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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 The Joint Staff **Date:** May 2021

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| Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support | R-1 Program Element (Number/Name) PE 0804768J I COCOM Exercise Engagement and Training Transformation (CE2T2) - No n MHA |
|--|---|

| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
|--|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 42.653 | 40.073 | 31.125 | 29.530 | - | 29.530 | - | - | - | - | - | - |
| 701: Air Force Joint National Training Capability (JNTC) | 2.917 | 2.811 | 2.869 | 2.431 | - | 2.431 | - | - | - | - | - | - |
| 758: Joint National Training Capability (JNTC) | 29.584 | 27.293 | 22.375 | 23.157 | - | 23.157 | - | - | - | - | - | - |
| 769: Joint Knowledge Development & Distribution Capability (JKDDC) | 1.126 | 1.608 | 1.108 | 0.826 | - | 0.826 | - | - | - | - | - | - |
| 772: Navy Joint National Training Capability (JNTC) | 3.260 | 3.041 | 3.042 | 2.578 | - | 2.578 | - | - | - | - | - | - |
| 773: Joint Interoperability and Data Link Training Center (JID-TC) | 1.845 | 1.419 | 1.095 | 0.000 | - | 0.000 | - | - | - | - | - | - |
| 774: USMC Joint National Training Capability (JNTC) | 0.921 | 0.901 | 0.636 | 0.538 | - | 0.538 | - | - | - | - | - | - |
| 775: Advanced Distributed Learning (ADL) | 3.000 | 3.000 | 0.000 | 0.000 | - | 0.000 | - | - | - | - | - | - |

A. Mission Description and Budget Item Justification

These programs support readiness of the joint force by creating a joint training environment to replicate the complex and changing operational environment. These investments directly support defense strategic guidance, Joint Operational Training Infrastructure strategy, and enhance joint warfighting readiness by building training capabilities that support the operational readiness of the joint force. The elements associated with this coordinated effort consist of:

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

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| <p>JKDDC: Joint Knowledge Development & Distribution Capability (JKDDC) Joint Knowledge Online (JKO) is the program of record for online joint training that implements and operationalizes the OSD training transformation JKDDC. JKO directly supports the CE2T2 program by developing, delivering, tracking, reporting, and supporting online training for Combatant Command exercises; Combatant Command required training; doctrinally based Joint Operations Core Curriculum; multinational, coalition, interagency training; OSD required training; and administration of the Senior Enlisted Joint Professional Military Education program. JKO expends RDT&E funding for leading edge technology review, market research, and integration to directly enhance various aspects of the training capability required to support Combatant Commanders, CE2T2 program objectives, and the Chairman's joint training guidance. JKO satisfies all requirements necessary to provide CE2T2 stakeholders with a distributed learning capability and access to web-based training content, learning resources, and distributed online training tools.</p> <p>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.</p> <p>Navy JNTC: These funds enable Navy to develop unique maritime capabilities that integrate JLVC elements into a seamless joint training environment. The Navy program activities include conducting research, development, and integration of a common, realistic, joint and coalition, operational to tactical level training architecture to deliver individual and collective constructive joint training for use in Fleet Synthetic Training (FST) events, CDR exercises, Ballistic Missile Defense Exercises (BMDEX) certification events, and BMD at Sea training events in support of CDR's training, deployment certification and operational requirements.</p> <p>JID-TC: Joint Interoperability and Data Link Training Center (JID-TC) supports 35 annual schoolhouse interoperability courses and up to six CAPSTONE Joint Interface Control Officer (JICO) courses tied to various Combatant Command (CCMD) joint exercises. JID-TC trains CCMD, Services and partner nations' operations center personnel on interoperability planning tasks required during contingencies and exercises in emerging mission areas such as joint fires, net enabled weapons, remotely piloted aircraft, integrated air and missile defense, and contested operations including secure internet with Link-16/TDL equipped major weapon systems and smart bombs.</p> <p>Marine Corps JNTC: These funds provide USMC stability and risk reduction to a variety of ongoing joint efforts focused on improving the fidelity and realism of training simulation systems that prepare Marine Air Ground Task Force (MAGTF) units for deployment in support of CCMD operations. In support of the Commandant's planning guidance, the Marine Corps will continue to improve performance and support of the MAGTF Tactical Warfare Simulation in the areas of the JLVC-Multi-Resolution Federation (MRF) Bridge, common database terrain data ingestion, and JLVC interoperability. It also provides a single source training environment capability enabling users to select single or multiple play boxes (terrain data sets) for training simulation systems. In addition to developing an exercise planning, design, implementation, execution, and control tool, it also enhances pattern of life and indigenous population modular service enabling exercise designers' ability to rapidly build new scenarios and incorporate human geography elements into training scenarios.</p> <p>ADL: The Advanced Distributed Learning (ADL) initiative supports innovation and provides policy oversight to help the Services, Joint Staff, and partner agencies deliver training and education more efficiently and cost effectively. ADL provides policy oversight and coordination across DoD, coalition partners, and other Federal agencies for distributed learning. This oversight supports interagency interoperability and promotes personnel readiness, ensuring the right people receive the right training at the right time. This program transferred to OSD P&R in FY21.</p> | | |

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| Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i> | R-1 Program Element (Number/Name) PE 0804768J I <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i> |
|--|--|

| B. Program Change Summary (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 40.073 | 31.125 | 32.695 | - | 32.695 |
| Current President's Budget | 40.073 | 31.125 | 29.530 | - | 29.530 |
| Total Adjustments | 0.000 | 0.000 | -3.165 | - | -3.165 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Total Other Adjustments | - | - | -3.165 | - | -3.165 |

Change Summary Explanation

Reductions for travel, and other adjustments.

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|---|--------------------|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|-----------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | | | | | | | | | Date: May 2021 | | |
| Appropriation/Budget Activity 0400 / 6 | | | | | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA | | | | Project (Number/Name) 701 / Air Force Joint National Training Capability (JNTC) | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| 701: Air Force Joint National Training Capability (JNTC) | 2.917 | 2.811 | 2.869 | 2.431 | - | 2.431 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

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

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| Title: Air Force Joint National Training Capability (JNTC) | 2.811 | 2.869 | 2.431 |
| <p>Description: Air Force continues to develop joint enablers that drive realistic/effective training in contested and degraded environments across the CE2T2 enterprise. These capability enhancements provide a thinking and reactive Opposing Force (OPFOR) to challenge and engage both live and virtual Blue Forces using a combination of kinetic and non-kinetic cyber capabilities. Additionally, it continues to build upon prior investments in the cyber and space domains by improving fidelity of synthetic environments, ability to portray and control blue, red, and neutral entities and effects, interoperability with other Service, joint, and JLVC federation models and simulations, and support of CE2T2 mission partners. It also builds on prior investments in the One War Training System (OWTS) to enhance exercise control, safety, and feedback to training audiences in blended live and synthetic air and land domains.</p> <p>FY 2021 Plans:</p> <ol style="list-style-type: none"> 1. Develop capability for live OPFOR surface-to-air threats to engage virtual as well as live BLUFOR aircraft. 2. Sustain development of and enhance new capabilities for integration of the cyber simulator environment generator and "blue" cyber effects simulation. Continue to add functionality to the Air and Space Collaborative Environment Information Operations Suite (ACE-IOS) Modeling and Simulation (M&S) suite. Further development to allow live space aggressor forces to interact with a virtual constructive environment replicating threats to the space environment. 3. Sustain space simulation improvements to model improved fidelity of space entities and adversary effects, enhance exercise control and OPFOR capabilities, and improve space simulation interoperability with CE2T2 mission partners. | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | Date: May 2021 |
| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA | Project (Number/Name) 701 / Air Force Joint National Training Capability (JNTC) |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|---|----------------|----------------|----------------|
| <p>4. Enhance OWTS feedback capability to training audiences by adding an automated near-real time kill removal capability against OPFOR ground targets.</p> <p>FY 2022 Plans:</p> <p>1. Develop capability for live OPFOR surface-to-air threats to engage virtual as well as live Blue Force (BLUFOR) aircraft.</p> <p>2. Sustain development of and enhance new capabilities for integration of the cyber simulator environment generator and "blue" cyber effects simulation. Continue to add functionality to the Air and Space Collaborative Environment Information Operations Suite (ACE-IOS) Modeling and Simulation (M&S) suite. Further development to allow live space aggressor forces to interact with a virtual constructive environment replicating threats to the space environment.</p> <p>3. Sustain space simulation improvements to model improved fidelity of space entities and adversary effects, enhance exercise control and OPFOR capabilities, and improve space simulation interoperability with CE2T2 mission partners.</p> <p>4. Enhance OWTS feedback capability to training audiences by adding an automated near-real time kill removal capability against OPFOR ground targets.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease in this program as funds were realigned to support the Secretary of Defense's Joint Training Infrastructure Goals in other CE2T2 programs.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 2.811 | 2.869 | 2.431 |

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

N/A

Remarks

D. Acquisition Strategy

N/A

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|---|------------------------|----------------|----------------|-------------------------|--|--------------------------|----------------|----------------|--|-----------------------|-----------------------------|-----------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | | | | | | | | | Date: May 2021 | | |
| Appropriation/Budget Activity 0400 / 6 | | | | | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA | | | | Project (Number/Name) 758 / Joint National Training Capability (JNTC) | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| 758: Joint National Training Capability (JNTC) | 29.584 | 27.293 | 22.375 | 23.157 | - | 23.157 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

Investment in the Joint National Training Capability (JNTC) program enables Service and Combatant Commands to train as they operate. The requested funding continues to modernize joint training capabilities into a single integrating architecture aligned to DoD Chief Information Officer IT mandates. Funding supports development of cloud-enabled modular training application services within an Open Systems Architecture (OSA). JNTC focuses on delivering operationally relevant training environments and respond to changes in the global security landscape and the warfighter's operational environment. JNTC enables the Department of Defense to be responsive to the warfighters' changing operational concepts, threat environments, and best practices. Funds support improved relevance and realism of training by providing capabilities that replicate the contemporary and future operating environment. This program will adapt the goals listed in the Joint Operational Training Infrastructure (JOTI).

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

| | FY 2020 | FY 2021 | FY 2022 |
|---|----------------|----------------|----------------|
| Title: Joint National Training Capability (JNTC) | 27.293 | 22.375 | 23.157 |
| <p>Description: JNTC provides the technical standards, architecture, and development processes required to integrate/link joint training programs. Funding supports the technical integration of Joint and Service models and simulations with the Joint, Live, Virtual, Constructive (JLVC) training capabilities. The capabilities enable aggregation of training audiences at the Combatant Command, Joint Task Force, and Component Command headquarter levels. The funding also supports modernization of the Joint Training Environment (JTE) through a Modular Open Systems Architecture (MOSA) approach to include a cloud enabled web accessible Joint Training Tool (JTT) that supports all phases of an exercise (planning, execution, and AAR). JTT will increase warfighter access to semi-automated training enablers within the Joint Training Synthetic Environment (JTSE).</p> <p>FY 2021 Plans:</p> <ol style="list-style-type: none"> Expand use of web-enabled JTT exercise design and planning services as the primary tool supporting Tier 1 and Tier 2 joint training exercise. Conduct "proof of concept" use of web-enabled modular JTT simulation service. Continue planning transition of the JTT as the primary tool supporting all aspects of Tier 1 and Tier 2 joint training exercises where aggregate simulation capabilities are required. | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | Date: May 2021 |
| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA | Project (Number/Name) 758 / Joint National Training Capability (JNTC) |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|---|----------------|----------------|----------------|
| 3. Integrate, test, and validate Service and Agency JLVC capabilities. | | | |
| 4. Enhance joint simulation (within JLVC) to keep pace with operational environment changes (annual requirement). | | | |
| 5. Support the Joint Operation Training infrastructure goals. | | | |
| FY 2022 Plans: | | | |
| 1. Expand use of web-enabled JTT exercise design and planning services as the primary tool supporting Tier 1 and Tier 2 joint training exercise. | | | |
| 2. Conduct “proof of concept” use of web-enabled modular JTT simulation service. Continue planning transition of the JTT as the primary tool supporting all aspects of Tier 1 and Tier 2 joint training exercises where aggregate simulation capabilities are required. | | | |
| 3. Integrate, test, and validate Service and Agency JLVC capabilities. | | | |
| 4. Enhance joint simulation (within JLVC) to keep pace with operational environment changes (annual requirement). | | | |
| 5. Support the Joint Operation Training infrastructure goals. | | | |
| FY 2021 to FY 2022 Increase/Decrease Statement: Increases in FY22 to support the Secretary of Defense’s Joint Training Infrastructure Goals. | | | |
| Accomplishments/Planned Programs Subtotals | 27.293 | 22.375 | 23.157 |

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| C. Other Program Funding Summary (\$ in Millions) N/A |
| Remarks |
| D. Acquisition Strategy N/A |

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| Appropriation/Budget Activity 0400 / 6 | | | | | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA | | | | Project (Number/Name) 769 / Joint Knowledge Development & Distribution Capability (JKDDC) | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| 769: Joint Knowledge Development & Distribution Capability (JKDDC) | 1.126 | 1.608 | 1.108 | 0.826 | - | 0.826 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

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

1. JKO Learning Management System (LMS): Development and enhancement is required to integrate advanced individual and staff training technologies and methodologies with larger scale, collective training exercises, and modernize military training capability with a DoD enterprise-wide online training toolkit. There are currently over 3.6 million registered users of the JKO LMS.
2. JKO Course Builder: JKO's Course Builder is a separate component used as a force multiplier for organizations to develop online content by both internal and external joint enterprise teams. Course Builder mitigates the need to have programmer's code Shareable Content Object Reference Model (SCORM) standards into content with automation that promotes fiscal efficiency as well as operational responsiveness. Course Builder will also support the new development methodology of micro-learning.
3. Small Group Scenario Trainer (SGST) desktop modeling and simulation based training: This JKO capability trains and prepares thousands of military and civilian personnel deploying to Combatant Command theaters of operation prior to serving in their assigned Combined/Joint Task Force (C/JTF) billets. JKO integration of SGST simulation exercise scenarios and prerequisite JKO courses significantly enhance blended learning training support to large-scale, collective training exercises.
4. JKO Virtual Classroom (VClass): JKO's new virtual classroom, or VClass, meets the need for an enhanced distributed learning capability with the introduction of a collaborative learning environment. VClass is a customizable platform within JKO's architecture and will provide JKO elevated users the tools to meet the unique needs of DoD's training and education audience by providing online/blended course support with syllabus, messaging, gradebook, resources, announcements and synchronous instructional forums.
5. JKO mobile training development: Development and enhancements in JKO's new approach to Responsive Design will significantly increase availability and access of web-based joint training content on portable, hand-held platforms (e.g. cell phones and tablets).

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| <p>Title: Joint Knowledge Development & Distribution Capability (JKDDC)</p> <p>Description: Joint Knowledge Online (JKO) advance technology initiatives primarily include the JKO Learning Management System (LMS) application, Course Builder, Small Group Scenario Trainer (SGST) desktop modeling and simulation based training capability, Virtual Classroom, and mobile courseware training applications. These capabilities increase access to, and facilitate the training and preparation of hundreds of thousands of military and civilian personnel deploying to Combatant Command (CCMD) theaters of operation prior to serving in their assigned Joint and Combined/Joint Task Force (C/JTF) billets. JKO LMS development and enhancements are required to develop, host, deliver, track, report and support students' completions, progress and survey results more effectively and efficiently. C/JTF "battle staffs" and combatant command (CCMD) personnel will be better trained, as individuals and as staffs, based on SGST, VClass development, and implementation throughout the joint training enterprise. JKO mobile courseware training development via Responsive Design facilitates the global distribution of web-based joint training content on portable, hand-held platforms for DoD personnel.</p> <p>FY 2021 Plans: Continue to integrate and expand the virtual classroom (VClass) open source capability (Sakai) into the Global Content Distribution System (GCDS) and the JKO LMS suite of tools for synchronous (live) and non-synchronous (video-taped) instructor led training as well as a locally developed micro learning technology called the JKO Personal Accelerated Learning Manager (JPALM) leveraging the PERLS methodology offered by ADL. JKO's new VClass capability will provide required enhanced distributed learning (DL) much like today's universities with an expectation of student-to-instructor collaboration; student-to-student collaboration; written assignment evaluation; live instructor response and teaching; and critical thinking exercises and assignments. PERLS delivers self-regulated micro-learning training that is designed to be engaging, usable and practical, allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities to mitigate expenses due to decreased funding and personnel, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JPALM/PERLS and micro-learning provide that edge and optimization.</p> <p>FY 2022 Plans: Continue to integrate and expand the virtual classroom (VClass) open source capability (Sakai) into the Global Content Distribution System (GCDS) and the JKO LMS suite of tools for synchronous (live) and non-synchronous (video-taped) instructor led training as well as a locally developed micro learning technology called the JKO Personal Accelerated Learning Manager (JPALM) leveraging the PERLS methodology offered by ADL. JKO's new VClass capability will provide required enhanced distributed learning (DL) much like today's universities with an expectation of student-to-instructor collaboration; student-to-student collaboration; written assignment evaluation; live instructor response and teaching; and critical thinking exercises and assignments. PERLS delivers self-regulated micro-learning training that is designed to be engaging, usable and practical,</p> | 1.608 | 1.108 | 0.826 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| <p>allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities to mitigate expenses due to decreased funding and personnel, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JPALM/PERLS and micro- learning provide that edge and optimization. allowing individuals to quickly access desired learning content whenever an opportunity arises. As DoD organizations increase training via DL opportunities to mitigate expenses due to decreased funding and personnel, the methodologies of developing and delivering DL must be cutting edge, timely and optimize the learning experience of the joint warfighter. JPALM/PERLS and micro- learning provide that edge and optimization.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decreases in FY22 to support the Secretary of Defense’s Joint Training Infrastructure Goals.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 1.608 | 1.108 | 0.826 |

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

N/A

Remarks

D. Acquisition Strategy

N/A

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | | | | | | | | | Date: May 2021 | | |
| Appropriation/Budget Activity 0400 / 6 | | | | | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA | | | | Project (Number/Name) 772 / Navy Joint National Training Capability (JNTC) | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| 772: Navy Joint National Training Capability (JNTC) | 3.260 | 3.041 | 3.042 | 2.578 | - | 2.578 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | - | - |

A. Mission Description and Budget Item Justification

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

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| Title: Navy Joint National Training Capability (JNTC) | 3.041 | 3.042 | 2.578 |
| <p>Description: Develops unique maritime capabilities that integrate joint live, virtual, and constructive (JLVC) elements into a seamless joint training environment. Using a scientific and phased approach that focuses on modeling ground, air, space, and maritime capabilities, this program researches new technologies and methods that provide a crucial technology-based foundation that supports all JNTC training transformation, JLVC federation, and Combatant Commanders exercise and engagement operations. This program provides a current and emerging multi-functional and multi-domain near-peer threat environment and associated warfighting challenges to stimulate Joint and Navy training audiences, enabling the Fleet Commander to certify deploying forces in a synthetic Joint training environment and Joint Force Maritime Component Commands (JFMCCs) to participate in realistic Combatant Commander Exercises.</p> <p>FY 2021 Plans:</p> <ol style="list-style-type: none"> 1. Provide development of new capability for integration with annual software release of the Navy Training Baseline (NTB) to enable tactics, techniques and procedures (TTP) development for contested environments and ballistic missile defense (BMD). 2. Develop advanced models to support Navy and Joint Operational Level of War (OLW) exercises and tactical training; to include Anti-ship Cruise Missile (ASCM) defense, Counter-ISR, including unmanned system (UxS) defense, theater and regional BMD, and AEGIS Weapons System, maritime air, tactical air and unmanned sensor and weapon system capability upgrades. <p>FY 2022 Plans:</p> | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | Date: May 2021 |
| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i> | Project (Number/Name) 772 / <i>Navy Joint National Training Capability (JNTC)</i> |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| 1. Provide development of new capability for integration with annual software release of the Navy Training Baseline (NTB) to enable tactics, techniques and procedures (TTP) development for contested environments and Ballistic Missile Defense (BMD). | | | |
| 2. Develop advanced models to support Navy and Joint Operational Level of War (OLW) exercises and tactical training; to include Anti-ship Cruise Missile (ASCM) defense, Counter-ISR, including unmanned system (UxS) defense, theater and regional BMD, and AEGIS Weapons System, maritime air, tactical air and unmanned sensor and weapon system capability upgrades. | | | |
| <i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decreases in FY 22 to support the Secretary of Defense's Joint Training Infrastructure Goals in other CE2T2 programs. | | | |
| Accomplishments/Planned Programs Subtotals | 3.041 | 3.042 | 2.578 |

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

N/A

Remarks

D. Acquisition Strategy

N/A

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| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA | Project (Number/Name) 773 / Joint Interoperability and Data Link Training Center (JID-TC) |
|--|---|---|

| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
|--|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 773: Joint Interoperability and Data Link Training Center (JID-TC) | 1.845 | 1.419 | 1.095 | 0.000 | - | 0.000 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

JID is the sole Department of Defense provider of joint interoperability training and Joint Interface Control Officer (JICO) production. JID trains CCMD, Services and partner nations' operations center personnel in mission areas such as joint fires, net enabled weapons, remotely piloted aircraft, integrated air and missile defense, and contested operations including secure internet with Link-16/TDL equipped major weapon systems and smart bombs. FY19 was the first year the JID received RDT&E funding in order to support the development of the JICO Simulator. The JICO Simulator will allow the JID to train students across the Services on the proper planning, management and execution of tactical data links (TDL) to fill the gaps for non-participating weapon systems missing in live exercises.

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|---------|---------|---------|
| Title: Joint Interoperability and Data Link Training Center (JID-TC) | 1.419 | 1.095 | 0.000 |
| Description: JICO Simulator will allow the JID to train students across the Services on the proper planning, management and execution of tactical data links (TDL). The simulator will allow the JID to build robust practice scenarios that students can execute fixing TDL architecture plans as necessary. This capability will not only create realistic training scenarios with the ability to inject multi-tactical data link network anomalies for training, but can also be used to support Combatant Command (CCMD) operations centers during planned exercises. | | | |
| FY 2021 Plans: JID-TC will close out projects. | | | |
| FY 2022 Plans: N/A. | | | |
| FY 2021 to FY 2022 Increase/Decrease Statement: This will no longer be a Joint Staff function in FY 2022. | | | |
| Accomplishments/Planned Programs Subtotals | 1.419 | 1.095 | 0.000 |

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

N/A

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | Date: May 2021 |
| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA</i> | Project (Number/Name) <i>773 / Joint Interoperability and Data Link Training Center (JID-TC)</i> |

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

Remarks

D. Acquisition Strategy
N/A

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| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA | Project (Number/Name) 774 / USMC Joint National Training Capability (JNTC) |
|--|---|--|

| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
|---|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 774: USMC Joint National Training Capability (JNTC) | 0.921 | 0.901 | 0.636 | 0.538 | - | 0.538 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

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

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|---------|---------|---------|
| Title: Marine Corps Joint National Training Capability (JNTC) | 0.901 | 0.636 | 0.538 |
| <p>Description: Provides pattern of life (POL) / indigenous population (IP) concept development and integration, supporting both constructive and virtual training simulation systems by injecting "people packs" with realistic attributes and behaviors associated with specified regions. Full integration of terrain generation 3D models and objects into joint federation synthetic training environment eliminates the burden of requesting terrain data by the Services and CCMDs creates a single, shareable, repository across the federation. Addresses crucial integration of MAGTF Tactical Warfare Simulator (MTWS) into the Korean side of multi-resolution federation bridge supporting Ulchi Focus Guardian covering training shortfalls in engineering obstacle simulations (minefields, chemical, anti-tank ditches, bridges, etc.). Initiates design and development of a joint exercise design and control tool enhancing connectivity across multiple platforms providing exercise planning, design and control within various joint simulation constructs.</p> <p>FY 2021 Plans: Continue development of pattern-of-life (POL) models that can insert synthetic opposing forces and civilian population into scenarios that will autonomously respond with native behaviors of that region providing synthetic adversaries that adapt to various training scenarios in multi-domain joint training.</p> | | | |

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| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i> | Project (Number/Name) 774 / <i>USMC Joint National Training Capability (JNTC)</i> |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| <p>Provide a capability for all simulation systems to use the same standardized terrain datasets across training domains. Sustain pre-deployment training for operations while supporting the readiness of deployed forces, particularly those primarily focused on global response force readiness.</p> <p>Address crucial integration of MTWS into Korean side of multi-resolution federation bridge supporting USFK joint exercises covering shortfalls identified in addressing engineering obstacle simulations (minefields, chemical, anti-tank ditches, bridges, etc.).</p> <p>Continue design and development of a joint exercise design and control tool enhancing interoperability and connectivity across multiple platforms. Deliver sharper training environment definitions, assist with defining friendly, enemy, neutrals (including joint multinational and synthetic forces), and support to concurrent planning tools.</p> <p>Explore innovative ways to train for operations in strategically challenging trans-regional, multi-domain and multi-functional (TMM) environments. Use web-based cloud technologies to accelerate exercise development and execution.</p> <p>FY 2022 Plans: Continue development of pattern-of-life (POL) models that can insert synthetic opposing forces and civilian population into scenarios that will autonomously respond with native behaviors of that region providing synthetic adversaries that adapt to various training scenarios in multi-domain joint training.</p> <p>Provide a capability for all simulation systems to use the same standardized terrain datasets across training domains. Sustain pre-deployment training for operations while supporting the readiness of deployed forces, particularly those primarily focused on global response force readiness.</p> <p>Address crucial integration of MTWS into Korean side of multi-resolution federation bridge supporting USFK joint exercises covering shortfalls identified in addressing engineering obstacle simulations (minefields, chemical, anti-tank ditches, bridges, etc.).</p> <p>Continue design and development of a joint exercise design and control tool enhancing interoperability and connectivity across multiple platforms. Deliver sharper training environment definitions, assist with defining friendly, enemy, neutrals (including joint multinational and synthetic forces), and support to concurrent planning tools.</p> | | | |

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| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA</i> | Project (Number/Name) 774 / <i>USMC Joint National Training Capability (JNTC)</i> |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|---|----------------|----------------|----------------|
| Explore innovative ways to train for operations in strategically challenging trans-regional, multi-domain and multi-functional (TMM) environments. Use web-based cloud technologies to accelerate exercise development and execution. | | | |
| <i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decrease in FY 22 to support the Secretary of Defense’s Joint Training Infrastructure Goals in other CE2T2 programs. | | | |
| Accomplishments/Planned Programs Subtotals | 0.901 | 0.636 | 0.538 |

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

N/A

Remarks

D. Acquisition Strategy

N/A

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| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / COCOM Exercise Engagement and Training Transformation (CE2T2) - Non MHA | Project (Number/Name) 775 / Advanced Distributed Learning (ADL) |
|--|---|---|

| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
|--|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 775: Advanced Distributed Learning (ADL) | 3.000 | 3.000 | 0.000 | 0.000 | - | 0.000 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The ADL Initiative supports innovation and provides policy oversight to help the Services, Joint Staff, and partner agencies deliver their training and education more efficiently and cost effectively—anytime, anywhere. ADL provides policy oversight and coordination across DoD, Coalition partners, and other Federal agencies for distributed learning. This work supports interoperability (i.e., ensuring interagency technical and organizational systems function together). Ultimately, this promotes personnel readiness, ensuring the right people receive the right training and education, at the right time, and at the right cost. This Program transferred in FY21.

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|---------|---------|---------|
| Title: Advanced Distributed Learning (ADL) | 3.000 | 0.000 | - |
| Description: The ADL Initiative supports innovation and provides policy oversight to help the Services, Joint Staff, and partner agencies deliver their training and education more efficiently and cost effectively—anytime, anywhere. ADL provides policy oversight and coordination across DoD, Coalition partners, and other Federal agencies for distributed learning. This work supports interoperability (i.e., ensuring interagency technical and organizational systems function together). Ultimately, this promotes personnel readiness, ensuring the right people receive the right training and education, at the right time, and at the right cost. | | | |
| FY 2021 Plans: The Advanced Distributed Learning project is transferred to OSD (Personnel and Readiness) under a mutually agreed memorandum of understanding. Under the agreement, OSD(P&R) assumes responsibility for all Advanced Distributed Learning activities. | | | |
| FY 2021 to FY 2022 Increase/Decrease Statement: Program transferred to OSD in FY21. | | | |
| Accomplishments/Planned Programs Subtotals | 3.000 | 0.000 | - |

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

N/A

Remarks

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 The Joint Staff | | Date: May 2021 |
| Appropriation/Budget Activity 0400 / 6 | R-1 Program Element (Number/Name) PE 0804768J / <i>COCOM Exercise Engagem ent and Training Transformation (CE2T2) - Non MHA</i> | Project (Number/Name) 775 / <i>Advanced Distributed Learning (ADL)</i> |

D. Acquisition Strategy

N/A