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**Department of Defense
Fiscal Year (FY) 2024 Budget Estimates**

March 2023



The Joint Staff

Defense-Wide Justification Book Volume 5 of 5

Research, Development, Test & Evaluation, Defense-Wide

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Department of Defense
 FY 2024 President's Budget
 Exhibit R-1 FY 2024 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

<u>Appropriation</u>	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
Research, Development, Test and Evaluation, Defense-Wide	105,827	137,961		137,961	218,511
Total Research, Development, Test, & Evaluation	105,827	137,961		137,961	218,511

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Department of Defense
 FY 2024 President's Budget
 Exhibit R-1 FY 2024 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2023

	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
<u>Summary Recap of Budget Activities</u>					
Advanced Component Development & Prototypes	17,439	35,699		35,699	38,397
Management Support	88,388	102,262		102,262	180,114
Total Research, Development, Test, & Evaluation	105,827	137,961		137,961	218,511
<u>Summary Recap of FYDP Programs</u>					
General Purpose Forces	977	3,058		3,058	4,916
Research and Development	75,320	101,126		101,126	112,276
Training Medical and Other	29,530	33,777		33,777	101,319
Total Research, Development, Test, & Evaluation	105,827	137,961		137,961	218,511

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Defense-Wide
 FY 2024 President's Budget
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 Total Obligational Authority
 (Dollars in Thousands)

Mar 2023

	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
<u>Summary Recap of Budget Activities</u>					
Advanced Component Development & Prototypes	17,439	35,699		35,699	38,397
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<u>Summary Recap of FYDP Programs</u>					
General Purpose Forces	977	3,058		3,058	4,916
Research and Development	75,320	101,126		101,126	112,276
Training Medical and Other	29,530	33,777		33,777	101,319
Total Research, Development, Test, & Evaluation	105,827	137,961		137,961	218,511

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Defense-Wide
 FY 2024 President's Budget
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 Total Obligational Authority
 (Dollars in Thousands)

Mar 2023

<u>Appropriation</u>	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
The Joint Staff	105,827	137,961		137,961	218,511
Total Research, Development, Test and Evaluation, Defense-Wide	105,827	137,961		137,961	218,511

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Defense-Wide
 FY 2024 President's Budget
 Exhibit R-1 FY 2024 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2023

Appropriation: 0400D Research, Development, Test and Evaluation, Defense-Wide

Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
102	0604331J	Rapid Prototyping Program	04	U		7,500		7,500
110	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	U	17,439	28,199		28,199
		Advanced Component Development & Prototypes			17,439	35,699		35,699
149	0603829J	Joint Capability Experimentation	06	U	8,444	12,452		12,452
156	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	U	49,437	52,975		52,975
189	0204571J	Joint Staff Analytical Support	06	U	977	3,058		3,058
199	0804768J	COCOM Exercise Engagement and Training Transformation (CE2T2) - non-MHA	06	U	29,530	33,777		33,777
		Management Support			88,388	102,262		102,262
Total Research, Development, Test and Evaluation, Defense-Wide					105,827	137,961		137,961

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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 Total Obligational Authority
 (Dollars in Thousands)

Mar 2023

Appropriation: 0400D Research, Development, Test and Evaluation, Defense-Wide

<u>Line No</u>	<u>Program Element Number</u>	<u>Item</u>	<u>Act</u>	<u>Se c</u>	<u>FY 2024 Request</u>
102	0604331J	Rapid Prototyping Program	04	U	9,880
110	0604826J	Joint C5 Capability Development, Integration and interoperability Assessments	04	U	28,517
		Advanced Component Development & Prototypes			38,397
149	0603829J	Joint Capability Experimentation	06	U	12,402
156	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	U	61,477
189	0204571J	Joint Staff Analytical Support	06	U	4,916
199	0804768J	COCOM Exercise Engagement and Training Transformation (CE2T2) - non-MHA	06	U	101,319
		Management Support			180,114
Total Research, Development, Test and Evaluation, Defense-Wide					218,511

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The Joint Staff
 FY 2024 President's Budget
 Exhibit R-1 FY 2024 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

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Appropriation: 0400D Research, Development, Test and Evaluation, Defense-Wide

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102	0604331J	Rapid Prototyping Program	04	U			7,500	7,500
		Joint C5 Capability Development, Integration and						
110	0604826J	interoperability Assessments	04	U	17,439	28,199		28,199
		Advanced Component Development & Prototypes			17,439	35,699		35,699
149	0603829J	Joint Capability Experimentation	06	U	8,444	12,452		12,452
156	0605126J	Joint Integrated Air and Missile Defense Organization (JIAMDO)	06	U	49,437	52,975		52,975
189	0204571J	Joint Staff Analytical Support	06	U	977	3,058		3,058
		COCOM Exercise Engagement and Training Transformation (CE2T2)						
199	0804768J	- non-MHA	06	U	29,530	33,777		33,777
		Management Support			88,388	102,262		102,262
Total The Joint Staff					105,827	137,961		137,961

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Appropriation: 0400D Research, Development, Test and Evaluation, Defense-Wide

<u>Line No</u>	<u>Program Element Number</u>	<u>Item</u>	<u>Act</u>	<u>Se c</u>	<u>FY 2024 Request</u>
102	0604331J	Rapid Prototyping Program	04	U	9,880
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		Management Support			180,114
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Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide

Line #	Budget Activity	Program Element Number	Program Element Title	Page
102	04	0604331J	Rapid Prototyping Program.....	Volume 5 - 1
110	04	0604826J	Joint C5 Capability Development, Integration, and Interoperability Assessments.....	Volume 5 - 9

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
149	06	0603829J	Joint Capability Experimentation.....	Volume 5 - 37
156	06	0605126J	Joint Integrated Air & Missile Defense Organization (JIAMDO).....	Volume 5 - 41
189	06	0204571J	Joint Staff Analytical Support.....	Volume 5 - 53
199	06	0804768J	Joint Training, Exercise and Evaluation Program (JTEEP).....	Volume 5 - 57

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Program Element Title	Program Element Number	Line #	BA	Page
Joint C5 Capability Development, Integration, and Interoperability Assessments	0604826J	110	04.....	Volume 5 - 9
Joint Capability Experimentation	0603829J	149	06.....	Volume 5 - 37
Joint Integrated Air & Missile Defense Organization (JIAMDO)	0605126J	156	06.....	Volume 5 - 41
Joint Staff Analytical Support	0204571J	189	06.....	Volume 5 - 53
Joint Training, Exercise and Evaluation Program (JTEEP)	0804768J	199	06.....	Volume 5 - 57
Rapid Prototyping Program	0604331J	102	04.....	Volume 5 - 1

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604331J I <i>Rapid Prototyping Program</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	-	7.500	9.880	-	9.880	11.000	11.000	11.000	11.000	Continuing	Continuing
001: : <i>Rapid Defense Experimentation Reserve</i>	-	-	7.500	9.880	-	9.880	11.000	11.000	11.000	11.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Staff Rapid Defense Experiment Reserve (RDER) provides experimentation data management, data preservation and analysis. RDER efforts provides resources to document results and overall assessments of individual field experiments without which their potential warfighting impact will not be clear. The Department will be unable to assess progress towards implementation of the Joint Warfighting Concept capabilities from its investments.

In FY 2023 RDER resources are focused on the following:(1) Conducting Analysis, planning and management of the integration of JExNet with those data sources, processes, architectures, and implementations needed to support the RDER effort. Active participation within RDER working groups, integrated teams, planning, and events. (2) Ensuring RDER results can be integrated with other DoD experimentation and that RDER results will be available for ongoing DoD-wide analysis. Develop a federated experimentation dataset architecture which allows combining access to a multitude of existing experimentation datasets by applying the DoD Data Advantage strategy and implementation policies and plans to ensure that RDER results are included. (3) Collecting RDER user requirements, data, and facilitate pipeline connection and interoperability for data sources (Field Experiments, Risk Mitigation events, Mission Engineering Studies, USD R&E's Strategic Intelligence and Analysis Cell (SIAC) Emerging Disruptive Technology (EDT) wargames) and user platforms across RDER working groups and support these in the Joint Experimentation Affiliate Network (JExNet). (4) Development of analytic approaches to assess RDER experimentation (Hypothesis, Discovery or Demonstration) results that determine if Concept Required Capabilities (CRCs) have been met and evaluate progress towards attainment. (5) Improved continuity and refined support to RDER for proposal alignment assessments to concepts, and ongoing engagement with proposals throughout experimentation process. (6) Analysis of diverse types of experimentation data to draw conclusions and develop recommendations. This includes development of confidence levels and heuristics to convey credibility of RDER experimentally derived knowledge. (7) Selective focused Modeling and Simulation and analysis to complement other RDER analysis and experimentation. Provide improved confidence in the overall body of analysis.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604331J / <i>Rapid Prototyping Program</i>
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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	9.880	-	9.880
Current President's Budget	0.000	7.500	9.880	-	9.880
Total Adjustments	0.000	7.500	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	10.000			
• SBIR/STTR Transfer	-	-			

Change Summary Explanation

Congressional reduction of 2.5M in FY 2023. As this funding was moved from BA 04 PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments to BA 04 PE 0604331 / Joint Capability Experimentation, the total reduction of 5.0M was evenly split between these two program elements.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604331J / <i>Rapid Prototyping Program</i>				Project (Number/Name) 001 / : <i>Rapid Defense Experimentation Reserve</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
001: : <i>Rapid Defense Experimentation Reserve</i>	-	-	7.500	9.880	-	9.880	11.000	11.000	11.000	11.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

To facilitate rapid modernization of the force, the Rapid Defense Experimentation Reserve (RDER) initiative was established in the Defense Planning Guidance for Fiscal Year 2023-2027, to encourage multi-component experimentation through a campaign of learning. Services, Agencies, and other participating organizations are to identify “best of breed” capabilities developed among the DoD prototyping programs, and execute approved projects through large-scale experiments in order to implement the Joint Warfighting Concept (JWC). Organizations are to nominate proposals to the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) that are multi-component – involving Joint Services, International partners and/or other government agencies – and link to one or more of the four key supporting concepts (“functional battles”) of the Joint Warfighting Concept: Joint Concept for Fires, Joint Concept for Command and Control, Joint Concept for Contested Logistics, and Joint Concept for Information Advantage.

The Department will implement multiple RDER experimentation series through projects with execution timelines ranging from one to two years. The USD(R&E) will review project progress, and nominate new series at least annually with the goal of quickly incorporating the most promising innovative prototypes into experiments, and promptly terminating projects that fail to achieve expectations. To support a disciplined approach to rapidly identify, incorporate and execute projects the Joint Staff J-7 will assess the degree of alignment for the proposals against the concepts for USD (R&E).

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

	FY 2022	FY 2023	FY 2024
Title: Rapid Defense Experimentation Reserve	-	7.500	9.880
Description: Experimentation outcomes will be designed to validate required capabilities enabling the JWC by evaluating and integrating prototyped technologies in operationally relevant, multi-domain environments.			
Experimentation results will facilitate Joint Staff J-7 analysis in the evaluation of the Joint Warfighting Concept, assist the Joint Requirements Oversight Counsel in requirements determination, and inform the Deputy’s Management Action Group to make budget decisions that effect changes throughout the Department.			
FY 2023 Plans: Joint all-domain experimentation, addressing high-need capability gaps across the Department.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604331J / <i>Rapid Prototyping Program</i>	Project (Number/Name) 001 / : <i>Rapid Defense Experimentation Reserve</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Joint all-domain experimentation, addressing high-need capability gaps across the Department.				
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Increased support to experimentation efforts. Moved guidance from PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments to PE 0604331J / Rapid Prototyping Program.				
Accomplishments/Planned Programs Subtotals		-	7.500	9.880
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604331J / <i>Rapid Prototyping Program</i>	Project (Number/Name) 001 / : <i>Rapid Defense Experimentation Reserve</i>
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RDER	IA	Joint Experimentation : Pentagon : Joint Experimentation : Pentagon	-	-		7.500		9.880		0.000		9.880	Continuing	Continuing	-
Subtotal			-	-		7.500		9.880		0.000		9.880	Continuing	Continuing	N/A

Remarks
The program transferred from BA 04 0604826J to BA04 PE 0604331J.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	7.500	9.880	0.000	9.880	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604331J / <i>Rapid Prototyping Program</i>	Project (Number/Name) 001 / : <i>Rapid Defense Experimentation Reserve</i>

FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

RDER	
RDER	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604331J / <i>Rapid Prototyping Program</i>	Project (Number/Name) 001 / : <i>Rapid Defense Experimentation Reserve</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>RDER</i>				
RDER	4	2023	3	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604826J <i>I Joint C5 Capability Development, Integration, and Interoperability Assessments</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	129.580	17.439	28.199	28.517	-	28.517	19.430	19.608	19.895	20.293	-	-
001: <i>C5 Assessments and Analyses</i>	64.876	9.208	9.780	7.483	-	7.483	7.500	7.555	7.614	7.713	-	-
002: <i>C5 Capability Development</i>	36.956	4.750	11.451	8.055	-	8.055	8.017	8.098	8.241	8.440	-	-
003: <i>Joint Fires C2 Interoperability</i>	27.748	3.481	6.968	3.919	-	3.919	3.913	3.955	4.040	4.140	-	-
004: <i>Joint All Domain Command and Control (JADC2)</i>	-	0.000	0.000	9.060	-	9.060	0.000	0.000	0.000	0.000	-	-

Note

In FY 2023, Project 004 consisted of Rapid Defense Experimentation Reserve RDER funding. For FY 2024, the Joint Staff moved all RDER funding to PE 0604331J. Joint Staff funding for Joint All Domain Command and Control in FY 2024 is commensurate with FY 2023 funding for continuation of Joint All-Domain Command & Control (JADC2) efforts.

A. Mission Description and Budget Item Justification

Lead command, control, communications, computers, and cyber (C5) assessments, analyses, capability development, and joint fires command and control (C2) interoperability efforts required to achieve an effective, integrated, and interoperable joint force. Efforts include C5 requirements determination, C5 architectures development and integration, C5 data standardization, joint fires C2 interoperability, and C5 integration and interoperability assessments. The Joint Staff has recently been designated the DoD's lead for the integration of Joint All-Domain Command & Control (JADC2) capabilities and development efforts across the Department. The Joint C5 program is the Joint Staff focal point for this responsibility. The Joint C5 R&D projects collectively provide the analytical basis and action arm of the JADC2 Cross Functional Teams charged with execution of the DoD JADC2 Strategy and Implementation Plan.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604826J <i>I Joint C5 Capability Development, Integration, and Interoperability Assessments</i>
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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	17.439	40.699	29.457	-	29.457
Current President's Budget	17.439	28.199	28.517	-	28.517
Total Adjustments	0.000	-12.500	-0.940	-	-0.940
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• RDER funding transfer to PE 0604331J	-	-10.000	-	-	-
• Other Adjustment	-	-	-0.940	-	-0.940

Change Summary Explanation

Congressional reduction of 5.0M in FY 2023 enacted budget. As the Joint Staff moved all Rapid Defense Experimentation Reserve funding to PE 0604331J in FY 2023, the reduction was evenly split between the two Program Elements. Increased funding to this PE reflecting the Department's efforts to improve JADC2. Reduction to comply with the Department's economic assumptions.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 001 / C5 Assessments and Analyses
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
001: C5 Assessments and Analyses	64.876	9.208	9.780	7.483	-	7.483	7.500	7.555	7.614	7.713	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

As the DoD lead for the integration of Joint All-Domain Command and Control (JADC2) capabilities and development efforts, conduct analysis and assessment activities to inform and enhance joint warfighter capabilities in support of national security requirements. Provide timely, facts-based findings and recommendations to DoD decision-making processes that validate operational requirements and fund interoperable capabilities. Conduct interoperability assessments and analyses that evaluate capability and interoperability of fielded and emerging command, control, communications, computers, and cyber (C5), and systems in response to operational issues and shortfalls. Conduct integration assessment efforts focused on emerging capabilities in wireless devices and security, operational and tactical command and control, networking, satellite communications, advanced secure digital datalinks, and allied/coalition data exchanges.

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

	FY 2022	FY 2023	FY 2024
Title: C5 Assessments and Analyses	9.208	9.780	7.483
<p>Description: Support the Chairman's statutory requirement to advise the Secretary of Defense on development of joint command, control, communications and cyber capability, including integration and interoperability of such capability through requirements, integrated architectures, data standards and assessments. Also supports the Chairman's focus area of improving joint warfighting capability and the Secretary's line of effort to strengthen alliances and attract new partners. Interoperability is assessed and integrated solutions are developed to improve C5 system performance by providing recommendations based on operational architectures and evolving standards and data products. Combatant Commands, Services, Agencies and Allies/Coalition partners are provided a laboratory, exercise and assessment venue for the warfighter and capability developer to identify and solve interoperability, integration, and cyber issues.</p> <p>FY 2023 Plans: Support National Military Strategy and Globally Integrated Operations (GIO) by conducting quantifiable analysis, assessment, and integration activities that inform and enhance Joint warfighter capabilities and interoperability. Activities utilize actual and replicated operational environments and networks to conduct capability development, support joint and coalition experimentation, and support acquisition and systems employment decisions. Continue to address warfighter needs across all domains by conducting activities in rapidly reconfigurable Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) laboratories replicating joint and coalition system of systems operational environments as well as in operational venues such as exercises. Employ a deployable assessment capability supporting the collection and analysis of</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

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

	FY 2022	FY 2023	FY 2024
<p>decision quality data for command and control operations from the operational to lowest tactical echelons of command, in field conditions, in real time to provide immediate feedback on the data being collected. Projects include:</p> <p>Bold Quest (BQ) Coalition Interoperability Demonstrations – Support the design, plan, and execution of BQ events at Indo-Pacific Command/Australia which address close air support, Mission Partner Environment (MPE) / Federated Mission Networking (FMN), Identification, Friend or Foe (IFF) testing, and cyber effects on operations for U.S. forces and coalition partners, i.e., SABRE (Secret And Below Releasable Environment) and FNC3 (Fully Networked Command and Control Capability) demonstrations. Support includes accredited exercise networks, associated Command and Control (C2) systems, and data collection and analysis capabilities.</p> <p>Cyber Guard (CG)/Cyber Flag (CF) - Provide assessment and technical support to cyber exercises to include C2 information systems, while conducting assessments of cyber effects on systems integrated into the DoD Information Network.</p> <p>Joint Tactical Integration - Integrate, refine, and accelerate the migration of Special Operating Forces (SOF) battle-proven capabilities to rapidly improve the Joint warfighting capabilities and lethality of general purpose forces in accordance with governing instructions. Capabilities include integrated secure radio networks, tactical data links, tactical cellular, enroute satellite communications, enhanced situational awareness, fratricide prevention, and a more efficient kill-chain.</p> <p>Coalition Interoperability and Assurance Validation (CIAV) - Assess US and coalition systems support in-theater operations by ensuring adequacy of C5 capabilities in the INDOPACOM area of responsibility.</p> <p>Joint Network Integration Environment – Integrate advanced C5 technologies to improve the capabilities and resiliency of US Force Korea’s warfighting networks. Improve information sharing between U.S., Republic of Korea, and planned mission partner forces.</p> <p>Joint All-Domain Command and Control – Provide the joint hub for an integrated wide-area experimental network and conduct supporting interoperability assessments and integration activities. Contribute to wargames, exercises and experiments that explore current and future warfighting C2 concepts with coalition partners including Mission Partner Environments.</p> <p>FY 2024 Plans: Support National Military Strategy and Globally Integrated Operations (GIO) by conducting quantifiable analysis, assessment, and integration activities that inform and enhance Joint warfighter capabilities and interoperability. Activities utilize actual and replicated operational environments and networks to conduct capability development, support joint and coalition experimentation,</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

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

	FY 2022	FY 2023	FY 2024
<p>and support acquisition and systems employment decisions. Continue to address warfighter needs across all domains by conducting activities in rapidly reconfigurable Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) laboratories replicating joint and coalition system of systems operational environments as well as in operational venues such as exercises. Employ a deployable assessment capability supporting the collection and analysis of decision quality data for command and control operations from the operational to lowest tactical echelons of command, in field conditions, in real time to provide immediate feedback on the data being collected. Projects include:</p> <p>Bold Quest (BQ) Coalition Interoperability Demonstrations – Support the design, plan, and execution of BQ events at INDOPACOM/Australia which address close air support, Mission Partner Environment (MPE) / Federated Mission Networking (FMN), Identification, Friend or Foe (IFF) testing, and cyber effects on operations for U.S. forces and coalition partners, i.e., SABRE (Secret And Below Releasable Environment) and FNC3 (Fully Networked Command and Control Capability)demonstrations. Support includes accredited exercise networks, associated Command and Control (C2) systems, and data collection and analysis capabilities.</p> <p>Joint Tactical Integration - Integrate, refine, and accelerate the migration of Special Operating Forces (SOF) battle-proven capabilities to rapidly improve the Joint warfighting capabilities and lethality of general purpose forces in accordance with governing instructions. Capabilities include integrated secure radio networks, tactical data links, tactical cellular, enroute satellite communications, enhanced situational awareness, fratricide prevention, and a more efficient kill-chain.</p> <p>Coalition Interoperability and Assurance Validation (CIAV) - Assess US and coalition systems supporting the Combatant Commands via the employment and integration of JADC2 capabilities.</p> <p>Joint Network Integration Environment – Integrate advanced C5 technologies to improve the capabilities and resiliency of US Force Korea’s warfighting networks. Improve information sharing between U.S., Republic of Korea, and planned mission partner forces.</p> <p>Joint All-Domain Command and Control – Provide the joint hub for an integrated wide-area experimental network and conduct supporting interoperability assessments and integration activities. Contribute to wargames, exercises and experiments that explore current and future warfighting C2 concepts with coalition partners including Mission Partner Environments.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Adjustments to travel funds and non-pay, non-fuel inflation adjustment, and other minor adjustments.</p>			
Accomplishments/Planned Programs Subtotals	9.208	9.780	7.483

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

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

N/A

Remarks

D. Acquisition Strategy

Biannual review of C4/Cyber resources includes an examination of the current and future Budget/Spend Plan, Lines of Effort, Acquisition Strategy and current Execution.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 The Joint Staff Date: March 2023

Appropriation/Budget Activity 0400 / 4 R-1 Program Element (Number/Name) PE 0604826J I Joint C5 Capability Development, Integration, and Interoperability Assessments Project (Number/Name) 001 I C5 Assessments and Analyses

Table with columns: Cost Category Item, Contract Method & Type, Performing Activity & Location, Prior Years, Cost, Award Date, FY 2022, FY 2023, FY 2024 Base, FY 2024 OCO, FY 2024 Total, Cost To Complete, Total Cost, Target Value of Contract. Includes a subtotal row and a Project Cost Totals row.

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Joint C5I	
C5 Assessments and Analyses	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 001 / <i>C5 Assessments and Analyses</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Joint C5I				
C5 Assessments and Analyses	4	2022	3	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 002 / C5 Capability Development
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
002: C5 Capability Development	36.956	4.750	11.451	8.055	-	8.055	8.017	8.098	8.241	8.440	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Command, Control, Computers, Communications, Cyber (C5) capability development functions as the DoD requirements lead for the joint command and control family of programs, Joint cyber, and requirements lead for mission partner environment (MPE). The program also develops joint context, containers, components, and code (C4) architectures, joint common systems functions, joint mission threads, leads analysis and reviews architectures and standards in joint capability development systems. C5 development enables warfighter access to authoritative data sources and improves data interoperability by establishing common command and control (C2) data and service standards.

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

	FY 2022	FY 2023	FY 2024
Title: C5 Capability Development	4.750	11.451	8.055
Description: Lead C2 capability development and integration in order to achieve an interdependent joint force. Supports Chairman's focus to improve joint warfighter capability and enhance global integration. This will be accomplished through four focus areas: capability development, C4 architectures, data and services, and interoperability and integration.			
FY 2023 Plans: Capability Development - Analyze/coordinate out-year Command and Control (C2) integrated priority lists, capability gaps, and Joint C2 operational priorities. Create C2 requirements in concert with DoD's Digital Modernization Strategy, e.g., the Global Information Dominance Experimentation (GIDE) efforts. Pursue joint capability development/integration for Joint All- Domain C2 (JADC2), Command and Control of the Information Environment (C2IE), Joint Force Capability Catalog (JFCC)/Global Laydown Server (GLS)/ Project ORION, Joint Planning Services (JPS) Personnel Recovery and Missile Warning in accordance with the Secretary's direction.			
C5 Architectures - Provide architecture, mission thread, and mission-based analysis development and analysis products as required to support the Chairman's directed focus areas and JADC2 lines of operations. Conduct analysis and validate warfighting requirements architectures and engineering designs for continued implementation of the Joint Information Environment (JIE). Update the Joint Common Service/System Function List and Warfighter Mission Area (WMA) Architecture Development Standard to improve WMA architecture integration and interoperability. Continue to improve and expand the quality and amount of architecture information and data available for analysis and reuse on the WMA architecture portal. Conduct analyses and			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>develop architectures and metrics for Joint Capabilities Integration and Development System (JCIDS) C5 capability requirement documents.</p> <p>Data and Services – Develop, promote, and integrate common enterprise data and services requirements, standards, technical specifications, and policy to improve Joint All Domain C2 interoperability and information sharing with Joint, interagency and coalition mission partners. Perform and lead proof of concept activities, including cloud-based data lakes that enables Artificial Intelligence and cybersecurity standardization of the National Information Exchange Model (NIEM) and the North Atlantic Treaty Organization (NATO) Core Data Framework (NCDF) with selected Joint All Domain C2 communities of interest, including robotics and autonomous systems. Conduct one Joint All Domain C2 complex proof of concept demonstration with NATO with interested Services, Agencies and coalition partners to improve warfighter interoperability and enhance operational effectiveness. Continue to lead, align and standardize emerging Joint All Domain C2 tactical data link, symbology (including cyber symbology) and messaging standards to support common enterprise-level information sharing. Continue to support standardization of common warfighter Identity Access Management, robust cyber security, standardized interfaces and common data tagging to promote Joint All Domain C2 interoperability.</p> <p>Coalition Interoperability - International lead for the Coalition Interoperability Assurance and Validation (CIAV) providing interoperability mission-based assessments across the geographic Combatant Commands. Continue to lead mission partner environment (MPE) implementation and support coalition cyber priorities across DoD by leading the MPE cyber security efforts and supporting the Federated Mission Networking (FMN) cyber security working group. Continue to shape North Atlantic Treaty Organization (NATO) FMN implementation to ensure it remains aligned with MPE, including related capability development. Provide support to the Combined Communications-Electronics Board to ensure interoperability among the Five Eyes nations (Canada, New Zealand, Australia, UK and U.S.). Lead the NATO-sponsored Coalition Warrior Interoperability Exploration, Experimentation, Examination, Exercises (CWIX) FMN Focus Area to ensure standardized, effective development of Joining, Membership, and Exit Instructions.</p> <p>C5 Architectures - Provide architecture, mission thread, and mission-based analysis development and analysis products as required to support the Chairman's directed focus areas and Chief Information Officer (CIO) lines of operations. Conduct analysis and validate warfighting requirements architectures and engineering designs for continued implementation of the Joint Information Environment (JIE). Update the Joint Common Service/System Function List and Warfighter Mission Area (WMA) Architecture Development Standard to improve WMA architecture integration and interoperability. Continue to improve and expand the quality and amount of architecture information and data available for analysis and reuse on the WMA architecture portal. Conduct</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

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

	FY 2022	FY 2023	FY 2024
<p>analyses and develop architectures and metrics for Joint Capabilities Integration and Development System (JCIDS) C5 capability requirement documents.</p> <p>Data and Services – Develop, promote, and integrate common enterprise data and services requirements, standards, technical specifications, and policy to improve Joint All Domain C2 interoperability and information sharing with Joint, interagency and coalition mission partners. Perform and lead proof of concept activities, including cloud-based data lakes that enables Artificial Intelligence and cybersecurity standardization of the National Information Exchange Model (NIEM) and the North Atlantic Treaty Organization (NATO) Core Data Framework (NCDF) with selected Joint All Domain C2 communities of interest, including robotics and autonomous systems. Conduct one Joint All Domain C2 complex proof of concept demonstration with NATO with interested Services, Agencies and coalition partners to improve warfighter interoperability and enhance operational effectiveness. Continue to lead, align and standardize emerging Joint All Domain C2 tactical data link, symbology (including cyber symbology) and messaging standards to support common enterprise-level information sharing. Continue to support standardization of common warfighter Identity Access Management, robust cyber security, standardized interfaces and common data tagging to promote Joint All Domain C2 interoperability.</p> <p>Coalition Interoperability - International lead for the Coalition Interoperability Assurance and Validation (CIAV) providing interoperability mission-based assessments across the geographic Combatant Commands. Continue to lead mission partner environment (MPE) implementation and support coalition cyber priorities across DoD by leading the MPE cyber security efforts and supporting the federated mission networking (FMN) cyber security working group. Continue to shape North Atlantic Treaty Organization (NATO) federated mission networking (FMN) implementation to ensure it remains aligned with MPE, including related capability development. Provide support to the Combined Communications-Electronics Board to ensure interoperability among the Five Eyes nations (Canada, New Zealand, Australia, UK and U.S.). Lead the NATO-sponsored Coalition Warrior Interoperability Exploration, Experimentation, Examination, Exercises (CWIX) FMN Focus Area to ensure standardized, effective development of Joining, Membership, and Exit Instructions.</p> <p>FY 2024 Plans: Capability Development - Analyze/coordinate out-year Command and Control (C2) integrated priority lists, capability gaps, Posture Reviews, and JADC2 Implementation Plan LOE requirements. Support the development of C2 Joint Warfighting Concepts (JWC) and Concept-Required Capabilities (CRC).</p> <p>C5 Architectures - Provide architecture, mission thread, and mission-based analysis development and analysis products as required to support the Chairman's directed focus areas and continued development of JADC2 Reference Architectures and Design. Update the Joint Common Service/System Function List and Warfighter Mission Area (WMA) Architecture Development</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

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

	FY 2022	FY 2023	FY 2024
Standard to improve WMA architecture integration and interoperability. Continue to improve and expand the quality and amount of architecture information and data available for analysis and reuse on the WMA architecture portal. Conduct analyses and develop mission-based architectures and metrics for Joint Capabilities Integration and Development System (JCIDS) C5 capability requirement documents.			
Data and Services – Develop, promote, and integrate common enterprise data and services requirements, standards, technical specifications, and policy, i.e., minimum essential meta-data (MEM) standard to improve Joint All Domain C2 interoperability and information sharing with Joint, interagency and coalition mission partners. Perform and lead proof of concept activities, including cloud-based data lakes that enables Artificial Intelligence and cybersecurity standardization of the National Information Exchange Model (NIEM) and the North Atlantic Treaty Organization (NATO) Core Data Framework (NCDF) with selected Joint All Domain C2 communities of interest, including robotics and autonomous systems. Conduct one Multi-Domain Operations proof of concept demonstration with NATO with interested Services, Agencies and coalition partners to improve warfighter interoperability and enhance operational effectiveness. Continue to lead, align and standardize emerging Joint All Domain C2 tactical data link, symbology (including cyber symbology) and messaging standards to support common enterprise-level information sharing. Continue to support standardization of common warfighter Identity Access Management, robust cyber security, standardized interfaces and common data tagging to promote Joint All Domain C2 interoperability.			
Coalition Interoperability - International lead for the Coalition Interoperability Assurance and Validation (CIAV) providing interoperability mission-based assessments across the geographic Combatant Commands. Continue to lead mission partner environment (MPE) implementation and support coalition cyber priorities across DoD by leading the MPE cyber security efforts and supporting the federated mission networking (FMN) cyber security working group. Continue to shape North Atlantic Treaty Organization (NATO) FMN implementation to ensure it remains aligned with MPE, including related capability development. Provide support to the Combined Communications-Electronics Board to ensure interoperability among the Five Eyes nations (Canada, New Zealand, Australia, UK and U.S.). Lead the NATO-sponsored Coalition Warrior Interoperability Exploration, Experimentation, Examination, Exercises (CWIX) FMN Focus Area to ensure standardized, effective development of Joining, Membership, and Exit Instructions.			
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Compliance with defense wide economic adjustments, non-pay, non fuel inflation, and minor cost adjustment.			
Accomplishments/Planned Programs Subtotals	4.750	11.451	8.055

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

N/A			
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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

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

Remarks

D. Acquisition Strategy

Biannual review of Command, Control, Communications, Computers (C4)/Cyber resources includes an examination of the current and future Budget/Spend Plan, Lines of Effort, and Acquisition Strategy.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

C5 Capability Development																												
C5 Capability Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 002 / <i>C5 Capability Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C5 Capability Development				
C5 Capability Development	4	2022	3	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 003 / Joint Fires C2 Interoperability
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
003: Joint Fires C2 Interoperability	27.748	3.481	6.968	3.919	-	3.919	3.913	3.955	4.040	4.140	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

As the DoD lead for the integration of Joint All-Domain Command & Control (JADC2) capabilities and development efforts, lead interoperability efforts across DoD and partner nations at the operational and tactical level for mission partner operations, fire support, combat identification (CID), and friendly force tracking (FFT) capabilities. Conduct joint fire support, joint close air support and CID-FFT action plans to fulfill CJCS-directed, General Officer/Flag Officer (GOFO) level responsibilities. Conduct Joint Fire Support Executive Steering Committee (JFS ESC) standardization team accreditation visits to U.S. and partner nation schoolhouses to ensure memorandum of agreement signatories are accomplishing schoolhouse training in compliance with the memoranda.

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

	FY 2022	FY 2023	FY 2024
Title: Joint Fires C2 Interoperability	3.481	6.968	3.919
<p>Description: These efforts directly support Chairman, Joint Chiefs of Staff (CJCS) guidance to increase interoperability with allies and partners, to more effectively counter trans-regional threats. Supports Chairman's focus area of improving joint warfighting capability and the Secretary's line of effort to strengthen alliances and attract new partners. Execute Joint Staff-sponsored Bold Quest systems-of-systems interoperability assessment, including integration of cyber capabilities with command and control of conventional and Special Operations Force missions from a multinational perspective at the tactical level. Lead the Joint Fire Support Executive Steering Committee (JFS ESC), composed of Flag/General Officer representatives and supporting staffs from the U.S. Services, Special Operations Command and 21 partner nations. Those nations include NATO nations, Australia, Republic of Korea and key Gulf State allies. Also lead the Combat Identification – Friendly Force Tracking Executive Steering Committee (CID-FFT ESC), focused on more effective and efficient combat operations and reduced potential for friendly fire incidents.</p> <p>FY 2023 Plans: Plan and execute Joint Staff-sponsored Bold Quest capability demonstration and assessment, focused on interoperability for joint and coalition fires underpinned by Mission Partner Environment (MPE) concepts, e.g., Denmark (Link-16) and Sweden (Cyber). Bold Quest data and assessments inform U.S. and Partner Nation investment in multiple capability areas: combat identification, friendly force tracking, digitally aided close air support and fires, integrated air and missile defense (Mode 5 Identify Friend or Foe), coalition intelligence surveillance and reconnaissance, integrated interoperable simulations, and cyber. These efforts directly support the National Military Strategy, the CJCS' global integration objectives and the Combatant Commanders conventional and SOF international engagement programs. Continue leading accreditation visits of current JFS ESC member</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 003 / <i>Joint Fires C2 Interoperability</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>programs and provide staff assistance visits for development of close air support-related training and certification programs. Continue leading the Combat Identification – Friendly Force Tracking Executive Steering Committee (CID-FFT ESC) and Joint Fire Support Executive Steering Committee (JFS ESC) in order to address capability shortfalls/gaps, analyze and recommend integrated joint and coalition solutions to warfighter issues.</p> <p>FY 2024 Plans: Plan and execute Joint Staff-sponsored Bold Quest capability demonstration and assessment at Indo-Pacific Command (INDOPACOM) in coordination with Australia and UK mission partners, focused on interoperability for joint and coalition fires underpinned by Mission Partner Environment (MPE) concepts, e.g., SABRE and Fully Networked Command, Control, and Communications (FNC3) capabilities. Bold Quest data and assessments inform U.S. and Partner Nation investment in multiple capability areas: combat identification, friendly force tracking, digitally aided close air support and fires, integrated air and missile defense (Mode 5 Identify Friend or Foe), coalition intelligence surveillance and reconnaissance, integrated interoperable simulations, and cyber. These efforts directly support the National Military Strategy, the CJCS' global integration objectives and the Combatant Commanders conventional and SOF international engagement programs. Continue leading accreditation visits of current JFS ESC member programs and provide staff assistance visits for development of close air support-related training and certification programs. Continue leading the CID-FFT ESC and JFS ESC in order to address capability shortfalls/gaps, analyze and recommend integrated joint and coalition solutions to warfighter issues.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Compliance with the Department's economic assumptions and minor programmatic adjustments.</p>			
Accomplishments/Planned Programs Subtotals	3.481	6.968	3.919

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

Remarks

D. Acquisition Strategy
Biannual review of C4/Cyber resources includes an examination of the current and future Budget/Spend Plan, Lines of Effort and Acquisition Strategy.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 003 / Joint Fires C2 Interoperability

FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Joint Fires C2 Interoperability	
Joint Fires C2 Interoperability	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 003 / <i>Joint Fires C2 Interoperability</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint Fires C2 Interoperability</i>				
Joint Fires C2 Interoperability	4	2022	3	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / Joint C5 Capability Development, Integration, and Interoperability Assessments	Project (Number/Name) 004 / Joint All Domain Command and Control (JADC2)
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
004: Joint All Domain Command and Control (JADC2)	-	0.000	0.000	9.060	-	9.060	0.000	0.000	0.000	0.000	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Funding to execute the Joint Staff role as the action arm of the Joint All Domain Command and Control (JADC2) Cross Functional Team (CFT). Although listed here as a separate project within the program for visibility of one-year investment increase to accelerate JADC2 capabilities, these funds are executed in accordance with the aforementioned projects and FY 2024 plans. Collectively, they provide the analytical basis and action arm of the JADC2 CFT, charged with execution of the DoD JADC2 Strategy and Implementation Plan.

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

	FY 2022	FY 2023	FY 2024
Title: JADC2	-	-	9.060
Description: DoD lead for the integration of JADC2 capabilities and development efforts via: C5 assessments and analyses; capability development, C4 architectures, data and services, interoperability and integration; and joint fires C2 interoperability.			
FY 2024 Plans: As the DoD lead for the integration of Joint All-Domain Command and Control (JADC2) capabilities and development efforts: provide the joint hub for an integrated wide-area experimental network and conduct supporting interoperability assessments and integration activities in support of scheduled wargames, exercises and experiments that explore current and future warfighting C2 concepts with coalition partners including Mission Partner Environments; lead interoperability efforts across DoD and partner nations at the operational and tactical level for mission partner operations, fire support, combat identification (CID), and friendly force tracking (FFT) capabilities.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increased funding to accelerate JADC2 capabilities in accordance with aforementioned projects and plans supporting the Joint Staff role as JADC2 CFT chair.			
Accomplishments/Planned Programs Subtotals	-	-	9.060

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

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 004 / <i>Joint All Domain Command and Control (JADC2)</i>

D. Acquisition Strategy
N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 004 / <i>Joint All Domain Command and Control (JADC2)</i>

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Joint All Domain Command and Control</i>																												
Joint All Domain Command and Control																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604826J / <i>Joint C5 Capability Development, Integration, and Interoperability Assessments</i>	Project (Number/Name) 004 / <i>Joint All Domain Command and Control (JADC2)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint All Domain Command and Control</i>				
Joint All Domain Command and Control	2	2024	3	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0603829J / <i>Joint Capability Experimentation</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	21.701	8.444	12.452	12.402	-	12.402	12.385	12.402	12.402	12.402	-	-
001: <i>Joint Capability Experimentation</i>	21.701	8.444	12.452	12.402	-	12.402	12.385	12.402	12.402	12.402	-	-

A. Mission Description and Budget Item Justification

The FY2019 National Defense Authorization Act (NDAA) included as one of the Chairman’s responsibilities to address experimentation on future concepts and the National Defense Strategy Implementation Guidance directs that rigorous experimentation take place on concepts to ensure Department investments adequately address future requirements as well as those of today. Accordingly, the Joint Staff requires an experimentation capability to analyze and validate priority joint concept required capabilities. The Joint Staff will lead, plan, execute the Global Integrated Wargame (GIWG) 23 events to examine the Joint Warfighting Concept (JWC) 3.0 operational logic and identified gaps to support delivery of an evaluated concept to the Secretary of Defense.

Concept analysis and validation will have a multi-faceted nature to meet the Chairmen’s Title 10 responsibility of, “identifying new joint military capabilities based on advances in technology and concepts of operation, and recommending investments and experiments in such capabilities.” Wargames will assess baseline mission and campaign level outcomes of the concepts as well as identify a tradespace of potential new capabilities. This tradespace of capabilities is further explored with quantitative models and software that identify the most efficient cost and capability tradeoffs to help meet the Title 10 responsibility of “advising the Secretary on new and alternative joint military capabilities, and alternative program recommendations and budget proposals, within projected resource levels.”

The National Defense Strategy directs “early design tradeoffs in the requirements process to increase the speed of delivery.” The Joint Staff approach to tradespace exploration follows that guidance by providing a cost conscious and operationally relevant prioritization tradeoff technique early in the portfolio design process. Using this rigorous prioritization approach, the capability development cycle can efficiently focus resources on more detailed experimentation of specific capabilities to inform the requirements process. The analysis from the experimentation program will be used to provide foundational evidence to directly inform the Joint Military Net Assessment (JMNA), the Chairman’s Program Recommendation (CPR), and ultimately the Defense Planning Guidance for Joint Force development.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0603829J <i>I Joint Capability Experimentation</i>
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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	8.444	12.452	12.452	-	12.452
Current President's Budget	8.444	12.452	12.402	-	12.402
Total Adjustments	0.000	0.000	-0.050	-	-0.050
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other adjustment	-	-	-0.050	-	-0.050

Change Summary Explanation

Adjustment to comply with the Department's economic assumptions.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0603829J / <i>Joint Capability Experimentation</i>				Project (Number/Name) 001 / <i>Joint Capability Experimentation</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
001: <i>Joint Capability Experimentation</i>	21.701	8.444	12.452	12.402	-	12.402	12.385	12.402	12.402	12.402	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The NDAA documents the Chairman’s responsibilities to include experimentation on future concepts. The National Defense Strategy Implementation Guidance directed rigorous experimentation on concepts as a means to ensure Department investments adequately address future requirements, not just near term. Given this, the Joint Staff must establish an experimentation capability suitable for analysis and validation of priority joint concept required capabilities. The base of experimentation and wargaming will expand through the initial operating capability to full operating capability. This will provide the necessary capacity and capability. The combination will allow the Chairman to identify cost efficient and effective capability tradeoffs. This capability will enable the Chairman to fulfill his Title 10 responsibility, “advising the Secretary on new and alternative joint military capabilities, and alternative program recommendations and budget proposals, within projected resource levels.” This capability more fully supports the Chairman’s production of the Joint Military Needs Assessment (JMNA), the Chairman’s Program Recommendation (CPR) and ultimately the Defense Planning Guidance for Joint Force development.

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

	FY 2022	FY 2023	FY 2024
Title: Joint Capability Experimentation	8.444	12.452	12.402
Description: The NDAA documents the Chairman’s responsibilities to address experimentation on future concepts and the National Defense Strategy Implementation Guidance directed vigorous experimentation take place on concepts to ensure department investments are adequately addressing future requirements as well as those today. The project will deliver analytically rigorous, resource-conscious and operationally-validated portfolio investment strategies for the CJCS to ensure an enduring competitive advantage.			
FY 2023 Plans: Execute joint experimentation and wargaming focused on Joint Force Development (JFD) that will enhance the capability of the Joint Staff to provide the Chairman with sound analysis of the future environment, concepts, and joint capabilities.			
FY 2024 Plans: Execute joint experimentation and wargaming focused on Joint Force Development (JFD) that will enhance the capability of the Joint Staff to provide the Chairman with sound analysis of the future environment, concepts, and joint capabilities.			
FY 2023 to FY 2024 Increase/Decrease Statement: Minor adjustment.			
Accomplishments/Planned Programs Subtotals	8.444	12.452	12.402

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0603829J / <i>Joint Capability Experimentation</i>	Project (Number/Name) 001 / <i>Joint Capability Experimentation</i>

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

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605126J <i>I Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	479.040	49.437	52.975	61.477	-	61.477	62.505	63.057	63.778	65.211	-	-
P001: <i>Core</i>	184.486	10.428	18.689	14.170	-	14.170	14.329	14.777	15.178	15.492	-	-
P005: <i>Nimble Fire</i>	158.882	19.876	13.797	18.343	-	18.343	19.049	19.224	19.172	19.664	-	-
P006: <i>Cruise Missile Combat Identification (CID)</i>	88.924	4.433	3.911	5.211	-	5.211	5.275	5.321	5.474	5.584	-	-
P007: <i>Homeland Defense Capability</i>	46.748	14.700	16.578	22.120	-	22.120	22.153	21.969	22.117	22.560	-	-
P008: <i>Joint Regional Integrated Air and Missile Defense Capabilities Mix (JRICM)</i>	-	0.000	0.000	1.633	-	1.633	1.699	1.766	1.837	1.911	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is the organization within the Department of Defense chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, joint operational concepts, and operational architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting Title 10 responsibilities as they relate to IAMD issues. JIAMDO supports the Joint Requirements Oversight Council (JROC) in its Title 10 U.S. Code 181 authorities as the Joint Staff lead of the IAMD Capability Portfolio Management Review (CPMR) process. JIAMDO is the operational community's proponent for requirements and capabilities in IAMD, and is the joint IAMD proponent within the DoD's resource allocation structures. JIAMDO also leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, conducts evaluations, demonstrations of joint IAMD architectures, and provides advocacy for innovative, technically mature, and affordable solutions.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs, and assesses the validity of those criteria in relation to national and military requirements. At the direction of the JROC, JIAMDO develops the IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and technical oversight of homeland capability solutions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605126J <i>I Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>
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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	49.437	53.278	61.348	-	61.348
Current President's Budget	49.437	52.975	61.477	-	61.477
Total Adjustments	0.000	-0.303	0.129	-	0.129
• Congressional General Reductions	-	-0.303			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other	-	-	0.129	-	0.129

Change Summary Explanation

Congressional general reduction for Federally Funded Research and Development Centers in the FY 2023 enacted amount. Corrects a FY 2023 error where funds were inadvertently shifted from P005 (NIMBLE FIRE) to P001 (CORE). The error is reversed in the FY 2024 request, shifting funds from P001 back to P005. Increased funding for Homeland Defense Capability reflects increased priority in the mission. Added funds to conduct the Joint Regional Integrated Air and Missile Defense Capabilities Mix (JRICM) study (P008). Other minor adjustments to comply with the Department's revised economic assumptions.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
P001: <i>Core</i>	184.486	10.428	18.689	14.170	-	14.170	14.329	14.777	15.178	15.492	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, concepts, and architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO supports the Joint Requirements Oversight Council (JROC) in its Title 10 U.S. Code 181 authorities as the Joint Staff lead of the IAMD Capability Portfolio Management Review (CPMR) process. JIAMDO is the IAMD proponent for requirements and capabilities within the DoD’s resource allocation system. JIAMDO leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, and conducts evaluations of joint IAMD architectures.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs. At the direction of the JROC, JIAMDO develops IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and homeland defense solutions.

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

	FY 2022	FY 2023	FY 2024
Title: Core	10.428	18.689	14.170
<p>Description: Description: Provides staff support for JIAMDO operations in the area of ballistic missile defense, air and cruise missile defense, homeland defense, requirements management, combat identification, modeling and simulation, analytical functions and products, senior level briefings, and all travel costs for government and contractor support personnel. Routine functions include performing analyses, demonstrations, and programmatic assessments of technology, operations, requirements, and weapons systems. In coordination with Services and CCMDs, JIAMDO Core funds the definition, assessment, development, and approval of Joint IAMD operational concepts, operational architectures, IAMD CPMR and capability requirements. These assessments guide the Department’s joint, interagency, integrated and net-centric IAMD. JIAMDO Core provides funding to:</p> <ol style="list-style-type: none"> 1. Conduct and integrate joint studies, simulations, war games, force resource allocation, and interoperability initiatives. 2. Manage relevant Congressional interaction and CCMD interface. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
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<p>3. Directly support and sponsor homeland air surveillance-related demonstration and analysis activities.</p> <p>4. Manage the Integrated Air and Missile Defense (IAMD) Working Group and co-chair the Protection Functional Capabilities Board focusing CCMD, Joint Staff, and Service collaboration efforts to generate joint concepts and develop the IAMD architecture and roadmap.</p> <p>Description: Provides staff support for JIAMDO operations in the area of ballistic missile defense, air and cruise missile defense, homeland defense, requirements management, combat identification, modeling and simulation, analytical functions and products, senior level briefings, and all travel costs for government and contractor support personnel. Routine functions include performing analyses, demonstrations, and programmatic assessments of technology, operations, requirements, and weapons systems. In coordination with Services and CCMDs, JIAMDO Core funds the definition, assessment, development, and approval of Joint IAMD operational concepts, operational architectures, IAMD CPMR and capability requirements. These assessments guide the Department's joint, interagency, integrated and net-centric IAMD. JIAMDO Core provides funding to:</p> <p>1. Conduct and integrate joint studies, simulations, war games, force resource allocation, and interoperability initiatives.</p> <p>2. Manage relevant Congressional interaction and CCMD interface.</p> <p>3. Directly support and sponsor homeland air surveillance-related demonstration and analysis activities.</p> <p>4. Manage the Integrated Air and Missile Defense (IAMD) Working Group and co-chair the Protection Functional Capabilities Board focusing CCMD, Joint Staff, and Service collaboration efforts to generate joint concepts and develop the IAMD architecture and roadmap.</p> <p>JIAMDO Core enables strategic planning development, security, travel, and other support activities. Funding pays for: contracted Systems Engineering and Technical Assistance (SETA) support for IAMD CPMR, Air & Cruise Missile Defense (ACMD), Ballistic Missile Defense (BMD), Homeland Air Security (HAS) strategic planning, studies & analysis, combat ID, modeling & simulation. Additionally, the JIAMDO Core budget funds daily on-site security management personnel to meet DoD, National Industrial Security Program Operating Manual (NISPOM), and other security regulations, for all administrative and support functions related to higher security classifications, as well as basic office supplies and furniture, and classified/unclassified data connections.</p> <p>FY 2023 Plans:</p>			
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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P001 / <i>Core</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>Expand efforts to develop joint integrated air and missile defense (IAMD) requirements solutions via the IAMD Capability Portfolio Management Review and the Joint Integrated Priority List. Continue to support solutions efforts with Missile Defense Agency (MDA) and Services for the Planning Capabilities ICD. Continue to provide support to DISA for Networks Management Capabilities ICD. Ensures the solutions efforts support the Joint Requirements Oversight Council (JROC) validated capability requirements documents (ICDs). Continue to mature digital mission engineering portfolio.</p> <p>FY 2024 Plans: Continue to expand efforts to develop joint integrated air and missile defense (IAMD) requirements solutions via the IAMD Capability Portfolio Management Review and the Joint Integrated Priority List. Conduct IAMD Study to explore military utility assessment of future IAMD architectures.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: The FY 2023 request included an inadvertent programming error with \$6,018K shifted from NIMBLE FIRE (P005) to this project, CORE (P001). The corrected FY23 request for the CORE project was \$12,822K, as provided in response question for the record submitted to SASC on June 10, 2022. The FY 2024 request represents an increase of \$1,348K over the corrected FY2023 amount. The increase is due to the requirement to conduct the IAMD Capability Portfolio Management Review.</p>			
Accomplishments/Planned Programs Subtotals	10.428	18.689	14.170

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

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) P005 / Nimble Fire
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
P005: <i>Nimble Fire</i>	158.882	19.876	13.797	18.343	-	18.343	19.049	19.224	19.172	19.664	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, concepts, and architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the IAMD proponent for requirements and capabilities within the DoD's resource allocation system. JIAMDO leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, and conducts evaluations of joint IAMD architectures.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs. JIAMDO supports USSTRATCOM development of IAMD prioritized capabilities list and the global integrated IAMD assessment and analysis of the Ballistic Missile Defense System. JIAMDO supports the USSTRATCOM missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and homeland defense solutions.

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

	FY 2022	FY 2023	FY 2024
Title: JIAMDO Nimble Fire	19.876	13.797	18.343
<p>Description: Nimble Fire is the Department's only IAMD operator-in-the-loop modeling and simulation capability supporting the Chairman's top five critical joint IAMD capabilities: wide-area surveillance and engagement quality tracking, pre-launch interdiction, non-kinetic post-launch capabilities, ballistic missile discrimination, and increased weapons ranges and lethality. Nimble Fire events generally explore joint IAMD capabilities and concepts in the FYDP plus two timeframe. The events combine experienced operators from the tactical communities, virtual simulations accredited by the program offices, current and future advanced capabilities, an integrated air, ballistic and cruise missile threat, and informed scenarios based on the Department's analytical agenda and CCMD operational plans. JIAMDO brings together stakeholders across the engineering, analytical, and tactical communities to assess Joint interoperability of Service and MDA programs of record, explore concepts of employment, inform tactics, techniques and procedures and concepts of operation, provide insights that help shape CCMD integrated priorities and future operational plans, and inform senior leader acquisition and requirements decisions.</p> <p>FY 2023 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P005 / <i>Nimble Fire</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>Execute two Nimble Fire events in support of the Combatant Commands, the Services, and MDA. Upgrades to improve EW and multi-domain modeling & simulation capabilities at the Virtual Warfare Center. Multi-domain primarily refers to space, attack or offensive operations, cyber effects and unmanned systems.</p> <p>FY 2024 Plans: Modest increase to restore NIMBLE FIRE funding levels to projected costs of executing two NIMBLE FIRE events and multi-domain upgrades to the environment. Multi-domain primarily refers to space, attack or offensive operations, cyber effects and unmanned systems.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: The FY 2023 request included an inadvertent programming error with \$6.018M shifted from CORE (P001) to NIMBLE FIRE (P005). FY 2024 increase restores NIMBLE FIRE funding levels to projected costs of executing two Nimble Fire events and multi-domain upgrades to the environment. Multi-domain primarily refers to space, attack or offensive operations, cyber effects and unmanned systems.</p>			
Accomplishments/Planned Programs Subtotals	19.876	13.797	18.343

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)				Project (Number/Name) P006 / Cruise Missile Combat Identification (CID)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
P006: Cruise Missile Combat Identification (CID)	88.924	4.433	3.911	5.211	-	5.211	5.275	5.321	5.474	5.584	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Integrated Air and Missile Defense Organization (JIAMDO) is chartered to plan, coordinate, and oversee Integrated Air and Missile Defense (IAMD) requirements, concepts, and architectures. As part of the Joint Staff, JIAMDO supports the Chairman in meeting his Title 10 responsibilities as they relate to IAMD issues. JIAMDO is the IAMD proponent for requirements and capabilities within the DoD's resource allocation system. JIAMDO leads IAMD mission and utility analysis, integrates IAMD within the force protection joint capability area, and conducts evaluations of joint IAMD architectures.

JIAMDO has established a close partnership with Combatant Commands (CCMDs) and maintains close coordination with U.S. Strategic Command (USSTRATCOM) and U.S. Northern Command (USNORTHCOM) in support of ballistic missile defense of the United States. JIAMDO provides the CJCS and the Joint Requirements Oversight Council the ability to meet statutory responsibilities to review cost, schedule, and performance criteria of Missile Defense Agency missile defense programs. JIAMDO supports the USSTRATCOM ballistic missile early warning mission by ensuring operational and technical requirements are integrated into the theater missile warning architecture. JIAMDO also provides direct support to North American Aerospace Defense Command and USNORTHCOM for homeland air and cruise missile surveillance issues and homeland defense solutions.

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

	FY 2022	FY 2023	FY 2024
Title: Cruise Missile Combat Identification (CID)	4.433	3.911	5.211
Description: Establishes joint requirements for emerging national and tactical combat identification technology and advocates for fielding CID technology to frontline weapon systems. Monitors, assesses, and enhances current joint air and cruise missile defense combat ID programs.			
FY 2023 Plans: Details of this program are classified and will be provided under a separate cover.			
FY 2024 Plans: Details of this program are classified and will be provided under a separate cover.			
FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 increase to account for developing additional CID capacity/capability with mission partners. Details are classified and will be provided under a separate cover.			
Accomplishments/Planned Programs Subtotals	4.433	3.911	5.211

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / <i>Joint Integrated Air & Missile Defense Organization (JIAMDO)</i>	Project (Number/Name) P006 / <i>Cruise Missile Combat Identification (CID)</i>

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) P007 / Homeland Defense Capability
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
P007: Homeland Defense Capability	46.748	14.700	16.578	22.120	-	22.120	22.153	21.969	22.117	22.560	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

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

	FY 2022	FY 2023	FY 2024
Title: Homeland Defense Capability	14.700	16.578	22.120
Description: Develop Homeland Defense Capability			
FY 2023 Plans: Perform technology development efforts. Further details are reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
FY 2024 Plans: Continue to perform technology development efforts. Further details are reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
FY 2023 to FY 2024 Increase/Decrease Statement: The increase reflects increased support for Homeland Defense Capability.			
Accomplishments/Planned Programs Subtotals	14.700	16.578	22.120

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605126J / Joint Integrated Air & Missile Defense Organization (JIAMDO)	Project (Number/Name) P008 / Joint Regional Integrated Air and Missile Defense Capabilities Mix (JRICM)
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
P008: Joint Regional Integrated Air and Missile Defense Capabilities Mix (JRICM)	-	0.000	0.000	1.633	-	1.633	1.699	1.766	1.837	1.911	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Annual support to the Joint Regional Integrated Air and Missile Defense Capabilities Mix (JRICM) study.

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

	FY 2022	FY 2023	FY 2024
Title: JRICM Study	-	-	1.633
Description: Joint Regional Integrated Air and Defense Capability Mix (JRICM) will use analysis of adversary ballistic and cruise missile capabilities to determine if a layered missile defense can successfully degrade or defeat adversary missile attacks to extend base defense duration and maintain aircraft sortie generations rates. Funding will enable the study to proceed with support from the various government organizations and FFRDCs. Organizations will be funded to develop detailed analysis using modeling and simulation to study and evaluate defense capabilities (kinetic and non-kinetic) in the 2030 timeframe.			
FY 2024 Plans: Conduct studies and analysis on air and missile defense capability mix. Deliveries will include briefings summarizing the impact that layered defense capabilities have on extending defense durations and aircraft sortie generation rate. Specific details are classified and can be provided upon request.			
FY 2023 to FY 2024 Increase/Decrease Statement: Establishes a separate project line to provide programmatic visibility for this high-profile capabilities mix study.			
Accomplishments/Planned Programs Subtotals	-	-	1.633

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0204571J I <i>Joint Staff Analytical Support</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	67.499	0.977	3.058	4.916	-	4.916	6.433	7.360	3.400	3.400	-	-
P001: <i>Future Joint Force Development</i>	67.499	0.977	3.058	4.916	-	4.916	6.433	7.360	3.400	3.400	-	-

A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) family of programs provide defense analytical support capabilities for the Joint Staff and Combatant Commands (CCMDs). JSAS encompasses tools and infrastructure required to conduct analyses and formulate results that assist the Chairman in fulfilling his statutory responsibilities. Key deliverables provided by JSAS include development of Joint Concepts, concepts of operation, innovative operational concept assessments, course of action development for the future joint force operating environment, analyses and studies for joint concept driven, threat-informed capability development approach to joint force development 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 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	0.977	4.332	4.001	-	4.001
Current President's Budget	0.977	3.058	4.916	-	4.916
Total Adjustments	0.000	-1.274	0.915	-	0.915
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.274			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other	-	-	-0.718	-	-0.718
• Logbook Next	-	-	1.633	-	1.633

Change Summary Explanation

Congressional reduction to program in FY 2023, and increased funding for Logbook Next.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0204571J / Joint Staff Analytical Support				Project (Number/Name) P001 / Future Joint Force Development			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
P001: <i>Future Joint Force Development</i>	67.499	0.977	3.058	4.916	-	4.916	6.433	7.360	3.400	3.400	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Staff Analytical Support (JSAS) program supports the Chairman’s Title 10 responsibility for the analytical support, management and development of future-based joint concepts. These threat based Joint concepts include Joint concepts of operations that advance Joint Force operational effectiveness and enable the introduction and incorporation of new capabilities. The Joint Concepts program supports the Chairman's responsibility to express a vision for the future joint force; addressing operational problems on a 20-year horizon; identifying joint force development implications; and identifying capabilities required to mitigate and solve future joint warfighting gaps. The goal is to enable investment decisions balancing near and long term risk. Threat-informed joint concepts drive capability development and promote horizontal integration for force development across the Services, Combatant Commands, Defense agencies, OSD and Joint Staff. Key deliverables include:

Joint Warfighting Concept (JWC) Version 3.0: Further identifies innovative and alternative approaches and design options and concept required capabilities for the employment of the Joint Force out to 2030.

Concepts of Operations (CONOPS) and Operational Plan After Next (OAN): Describe how the actions of the joint force components and supporting organizations are integrated, synchronized, and phased to accomplish a specific mission, war plan or function within the construct of a future scenario. CONOPS and OAN support evaluation of new ways of operating, future force posture mix, advanced capabilities, and authorities in exercises, wargames, and experiments.

Joint Operating Environment (JOE) and the Gamechangers report: Developed in partnership with DIA, this report describes the future security environment and projects the implications of change for the Joint Force. The documents describe the circumstances that may alter the security environment and explores how the intersection and interaction of these changes might impact the character of war in the future. They provide a framework to think about the full range of Joint Force missions and how they may evolve over time in order to support development of threat-based future Joint concepts and concepts of operations.

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

	FY 2022	FY 2023	FY 2024
Title: Future Joint Force Development	0.977	3.058	4.916
Description: Future joint force development provides analytic support required to develop future-based joint concepts. The goal is to enable investment decisions balancing near and long term risk. Threat-informed joint concepts drive capability development and promote horizontal integration for force development and design across the Services, Combatant Commands, Defense agencies, OSD and Joint Staff.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0204571J / <i>Joint Staff Analytical Support</i>	Project (Number/Name) P001 / <i>Future Joint Force Development</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Execute the Chairman's Joint Concepts Program. Support the execution of the FY 2023 Globally Integrated War Game. Complete updated version of Joint Warfighting Concept and Operational Plan After Next (OAN) documentation. Continue global CONOP development to support evaluation of joint concepts in exercises, war games, and experimentation.			
<i>FY 2024 Plans:</i> Execute the Chairman's Joint Concepts Program. Support the execution of the FY 2024 Globally Integrated War Game. Complete updated version of Joint Warfighting Concept and OAN documentation. Continue global CONOP development to support evaluation of joint concepts in exercises, war games, and experimentation.			
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Increased funding to support Logbook Next.			
Accomplishments/Planned Programs Subtotals	0.977	3.058	4.916

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

N/A

Remarks

D. Acquisition Strategy

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff **Date:** March 2023

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0804768J I Joint Training, Exercise and Evaluation Program (JTEEP)
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	101.659	29.530	33.777	101.319	-	101.319	188.453	190.888	131.890	119.890	Continuing	Continuing
701: Air Force Joint National Training Capability (JNTC)	8.597	2.431	2.409	2.579	-	2.579	2.455	2.455	2.455	2.455	Continuing	Continuing
758: Joint National Training Capability (JNTC)	77.419	23.157	29.109	26.329	-	26.329	24.085	24.086	24.086	24.086	Continuing	Continuing
769: Joint Knowledge Development & Distribution Capability (JKDDC)	3.842	0.826	0.313	0.808	-	0.808	0.808	0.808	0.808	0.808	Continuing	Continuing
772: Navy Joint National Training Capability (JNTC)	9.343	2.578	1.678	3.165	-	3.165	3.165	3.165	3.165	3.165	Continuing	Continuing
774: USMC Joint National Training Capability (JNTC)	2.458	0.538	0.268	0.268	-	0.268	0.268	0.268	0.268	0.268	Continuing	Continuing
777: Large Scale Global Exercise (LSGE)	0.000	0.000	0.000	5.170	-	5.170	5.170	5.170	5.170	8.170	Continuing	Continuing
779: Joint Staff Live, Virtual and Constructive (JLVC) Modernization	-	0.000	0.000	63.000	-	63.000	152.502	154.936	95.938	80.938	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, Joint Operational Training Infrastructure strategy, and enhance joint warfighting readiness by building training capabilities that support the operational readiness of the joint force. The elements associated with this coordinated effort consist of:

JNTC: The mission of the Joint National Training Capability (JNTC) program is to advance joint capabilities and interoperability by concentrating on emerging joint training requirements through collective training using a managed set of globally distributed capabilities and activities. The program resources Service and Special Operations Forces joint training to improve interoperability and create realistic tactical and operational joint training. JNTC enables joint training for Combatant Commands and Services by developing joint training content and ensuring global distributed access. JNTC enabling capabilities support Services and USSOCOM requirements to provide trained and ready joint forces in support of Combatant Command operational requirements. The program supports the Joint Operational Training Infrastructure (JOTI). This program focuses efforts on improving readiness and creates a ready surge force consistent with Chairman’s guidance and will provide the means to train joint forces for the operationalization of the Joint Warfighting Concept.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff Date: March 2023

Appropriation/Budget Activity
0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6:
RDT&E Management Support

R-1 Program Element (Number/Name)
PE 0804768J I Joint Training, Exercise and Evaluation Program (JTEEP)

JKDDC: Joint Knowledge Development & Distribution Capability (JKDDC) Joint Knowledge Online (JKO) is the program of record for online joint training that implements and operationalizes the OSD training transformation JKDDC. JKO directly supports the JTEEP program by developing, delivering, tracking, reporting, and supporting online training for Combatant Command exercises; Combatant Command required training; doctrinally based Joint Operations Core Curriculum; multinational, coalition, interagency training; OSD required training; and administration of the Senior Enlisted Joint Professional Military Education program. JKO expends RDT&E funding for leading edge technology review, market research, and integration to directly enhance various aspects of the training capability required to support Combatant Commanders, JTEEP program objectives, and the Chairman's joint training guidance. JKO satisfies all requirements necessary to provide JTEEP stakeholders with a distributed learning capability and access to web-based training content, learning resources, and distributed online training tools.

Air Force Joint National Training Center (JNTC): Air Force JNTC funding provides a focused upgrade to develop models for space-based and cyber capabilities for integration into the Joint Live, Virtual, and Constructive (JLVC) environment as well supporting development of cross-domain solutions. Additionally, the Air Force invests in development of capabilities to enhance the rigor and fidelity of training for live and virtual members of joint training audiences.

Navy JNTC: These funds enable Navy to develop unique maritime capabilities that integrate JLVC elements into a seamless joint training environment. The Navy program activities include conducting research, development, and integration of a common, realistic, joint and coalition, operational to tactical level training architecture to deliver individual and collective constructive joint training for use in Fleet Synthetic Training (FST) events, CCDR exercises, Ballistic Missile Defense Exercises (BMDEX) certification events, and BMD at Sea training events in support of CCDR's training, deployment certification and operational requirements.

Marine Corps JNTC: These funds provide USMC stability and risk reduction to a variety of ongoing joint efforts focused on improving the fidelity and realism of training simulation systems that prepare Marine Air Ground Task Force (MAGTF) units for deployment in support of CCMD operations. Efforts align with JOTI Strategy Goal #1, Improve the use of LVC training and support the Commandant's planning guidance. The Marine Corps will continue to improve performance and support of the MAGTF Tactical Warfare Simulation in the areas of the JLVC-Multi- Resolution Federation (MRF) Bridge, common database terrain data ingestion, and JLVC interoperability. It will provide a single source training environment capability enabling users to select single or multiple play boxes (terrain data sets) for training simulation systems. Also developing an exercise planning, design, implementation, execution, and control tool.

LSGE: Large Scale Global Exercises (LSGE) initiative facilitates the joint operational training gaps through JS-led service supported development. During execution of CCMD exercises as part of the JTEEP, tier 3 and 4 events are frequently nested within the overall Tier 1 and 2 events. This funding will address joint operational training gaps through service-led development.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 The Joint Staff	Date: March 2023
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0804768J <i>I Joint Training, Exercise and Evaluation Program (JTEEP)</i>
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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	29.530	37.852	38.182	-	38.182
Current President's Budget	29.530	33.777	101.319	-	101.319
Total Adjustments	0.000	-4.075	63.137	-	63.137
• Congressional General Reductions	-	-0.084			
• Congressional Directed Reductions	-	-3.991			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• JLVC Modernization	-	-	63.000	-	63.000
• Other Adjustment	-	-	0.137	-	0.137

Change Summary Explanation

Congressional defense-wide reduction to Federally Funded Research and Development Center (FFRDC) funding, and a directed Congressional reduction (-3.991M) to this Program Element in FY 2023. Increased FY 2024 funding reflects the Secretary's direction on the Large Scale Global Exercise (LSGE), funding for Joint Staff Joint Live, Virtual and Constructive (JLVC) modernization, and a minor adjustment to comply with the Department's economic assumptions. Primary focus of the LSGE program is to ensure the joint training synthetic environment is optimized and responsive for the coordinating authority to conduct LSGE at a time and place of their choosing uninhibited by current training architecture shortfalls. JLVC Modernization program is targeting modernization of the entire JLVC synthetic training environment to better represent current and future friendly and enemy capabilities in all domains. JLVC Modernization transitions our synthetic environment to a data-centric modular open systems architecture that aligns to the DoD Zero Trust Architecture (ZTA) strategy. This leverages the material development capabilities within the Services and Combat Support Agencies to mitigate or close the Joint Operational Training Gaps (JOTGs) identified in the China Task Force study.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>				Project (Number/Name) 701 / <i>Air Force Joint National Training Capability (JNTC)</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
701: <i>Air Force Joint National Training Capability (JNTC)</i>	8.597	2.431	2.409	2.579	-	2.579	2.455	2.455	2.455	2.455	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Air Force JNTC funding provides a focused upgrade to develop models for employment of cyber and 5th generation capabilities for integration into the Joint Live, Virtual, and Constructive (JLVC) environment as well as supporting development of cross-domain solutions. Additionally, the Air Force invests in development of capabilities to enhance the rigor and fidelity of training for live and virtual members of joint training audiences.

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

	FY 2022	FY 2023	FY 2024
Title: Air Force Joint National Training Capability (JNTC)	2.431	2.409	2.579
<p>Description: Air Force continues to develop joint enablers that drive realistic/effective training in contested and degraded environments across the JTEEP/CE2T2 enterprise. These capability enhancements provide a thinking and reactive Opposing Force (OPFOR) to challenge and engage both live and virtual Blue Forces using a combination of kinetic, non-kinetic, and cyber capabilities. Additionally, it continues to build upon prior investments in the cyber and space domains by improving fidelity of synthetic environments, ability to portray and control blue, red, and neutral entities and effects, interoperability with other Service, joint, and JLVC federation models and simulations, and support of JTEEP/CE2T2 mission partners. It also builds on prior investments in the One War Training System (OWTS) to enhance exercise control, safety, and feedback to training audiences in blended live and synthetic air and land domains.</p> <p>FY 2023 Plans:</p> <ol style="list-style-type: none"> Continue to develop capabilities for live OPFOR surface-to-air threats to engage virtual as well as live Blue Force (BLUFOR) aircraft. Sustain development of and enhance new capabilities for integration of the cyber simulator environment generator and "blue" cyber effects simulation. Further develop the capabilities of the Joint Electric Power Range (JEPR) to ensure the Joint community has access to a high-fidelity, configurable, targetable electrical power distribution grids in order to support training for Joint ISR analysts, EW systems, cyber operators and campaign planners while enhancing infrastructure attack capabilities and defensive measures. Sustain development of and enhance new all-domain, full-spectrum operations capabilities against adversary-representative control systems (CS) which support adversary war making capabilities such as POL and chemical production, power generation/ 			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 701 / <i>Air Force Joint National Training Capability (JNTC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>distribution, etc. Adversary CS replication provides enhanced planning and employment of integrated kinetic, EW, cyber, and ISR assets to achieve desired effects against adversary CS through all domains.</p> <p>4. Sustain development of an enhanced anechoic chamber to support controlled RF exercise events during all-domain Joint training enabling the execution of cost-effective, high-impact, timely and scoped training and exercising of integrated or converged technologies that will provide significant insight to the joint cyber/EW community and to the warfighter.</p> <p>FY 2024 Plans:</p> <p>1. Continue to develop capabilities for live OPFOR surface-to-air threats to engage virtual as well as live Blue Force (BLUFOR) aircraft.</p> <p>2. Sustain development of and enhance new capabilities for integration of the cyber simulator environment generator and "blue" cyber effects simulation. Further develop the capabilities of the Joint Electric Power Range (JEPR) to ensure the Joint community has access to a high-fidelity, configurable, targetable electrical power distribution grids in order to support training for Joint ISR analysts, EW systems, cyber operators and campaign planners while enhancing infrastructure attack capabilities and defensive measures.</p> <p>3. Sustain development of and enhance new all-domain, full-spectrum operations capabilities against adversary-representative control systems (CS) which support adversary war making capabilities such as POL and chemical production, power generation/distribution, etc. Adversary CS replication provides enhanced planning and employment of integrated kinetic, EW, cyber, and ISR assets to achieve desired effects against adversary CS through all domains.</p> <p>4. Sustain development of an enhanced anechoic chamber to support controlled RF exercise events during all-domain Joint training enabling the execution of cost-effective, high-impact, timely and scoped training and exercising of integrated or converged technologies that will provide significant insight to the joint cyber/EW community and to the warfighter.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increases in this program are to support the Secretary of Defense's Joint Training Infrastructure Goals in JTEEP programs.</p>				
Accomplishments/Planned Programs Subtotals		2.431	2.409	2.579
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 701 / <i>Air Force Joint National Training Capability (JNTC)</i>

D. Acquisition Strategy
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / Joint Training, Exercise and Evaluation Program (JTEEP)				Project (Number/Name) 758 / Joint National Training Capability (JNTC)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
758: Joint National Training Capability (JNTC)	77.419	23.157	29.109	26.329	-	26.329	24.085	24.086	24.086	24.086	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Investment in the Joint National Training Capability (JNTC) program enables Service and Combatant Commands to train as they operate as part of the overall Joint Force. JNTC provides the technical standards, architecture, and development processes required to integrate/link joint training enablers in programs across the Department of Defense. The capabilities enable simultaneous training at scale, with aggregation of training audiences at the Combatant Command, Joint Task Force, Component Command headquarters, and Service tactical levels. The funding also supports modernization of the Joint Training Environment (JTE) through a Modular Open Systems Architecture (MOSA) approach to include development of a cloud-enabled, web-accessible Joint Training Tool (JTT) that supports all phases of an exercise (planning and design, execution, and AAR). The JTT will increase warfighter access to semi-automated training enablers within the Joint Training Synthetic Environment (JTSE). The JTT will also modernize the automation the Joint Training System (JTS) by incorporating current Joint Training Information Management System (JTIMS) capability, with a focus on data centrality, as outlined in the DoD Data Strategy. JNTC enables the Department of Defense to train the Joint Force on the operationalization of the current and future Joint Warfighting Concept, and provides more effective training by providing capabilities that replicate the contemporary and future operating environment. This program will implement the goals listed in the Joint Operational Training Infrastructure (JOTI).

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

	FY 2022	FY 2023	FY 2024
Title: Joint National Training Capability (JNTC)	23.157	29.109	26.329
<p>Description: JNTC provides the technical standards, architecture, and development processes required to integrate/link joint training enablers in programs across the Department of Defense. The capabilities enable simultaneous training at scale, with aggregation of training audiences at the Combatant Command, Joint Task Force, Component Command headquarters, and Service tactical levels. The funding also supports modernization of the Joint Training Environment (JTE) through a Modular Open Systems Architecture (MOSA) approach to include development of a cloud-enabled, web-accessible Joint Training Tool (JTT) that supports all phases of an exercise (planning and design, execution, and AAR). The JTT will increase warfighter access to semi-automated training enablers within the Joint Training Synthetic Environment (JTSE). The JTT will also modernize the automation the Joint Training System (JTS) by incorporating current Joint Training Information Management System (JTIMS) capability, with a focus on data centrality, as outlined in the DoD Data Strategy.</p> <p>FY 2023 Plans:</p> <p>1. Expand capability of cloud-based, web-enabled JTT exercise design and planning and execution modules, furthering use as the primary tool supporting Tier 1 and Tier 2 joint training exercise, and enabling synchronization of linked Tier 3 and Tier 4 exercises.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 758 / <i>Joint National Training Capability (JNTC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>2. Continue development of JTIMS capability within JTT.</p> <p>3. Develop additional capability within planned persistent simulation service of web-enabled, modular JTT and test against first CCMD use-cases.</p> <p>4. Enhance joint simulation (within JLVC) to keep pace with operational environment changes (annual requirement).</p> <p>5. Support the Joint Operation Training infrastructure goals.</p> <p>FY 2024 Plans:</p> <p>1. Continue Expand capability of cloud-based, web-enabled JTT exercise design and planning and execution modules, furthering use as the primary tool supporting Tier 1 and Tier 2 joint training exercise, and enabling synchronization of linked Tier 3 and Tier 4 exercises.</p> <p>2. Continue development of JTIMS capability within JTT.</p> <p>3. Continue develop additional capability within planned persistent simulation service of web-enabled, modular JTT and test against first CCMD use-cases.</p> <p>4. Continue to enhance joint simulation (within JLVC) to keep pace with operational environment changes (annual requirement).</p> <p>5. Support the Joint Operation Training infrastructure goals.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Adjustments to support the Secretary of Defense’s Joint Training Infrastructure Goals. Decrease in funding is a result of the successful integration of Joint Training Information Management System (JTIMS) functionality into the Joint Training Tool (JTT). Major software development activity was accomplished, resulting in efficiencies and a lower operating cost.</p>				
Accomplishments/Planned Programs Subtotals		23.157	29.109	26.329
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / Joint Training, Exercise and Evaluation Program (JTEEP)	Project (Number/Name) 758 / Joint National Training Capability (JNTC)

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / Joint Training, Exercise and Evaluation Program (JTEEP)				Project (Number/Name) 769 / Joint Knowledge Development & Distribution Capability (JKDDC)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
769: Joint Knowledge Development & Distribution Capability (JKDDC)	3.842	0.826	0.313	0.808	-	0.808	0.808	0.808	0.808	0.808	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Joint Knowledge Online (JKO) is the DoD unique and authoritative source for online joint training. JKO is tasked to develop a DoD enterprise-wide, joint individual training toolkit of web-enabled individual and small group training products, services, and enabling training technology. Products and services are developed in response to OSD program goals, CJCS training guidance, Joint Staff training priorities, and JKO stakeholders (Combatant Commands, Services, Combat Support Agencies, Interagency, and multinational partners) prioritized training requirements. JKO supports a career-long joint learning continuum, joint professional military education, and tailored common training standards to Service members on tasks that are jointly executed. JKO's research and development will improve all components of the Joint Total Learning Architecture (JTLA) including:

1. JKO Learning Management System (LMS): Development and enhancement is required to integrate advanced individual and staff training technologies and methodologies with larger scale, collective training exercises, and modernize military training capability with a DoD enterprise-wide online training toolkit. There are currently over 4.5 million registered users of the JKO LMS.
2. JKO Course Builder: JKO's Course Builder is a separate component used for organizations to develop online content by both internal and external joint enterprise teams. Course Builder mitigates the need to have programmer's code Shareable Content Object Reference Model (SCORM) standards into content with automation that promotes fiscal efficiency as well as operational responsiveness. Course Builder will advance to support new JKO Content Development techniques including responsive design, micro-learning, parallax scrolling and adaptive learning methodology.
3. Small Group Scenario Trainer (SGST) desktop modeling and simulation based training: This JKO capability trains and prepares thousands of military and civilian personnel deploying to Combatant Command theaters of operation prior to serving in their assigned Combined/Joint Task Force (C/JTF) billets. JKO integration of SGST simulation exercise scenarios and prerequisite JKO courses significantly enhance blended learning training support to large-scale, collective training exercises.
4. JKO Virtual Classroom (VC LASS): JKO's new virtual classroom, or VCLASS, meets the need for an enhanced distributed learning capability with the introduction of a collaborative learning environment. VCLASS is a customizable platform within JKO's architecture and that provides JKO elevated users the tools to meet the unique needs of DoD's training and education audience by providing online/blended course support with syllabus, messaging, gradebook, resources, announcements and synchronous instructional forums.

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

	FY 2022	FY 2023	FY 2024
Title: Joint Knowledge Development & Distribution Capability (JKDDC)	0.826	0.313	0.808

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 769 / <i>Joint Knowledge Development & Distribution Capability (JKDDC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>Description: Joint Knowledge Online (JKO) advance technology initiatives primarily include the JKO Learning Management System (LMS) application, Course Builder, Small Group Scenario Trainer (SGST) desktop modeling and simulation based training capability, and Virtual Classroom, training applications. These capabilities increase access to, and facilitate the training and preparation of hundreds of thousands of military and civilian personnel deploying to Combatant Command (CCMD) theaters of operation prior to serving in their assigned Joint and Combined/Joint Task Force (C/JTF) billets. JKO LMS development and enhancements are required to develop, host, deliver, track, report and support students' completions, progress and survey results more effectively and efficiently. C/JTF "battle staffs" and combatant command (CCMD) personnel will be better trained, as individuals and as staffs, based on joint courses, SGST, VCLASS development, and implementation throughout the joint training enterprise.</p> <p>FY 2023 Plans: Continue to integrate and expand the virtual classroom (VCLASS opensource capability (Sakai) into the Global Content Distribution System (GCDS) and the JKO LMS suite of tools for synchronous (live) and asynchronous instructor-led training. Integrate JTLA for component tools such as LMS, Coursebuilder, SGST, and VCLASS in support of advanced content and development techniques such as micro-learning, parallax scrolling, and Adaptive Learning Methodology. Continue extension of micro learning technology, xAPI adaptation, Learning Record Store and Adaptive Learning Methodology to increase personalization capability of learning content. Increasing personalization capability delivers self-regulated micro-learning training that is designed to be engaging, usable and practical, allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JKO content development advancements are allowing individuals to quickly access desired learning content whenever an opportunity arises. Continue to build out FVEY access and integrate JWICS military networks.</p> <p>FY 2024 Plans: Continue to integrate and expand the virtual classroom (VCLASS opensource capability (Sakai) into the Global Content Distribution System (GCDS) and the JKO LMS suite of tools for synchronous (live) and asynchronous instructor-led training. Integrate JTLA for component tools such as LMS, Coursebuilder, SGST, and VCLASS in support of advanced content and development techniques such as micro-learning, parallax scrolling, and Adaptive Learning Methodology. Continue extension of micro learning technology, xAPI adaptation, Learning Record Store and Adaptive Learning Methodology to increase personalization capability of learning content. Increasing personalization capability delivers self-regulated micro-learning training that is designed to be engaging, usable and practical, allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JKO content development</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 769 / <i>Joint Knowledge Development & Distribution Capability (JKDDC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>advancements are allowing individuals to quickly access desired learning content whenever an opportunity arises. Continue to build out FVEY access and integrate JWICS military networks.</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Adjustments to support the Secretary of Defense’s Joint Training Infrastructure Goals.</p>				
Accomplishments/Planned Programs Subtotals		0.826	0.313	0.808
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / Joint Training, Exercise and Evaluation Program (JTEEP)				Project (Number/Name) 772 / Navy Joint National Training Capability (JNTC)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
772: Navy Joint National Training Capability (JNTC)	9.343	2.578	1.678	3.165	-	3.165	3.165	3.165	3.165	3.165	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

These funds enable the Navy to develop unique maritime capabilities that integrate joint live, virtual, and constructive elements into a seamless joint training environment. The Navy program activities include conducting research, development, and integration of a common, realistic, joint and coalition, operational to tactical level training architecture to deliver individual and collective constructive joint training for use in Fleet Synthetic Training (FST) events, Combatant Commander (CCDR) exercises, Ballistic Missile Defense Exercises (BMDEX) certification events, and BMD at Sea training events in support of CCDR's training, deployment certification and operational requirements.

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

	FY 2022	FY 2023	FY 2024
Title: Navy Joint National Training Capability (JNTC)	2.578	1.678	3.165
<p>Description: Develops unique maritime capabilities that integrate joint live, virtual, and constructive (JLVC) elements into a seamless joint training environment. Using a scientific and phased approach that focuses on modeling ground, air, space, and maritime capabilities, this program researches new technologies and methods that provide a crucial technology-based foundation that supports all JNTC training transformation, JLVC federation, and Combatant Commanders exercise and engagement operations. This program provides a current and emerging multi-functional and multi-domain near-peer threat environment and associated warfighting challenges to stimulate Joint and Navy training audiences, enabling the Fleet Commander to certify deploying forces in a synthetic Joint training environment and Joint Force Maritime Component Commands (JFMCCs) to participate in realistic Combatant Commander Exercises.</p> <p>FY 2023 Plans:</p> <ol style="list-style-type: none"> 1. Provide continued development of capability for integration with annual software release of the Navy Training Baseline (NTB) to enable tactics, techniques and procedures (TTP) development for contested environments and Ballistic Missile Defense (BMD). 2. Continue to develop advanced models to support Navy and Joint Operational Level of War (OLW) exercises and tactical training; to include Anti-ship Cruise Missile (ASCM) defense, Counter-ISR, including unmanned system (UxS) defense, theater and regional BMD, and AEGIS Weapons System, maritime air, tactical air and unmanned sensor and weapon system capability upgrades. <p>FY 2024 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 772 / <i>Navy Joint National Training Capability (JNTC)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Provide continued development of capability for integration with annual software release of the Navy Training Baseline (NTB) to enable tactics, techniques and procedures (TTP) development for contested environments and Ballistic Missile Defense (BMD).			
2. Continue to develop advanced models to support Navy and Joint Operational Level of War (OLW) exercises and tactical training; to include Anti-ship Cruise Missile (ASCM) defense, Counter-ISR, including unmanned system (UxS) defense, theater and regional BMD, and AEGIS Weapons System, maritime air, tactical air and unmanned sensor and weapon system capability upgrades.			
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Changes to support the Secretary of Defense's Joint Training Infrastructure Goals.			
Accomplishments/Planned Programs Subtotals	2.578	1.678	3.165

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / Joint Training, Exercise and Evaluation Program (JTEEP)				Project (Number/Name) 774 / USMC Joint National Training Capability (JNTC)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
774: USMC Joint National Training Capability (JNTC)	2.458	0.538	0.268	0.268	-	0.268	0.268	0.268	0.268	0.268	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

These funds advance USMC training capabilities by providing stability and risk reduction to a variety of efforts focused on improving the fidelity and realism of training simulation systems. These systems are tailored to prepare operational Marine Air Ground Task Force (MAGTF) units for worldwide deployment in support of CCMD operations and engagements and are available to any organization or entity training via the JLVC federation of training tools. Based on the Commandant's planning guidance and JOTI Strategy Goal #1 and objectives, the Marine Corps will continue to improve performance of the MAGTF Tactical Warfare Simulation in the areas of the JLVC-multi-resolution federation bridge, common database terrain data ingestion, and JLVC interoperability. The MAGTF Tactical Warfare Simulation also provides a single source training environment capability that enables users to select single or multiple play boxes (terrain data sets) for training simulation systems easing the burden of requesting terrain, 3D models, and other geographic layers into a single source. In addition to developing an exercise planning, design, implementation, execution, and control tool, the MAGTF Tactical Warfare Simulation also enhances indigenous population modular service enabling exercise designers the ability to rapidly build new scenarios and incorporate human geography elements into the training scenarios.

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

	FY 2022	FY 2023	FY 2024
Title: Marine Corps Joint National Training Capability (JNTC)	0.538	0.268	0.268
<p>Description: Provides indigenous population (IP) concept development and integration, supporting both constructive and virtual training simulation systems by injecting "people packs" with realistic attributes and behaviors associated with specified regions. Full integration of terrain generation 3D models and objects into joint federation synthetic training environment eliminates the burden of requesting terrain data by the Services and CCMDs creates a single, shareable, repository across the federation. Initiates design and development of a joint exercise design and control tool enhancing connectivity across multiple platforms providing exercise planning, design and control within various joint simulation constructs. Addresses crucial integration of MAGTF Tactical Warfare Simulator (MTWS) into the Korean side of multi-resolution federation bridge supporting Ulchi Freedom Guardian covering training shortfalls in engineering obstacle simulations (minefields, chemical, anti-tank ditches, bridges, etc.).</p> <p>FY 2023 Plans: Continue to work on providing a capability for all simulation systems to use the same standardized terrain datasets across training domains. Sustain pre-deployment training for operations while supporting the readiness of deployed forces, particularly those primarily focused on global response force readiness.</p> <p>FY 2024 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 774 / <i>USMC Joint National Training Capability (JNTC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Continue to work on providing a capability for all simulation systems to use the same standardized terrain datasets across training domains. Sustain pre-deployment training for operations while supporting the readiness of deployed forces, particularly those primarily focused on global response force readiness.				
FY 2023 to FY 2024 Increase/Decrease Statement: Continued support to the Secretary of Defense's Joint Training Infrastructure Goals.				
Accomplishments/Planned Programs Subtotals		0.538	0.268	0.268
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / Joint Training, Exercise and Evaluation Program (JTEEP)				Project (Number/Name) 777 / Large Scale Global Exercise (LSGE)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
777: Large Scale Global Exercise (LSGE)	0.000	0.000	0.000	5.170	-	5.170	5.170	5.170	5.170	8.170	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is a new start for FY 2024. Large Scale Global Exercise funding provides a focused upgrade to develop products that mitigate gaps identified during CCMD exercises. In order to enable tier 3 and tier 4 training in the future, it is imperative the current service Tier 3 and Tier 4 M&S capabilities (Joint Live Virtual Constructive Federates) properly integrate with the Joint Training Tool. This funding will fund six Service developers, to ensue the Service's M&S outputs from JLVC properly integrate with the JTT.

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

	FY 2022	FY 2023	FY 2024
Title: Large Scale Global Exercise (LSGE)	0.000	0.000	5.170
Description: Large Scale Global Exercise funding provides a focused upgrade to develop products that mitigate gaps identified during CCMD exercises. In order to enable tier 3 and tier 4 training in the future, it is imperative the current service Tier 3 and Tier 4 M&S capabilities (Joint Live Virtual Constructive Federates) properly integrate with the Joint Training Tool. This funding will fund six Service developers, to ensure the services M&S outputs from JLVC properly integrate with the JTT.			
FY 2023 Plans: Develop products that mitigate gaps identified during CCMD exercises.			
FY 2024 Plans: Develop products that mitigate gaps identified during CCMD exercises.			
FY 2023 to FY 2024 Increase/Decrease Statement: Adjustments in FY24 to support the Secretary of Defense's Joint Training Infrastructure Goals. Primary focus of the LSGE program is to ensure the joint training synthetic environment is optimized and responsive for the coordinating authority to conduct LSGE at a time and place of their choosing uninhibited by current training architecture shortfalls. This leverages the material development capabilities within the Services and Combat Support Agencies. Joint Staff will oversee the accomplishment and subsequent integration of those solutions with the Combatant Commands during Joint Training Exercises.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	5.170

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 777 / <i>Large Scale Global Exercise (LSGE)</i>

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

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff										Date: March 2023		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0804768J / Joint Training, Exercise and Evaluation Program (JTEEP)				Project (Number/Name) 779 / Joint Staff Live, Virtual and Constructive (JLVC) Modernization			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
779: Joint Staff Live, Virtual and Constructive (JLVC) Modernization	-	0.000	0.000	63.000	-	63.000	152.502	154.936	95.938	80.938	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is a new start for FY 2024. Modernize and integrate the Joint Staff Joint Live, Virtual and Constructive (JLVC) Modernization construct, focusing on 1) standardizing simulations and data libraries and implementing cross domain solutions, 2) modernizing simulators and incorporating space, cyber, and realistic electromagnetic (EM) environments, and 3) increasing capacity and integrating with Allies and partners.

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

	FY 2022	FY 2023	FY 2024
Title: Joint Staff Live, Virtual and Constructive (JLVC) Modernization	0.000	-	63.000
Description: Modernize and integrate the Joint Staff Joint Live, Virtual and Constructive (JLVC) Modernization construct, focusing on 1) standardizing simulations and data libraries and implementing cross domain solutions, 2) modernizing simulators and incorporating space, cyber, and realistic electromagnetic (EM) environments, and 3) increasing capacity and integrating with Allies and partners.			
FY 2024 Plans: Modernize and integrate the Joint Staff Joint Live, Virtual and Constructive (JLVC) Modernization construct, focusing on 1) standardizing simulations and data libraries and implementing cross domain solutions, 2) modernizing simulators and incorporating space, cyber, and realistic electromagnetic (EM) environments, and 3) increasing capacity and integrating with Allies and partners.			
FY 2023 to FY 2024 Increase/Decrease Statement: Initial funding of \$63M in FY 2024 is required to begin the development and integration of the JLVC Modernization program. This program is targeting modernization of the entire JLVC synthetic training environment to better represent current and future friendly and enemy capabilities in all domains. JLVC Modernization transitions our synthetic environment to a data-centric modular open systems architecture that aligns to the DoD Zero Trust Architecture (ZTA) strategy. This leverages the material development capabilities within the Services and Combat Support Agencies to mitigate or close the Joint Operational Training Gaps (JOTGs) identified in the China Task Force study. The main focus for FY2024 is establishing data standards (Friendly/Enemy Forces and Terrain) and architectures that set conditions for future modernization efforts. FY 2024 modernization development effort is			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 The Joint Staff		Date: March 2023		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804768J / <i>Joint Training, Exercise and Evaluation Program (JTEEP)</i>	Project (Number/Name) 779 / <i>Joint Staff Live, Virtual and Constructive (JLVC) Modernization</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
focused on all-domain operations: modernize current (Land, Sea, Air), develop new (Cyber, Space, EMS), integrate all capabilities through a common federation architecture.				
Accomplishments/Planned Programs Subtotals		0.000	-	63.000
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				