Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018

Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 6: *RDT&E Management Support*	R-1 Program Element (Number/Name) PE 0804767D8Z *I COCOM Exercise Engagement and Training Transformation (CE2T2)*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	237.610	29.149	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
758: *Joint National Training Capability (JNTC)*	135.488	20.260	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
761: *Joint Simulations Systems (JSS)*	17.289	1.016	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
769: *Joint Knowledge Development & Distribution Capability (JKDDC)*	20.385	3.756	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
770: *U.S. Forces Korea Training and Exercise Support*	33.908	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	33.908
701: *Air Force Joint National Training Capability (JNTC)*	12.167	2.524	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
772: *Navy Joint National Training Capability (JNTC)*	16.373	1.593	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
079: *USSTRATCOM SPACE CYBER*	2.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.000

Note

This program transfers to the Joint Staff (PE 0804767J) beginning in FY 2018.

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. The funding increase beginning in FY 2016 represents planned growth and internal reprogramming decisions to accelerate development of a cloud-enabled joint training environment. These investments directly support defense strategic guidance and enhance joint warfighting readiness by building training capabilities that support the operational readiness of the force. The elements associated with this coordinated effort consist of:

- Joint National Training Capability (JNTC)
- Joint Simulation System (JSS)
- Joint Knowledge Development & Distribution Capability (JKDDC)
- U.S. Forces Korea Training & Exercise Support (USFK)
- Air Force Joint National Training Capability (JNTC)

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0804767D8Z *I COCOM Exercise Engagement and Training Transformation (CE2T2)*	

- Navy Joint National Training Capability (JNTC)

JNTC: The mission of the Joint National Training Capability (JNTC) program is to advance joint capabilities and interoperability by concentrating on emerging joint training requirements through collective training experiences using a managed set of globally distributed capabilities and activities. The program resources Service and SOF joint training and enabling capabilities that improve interoperability and realism of tactical and operational joint training between the Services and USSOCOM. JNTC enables joint collective training for Combatant Commands and Services by developing relevant joint training content and ensuring global distributed access. The enabling capabilities support the Services and USSOCOM in their requirement to provide trained and ready forces in support of Combatant Command operational requirements. This program will focus efforts on improving, rather than consuming, readiness and create a ready surge force consistent with Chairman's guidance.

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

JKDDC: Joint Knowledge Development & Distribution Capability (JKDDC) Joint Knowledge Online (JKO) is the JS J7 program of record for online joint training that implements and operationalizes the OSD T2 JKDDC. JKO directly supports the CE2T2 program by developing, delivering, tracking, and reporting online training for Combatant Command exercises; Combatant Command required training; doctrinally based Joint Operations Core Curriculum; multinational, coalition, IA training; and OSD required training (externally funded). JKO also expends funding for leading edge technology review, market research, and integration to directly enhance specific aspects of the training capability as required for J7 support to Combatant Commanders. JKO satisfies all requirements necessary to provide the CE2T2 stakeholders with a distributed learning capability and access to web-based training content.

USFK: FY 2015 is the last year for dedicated funding within the overall program. The U.S. Forces Korea (USFK) Training & Exercise Support program develops simulations capable of satisfying all joint exercise training requirements in the Korean Theater of Operations. Interoperability with the Republic of Korea-developed Korean Simulation System (KSIMS) is a critical and unique requirement of this USFK RDT&E program. This solution will be capable of interoperating in a common battle space that realistically represents the operating environment to all levels of training audiences -- tactical to strategic -- in Korean theater exercises. While supporting USFK's specific requirements, this solution will contain enhancements that will benefit other combatant commander training programs that use the aging Joint, Live, Virtual, and Constructive (JLVC) simulations and the emerging JLVC 2020 simulations.

Air Force JNTC: The Air Force JNTC funding provides a focused upgrade to develop models for space-based capabilities for integration into the JLVC environment. The Air Force supports development of cross-domain solutions that enable the integration of systems with disparate security requirements, and significantly increases the training audience to additional joint and coalition participants.

Navy JNTC: These funds enable the Navy to develop unique maritime capabilities that integrate JLVC elements into a seamless joint training environment. The Navy program activities include conducting research, development, test and evaluation, and cross-service architecture certification on joint-capable systems. Additionally, the

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 6: *RDT&E Management Support*	**R-1 Program Element (Number/Name)** PE 0804767D8Z *I COCOM Exercise Engagement and Training Transformation (CE2T2)*	

program develops cross-domain architectures for U.S. and Coalition Forces and ensures sister service modeling/simulation and instrumentation efforts follow a unified standard.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	29.951	0.000	0.000	-	0.000
Current President's Budget	29.149	0.000	0.000	-	0.000
Total Adjustments	-0.802	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Actuals	-0.802	-	-	-	-

Change Summary Explanation

The CE2T2 program transfers to the Joint Staff (PE 0804767J) beginning in FY 2018.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018

Appropriation/Budget Activity 0400 I 6	R-1 Program Element (Number/Name) PE 0804767D8Z I COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 758 I Joint National Training Capability (JNTC)

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
758: *Joint National Training Capability (JNTC)*	135.488	20.260	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

CE2T2 Project 758: Joint National Training Capability transfers from USD-PR PE 0804767D8Z to Joint Staff PE 0804767J in fiscal year 2018

A. Mission Description and Budget Item Justification

Investment in the Joint National Training Capability (JNTC) program will enable Service and Combatant Commands to train as they operate. The funding requested continues development of exercise Scenario Management Tools and services that support planning and execution of joint training, and continued maturation of a single integrating architecture for Joint Training. Funding supports the development of cloud-enabled modular training application services. Program intent is to reduce dependence on touch labor, and mitigate the impact of reductions in operation and sustainment funding. Focus must be maintained to deliver operationally relevant training environments and respond to changes in the warfighter's operational environment. JNTC enables the Department of Defense to be responsive to the warfighters' pace of changing operational concepts, threat environments, and best practices. In FY 2017, this investment continues expanding access for Service and Combatant Command trainers to plan and execute joint training. Funds support improved relevance and realism of training by providing capabilities that replicate the contemporary and future operating environment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Joint National Training Capability (JNTC)	20.260	-	-
Description: JNTC provides the technical standards, architecture (blueprint), and development processes required to integrate/ link joint training programs. The Joint Training Environment is envisioned as an integrated network of training sites and nodes, and accessible joint training and force development services. By leveraging existing training programs and initiating specific actions, JNTC develops credible opposing force capabilities and expanded access to assets typically unavailable to the training audience. This enhances the integration of joint training objectives into Service training events. Funding in this account supports the technical integration of Joint and Service modeling and simulation training capabilities. Technical integration enables selective aggregation of training audiences at the Combatant Command, Joint Task Force, and Component Command Headquarter levels. The funding supports modernization of the Joint Training Environment (JTE) to increase warfighter access to automated training enablers within the Joint Training Synthetic Environment (JTSE) through web-based and cloud capabilities. The Adaptive Training Capability Program (ATCP) is a subordinate component of JNTC that enables the Joint Force to be responsive to the warfighters' pace of changing operational concepts, threat environments, and best practices. ATCP funding			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804767D8Z / COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 758 / Joint National Training Capability (JNTC)

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
advances joint capabilities and interoperability by addressing emerging joint training requirements through a managed set of globally distributed JLVC enablers. ATCP funding promotes joint context to Service training programs and joint enablers supporting Combatant Command training requirements and CJCS High Interest Training Issues identified in the Chairman's Annual Training Guidance.			
Accomplishments/Planned Programs Subtotals	20.260	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 0804767D8Z: JNTC O&M Funding	35.880	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

 N/A

E. Performance Metrics

 RDT&E development efforts are evaluated based on the performance metrics below. This ensures the Joint Force Trainer capabilities development effort synchronizes with warfighter requirements. Performance metrics include, but are not limited to; access, cost, realism, relevance and technology as defined below:

• Access – Develop design standards that enable participation across DoD and, as applicable, with Coalition Partners. Make the environment available to meet user demands.
• Cost – Enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow.
• Realism – Enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow.
• Relevance – Maintain operational relevance through adaptation to the changing operational environment.
• Technology – Sustain the training environment network through developments for distributed home station training that include modular cloud-enabled training services.

Measures:
• Cost- Vendors provide ordered hours and project costs remain within 10 percent of government estimates.
• Schedule- Task completions (software enhancements, bug fixes, and cyber security requirements) delivered within 6 months of government estimate.
• Performance- Product results, outcomes, or milestones meet specific requirements and successfully pass more than 80 percent of operational assessment test cases.
• DoD Demand- Number of Commands, Services, and Agencies using Joint Staff developed training products.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804767D8Z / COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 758 / Joint National Training Capability (JNTC)

• Partner Nation Demand- Number of partner nations using Joint Staff developed training products.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400 I 6	**R-1 Program Element (Number/Name)** PE 0804767D8Z I COCOM Exercise Engagement and Training Transformation (CE2T2)	**Project (Number/Name)** 761 I Joint Simulations Systems (JSS)

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
761: *Joint Simulations Systems (JSS)*	17.289	1.016	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

CE2T2 Project 761: Joint Simulations Systems (JSS) transfers from USD-PR PE 0804767D8Z to Joint Staff PE 0804767J in fiscal year 2018

A. Mission Description and Budget Item Justification

The Joint Simulation System (JSS) will decompose, harvest, and reuse DoD investment in joint simulations to develop cloud-enabled modular services (CEMS), reaching Initial Operating Capability in FY 2016. JSS will further development of existing Joint Conflict and Tactical Simulation (JCATS) and Joint Theater Level Simulation (JTLS) as required, to remain relevant and responsive to meet Combatant Command training requirements as the Joint Training Environment is implemented. JSS will provide design and development of web-based applications used as services in CEMS environment.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Joint Simulation System (JSS) **Description:** This effort provides warfighters with joint simulations and tools that enhance and enable Joint training across Services, Combatant Commands, agencies and coalition partners. These joint simulations and tools are part of an overall JLVC baseline of training capabilities. They represent a set of training enablers, and "certified systems" that are interoperable and acceptable for usage within the joint training environment. The joint simulations and tools provided by JSS are critical enablers that support the delivery of trained, capable, and interoperable Joint Forces.	1.016	-	-
Accomplishments/Planned Programs Subtotals	1.016	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 0804767D8Z: *JSS O&M Funding*	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, **RDT&E Project Justification:** PB 2019 Office of the Secretary Of Defense		**Date:** February 2018
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0804767D8Z *I COCOM Exercise Engagement and Training Transformation (CE2T2)*	**Project (Number/Name)** 761 *I Joint Simulations Systems (JSS)*

E. Performance Metrics

RDT&E development efforts are evaluated based on performance metrics. This ensures the development of Joint Force Trainer capabilities synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, cost, realism, and fidelity as defined below:

• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

Measures:
• Cost- Vendors provide ordered hours and project costs remain within 10 percent of government estimates.
• Schedule-Task completions (software enhancements, bug fixes, and cyber security requirements) delivered within 6 months of government estimate.
• Performance- Produce results, outcomes or milestones meet specified requirements and successfully pass more than 80 percent of operational assessment test cases. JTLS and JCATs availability of use in support of all training activities remains above 95 percent.
• DoD Demand- Number of exercises/events supported by JTLS/JCATS.
• Partner Nation Demand- Number partner nations using Joint Staff developed training products (active foreign military sales cases).

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense			Date: February 2018		

Appropriation/Budget Activity 0400 I 6	R-1 Program Element (Number/Name) PE 0804767D8Z I COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 769 I Joint Knowledge Development & Distribution Capability (JKDDC)

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
769: Joint Knowledge Development & Distribution Capability (JKDDC)	20.385	3.756	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

CE2T2 Project 769: Joint Knowledge Development & Distribution Capability (JKDDC) transfers from USD-PR PE 0804767D8Z to Joint Staff PE 0804767J in fiscal year 2018

A. Mission Description and Budget Item Justification

Joint Knowledge Online (JKO) is the DoD unique and authoritative source for online joint training. JKO is tasked to develop a DoD enterprise-wide, Joint Individual Training Toolkit of web-enabled individual and small group training products, services and enabling training technology. Products and services are developed in response to OSD(P&R) CE2T2 Program Goals & Objectives guidance, CJCS High Interest Training Issues, Joint Staff J7 training priorities, and JKO Stakeholder (Combatant Commands, Services, and Combat Support Agencies) prioritized training requirements. JKO supports a career-long joint learning continuum, joint professional military education, and tailored common training standards to Service members for tasks that are jointly executed, resulting in trained, capable, and interoperable joint forces. JKO research and development will improve all components of the Joint Content Management Architecture including:
• JKO Learning Content Management System (LCMS): Development and enhancement is required to integrate advanced individual and staff training technologies and methodologies with larger scale, collective training exercises, and modernize military training capability with a DoD enterprise-wide online training toolkit. JKO LCMS is necessary to develop, host and deliver JKO courses and track/report students' progress, completions and survey results more effectively and efficiently. JKO LCMS extends web-based, distributed access to mission-critical joint training requirements. There are currently over 2.7 million registered users of the JKO LCMS.
• Small Group Scenario Trainer (SGST) desktop modeling and simulation based training: This JKO capability trains and prepares thousands of military and civilian personnel deploying to Combatant Command theaters of operation prior to serving in their assigned Combined/Joint Task Force (C/JTF) billets. Specifically, C/JTF 'battle staffs' will be adequately trained, as individuals and the staffs collectively, based on SGST development and implementation throughout the joint training enterprise. JKO integration of SGST simulation exercise scenarios and pre-requisite JKO courses enable blended learning training support to large-scale, collective training exercises that augment the Joint Event Learning Cycle and in meeting combatant commanders exercise objectives.
• JKO mobile application training device development: Development and enhancements facilitate the global distribution of web-based joint training content on portable, hand-held platforms (cell pones and tablets). JKO Mobile App extends access to training courses and learning resources to personal use of mobile phones and tablets.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Joint Knowledge Development & Distribution Capability (JKDDC)	3.756	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804767D8Z / COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 769 / Joint Knowledge Development & Distribution Capability (JKDDC)

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Description: JKDDC Joint Knowledge Online (JKO) advanced technology initiatives primarily include the JKO Learning Content Management System (LCMS) application, Small Group Scenario Trainer (SGST) desktop modeling and simulation based training capability, and mobile courseware training devices.. These capabilities facilitate the training and preparation of tens of thousands of military and civilian personnel deploying to Combatant Command (CCMD) theaters of operation prior to serving in their assigned Combined/Joint Task Force (C/JTF) billets. Specifically, JKO LCMS development and enhancements are required to host and deliver JKO courses and track/report students' completions more effectively and efficiently. C/JTF "battle staffs" will be better trained, as individuals and the staffs collectively, based on SGST development and implementation throughout the joint training enterprise. JKO mobile courseware training device development facilitates the global distribution of web-based joint training content on portable, hand-held platforms (cell phones and tablets) for DoD personnel.			
Accomplishments/Planned Programs Subtotals	3.756	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 0804768D8Z: *JKDDC O&M Funding*	5.286	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Joint Staff prescribed performance metrics include, but are not limited to; time, cost, realism, and fidelity as defined below:

• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

Measures:
• Identify, develop, test and implement 15 or more cybersecurity, operational, and functional JKO LCMS requirements.

Exhibit R-2A, **RDT&E Project Justification:** PB 2019 Office of the Secretary Of Defense		**Date:** February 2018
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0804767D8Z *I COCOM Exercise Engagement and Training Transformation (CE2T2)*	**Project (Number/Name)** 769 *I Joint Knowledge Development & Distribution Capability (JKDDC)*

• Identify, develop, test and implement 12 or more cybersecurity, operational and functional JKO SGST requirements.
• Identify, develop, test and implement 6 or more cybersecurity, operational and functional JKO Mobile App requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense			Date: February 2018

Appropriation/Budget Activity 0400 I 6	R-1 Program Element (Number/Name) PE 0804767D8Z I COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 770 I U.S. Forces Korea Training and Exercise Support

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
770: U.S. Forces Korea Training and Exercise Support	33.908	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	33.908
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

2015 was the last year for dedicated funding of the CE2T2 project 770: U.S. Forces Korea Training and Exercise Support.

A. Mission Description and Budget Item Justification

The U.S. Forces Korea (USFK) Training & Exercise Support program developed simulations capable of satisfying all joint exercise training requirements in the Korean Theater of Operations. Interoperability with the Republic of Korea-developed Korean Simulation System (KSIMS) was a critical and unique requirement of this USFK RDT&E program. This solution is capable of interoperating in a common battle space that realistically represents the operating environment to all levels of training audiences -- tactical to strategic -- in Korean theater exercises. While supporting USFK's specific requirements, this solution contains enhancements that will benefit other combatant commander training programs that use the aging Joint, Live, Virtual, and Constructive (JLVC) simulations and the emerging JTSE (previously JLVC 2020) simulations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: USFK Training & Exercise Support	0.000	-	-
Description: This program provided Joint Training Environment support to the 2015 stand-up of KORCOM as a sub-unified command under USPACOM. This program developed a jointly accredited, supported, and funded federation of constructive models and simulations which are capable of satisfying all joint exercise training requirements in the Korean Theater of Operations (and which is interoperable with KSIMS). While supporting U.S. Forces Korea specific training requirements, this solution was inextricably linked to the JTSE modeling and simulation capability via Cloud-Enabled Modular Services. It provided a common, interoperable simulated battlespace which realistically represents the operating environment to all levels of training audiences (tactical to strategic) in Korean theater exercises and across the Combatant Commands, Services, and coalition Partners.			
Accomplishments/Planned Programs Subtotals	0.000	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400 / 6	**R-1 Program Element (Number/Name)** PE 0804767D8Z / COCOM Exercise Engagement and Training Transformation (CE2T2)	**Project (Number/Name)** 770 / U.S. Forces Korea Training and Exercise Support

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 0804767D8Z: U.S. Forces Korea Training & Exercise Proc	0.000	0.000	0.000	-	0.000	-	-	-	-	0.000	0.299

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

RDT&E development efforts are evaluated based on performance metrics. This ensures the development of Joint Force Trainer capabilities synchronizes with warfighter requirements. Performance metrics include, but are not limited to; time, cost, realism, and fidelity as defined below:

• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

Measures:
• Develop software for interoperability of JLVC versions along with initial integration of the Army's Multi-Resolution Federation (MRF). Additionally, provide a validated approach for Cross Domain Information Sharing technologies and Korea Battle Simulation Center (KBSC) simulations to the joint training enterprise that meets USFK technical training requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense										Date: February 2018	

| Appropriation/Budget Activity 0400 / 6 | | | | R-1 Program Element (Number/Name) PE 0804767D8Z / COCOM Exercise Engagement and Training Transformation (CE2T2) | | | | | Project (Number/Name) 701 / Air Force Joint National Training Capability (JNTC) | | |

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
701: *Air Force Joint National Training Capability (JNTC)*	12.167	2.524	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

CE2T2 Project 701: Air Force Joint National Training Capability (JNTC) transfers from USD-PR PE 0804767D8Z to Joint Staff PE 0804767J in fiscal year 2018

A. Mission Description and Budget Item Justification

The Air Force JNTC funding provides a focused upgrade to develop models for space-based and cyber capabilities for integration into the Joint Live, Virtual, Constructive (JLVC) environment. The Air Force supports development of cross-domain solutions that enable the integration of systems with disparate security requirements, and significantly increases the training audience to additional joint and coalition participants.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Air Force Joint National Training Capability (JNTC)	2.524	-	-
Description: The Air Force JNTC assists in the engineering, development, and deployment of Joint Cross Domain Information Sharing (JCDIS) Enterprise Network Architecture which will enable joint and coalition participants to train while protecting classified information. Furthermore, the Air Force is creating cyber-contested environments in the distributed mission operations setting to challenge the joint exercise/training audience. Finally, comprehensive space effects are being integrated into the Joint, Live, Virtual and Constructive (JLVC) federation of models.			
Accomplishments/Planned Programs Subtotals	2.524	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 0804767D8Z: *Air Force JNTC O&M Funding*	9.636	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, **RDT&E Project Justification:** PB 2019 Office of the Secretary Of Defense		**Date:** February 2018
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0804767D8Z *I COCOM Exercise Engagement and Training Transformation (CE2T2)*	**Project (Number/Name)** 701 *I Air Force Joint National Training Capability (JNTC)*

E. Performance Metrics

RDT&E development efforts are evaluated based on performance metrics. This ensures the development of Joint Force Trainer capabilities synchronize with warfighter requirements. Performance metrics include, but are not limited to; time, cost, realism, and fidelity as defined below:

• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

Measures:
• Cyber: Establish a persistent simulation environment that can be configured rapidly and accurately to reflect the desired operating environment of the training audience. Also, create an ability to reflect cyber activities against a live Integrated Air Defense system.
• Space: A fully operational GPS environment which allows space operators to actively participate in Distributed Mission Operations-Space LVC missile warning, GPS disruption and Infrared special events. Also develop space models to model Space as a contested environment to accurately portray impacts of adversary actions in the Space domain.
• OPFOR: A prototype for a next generation tactical surface to air threat simulator emulating modern fielded threats fielded with potential adversary maneuver elements.
• A plan for integrating Army ground instrumentation within the Air Force run Polygon range complex.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense			Date: February 2018

Appropriation/Budget Activity 0400 I 6	R-1 Program Element (Number/Name) PE 0804767D8Z I COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 772 I Navy Joint National Training Capability (JNTC)

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
772: *Navy Joint National Training Capability (JNTC)*	16.373	1.593	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

CE2T2 Project 772: Navy Joint National Training Capability (JNTC) transfers from USD-PR PE 0804767D8Z to Joint Staff PE 0804767J in fiscal year 2018

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Navy Joint National Training Capability (JNTC)	1.593	-	-
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 technology and methods that provide a crucial technology-based foundation that supports all JNTC Training Transformation (T2), JLVC Federation, and Combatant Commanders Exercise and Engagement (CE2) operations.			
Accomplishments/Planned Programs Subtotals	1.593	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 0804767D8Z: *Navy JNTC O&M Funding*	7.770	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804767D8Z / COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 772 / Navy Joint National Training Capability (JNTC)

E. Performance Metrics

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

• Time – Will the effort enable the Joint Force Trainer to prepare and execute training more timely than current capabilities allow?
• Cost – Will the effort enable the Joint Force Trainer to prepare and execute training at a more effective and efficient cost than current capabilities allow?
• Realism – Will the effort enable the Joint Force Trainer to create a training environment that is closer to the real world environment than current capabilities allow?
• Fidelity – Will the effort enable the Joint Force Trainer to create more detailed capabilities in the training environment than current capabilities allow?

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

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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense			Date: February 2018

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0804767D8Z / COCOM Exercise Engagement and Training Transformation (CE2T2)	Project (Number/Name) 079 / USSTRATCOM SPACE CYBER

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
079: USSTRATCOM SPACE CYBER	2.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

CE2T2 Project 079: USSTRATCOM SPACE CYBER transfers from USD-PR PE 0804767D8Z to Joint Staff PE 0804767J in fiscal year 2018

A. Mission Description and Budget Item Justification

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

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: USSTRATCOM SPACE CYBER	0.000	-	-
Description: The USSTRATCOM CYBER funding provided architecture and analysis support to SPACE Security and Defense Program (SSDP) and the JOINT SPACE OPERATIONS CENTER (JICSpOC) through Modeling, Simulation and Analysis (MS&A); Trade-Off Analysis; Concept Development; Scenario Development; and Military Utility Analysis.			
Accomplishments/Planned Programs Subtotals	0.000	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

All USSTRATCOM missions were exercised during the two Global series exercises during fiscal year with a specific emphasis placed on UCP missions to include: Strategic Deterrence (including Nuclear Commend and Control processes), Space Operations, and Cyberspace Operations. Additional focus areas included USSTRATCOM supporting plans. The entire command, to include components and task forces participated with the goal to meet over 95% of exercise and training objectives.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018
Appropriation/Budget Activity 0400 *I* 6	**R-1 Program Element (Number/Name)** PE 0804767D8Z *I COCOM Exercise Engagement and Training Transformation (CE2T2)*	**Project (Number/Name)** 079 *I USSTRATCOM SPACE CYBER*

• Complete TPAs in JTIMs IAW CJCSI 3500.01 with a goal of over 75 percent rated T.
• Insure Command readiness across all UCP-assigned missions leading up to major training events with a goal of 100 percent of B2C2WG and battle roster augmentees trained.
• All USSTRATCOM missions exercised with a specific emphasis on Nuclear Command and Control processes. Entire USSTRATCOM command, to include components and task forces, participating in two GLOBAL series exercises per FY. Goal was met in 1st and 2nd quarter.