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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Office of the Secretary Of Defense **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603769D8Z I <i>Advanced Distributed Learning</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	34.851	21.991	6.765	6.398	-	6.398	-	-	-	-	-	-
<i>776: Advance Distributed Learning (ADL)</i>	34.851	21.991	6.765	6.398	-	6.398	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Advanced Distributed Learning (ADL) program is helping DoD evolve its distributed learning systems (e.g., online courses, smartphone-based learning, and DoD-wide enterprise systems for training and education). These improvements benefit DoD in several ways: (1) **EFFICIENCY:** Increase business systems’ efficiency, saving time and resources, by eliminating duplications and developing shared services for digital learning technology and data. (2) **EFFECTIVENESS:** Improve the quality and efficiency of training/education delivery via online systems by developing modern technologies, integrated data systems, and associated learning science, ultimately impacting personnel readiness.

This program was originally established in response to Section 378 of Public Law 105-261, the FY99 NDAA. Other authorities were later provided through, for example, Defense Planning Guidance. The ADL program directly supports all DoD Components, and as a leader in the field of distributed learning technologies, also coordinates with other Federal agencies, Allies, and Partners. This leads to the program’s third benefit: (3) **INTEROPERABILITY:** It strengthens interagency, interorganizational, and multinational interoperability by developing shared distributed learning capabilities and policy and through leadership in DoD, Federal, and Coalition communities of practice.

The program’s work falls into three interrelated categories: (A) Modernization, (B) Documentation, and (C) Coordination. The “modernization” work involves Advanced Technology Development (RDT&E subfield Advanced Technology Development 6.3) in technical areas such as e-learning, mobile learning, IT/data interoperability, learner data modeling and analytics, and associated learning science. These efforts inform the program’s “documentation” work, including the authoring and upkeep of technical guidance and policy documents, such as DoD Instruction 1322.26 (“Distributed Learning”) and software/data interoperability specifications. Finally, the documentation work drives “coordination” efforts, which consist of implementation support and interagency, interorganizational, and international (e.g., NATO) coordination.

This program’s modernization investments are vetted through the Defense ADL Advisory Committee, a working group of military personnel and DoD/Federal civilians who formally represent their organizations’ distributed learning interests. These requirements are also aligned to DoD/Federal strategic direction, such as the DoD Digital Modernization Strategy, DoD and Federal Data Strategies, and Personnel and Readiness Strategy for 2030. They are also considered against emerging industry trends and technologies.

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B. Program Change Summary (\$ in Millions)	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	22.446	6.765	6.478	-	6.478
Current President's Budget	21.991	6.765	6.398	-	6.398
Total Adjustments	-0.455	0.000	-0.080	-	-0.080
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	-0.455	-	-0.080	-	-0.080

C. Accomplishments/Planned Programs (\$ in Millions)	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>
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Title: Advance Distributed Learning (ADL)	21.991	6.765	6.398
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Description: Advance Distributed Learning (ADL) program serves as the innovation hub for distributed learning across DoD and other government agencies. The ADL program supports DoD-wide initiatives for innovation, modernization, and advancement of online and mobile electronic training capabilities as well as associated enterprise-wide software/data services. Activities include advanced technology design and development, demonstrations, assessments, and associated policy stewardship. Results improve efficiencies and reduce costs, in part, by reducing time spent in face-to-face instruction, allowing more time for practical application and repetition, increasing interoperability (which enables discovery, retrieval, and reuse of distributed learning content), and researching and prototyping methods of distributed learning with superior motivational and learning outcomes.

FY 2021 Plans:

- Enterprise Course Catalog -- Fuse existing capabilities and new technologies to consolidate course listings to a Defense-wide training and education course catalog, accessible through a single web-based portal. Facilitate transition to full operational capability in collaboration with the Office of Personnel Management (OPM) USALearning program and other Defense stakeholders. This work directly supports DoD Reform Management Group-directed reform.
- Enterprise Learner Record -- Continue work from FY20 to inform and establish operational capabilities and policies for the interoperability of Defense-wide learning and development records. Demonstrate initial operational capability. This work directly supports DoD Reform Management Group-directed reform and aligns with other DoD, Federal, and industry interoperable learner record efforts.

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
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<p>3. Learning Services Ecosystem -- Continue to develop the technology infrastructure for the larger “learning ecosystem” (i.e., the Total Learning Architecture project); conduct pilot testing. This work supports digital learning modernization reforms by providing the foundational data interoperability fabric for digital learning software systems. Progress on this line of effort is coordinated with stakeholders from the DoD Chief Data Officer (CDO) Council Architecture working group, among other DoD and industry partners.</p> <p>4. Update Distributed Learning Policy and Guidance -- Continue to lead the Defense ADL Advisory Committee (i.e., the functional community for DoD distributed learning personnel). Incorporate new requirements into existing Defense policy (e.g., DoDI 1322.26, NATO Standardization Agreement 2591), as required, in areas such as acquisition guidance for digital learning, data standards, and digital identity assurance (e.g., Federal Identity, Credential, and Access Management).</p> <p>5. Coordination -- Continue to coordinate with Defense Allies and Partners on distributed learning, to include the NATO Training Group, Partnership for Peace Consortium, and The Technical Cooperation Program. Work with DoD groups (e.g., Defense ADL Advisory Committee, CDO Council, Joint Enterprise Standards Committee) and professional technical organizations to enact and govern software/data standards and digital learning science.</p> <p>FY 2022 Plans:</p> <p>1. Enterprise Course Catalog -- Finalize transition of the Enterprise Course Catalog by completing remaining test and evaluation efforts in coordination with OPM USALearning. Complete any remaining steps to obtain cybersecurity accreditation for operation of the system. Finalize the associated standard for Learning Metadata, and coordinate with the CDO Council to potentially expand relevant shared services from this effort into other DoD systems (e.g., for linked data).</p> <p>2. Enterprise Learner Record Repository -- Finalize the Learner Profile standard. Conduct developmental testing of the initial operational capability, demonstrating safe data integration of learner records across multiple DoD organizations. Coordinate with OPM USALearning.</p> <p>3. Learning Services Ecosystem -- This work will focus on documenting the Total Learning Architecture (TLA) Enterprise Architecture, i.e., the software/data backbone across digital training and education technologies. Coordinated work on the developmental environment will continue with Defense Components to support implementation of the TLA with their systems (i.e., modernizing legacy technology). DevSecOps documentation will be produced to help these organizations transition the TLA.</p> <p>4. Update Distributed Learning Policy -- Continue to coordinate with the Defense ADL Advisory Committee to incorporate new requirements into existing Defense policy, as required. Additional work is anticipated to integrate updated guidance on data standards and the enterprise architecture. New guidance on Federal Identity, Credential, and Access Management as well as</p>			
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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
data privacy, data handling, and single sign-on will also be considered in support of the Enterprise Course Catalog and Enterprise Learner Record Repository.				
5. Coordination -- Continue to coordinate with Defense Allies and Partners on distributed learning, to include the NATO Training Group, Partnership for Peace Consortium, and The Technical Cooperation Program. Work with DoD groups (e.g., Defense ADL Advisory Committee, CDO Council, Joint Enterprise Standards Committee) and professional technical organizations to enact and govern software/data standards and digital learning science.				
FY 2021 to FY 2022 Increase/Decrease Statement: Program change due to minor budgetary fluctuations.				
Accomplishments/Planned Programs Subtotals		21.991	6.765	6.398
D. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
E. Acquisition Strategy N/A				