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

<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / <i>All Domain Convergence Advanced Technology</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	20.095	45.377	33.332	-	33.332	54.853	68.619	63.768	63.187	0.000	349.231
CL9: <i>Collab Battlefield Networked Leth Sys Adv Tech</i>	-	8.547	12.279	-	-	-	8.086	19.599	12.707	11.391	0.000	72.609
CM2: <i>Collaborative Convergence Adv Tech Development</i>	-	3.428	5.182	18.381	-	18.381	31.174	33.215	35.260	35.292	0.000	161.932
CM8: <i>Convergence Battlefield Integration</i>	-	8.120	9.162	1.049	-	1.049	1.642	1.836	1.824	2.308	0.000	25.941
DA4: <i>All Domain Convergence Engineering &amp; Architectures</i>	-	-	18.754	13.902	-	13.902	13.951	13.969	13.977	14.196	0.000	88.749

**A. Mission Description and Budget Item Justification**

The Program Element (PE) executes research as part of a campaign of learning to assess feasibility of technologies in an operational environment, learning from early failure and re-scope research to improve speed of response, scalability, interoperability and range of engagement. This program element will deliver integration of technologies from sensor to shooter in near real-time, from tactical to strategic level, taking a system design approach in support of All Domain Situational Awareness (CJADC2). It will enable optimal lethal and non-lethal effects across all domains using artificial intelligence and machine learning to improve how we recognize threats, augment and enhance leader decision-making, replicate tactical behaviors to enable autonomous capabilities, and design system engineering architectures to validate interoperability of technologies.

Work in this PE complements PE 0603465A (Future Vertical Lift Advanced Technology) and PE 0603462A (Next Generation Combat Vehicle Advanced Technology).

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

Research is performed by the United States Army Futures Command.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2024 Army	<b>Date:</b> March 2023
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<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / <i>All Domain Convergence Advanced Technology</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	17.743	45.463	50.805	-	50.805
Current President's Budget	20.095	45.377	33.332	-	33.332
Total Adjustments	2.352	-0.086	-17.473	-	-17.473
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.352	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-17.473	-	-17.473
• FFRDC Transfer	-	-0.086	-	-	-

**Change Summary Explanation**

Decrease in funding is due to a move of collaborative networked battlefield technology into a broader integrated sensor to shooter project with integrated efforts from network, fires, and ground. Additionally, software integration was completed for engineering architectures and moved to BA6 for integration with the Future Concepts requirements tools.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3					<b>R-1 Program Element (Number/Name)</b> PE 0603041A / All Domain Convergence A Advanced Technology				<b>Project (Number/Name)</b> CL9 / Collab Battlefield Networked Leth Sys Adv Tech			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CL9: Collab Battlefield Networked Leth Sys Adv Tech	-	8.547	12.279	-	-	-	8.086	19.599	12.707	11.391	0.000	72.609
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This Project matures and demonstrates dynamic Weapon-Target Pairing (WTP) fires planning and execution for maneuver forces, integration of fires and intelligence technologies, Artificial Intelligence (AI)-based decision aid implementation, and integration & demonstration of a role-based networked lethality architecture.

Work in this Project compliments PE 0602181A (All Domain Convergence Applied Research)/CM1 (Collab Battlefield Networked Leth Sys App Tech).

Work in this Project supports Next Generation Combat Vehicle, Tactical Network, Future Vertical Lift, and Long Range Precision Fires Army Modernization Priorities.

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

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

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Distributed Lethality Architecture	3.170	3.568	-
<b>Description:</b> This effort provides a decision aid architecture that will integrate with current and future sensors and weapon systems to network fires for a mounted/dismounted and tactical operation center capability for Combined Arms Maneuvers. Matures and demonstrates distributed architecture and data transmission for sensor to shooter to optimize effects-based WTP.			
<b>FY 2023 Plans:</b> Mature fires and air space coordination systems that demonstrate four-dimension (4-D) de-confliction and speed of assets for effects delivery using decision aids for air and ground assets. Mature AI-enhanced capability trained on terrain and ballistic data to include speed of platform. Will demonstrate distributed architecture and optimized weapon target pairing capability to reduce sensor to shooter timelines.			
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding decrease reflects planned conclusion of this effort.			
<b>Title:</b> Integrated Sensor to Shooter System	3.372	3.434	-

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / All Domain Convergence A Advanced Technology	<b>Project (Number/Name)</b> CL9 / Collab Battlefield Networked Leth Sys Adv Tech

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>Description:</b> Demonstrates software that ingests intelligence, sensor cueing, tasking and target hand off data from/to higher and lower echelons for sensor to shooter integration. Integrates software on combat platforms to enable on-board sensor and weapon systems to execute fires missions based on decision aids' recommendations with minimal operator input.</p> <p><b>FY 2023 Plans:</b> Mature integration with intelligence systems and current and emerging weapons systems and platforms for Fires execution at the tactical, operational and strategic levels. Demonstrate integration with joint fires architecture enabling multi-domain fires. Demonstrate role-based software running on combat platforms to joint Tactical Operations Center (TOC) at scale, to enable Warfighters' fires and effects based on decision aids' recommendations.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding decrease reflects planned conclusion of this effort.</p>			
<p><b>Title:</b> Fires Synchronization</p> <p><b>Description:</b> Provides real-time, joint airspace integration between airspace users and fires at various echelons to de-conflict airspace for emerging long range munitions. Matures and demonstrates algorithms for modeling adversary behavior for autonomous engagement using prior knowledge and real-time sensor data.</p> <p><b>FY 2023 Plans:</b> Demonstrate direct/indirect joint fires planning and course of action analysis and provide multiple recommendations to the commander based on enemy common operating picture and friendly assets. Mature AI-enhanced algorithms capability to execute Fires synchronization for an increased number of nodes. Mature algorithms for modeling adversary behaviors for autonomous engagements.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding decrease reflects planned conclusion of this effort.</p>	2.005	4.829	-
<p><b>Title:</b> SBIR/STTR Transfer</p> <p><b>Description:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC §638</p>	-	0.448	-
<b>Accomplishments/Planned Programs Subtotals</b>	8.547	12.279	-

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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 0603041A / All Domain Convergence A Advanced Technology	Project (Number/Name) CL9 / Collab Battlefield Networked Leth Sys Adv Tech

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

N/A

**Remarks**

N/A

**D. Acquisition Strategy**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3					<b>R-1 Program Element (Number/Name)</b> PE 0603041A / All Domain Convergence A Advanced Technology				<b>Project (Number/Name)</b> CM2 / Collaborative Convergence Adv Tech Development			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CM2: Collaborative Convergence Adv Tech Development	-	3.428	5.182	18.381	-	18.381	31.174	33.215	35.260	35.292	0.000	161.932
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This Project develops and integrates critical Project Convergence technologies and the architecture through which the Project Convergence technologies will operate. This is accomplished using adaptive data fusion and task allocation algorithm to support the development of Artificial Intelligence (AI) decision support agents. This Project includes development of advanced methods for processing and information extraction for mission oriented tasks in support of tactical decision makers. Additionally, this Project will develop the scalable architecture solutions necessary to facilitate tactical data collection, movement, processing, storage and modeling and simulation necessary to enable mission command in multi-domain operations. Also, the Project will shape early programs to accelerate technologies and achieve sensor to shooter dominance.

Work in this Project compliments Program Element (PE) 0602181A (All Domain Convergence Applied Research).

Work in this Project supports Next Generation Combat Vehicle, Long Range Precision Fires, Air and Missile Defense, Tactical Network, and Future Vertical Lift Army Modernization Priorities.

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

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

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Air and Missile Defense Joint Kill Chain Decision Support Modeling and Simulation	0.686	-	-
<b>Description:</b> Demonstrate interoperability of missile interceptor, sensor, and fire control enabling technology contribution to Joint Kill Chain Air and Missile Defense scenarios in support of Multi-Domain Operations (MDO).			
<b>Title:</b> Effects in the Joint Kill Web	0.685	4.993	-
<b>Description:</b> Virtually demonstrate kinetic and non-kinetic actions in a contested, Multi-Domain environment at all echelons. This effort seeks to ensure that the Army can readily contribute to the Joint Force in the land, air, maritime, cyber, space, and electromagnetic domains in an integrated and coordinated fashion.			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / <i>All Domain Convergence A dvanced Technology</i>	<b>Project (Number/Name)</b> CM2 / <i>Collaborative Convergence Adv Tech Development</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>FY 2023 Plans:</b> Integrate, demonstrate and conduct virtual experimentation on the effects of kinetic and non-kinetic effectors to support the Army's contribution to the Joint Kill Chain. This effort will be coordinated with the Defense Advanced Research Project Agency as part of a multi-service effort.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding decrease reflects planned conclusion of this effort.</p>				
<p><b>Title:</b> SBIR/STTR Transfer</p> <p><b>Description:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC §638</p>		-	0.189	-
<p><b>Title:</b> Joint Systems Integration</p> <p><b>Description:</b> This effort integrates and demonstrates tactical network and associated command, control, communication, computers, cyber, intelligence, surveillance and reconnaissance (C5ISR) technologies in Multi-Domain Operations (MDO) laboratory experiments through live, virtual, and constructive environments. The effort will integrate these technologies for? tactical ground, air, air and missile defense, fires, network platforms and other missions to demonstrate system of systems integration and evaluate operational performance in representative MDO scenarios during laboratory experiments.</p> <p><b>FY 2024 Plans:</b> Will demonstrate advancing C5ISR technologies in risk reduction events, such as communication exercises, in advance of field experiments (e.g. Project Convergence); will mature and demonstrate integrated risk reduction capability between laboratory and field, such as inclusion of tactical units connected to laboratory environments; will provide advanced network replication environments, such as the inclusion of electronic warfare injection.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> This effort is reinitiated in FY24.</p>		0.686	-	7.300
<p><b>Title:</b> Analytics for Convergence Technology Integration</p>		0.685	-	3.000

**UNCLASSIFIED**

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>Description:</b> Validate maturity of battlefield integration of Army ground and air assets with all sensor and command assets via the Tactical Network (TN) by collecting, providing, optimizing, and fully exploiting available data concerning system and system-of-systems interface performance and effectiveness.</p> <p><b>FY 2024 Plans:</b> Will provide threat environments for validated demonstration of the highest Army priority battlefield systems in FY24. Will mature and demonstrate the technical connectivity and tactical integration between those systems and all other relevant Army and Joint systems. Will optimize technologies under advanced development by scientists, technologists, system developers, and system analysts.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> This effort is reinitiated in FY24.</p>				
<p><b>Title:</b> Convergence Ground and Aviation Platform Integration</p> <p><b>Description:</b> Integration of ground and aviation efforts in direct support of maturing and demonstrating Project Convergence capabilities. This effort matures and demonstrates ground vehicle technologies as an integrated system and system of systems to reduce sensor to shooter targeting time, increase real-time battlefield understanding and ensure communications across all echelons. It also integrates capabilities such as geo-location and identification of targets from Army aviation assets, air to ground situational awareness and target data exchange, exchange of unmanned asset control, advanced tactical and teaming behaviors, synchronized data management, and efficient usage of air lethality assets. Lastly it focuses on the integration of ground and aviation capabilities to demonstrate Multi-Domain Operations as part of Project Convergence.</p> <p><b>FY 2024 Plans:</b> Will mature and demonstrate additional ground vehicle and aviation integration, multi-platform, and multi-service network communication and perform analytics to inform requirements for both present and future tactical and combat military air and ground vehicles and against a complex moving enemy in a Multi-Domain Operational environment. The Army's modernization enterprise is integrated with that of the Joint Force. Networked aided target detection and recognition, networked survivability, autonomous tactical behaviors, AI-enabled decision support agent, and data management technologies on multiple ground and aviation platforms are critical to success on the modern battlefield.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> This effort is reinitiated in FY24.</p>		0.686	-	8.081
<b>Accomplishments/Planned Programs Subtotals</b>		3.428	5.182	18.381

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<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / <i>All Domain Convergence A dvanced Technology</i>	<b>Project (Number/Name)</b> CM2 / <i>Collaborative Convergence Adv Tech Development</i>

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

N/A

**Remarks**

N/A

**D. Acquisition Strategy**

N/A

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3					<b>R-1 Program Element (Number/Name)</b> PE 0603041A / All Domain Convergence A Advanced Technology				<b>Project (Number/Name)</b> CM8 / Convergence Battlefield Integration			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CM8: <i>Convergence Battlefield Integration</i>	-	8.120	9.162	1.049	-	1.049	1.642	1.836	1.824	2.308	0.000	25.941
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This Project integrates and demonstrates aided target detection and recognition, autonomous tactical behaviors, Artificial Intelligence (AI)-enabled decision support agent, and data management technologies in Multi-Domain Operations (MDO) field experiments. This Project integrates these technologies on tactical ground, air, air and missile defense, fires, network platforms and other missions to demonstrate reduced sensor to shooter timelines and evaluate operational performance in representative MDO scenarios during annual field experiments.

Work in this Project is done in coordination with Program Element (PE) 0602181A (All Domain Convergence Applied Research).

Work in this Project supports Next Generation Combat Vehicle, Tactical Network, and Future Vertical Lift Army Modernization Priorities.

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

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

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Convergence Ground Platform System Integration	6.063	5.420	-
<b>Description:</b> Integration of ground efforts in direct support of maturing and demonstrating Project Convergence capabilities. This effort matures and demonstrates ground vehicle technologies as an integrated system and system of systems to reduce sensor to shooter targeting time, increase real-time battlefield understanding and ensure communications across all echelons.			
<b>FY 2023 Plans:</b> Develop integration and assessment capability with networked aided target detection and recognition, autonomous tactical behaviors, AI-enabled decision support agent, and data management technologies on multiple ground platforms. Mature and demonstrate additional ground vehicle integration, multi-platform, multi-service, multi-national network communication and perform analytics to inform requirements for both present and future tactical and combat military vehicles against a complex moving enemy in an MDO environment.			
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / <i>All Domain Convergence A dvanced Technology</i>	<b>Project (Number/Name)</b> CM8 / <i>Convergence Battlefield Integration</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
This work was administratively realigned to Project CM2 (Collaborative Convergence Adv Tech Development).				
<p><b>Title:</b> Convergence Aviation Platform Integration</p> <p><b>Description:</b> Integration of Aviation/Future Vertical Lift efforts in direct support of maturing and demonstrating Project Convergence capabilities. Focus is on integration of capabilities such as geo-location and identification of targets from Army aviation assets, air to ground situational awareness and target data exchange, exchange of unmanned asset control, advanced tactical and teaming behaviors, synchronized data management, and efficient usage of air lethality assets.</p> <p><b>FY 2023 Plans:</b> Integrate additional and updated capabilities developed under Full Spectrum Targeting effort (detection, recognition and identification of hidden and decoy targets, sensor fusion), MSET to engage targets autonomously, Advanced Teaming (supervised autonomous mission commands, various payloads), XM915 20mm cannon, and Integrated Mission Equipment (platform-agnostic architecture for S&amp;T efforts integrated with each other) in support of capability demonstrations.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> This work was administratively realigned to Project CM2 (Collaborative Convergence Adv Tech Development).</p>		2.057	2.406	-
<p><b>Title:</b> Convergence Joint and Multinational Integration</p> <p><b>Description:</b> Integration with Joint and Multi-National Partner technologies to demonstrate cross domain capabilities and concepts.</p> <p><b>FY 2023 Plans:</b> Integrate technologies and data architectures between Army, Joint, and Multi-National Partners.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> This work was administratively realigned to Project CM2 (Collaborative Convergence Adv Tech Development).</p>		-	1.002	-
<p><b>Title:</b> SBIR/STTR Transfer</p> <p><b>Description:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC §638</p>		-	0.334	-
<b>Title:</b> Coordinated Lethality Advanced Development		-	-	1.049

**UNCLASSIFIED**

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p><b>Description:</b> This effort investigates commercial off the shelf items to determine those with high reward for use in achieving lethality across domains.</p> <p><b>FY 2024 Plans:</b> Investigate commercial off the shelf technologies with the intent of achieving increased lethality through reconnaissance and surveillance capabilities.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> This effort is a Fiscal Year (FY) 2024 new Start.</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		8.120	9.162	1.049
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
N/A				
<b>D. Acquisition Strategy</b>				
N/A				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3					<b>R-1 Program Element (Number/Name)</b> PE 0603041A / All Domain Convergence A Advanced Technology				<b>Project (Number/Name)</b> DA4 / All Domain Convergence Engineering & Architectures			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
DA4: All Domain Convergence Engineering & Architectures	-	-	18.754	13.902	-	13.902	13.951	13.969	13.977	14.196	0.000	88.749
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

This Project enables critical engineering and architecture support to all Army modernization priorities as the Army pursues convergence. Full development of mature system and system of systems level architectures ensure objective and data-driven analyses can be performed on new Army technologies and modernization efforts. Development of digital engineering products for new Army technologies currently under development enable digital analyses and assessments to be performed rapidly and repeatedly prior to full scale field tests like Project Convergence.

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

Work is performed by the United States (U.S.) Army Futures Command.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Engineering for Architectures	-	13.069	13.902
<p><b>Description:</b> The engineering and architecture project provides critical systems engineering and codesigning of systems at the design phase in a digital engineering environment to improve performance and integration. This includes development and integration of architecture and engineering products from system level to a full system of systems level, models and simulations, software engineering, and other key efforts to support senior leader decisions.</p> <p><b>FY 2023 Plans:</b> Will integrate system and system of system level architectures to represent current design of the Army Modernization Priority systems in a model-based architecture to conduct analysis on how systems within the six Army Modernization Priorities provide an integrated solution in Multi-Domain Operations. Will perform analysis through modeling and simulation to inform Project Convergence and generate design engineering artifacts to inform the development of systems.</p> <p><b>FY 2024 Plans:</b> Will develop and integrate system and system of systems level architectures of signature modernization priorities into a full Army Materiel Enterprise architecture baseline. Will leverage system of systems architecture in performing assessments of new and evolving system requirements to ensure system of systems integration in support of the Army of 2030 and 2040. Will perform portfolio health assessment modeling and simulation to inform Project Convergence and generate digital engineering artifacts. Will leverage system of systems architectures and engineering artifacts to inform cross warfighting function assessments to support</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / All Domain Convergence Advanced Technology	<b>Project (Number/Name)</b> DA4 / All Domain Convergence Engineering & Architectures		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>senior leader decisions. Will leverage system of systems architectures and engineering artifacts to support AFC's mission of Delivering Army 2030 and Designing Army 2040. Designing Army 2030 support includes documenting DOTMLPF-P integrated architecture to ensure Army 2030 is delivered on time. Designing Army 2040 support includes assessing new formation based requirements against the baseline architecture to assess changes in performance between Army 2030 and Army 2040.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding reflects planned lifecycle of effort.</p>				
<p><b>Title:</b> Technology Integration Analysis for Army Modernization Priorities</p> <p><b>Description:</b> Conduct independent assessments of the feasibility, scalability and interoperability of technologies evaluated in an all-domain convergence environment. Primary focus will be to develop and assess architectures, develop models and simulations to support trade studies and decision making across the Army Modernization Priority technologies, and evaluation of planned demonstration efficacy.</p> <p><b>FY 2023 Plans:</b> Will conduct independent assessments of modernization priorities, Project Convergence planning support, senior leader directed studies, and M&amp;S development in support of modernization priorities and Project Convergence.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding decrease reflects planned conclusion of this effort.</p>		-	2.000	-
<p><b>Title:</b> Army Capability Architecture Development and Integration Environment (ArCADIE)</p> <p><b>Description:</b> ArCADIE will develop and demonstrate the Army's authoritative cloud-based data source for Army Architectures, data and tools. This effort develops ArCADIE enhancements, architectures, and dashboards to enable experimentation, capability development, and S&amp;T efforts in support of Army modernization.</p> <p><b>FY 2023 Plans:</b> Will enhance the classified and unclassified cloud-based environment providing architecture development and analytical capabilities to ensure relevant and timely data and artifacts as part of Model Based Systems Engineering efforts to support integration across Army Modernization Priorities. Will develop intelligent graphical interfaces that allow visibility of integrated architecture data and artifacts to support Model Based Systems Engineering.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding decrease reflects planned conclusion of this effort.</p>		-	3.000	-
<p><b>Title:</b> SBIR/STTR</p>		-	0.685	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Army		<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 2040 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603041A / <i>All Domain Convergence A dvanced Technology</i>	<b>Project (Number/Name)</b> DA4 / <i>All Domain Convergence Engineering &amp; Architectures</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Description:</b> Funding transferred in accordance with Title 15 USC §638				
<b>FY 2023 Plans:</b> Funding transferred in accordance with Title 15 USC §638				
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC §638				
<b>Accomplishments/Planned Programs Subtotals</b>		-	18.754	13.902
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				
<b>D. Acquisition Strategy</b>				
N/A				