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

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 3: Advanced Technology Development (ATD)	R-1 Program Element (Number/Name) PE 0603040A / Artificial Intelligence and Machine Learning Advanced Technologies
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	0.876	6.395	13.187	-	13.187	14.412	14.130	14.732	16.504	0.000	80.236
CL1: AI Enhanced Intel Operations Advanced Technologies	-	0.357	1.424	1.359	-	1.359	2.269	2.174	2.216	4.033	0.000	13.832
CL6: ATR Using Multiple Cooperative Sensors Adv Tech	-	0.519	1.883	4.909	-	4.909	6.857	6.721	6.793	6.880	0.000	34.562
CN6: Predictive Maintenance Advanced Technology	-	-	2.311	4.117	-	4.117	4.131	4.078	4.062	4.177	0.000	22.876
DA7: AI-Enabled Command and Coordination Adv Tech	-	-	0.777	1.396	-	1.396	1.155	1.157	1.661	1.414	0.000	7.560
DE9: AI Development Environment Advanced Technology	-	-	-	1.406	-	1.406	-	-	-	-	0.000	1.406

A. Mission Description and Budget Item Justification

This Program Element (PE) will mature and demonstrate advanced technologies using artificial intelligence (AI) and machine learning (ML) to improve target recognition/detection using multiple cooperative autonomous sensors, leader decision-making, and replication of tactical behaviors to enable autonomous capabilities for maneuver, predictive maintenance, talent management, Intel support for Operations, network and cybersecurity and medical support. The Army's Artificial Intelligence Integration Center (AI2C) will provide strategic guidance and coordination of these advanced research efforts in AI/ML across the Army Modernization enterprise.

Research in this PE contributes to the Army Science and Technology (S&T) portfolio and is fully coordinated with efforts in PE 0601601A (Artificial Intelligence Basic Research) and PE 0602180A (Artificial Intelligence Technologies).

The cited research is consistent with the Under Secretary of Defense for Research and Engineering S&T focus areas, the Army Modernization Strategy and the Chief Digital and Artificial Intelligence Office (CDAO).

Research in this PE is performed by the United States Army Futures Command (AFC).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	0.909	6.395	7.759	-	7.759
Current President's Budget	0.876	6.395	13.187	-	13.187
Total Adjustments	-0.033	0.000	5.428	-	5.428
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.033	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	5.428	-	5.428

Change Summary Explanation

Increased funding to support higher priority efforts within the Science & Technology (S&T) portfolio and Artificial Intelligence development efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>				Project (Number/Name) CL1 / <i>AI Enhanced Intel Operations Advanced Technologies</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CL1: <i>AI Enhanced Intel Operations Advanced Technologies</i>	-	0.357	1.424	1.359	-	1.359	2.269	2.174	2.216	4.033	0.000	13.832
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

AI Enabled Intelligence Fusion for Targeting will address a "multi-INT" fusion problem and mature and demonstrate how AI algorithms can fuse data from various military intelligence systems to support sensor to shooter automation for the strategic, operational, and tactical levels. This effort will design and develop AI capabilities for support of Long Range Precision Fires, Mission Command, and Maneuver Commanders by leveraging Intelligence Community enterprise investments in sensing, data transport, and Machine Learning / AI frameworks.

Research in this Project supports the Army Science and Technology Lethality Portfolio and the Chief Digital and Artificial Intelligence Office (CDAO).

Research in this Project is performed by the United States (US) Army Futures Command.

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

	FY 2022	FY 2023	FY 2024
Title: AI Enhancements for Prometheus	0.357	0.570	-
Description: AI Enabled Intelligence Fusion for Targeting will mature and demonstrate how AI algorithms can fuse data from various military intelligence systems (multi-INT) to support sensor to shooter automation for the strategic, operational, and tactical levels. This effort will design and develop AI capabilities for support of Long Range Precision Fires, Mission Command, and Maneuver Commanders by leveraging Intelligence Community enterprise investments in sensing, data transport, and Machine Learning / AI frameworks.			
FY 2023 Plans: Will demonstrate that the algorithms matured on this project can generate artificial data, and that this artificial data is realistic enough to train an AI system in place of real data. Will validate the full methodology on a military-related problem where the system will generate artificial data and use that artificial data to re-train a military AI-system like Prometheus.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease represents realignment to task AI Enabled Intelligence Fusion for Targeting.			
Title: Intelligence Fusion for Targeting	-	0.802	-

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>	Project (Number/Name) CL1 / <i>AI Enhanced Intel Operations Advanced Technologies</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>Description: AI Enabled Intelligence Fusion for Targeting will optimize AI algorithms and demonstrate howthey can fuse data from various military intelligence systems (multi-INT) to support sensor to shooter automation for the strategic, operational, and tactical levels. This effort will design and develop AI capabilities for support of Long Range Precision Fires, Mission Command, and Maneuver Commanders by leveraging Intelligence Community enterprise investments in sensing, data transport, and Machine Learning / AI frameworks.</p> <p>FY 2023 Plans: Will demonstrate the ability of the algorithm to fuse data from various military intelligence systems (ARCANE series, Prometheus, and ATR-MCAS) in a simulated test. Will then demonstrate the algorithm performing fusion of real-world intelligence data to show improved target confirmation over what can be provided by any single AI-enabled sensor. Will work with product owners of TITAN and SHOT systems to exploit the fusion algorithm and the required data pipelines.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease represents realignment to task AI Enabled Intelligence Fusion for Targeting.</p>				
<p>Title: SBIR/STTR Transfer</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638</p>		-	0.052	-
<p>Title: AI Enabled Intelligence Fusion for Targeting</p> <p>Description: AI Enabled Intelligence Fusion for Targeting will mature and demonstrate how AI algorithms can fuse data from various military intelligence systems (multi-INT) to support sensor to shooter automation for the strategic, operational, and tactical levels. This effort will design and develop AI capabilities for support of Long Range Precision Fires, Mission Command, and Maneuver Commanders by leveraging Intelligence Community enterprise investments in sensing, data transport, and Machine Learning / AI frameworks.</p> <p>FY 2024 Plans: AI Enabled Intelligence Fusion for Targeting will provide a system of applications to identify targets of interest. This effort will mature algorithms to predict representation of novel object classes from a small number of novel class samples, improving the AI algorithm learning capability and reducing the need for manual data input. Will investigate the use of visual, language, signal, and event-based information and semantic relationships to learn new objects and relationships and validate knowledge transfer from base classes to novel classes in order to reduce the time it takes to train AI algorithms. Will demonstrate the ability</p>		-	-	1.359

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>	Project (Number/Name) CL1 / <i>AI Enhanced Intel Operations Advanced Technologies</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
of the algorithm to fuse data from various military intelligence systems in a simulated test. Will then demonstrate the algorithm performing fusion of real-world intelligence data to show improved target confirmation over what can be provided by any single AI-enabled sensor. Will work with product owners of TITAN and SHOT systems to exploit the fusion algorithm and the required data pipelines. <i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> FY 2024 funding increase represents realignment from tasks AI Enhancement for Prometheus and Intelligence Fusion for Targeting to expand the use of AI and ML to demonstrate multi-INT data fusion.				
Accomplishments/Planned Programs Subtotals		0.357	1.424	1.359
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>				Project (Number/Name) CL6 / <i>ATR Using Multiple Cooperative Sensors Adv Tech</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CL6: <i>ATR Using Multiple Cooperative Sensors Adv Tech</i>	-	0.519	1.883	4.909	-	4.909	6.857	6.721	6.793	6.880	0.000	34.562
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project will mature and demonstrate a team of air and ground sensors that use Artificial Intelligence (AI) and Machine Learning (ML) to autonomously navigate and collaborate through shared perception of the optical, thermal, and electromagnetic spectrums to find, identify, geo-locate, and track targets during reconnaissance missions. This Project also complements and exploits the applied research in Program Element (PE) 0602180A (Artificial Intelligence Technologies) / Project CL7 (ATR Using Multiple Cooperative Sensors App Tech).

The cited research is consistent with Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Research in this Project supports the Army Science and Technology Lethality Portfolio and the Joint Artificial Intelligence Center (JAIC).

Research in this Project is performed by the United States (US) Army Futures Command.

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

	FY 2022	FY 2023	FY 2024
Title: Collaborative Target Detection and Tracking	0.519	1.296	4.909
Description: This effort will mature and demonstrate an AI-enabled scalable team of autonomous air and ground vehicles that will cooperatively conduct a zone recon to identify, geolocate, and track threats using on-board electronic intelligence (ELINT) and electro optical-infrared (EO-IR) sensors.			
FY 2023 Plans: Will mature and optimize the threat, terrain, and perception architecture for maneuver and threat classification at the tactical edge. Will integrate sensors to detect and geo-locate radio emissions to influence search areas and accelerate target localization. Will improve interfaces with the cloud environment by integrating ATR-MCAS with Integrated Visual Augmentation System (IVAS) voice recognition, and demonstrating a 100% cloud-based data pipeline with linkages to COEUS/cARMY on IL5.			
FY 2024 Plans: Will mature the autonomous mobility and threat perception algorithms by updating and improving the Robot Operating System (ROS) to its latest version and will provide enhanced security and faster messaging between subsystems. Will demonstrate the ability to rapidly retrain the AI algorithms using a cloud-based, machine learning pipeline. Will optimize the use of additional sensors on the robotic combat vehicle (RCV) surrogates to more precisely detect and geo-locate targets at longer ranges. Will			

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>	Project (Number/Name) CL6 / <i>ATR Using Multiple Cooperative Sensors Adv Tech</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
participate in government-run demonstrations to support technology transition. Will mature the human interfaces to the system, including Android Tactical Assault Kit (ATAK) and the Integrated Visual Augmentation System (IVAS), for faster and more intuitive target validation and shooter pairing. Will mature collaborative reconnaissance algorithms to exploit radio frequency sensor information to improve the search for targets and improve tactical maneuver. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase in FY 2024 represents the planned lifecycle of this effort to mature AI-based mobility and threat perception algorithms.				
Title: COEUS Advanced Technology Description: Will mature and optimize a cloud native AI model development architecture, mature and validate data integration techniques, and demonstrate and validate an AI model operationalization architecture to cloud or edge endpoints. FY 2023 Plans: Will optimize ATR-MCAS through the use of COEUS, a modular software platform (cloud native). FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase in FY 2024 represents the planned lifecycle of this effort.		-	0.518	-
Title: SBIR/STTR Transfer FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638 FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638		-	0.069	-
Accomplishments/Planned Programs Subtotals		0.519	1.883	4.909
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				

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Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>				Project (Number/Name) CN6 / <i>Predictive Maintenance Advanced Technology</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CN6: <i>Predictive Maintenance Advanced Technology</i>	-	-	2.311	4.117	-	4.117	4.131	4.078	4.062	4.177	0.000	22.876
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project matures and demonstrates artificial intelligence (AI) and machine learning (ML) tools and capabilities to predict and analyze maintenance status for emerging and legacy aviation and ground platforms. Will extract maintenance data from databases and sensors and make inferences of missing data via virtual simulations and improve and provide AI data capture and other AI tools for enterprise maintenance resource planning for military aviation and ground vehicles. Platforms of focus will be prioritized by cost and value to Army missions and include the UH60, AH64, CH47, Stryker, and Abrams. Each platform will be sequentially evaluated both at the component (i.e. engine health) and fleet level. This Project matures and demonstrates the use of predictive maintenance to increase fleet operational readiness through reduced downtime by preventing critical failure during missions to maximize availability to combatant commands. Results from this project will inform requirements and technical architectures for a predicative maintenance platform that will include data engineering, data pipelines, AI development eco-system, and application delivery.

The cited research is consistent with Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Research in this Project supports the Army Science and Technology Ground Portfolio and the Joint Artificial Intelligence Center (JAIC).

Research in this Project is performed by the United States (US) Army Futures Command.

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

	FY 2022	FY 2023	FY 2024
Title: PMx Platform Data Management and Integrated Environment Refinement	-	2.227	3.717
Description: Will mature and optimize a predictive maintenance (PMx) cloud-based environment, mature and validate data collection/aggregation techniques, and demonstrate and validate a data architecture and the data pipelines to a cloud-based environment.			
FY 2023 Plans: This effort will mature and demonstrate the integrated development, security, and operations (DevSecOps) PMx environment. Will provide the capability to aggregate data at the point of the maintenance activity and establish multiple pipelines to transition the aggregated data to a scalable, cloud-based data management environment. Will exploit the cloud-based data management architecture and initiate scaling to ground-based systems.			
FY 2024 Plans:			

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>	Project (Number/Name) CN6 / <i>Predictive Maintenance Advanced Technology</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>This project will provide edge/cloud components and AI models and mature and demonstrate a minimum viable product. The PMx platform will be improved and optimized to provide required data, AI models, and visualizations to the local and enterprise network locations necessary for coherent maintenance operations in both autonomous (network denied) and permissive (network connected) conditions. Will improve and optimize AI models for specific use cases in field operations. Will automate common maintenance and supply trackers at the edge and in the enterprise cloud environment across multiple tactical echelons. Will develop specific architectural components for edge/cloud data pipelines, artificial intelligence development/data curation platforms (i.e., Coeus), visualization services, and cloud infrastructure nodes</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase reflects planned lifecycle of this effort.</p>				
<p>Title: PMx Autonomous Resupply</p> <p>Description: This effort will develop, mature, and demonstrate AI models and algorithms for an autonomous aviation platform to transport supply stocks to support operations. Emphasis will be on ensuring the airworthiness of an autonomous aviation platform that can move from a rear resupply point forward to a designated location while avoiding basic obstacles and accounting for normal weather conditions. Resupply will occur using human intervention after the autonomous aircraft safely stops in the designated end location.</p> <p>FY 2024 Plans: Will combine an existing autonomous flight and navigation system with an Army helicopter and/or an unmanned aerial system (UAS) and demonstrate the integrated system's ability to fly without human intervention for the delivery of supplies from a starting location to a simulated forward location. This demonstration will validate procedures to safely demonstrate this technology within the bounds of existing civil and military regulations.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: This is a new effort in FY 2024.</p>		-	-	0.400
<p>Title: SBIR/STTR</p> <p>Description: Funding transferred in accordance with Title 15 USC §638</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638</p>		-	0.084	-
Accomplishments/Planned Programs Subtotals		-	2.311	4.117

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>	Project (Number/Name) CN6 / <i>Predictive Maintenance Advanced Technology</i>

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>				Project (Number/Name) DA7 / <i>AI-Enabled Command and Coordination Adv Tech</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DA7: <i>AI-Enabled Command and Coordination Adv Tech</i>	-	-	0.777	1.396	-	1.396	1.155	1.157	1.661	1.414	0.000	7.560
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project matures and demonstrates solutions for Artificial Intelligence (AI)-enabled Command and Coordination that provide timely understanding and application of the commander's intent. This Project improves sensor-to-shooter and course of action development timelines by developing algorithms, software, and hardware to efficiently capture, transport, process, and convey complex battlefield data into user friendly, streamlined, interfaces. This Project also exploits advances in the application of game theory to explore hypothetical operational scenarios that inform mission planning. These technologies will optimize mission command and network capabilities to fully realize AI on the battlefield.

The cited research is consistent with Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Research in this Project supports Program Executive Office (PEO) Command Control Communications-Tactical (C3T).

Research in this Project is performed by the United States (US) Army Futures Command.

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

	FY 2022	FY 2023	FY 2024
Title: AI-Enhanced Battle Damage Assessment	-	0.749	-
<p>Description: Will mature and demonstrate game theory-based sensor-to-shooter optimization to assign available sensors to assess effects based on target and engagement type (target acquisition to terminal effects) and incorporate the capabilities into aided target recognition algorithms using mobile cooperative autonomous sensors (ATR-MCAS) and Prometheus. ATR-MCAS utilizes data from multiple sensors and artificial intelligence technology to identify threat targets for engagement with various weapons systems. Prometheus is a system that utilizes artificial intelligence (AI) technologies to identify targets of interest from overhead satellite images.</p> <p>FY 2023 Plans: ATR-MCAS and Prometheus technologies will be improved to provide additional, autonomous sensor options that can be used to identify threats and then assess effects based on the target and engagement type. This represents the simplest form of the sensor to shooter problem and will be used as a foundation for AI-enhanced operational maneuver.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p>			

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>	Project (Number/Name) DA7 / <i>AI-Enabled Command and Coordination Adv Tech</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Funding change reflects planned life cycle of effort.				
Title: AI-Enabled Common Operating Picture and Battle Tracking		-	-	1.396
Description: Will develop and mature AI-enabled tools that allow commanders and staff to prepare for, execute, and assess Army operations to enable decision dominance. Will mature and demonstrate human-machine interfaces that take input of commanders' intent and plans and provides computer-based battle tracking to identify risk to mission and force and AI-optimized direction to Army forces and unified action partners.				
FY 2024 Plans: Will develop Geospatial Information Services (GIS) as a Service (GISaaS) capabilities in support of development of AI-Enabled Common Operating Picture (COP).				
FY 2023 to FY 2024 Increase/Decrease Statement: This is a new effort in FY 2024.				
Title: SBIR/STTR		-	0.028	-
Description: Funding transferred in accordance with Title 15 USC §638				
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638				
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638				
Accomplishments/Planned Programs Subtotals		-	0.777	1.396
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603040A / <i>Artificial Intelligence and Machine Learning Advanced Technologies</i>				Project (Number/Name) DE9 / <i>AI Development Environment Advanced Technology</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DE9: <i>AI Development Environment Advanced Technology</i>	-	-	-	1.406	-	1.406	-	-	-	-	0.000	1.406
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project funds the Army lacking a common platform to develop AI/ML. This results in siloed and duplicative work that is inefficient. Many current solutions have narrow application and are proprietary, requiring additional funding, time, and labor for even minor modifications. The AI-enabled Army of the future will require low cost, rapid AI/ML solutions at the edge. This project will mature and demonstrate a set of platform(s), and infrastructure optimized for Army use and ready for rapid employment in enterprise, multi, and hybrid cloud environments to support modular software (cloud native) intended to continuously develop and integrate AI/ML models. It will mature and demonstrate hardware and software technologies, including cloud native applications and infrastructure for globally dispersed AI/ML development collaboration, artifact sharing, automated resource provisioning, and continuous ML Operations. The AI Development Environment will provide the AI-enabled Army of the future with low cost, rapid AI/ML solutions at the edge and accelerated algorithm development for faster delivery to the field.as well as less expensive AI/ML development by leveraging shared resources.

The cited research is consistent with Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Research in this Project supports the Army Science and Technology Network Portfolio and the Chief Digital and Artificial Intelligence Office (CDAO).

Work in this Project is performed by the US Army Futures Command.

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

	FY 2022	FY 2023	FY 2024
Title: Artificial Intelligence Development Environment Advanced Technology Development	-	-	1.406
Description: Will mature and optimize a cloud native AI model development architecture, mature and validate data integration techniques, and demonstrate and validate an AI model operationalization architecture to cloud or edge endpoints.			
FY 2024 Plans: Will mature and demonstrate an architecture enabling scalable machine learning operations (MLOps) at echelon. Will improve interfaces with external data environments that serve as data lake repositories for incoming data pipelines. Will integrate data analysis software within the development environment to support ongoing model performance assessment.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
This project work is a realignment in FY24 from 0603040A Project CL6.			
Accomplishments/Planned Programs Subtotals	-	-	1.406

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

N/A

Remarks

D. Acquisition Strategy

N/A