise701 / .Engagement and Training TransformationCapair(CE2T2) - MHACapair				<b>Project (N</b> 701 / Air F Capability	ect (Number/Name) Air Force Joint National Training ability (JNTC)		
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
701: Air Force Joint National Training Capability (JNTC)	-	0.000	0.000	2.964	-	2.964	2.917	2.869	2.869	2.869	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
<b>A. Mission Description and Buc</b> The Air Force JNTC funding prov (JLVC) environment. The Air For significantly increases the training	<b>lget Item J</b> vides a focu rce support g audience	ustification sed upgrade s developme to additiona	e to develop ent of cross I joint and c	o models fo -domain so coalition par	r space-bas lutions that ticipants.	sed capabilit enable the i	ies for integration of	ration into	the Joint Liv	ve, Virtual, ate security	and Construe requirement	ctive s, and
B. Accomplishments/Planned P	Programs (	in Millions	<u>s)</u>						F١	2016 F	Y 2017	FY 2018
Title: Air Force Joint National Tra	ining Capa	bility (JNTC)	)							-	-	2.964
<ul> <li>Description: The Air Force contine Electronic Warfare training capabe Aircraft Artillery threats for U.S. and deployment of Joint Cross Depoint and coalition participants to the contested environments in the discomprehensive space effects are</li> <li>FY 2018 Plans:         <ul> <li>Live, Virtual, Constructive - Operand ROI metrics.</li> <li>Cyber simulator environment get</li> </ul> </li> </ul>	nues to dev vility for Euro nd coalition omain Inforn train while p stributed mini- being integ erational Tra	elop joint er ope which re forces. Add mation Shar protecting cla ssion operat grated into th ining (LVC- e cyber effe	nablers that eplicates hig ditionally, the ring (JCDIS) assified info tions setting ne JLVC fee OT) training ects simulati	drive realis ghly advance ne Air Force ) Enterprise ormation. F g to challeng deration of r g solution su	tic/effective ed Surface assists in t Network A urthermore, ge the joint nodels.	e training by -to-Air Missi he engineer rchitecture v , the Air Ford exercise/tra	producing a iles and adv ing, develo which will er ce is creatir ining audier planning, co	a deployable vanced Anti pment, nable ng cyber- nce. Finally ost, after-ac	e - /, :tion,			
Space Simulation improvements	s to model b	oth space e	effects and	OPFOR ca	pabilities aff	ecting the s	pace envirc	nment.				
					Accomplis	shments/PI	anned Prog	grams Sub	totals	-	-	2.964
<u>C. Other Program Funding Sum</u> N/A	nmary (\$ in	<u>Millions)</u>										

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	Date: May 2017	
Appropriation/Budget Activity 0400 / 6	<b>Project (Number/Name)</b> 701 / Air Force Joint National Training Capability (JNTC)	
C. Other Program Funding Summary (\$ in Millions)		
<u>Remarks</u>		
D. Acquisition Strategy N/A		
<ul> <li>E. Performance Metrics</li> <li>RDT&amp;E development efforts are evaluated based on performance metrics. The synchronize with warfighter requirements. Performance metrics include, but at the two synchronize with warfighter requirements. Performance metrics include, but at the cost – Will the effort enable the Joint Force Trainer (subject matter expert) to capabilities allow?</li> <li>Realism – Will the effort enable the Joint Force Trainer (subject matter expert) to capabilities allow?</li> <li>Fidelity – Will the effort enable the Joint Force Trainer (subject matter expert allow?</li> <li>Measures:</li> <li>Cyber: Establish a persistent simulation environment that can be configured Also, create an ability to reflect cyber activities against a live Integrated Air Deter Space: a fully operational GPS environment which allows space operators to disruption and Infrared special events. Also develop space models to model Space domain.</li> <li>OPFOR: a prototype for a next generation tactical surface to air threat simulation Applied for the force run F</li> </ul>	his ensures the development of Joint Force Tra are not limited to: time, cost, realism, and fideli to prepare and execute training more timely that to prepare and execute training at a more effect of the create a training environment that is close that is close to create more detailed capabilities in the tra rapidly and accurately to reflect the desired op effense system. To actively participate in Distributed Mission Ope Space as a contested environment to accuratel ator emulating modern fielded threats fielded w Polygon range complex.	ainer (subject matter expert) capabilities ty and are defined below. an current capabilities allow? tive and efficient cost than current er to the real world environment than current ining environment than current capabilities berating environment of the training audience. erations-Space LVC missile warning, GPS ly portray impacts of adversary actions in the with potential adversary maneuver elements.

Exhibit R-2A, RDT&E Project Ju	stification	: FY 2018 T	he Joint Sta	aff						Date: Mag	/ 2017	
Appropriation/Budget Activity 0400 / 6		R-1 Program Element (Number/Name)ProjectionPE 0804767J / COCOM Exercise772 /Engagement and Training Transformation(JNT)(CE2T2) - MHA-					<b>oject (Number/Name)</b> 2 I Navy Joint National Training Capabilit NTC)					
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
772: Navy Joint National Training Capability (JNTC)	-	0.000	0.000	3.715	-	3.715	3.460	3.042	3.042	2 3.042	2 Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
COCOM Exercise Engagement a <u>A. Mission Description and Bud</u> These funds enable the Navy to o activities include conducting rese develops cross-domain architectu	nd Training I <mark>get Item Ju</mark> develop uni arch, devel ures for U.S	Transform ustification que maritim opment, tes and Coalit	ation (CE2T <u>n</u> e capabilition t and evalu tion Forces	2) transfers es that integ ation, and o and ensure	s to The Joi grate JLVC cross-servic es sister servic	nt Staff in F` elements int e architectu vice modelir	Y2018 in Pl to a seamle re certificat ng/simulatio	E 0804767. ess joint trai ion on joint- n and instru	I from 0804 ning envirc capable sy umentation	1767D8Z. onment. The vstems. Ado efforts follo	Navy progra ditionally, the w a unified s	am e program standard.
B. Accomplishments/Planned P	rograms (S	in Million	<u>s)</u>						F	Y 2016	FY 2017	FY 2018
Title: Navy Joint National Training	g Capability	(JNTC)								-	-	3.715
<b>Description:</b> Develops unique ma seamless joint training environme maritime capabilities, this program that supports all JNTC Training Tr (CE2) operations.	aritime capa nt. Using a n researche ransformati	abilities that scientific a s new tech on (T2), JL\	integrate J nd phased nologies an /C Federati	oint Live, V approach tł d methods on, and Co	irtual, and C nat focuses that provide mbatant Co	Constructive on modeling a crucial te ommanders l	(JLVC) ele g ground, a chnology-b Exercise ar	ments into ir, space, ai ased found id Engagen	a nd ation nent			
<ul> <li>FY 2018 Plans:</li> <li>Continue alignment of Navy LVC standards with USMC's Aviation I</li> <li>Prototype and develop of integra support of Navy LVC efforts.</li> <li>Accelerate research and develop support of the information warfare</li> <li>Accelerate exploration of technor and joint training with coalition part</li> </ul>	C training st Distributed V ated capabi pment of co command logies to er rtners in the	andards wit Virtual Train lities betwee ombat identi er (IWC). nable Integra e Pacific Fle	h JLVC trai ning Environ en Navy tac fication train ated Air and et (PACFLT	ning standa ment (ADV tical trainin ning simula d Missile De F) Area of F	ards to inclu (TE). g ranges an tion as an e efense (IAM Responsibilit	de with resend ad synthetic anabler for sp D) and othe ty including a	earch of inte training cap pectrum op r combined Japan, Kore	egrated pabilities in erations in warfare and ea, and Aus	ea stralia.			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Joint Staff	Date: May 2017					
Appropriation/Budget Activity 0400 / 6	<b>Project</b> 772 I Na (JNTC)	<b>roject (Number/Name)</b> 72 I Navy Joint National Training Capab INTC)				
<ul> <li>B. Accomplishments/Planned Programs (\$ in Millions)</li> <li>Continue collaborative development with Service and Agency partners to im operational level of war training capabilities.</li> </ul>	prove the realism and relevancy of tactical to		FY 2016	FY 2017	FY 2018	
	Accomplishments/Planned Programs Subt	otals	-	-	3.715	
C. Other Program Funding Summary (\$ in Millions)						

N/A

Remarks

<u>Nellialks</u>

#### D. Acquisition Strategy

N/A

#### E. Performance Metrics

RDT&E development efforts are evaluated based on performance metrics. This ensures the Joint Force Trainer (subject matter expert) capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to: time, money, realism, and fidelity and are defined below.

• Time – Will the effort enable the Joint Force Trainer (subject matter expert) to prepare and execute training more timely than current capabilities allow?

• Cost – Will the effort enable the Joint Force Trainer (subject matter expert) to prepare and execute training at a more effective and efficient cost than current capabilities allow?

• Realism – Will the effort enable the Joint Force Trainer (subject matter expert) to create a training environment that is closer to the real world environment than current capabilities allow?

• Fidelity – Will the effort enable the Joint Force Trainer (subject matter expert) to create more detailed capabilities in the training environment than current capabilities allow?

• The Navy will produce one Navy Training Baseline (NTB) software release to include documentation; will design and implement upgrades to Joint Semi-Automated Forces (JSAF) consistent with approved requirements and contractual requirements and document the effects of JSAF capabilities (robustness) and stability. Will design, implement, test, and integrate NTB enhancements in accordance with requirements.

• For JSAF, Joint Simulation BUS (JBUS) reliability, scalability, and tactical control, the Navy will continuously update the Common Operational Picture (COP) during large scale JLVC exercises.

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	1 JUSTIFICAT	ion: FY 201	18 The Join	t Staff						Date: May	2017	
Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development						<b>R-1 Program Element (Number/Name)</b> PE 0208043J <i>I Planning and Decision Aid System (PDAS)</i>						
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	12.919	1.842	3.038	3.037	-	3.037	3.037	3.037	3.097	3.097	Continuing	Continuing
P001: Planning and Decision Aid System OPS	12.919	1.842	3.038	3.037	-	3.037	3.037	3.037	3.097	3.097	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Provides engineering and testing	support to t	he Planning	g and Decis	ion Aid Svs	tem a class	sified Joint 9	Staff automs	ated inform:	ation system	n sunnartin	a the combo	stant
B Program Change Summary (	artment of D	efense Age	encies.	FY 2016	FY 201	7 F	Y 2018 Bas	se	FY 2018 OC		FY 2018 To	otal
B. Program Change Summary (	artment of D <b>in Million</b> s iet	efense Age s)	encies.	<u>FY 2016</u> 1 842	<u>FY 201</u> 3 03	<u>7                                     </u>	<b>TY 2018 Bas</b> 3 0	<u>se</u> <u> </u> 37	FY 2018 OC	<u>- supporting</u>	FY 2018 To 3 (	<u>otal</u> 037
B. Program Change Summary ( Previous President's Budg Current President's Budge	artment of D <b>\$ in Million</b> s et et	efense Age <u>s)</u>	encies.	<u>FY 2016</u> 1.842 1.842	FY 201 3.03 3.03	<u>7                                     </u>	<b>Y 2018 Ba</b> 3.03 3.03	<u>se</u> <u> </u> 37 37	FY 2018 OC	- -	FY 2018 To 3.( 3.(	<u>otal</u> )37 )37
B. Program Change Summary (Services, and Depa B. Program Change Summary (Services, and Depa Previous President's Budge Current President's Budge Total Adjustments	artment of D <b>5 in Million</b> : jet st	efense Age <u>s)</u>	encies.	<u>FY 2016</u> 1.842 1.842 0.000	FY 201 3.03 3.03 0.00	<u>7 F</u> 38 38 30	<b>FY 2018 Bas</b> 3.03 3.03 0.00	<u>se  </u> 37 37 00	FY 2018 OC	20 - -	FY 2018 To 3.0 3.0 0.0	otal 037 037 000

#### Change Summary Explanation

Classified details provided in a separate budget exhibit submitted on SIPRNET.

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Exhibit R-2, RDT&E Budget Item	t Staff						Date: May	2017				
Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development				R-1 Program Element (Number/Name) PE 0902298J / Management HQ - OJCS								
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	15.722	2.953	0.826	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
P001: Joint Staff Information Network (JSIN)	15.722	2.953	0.826	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

#### <u>Note</u>

Deputy Secretary of Defense (DepSecDef) approved the alignment of IT services in the Pentagon and the National Capital Region (NCR) to the Joint Service Provider (JSP) operating as a field service activity in Defense Information Systems Agency (DISA). In FY 2018, JSIN resources will permanently transfer to JSP (DISA PE 0305830K).

#### A. Mission Description and Budget Item Justification

Provides RDT&E funds for the Joint Staff Information Network (JSIN). JSIN is the network infrastructure (for both classified and unclassified information) enabling collaboration and information-sharing among the Joint Staff, Combatant Commands (CCMD) and the Services. The JSIN also provides crucial business-related, decision-making information, and workflow support affecting military operations in support of the JCS. JSIN improves actions processing for faster coordination of critical issues with Combatant Commands, Services, and Agencies, as well as within TJS.

B. Program Change Summary (\$ in Millions)	<u>FY 2016</u>	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	2.953	0.826	0.861	-	0.861
Current President's Budget	2.953	0.826	0.000	-	0.000
Total Adjustments	0.000	0.000	-0.861	-	-0.861
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-	-			
<ul> <li>SBIR/STTR Transfer</li> </ul>	-	-			
<ul> <li>Transfer to Joint Service Provider</li> </ul>	-	-	-0.861	-	-0.861

#### **Change Summary Explanation**

Deputy Secretary of Defense (DepSecDef) approved the alignment of IT services in the Pentagon and the National Capital Region (NCR) to the Joint Service Provider (JSP) operating as a field service activity in Defense Information Systems Agency (DISA). In FY 2018, JSIN resources will permanently transfer to JSP (DISA PE 0305830K).

Exhibit R-2A, RDT&E Project Ju	stification:	FY 2018 T	he Joint Sta	aff						Date: May	/ 2017	
Appropriation/Budget Activity 0400 / 7	n/Budget Activity			R-1 Program Element (Number/Name) PE 0902298J / Management HQ - OJCSProj P00 (JSI)				Project (N P001 / Joii (JSIN)	oject (Number/Name) )01 I Joint Staff Information Network SIN)			
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
P001: Joint Staff Information Network (JSIN)	15.722	2.953	0.826	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Provides RDT&E funds for the Jo collaboration and information-sha decision-making information, and issues with Combatant Command	oint Staff Info aring among workflow s ds, Services	the Joint S upport affects, and Agen	etwork (JSI Staff, Comba cting military cies, as we	N). JSIN is t atant Comm / operations Il as within	the network nands (CCM s in support TJS.	infrastructu ID) and the of the JCS.	re (for both Services. T JSIN impro	classified a he JSIN alsoves actions	and unclass so provides s processing	ified informatic crucial busing for faster	ation) enabl iness-relate coordinatior	ing d, n of critical
<b>Title:</b> Joint Staff Information Netwo	ork (JSIN)		<u>ə</u> j						Fĭ	2 953	0.826	FT 2018
<b>Description:</b> Provides RDT&E fu both classified and unclassified in Commands (CCMD) and the Serv workflow support affecting military critical issues with Combatant Com	nds for the formation) e vices. The J voperations mmands, Se	Joint Staff I enabling co SIN also pr in support ervices, and	nformation Ilaboration a ovides cruc of the JCS. d Agencies,	Network (J and informa ial busines JSIN impro as well as	SIN). JSIN i ation-sharing s-related, de oves actions within TJS.	s the networ g among the ecision-mak s processing	rk infrastruc Joint Staff ing informat for faster c	cture (for , Combatan tion, and coordinatior	it n of			
<b>FY 2016 Accomplishments:</b> Joint Staff migration to JIE continue Processing Nodes. Mobile user a JSIN-S portals. Subscription to the a full complement of voice, video, Army Information Technology Age Content Management and Task M Enterprise Task Management (U/S and consideration of DoD cloud se posture. <b>FY 2017 Plans:</b>	ues with pla access to JS ne Defense chat, web o ency deskto Managemer S), Identity ervices will	cement of a SIN services Information conferencin p as a serv nt (U) optim and Access achieve effi	applications s includes u Systems A g, email, an ice, Applica ization and s Manageme iciencies, im	into JIE Co nclassified gency (DIS id mobility f ation Virtua integration, ent capabili nprove miss	ore Data Ce and classific GA) provided functionality lization (U/S , Enterprise ties, comple sion effectiv	enters and pa ed mobile do I Unified Ca . Continued S), Cross Do Services Im etion of a Ma eness, and	articipation evice use o pabilities po I refinement omain Servio plementatio anaged Prin strengthen	within Insta f JSIN-U ar ortfolio will a t of the U.S ces, Enterp on including nt Service (I our security	llation id illow rise MPS)			

Exhibit R-2A, RDT&E Project Justification: FY 2018 The Join	<b>Date:</b> May 2017				
Appropriation/Budget Activity 0400 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0902298J / Management HQ - OJCS	<b>Project (Number/Name)</b> P001 I Joint Staff Information Network (JSIN)			
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018	
Work with the Joint Service Provider (JSP) to develop and refine consolidation strategies, and improve data protection. Continue as more and more systems are handheld and data hosted in the	e methodologies to improve Active Directory hardening, netwer to develop and integrate more mobile capacities in the JS use e DOD cloud.	vork sers			
	Accomplishments/Planned Programs Sul	btotals 2.953	0.826	-	
C. Other Program Funding Summary (\$ in Millions) N/A Remarks N/A					
N/A					
<u>E. Performance Metrics</u> (1) Reduce technical support hours per desktop a minimum of	10% through deployment of thin client and virtualized manag	ement of the IT base	line.		
(2) Avoid cost for technology refresh of NIPR and SIPR desktop	ps via the proper planning, testing, and piloting of a Joint Sta	ff Thin Client solution	l.		
(3) Reduce the cost of building, operating, and maintaining Joir models for execution (Enterprise Task management, Unified Co	nt Staff specific solutions through implementation of enterpris ommunications, JIE, and Managed Print Services (MPS)	e capabilities, and ac	loption of nev	v cost	
(4) Reduce redundancies in Core and Mission IT Capabilities the institutionalization of investment management governance mode	hrough implementation of a comprehensive portfolio manage del.	ment policy and avoi	d cost throug	n the	
(5) Reduce cost of Joint Staff controlled IT-services by subscrib	ping to locally hosted IT services providers, i.e, JSP.				

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