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

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604020A / <i>Cross Functional Team (CFT) Advanced Development & Prototyping</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	0.000	0.000	77.000	117.557	0.000	117.557	0.000	0.000	0.000	0.000	0.000	194.557
DC8: <i>Army Experimentation and Prototyping</i>	-	-	77.000	117.557	-	117.557	-	-	-	-	0.000	194.557

A. Mission Description and Budget Item Justification

This Program Element (PE) is the Army led scope of the Rapid Defense Experimentation Reserve (RDER) initiative. To facilitate rapid modernization of the force, the RDER initiative was established in the Defense Planning Guidance for Fiscal Year 2023-2027, to encourage multi-component experimentation through a campaign of learning. Services, Agencies, and other participating organizations are to identify "best of breed" capabilities developed among the DoD prototyping programs and execute approved projects through large-scale experiments in order to refine and/or validate the Joint Warfighting Concept (JWC). Organizations are to nominate proposals to the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) that are multi-component - involving Joint Services, International partners and/or other government agencies - and link to one or more of the four key supporting concepts ("functional battles") of the Joint Warfighting Concept: Joint Concept for Fires, Joint Concept for Command and Control, Joint Concept for Contested Logistics, and Joint Concept for Information Advantage.

Army lead experimentation outcomes will be designed to validate required capabilities enabling the JWC by evaluating and integrating prototyped technologies in operationally relevant, multi-domain environments. Experimentation results will facilitate Joint Staff analysis in the evaluation of the Joint Warfighting Concept, assist the Joint Requirements Oversight Counsel in requirements determination, and inform the Deputy's Management Action Group to make budget decisions that affect changes throughout the Department.

The cited work is consistent with the Under Secretary of Defense, Research and Engineering science and the JWC.

Work in this PE is performed by the United States (U.S.) Army and other Service laboratories and research centers, U.S. Army and Joint Program Executive Offices and Program Management Offices.

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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	106.000	0.000	-	0.000
Current President's Budget	0.000	77.000	117.557	-	117.557
Total Adjustments	0.000	-29.000	117.557	-	117.557
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-29.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	117.557	-	117.557

Change Summary Explanation

Increase in FY24 supports 9 programs that expand the effort to expeditionary logistics; sensor to shooter, system integration and modeling and simulation.

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Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0604020A / <i>Cross Functional Team (CFT) Advanced Development & Prototyping</i>				Project (Number/Name) DC8 / <i>Army Experimentation and Prototyping</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
DC8: <i>Army Experimentation and Prototyping</i>	-	-	77.000	117.557	-	117.557	-	-	-	-	0.000	194.557
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Army led programs and experimentation enable Joint All Domain Operations concepts applicable across multiple Combatant Commands (CCMD) to address OUSD R&E priority scenarios. Individual efforts bring together layered solutions to compete with peer and near-peer adversaries through the development of capabilities that support fires, command and control, logistics, and capabilities that will drive information advantage. These activities will accelerate joint warfighting capabilities to quickly demonstrate and assess innovative technologies resulting in follow-on Office of the Secretary of Defense (OSD), Army, and other Service efforts for accelerated transition of the technologies to CCMD required operations.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Joint Warfighting Concepts.

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

	FY 2022	FY 2023	FY 2024
Title: Olympus	-	74.189	-
Description: Mature technologies from Technology Readiness Level (TRL) 6 to TRL7+ prototypes for Soldier evaluations in INDOPACOM as primary experiment event in FY 2024. Efforts will include advanced capabilities for sensing, target identification / target paring, multi-layer networks / data sharing, and advanced command and control. The program portfolio will initiate prototyping, integration and risk reduction activities to facilitate integrated and interoperable capabilities that leverage layered Intelligence, Surveillance and Reconnaissance (ISR), and autonomy with advanced communications and architectures to enable Artificial Intelligence (AI)-infused analytics and Layered Effects.			
FY 2023 Plans: Conduct systems design, hardware procurement, systems prototyping, software maturation and systems integration for Layered ISR, autonomy systems, advanced communications, data architectures, and layered effects within the Olympus portfolio. Efforts will prototype and integrate terrestrial and aerial ISR systems for evaluation on relevant test networks for a Combatant Command relevant scenario. Advanced communications and architectures will be prototyped and integrated to assess and refine concept of employment and associated use cases within a primary risk reduction event (FY 2023) and lead into the primary experimentation event in FY 2024.			
FY 2023 to FY 2024 Increase/Decrease Statement: This project is fully funded with FY 2023 dollars no requested funding in FY24.			
Title: Army RDER 24 Program	-	-	117.557

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>Description: The Army RDER 24 program will mature technologies to TRL7+ prototypes for a series of Soldier evaluations culminating with a CCMD assessment. Efforts will include an expeditionary fabrication capability with constrained resources, expeditionary solutions to reduce demand of logistics resupply and repair, autonomous platform solutions for logistics resupply and supporting modeling and simulation capabilities. Additional efforts focusing on base defense will include advanced fires capabilities, advanced sensing capabilities, and improvements to network, data analytics, and information distribution. The project portfolio will progress from prototyping, integration and risk reduction activities to facilitate an integrated and interoperable capability demonstration of layered solutions for logistics operations, resupply, repair, and base defense.</p> <p>FY 2024 Plans: Conduct systems design, hardware procurement, systems prototyping, software maturation and systems integration for layered solutions for logistics and base defense within the portfolio of projects. Prototype and integrate materiel and physical systems into platform delivery resupply, reduced demand, and repair solutions for evaluation in real-world environments for a CCMD relevant scenario. Prototype and integrate materiel and physical systems into sensing and fires solutions for evaluation in real-world environments for a CCMD relevant scenario. Integrate resilient communication systems and data analytics, and conduct modeling and simulation to provide interoperability within the portfolio of projects. Conduct risk reduction event for individual projects that lead into the primary CCMD operational assessment event in FY 2025.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: The FY24 funding increase is related to the expanded capability scope covering logistics and base defense activities including an increase in the number of individual projects compared to the Olympus portfolio covering ISR activities.</p>				
<p>Title: SBIR & STTR Adjustment</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>		-	2.811	-
Accomplishments/Planned Programs Subtotals		-	77.000	117.557
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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D. Acquisition Strategy
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army **Date:** March 2023

Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604020A / Cross Functional Team (CFT) Advanced Development & Prototyping	Project (Number/Name) DC8 / Army Experimentation and Prototyping
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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Olympus: Program Management and Capability Transition	TBD	Various : Various	-	-		6.178		-		-		-	0.000	6.178	-
Army 24: Program Management and Capability Transition	TBD	DEVCOM-ARL; DEVCOM-C5ISR : Various	-	-		-		13.466		-		13.466	0.000	13.466	-
SBIR & STTR Adjustment	TBD	Various : Various.	-	-		2.811		-		-		-	0.000	2.811	-
Subtotal			-	-		8.989		13.466		-		13.466	0.000	22.455	N/A

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Layered ISR and autonomy systems design	Option/TBD	Multiple : Various	-	-		3.163		-		-		-	0.000	3.163	-
Layered ISR and autonomy systems hardware procurement	Option/TBD	Multiple : Various	-	-		16.607		-		-		-	0.000	16.607	-
Layered ISR and autonomy systems prototyping	Option/TBD	Multiple : Various	-	-		5.536		-		-		-	0.000	5.536	-
Layered ISR and autonomy software maturation	Option/TBD	Multiple : Various	-	-		3.163		-		-		-	0.000	3.163	-
Layered ISR and autonomy systems integration	Option/TBD	Multiple : Various	-	-		3.163		-		-		-	0.000	3.163	-
Communications and architectures Systems Design	C/TBD	Multiple : Various	-	-		3.954		-		-		-	0.000	3.954	-
Communications and architectures hardware procurement	Option/TBD	Multiple : Various	-	-		7.118		-		-		-	0.000	7.118	-

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Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604020A / Cross Functional Team (CFT) Advanced Development & Prototyping	Project (Number/Name) DC8 / Army Experimentation and Prototyping
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Communications and architectures systems prototyping	Option/TBD	Multiple : Various	-	-		4.745		-		-		-	0.000	4.745	-
Communications and architectures software maturation	Option/TBD	Multiple : Various	-	-		5.536		-		-		-	0.000	5.536	-
Communications and architectures systems integration	Option/TBD	Multiple : Various	-	-		3.954		-		-		-	0.000	3.954	-
Lab Based Risk Reduction activities	Option/TBD	Multiple : Various	-	-		3.954		-		-		-	0.000	3.954	-
Risk Reduction and Evaluation Events	Option/TBD	Multiple : Various	-	-		7.118		-		-		-	0.000	7.118	-
Army 24: Expeditionary demand reduction systems	Option/TBD	DEVCOM-C5ISR; DEVCOM-GVSC; ERDC : Various	-	-		-		14.951		-		14.951	0.000	14.951	-
Army 24: Expeditionary Repair	Option/TBD	DEVCOM-GVSC, ERDC : Various	-	-		-		16.500		-		16.500	0.000	16.500	-
Army 24: Autonomous platform solutions	Option/TBD	DEVCOM-SC, DEVCOM-AC : Various	-	-		-		33.522		-		33.522	0.000	33.522	-
Army 24: Advanced sensing	Option/TBD	DEVCOM-AvMC, DEVCOM-ARL : Various	-	-		-		6.826		-		6.826	0.000	6.826	-
Army 24: Advanced fires	Option/TBD	JPEO A&A : Various	-	-		-		15.000		-		15.000	0.000	15.000	-
Army 24: Network distribution	Option/TBD	DEVCOM-C5ISR : Various	-	-		-		4.000		-		4.000	0.000	4.000	-
Army 24: Information distribution	Option/TBD	DIA : Various	-	-		-		7.775		-		7.775	0.000	7.775	-
Army 24: Communication and navigation system integration	TBD	Various : Various	-	-		-		3.517		-		3.517	0.000	3.517	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604020A / Cross Functional Team (CFT) Advanced Development & Prototyping	Project (Number/Name) DC8 / Army Experimentation and Prototyping

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Olympus																												
Layered ISR and autonomy systems design																												
Layered ISR and autonomy systems hardware procurement																												
Layered ISR and autonomy systems prototyping																												
Layered ISR and autonomy software maturation																												
Layered ISR and autonomy systems integration																												
Communications and architectures systems design																												
Communications and architectures hardware procurement																												
Communications and architectures systems prototyping																												
Communications and architectures software maturation																												
Communications and architectures systems integration																												
Lab Based Risk Reduction activities																												
Olympus Risk Reduction and Evaluation Event 1																												


 Risk Reduction Evaluation


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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604020A / Cross Functional Team (CFT) Advanced Development & Prototyping	Project (Number/Name) DC8 / Army Experimentation and Prototyping	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Olympus Evaluation Event 2									2 Final Evaluation																			
Army RDER Program																												
Army RDER 24 Program																												
Army 24: Expeditionary demand reduction systems																												
Army 24: Expeditionary repair																												
Army 24: Autonomous platform solutions																												
Army 24: Modeling and simulation																												
Army 24: Communication and navigation system integration																												
Army 24: Advanced sensing																												
Army 24: Advanced fires																												
Army 24: Network distribution																												
Army 24: Information distribution																												
Army 24: Lab based risk reduction																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604020A / Cross Functional Team (CFT) Advanced Development & Prototyping	Project (Number/Name) DC8 / Army Experimentation and Prototyping	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028																			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																
Army 24: Risk reduction event																																												
Army 24: Evaluation event																																												
Army 24: Final Evaluation									 Final Evaluation																																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army **Date:** March 2023

Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604020A / Cross Functional Team (CFT) Advanced Development & Prototyping	Project (Number/Name) DC8 / Army Experimentation and Prototyping
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Olympus	1	2023	4	2024
Layered ISR and autonomy systems design	1	2023	3	2023
Layered ISR and autonomy systems hardware procurement	1	2023	3	2023
Layered ISR and autonomy systems prototyping	2	2023	1	2024
Layered ISR and autonomy software maturation	2	2023	4	2024
Layered ISR and autonomy systems integration	3	2023	4	2024
Communications and architectures systems design	1	2023	3	2023
Communications and architectures hardware procurement	1	2023	3	2023
Communications and architectures systems prototyping	2	2023	1	2024
Communications and architectures software maturation	2	2023	4	2024
Communications and architectures systems integration	3	2023	4	2024
Lab Based Risk Reduction activities	1	2023	4	2024
Olympus Risk Reduction and Evaluation Event 1	4	2023	4	2023
Olympus Evaluation Event 2	4	2024	4	2024
Army RDER Program	1	2023	4	2024
Army RDER 24 Program	1	2024	4	2025
Army 24: Expeditionary demand reduction systems	1	2024	4	2025
Army 24: Expeditionary repair	1	2024	4	2025
Army 24: Autonomous platform solutions	1	2024	4	2025
Army 24: Modeling and simulation	1	2024	4	2025
Army 24: Communication and navigation system integration	1	2024	4	2025
Army 24: Advanced sensing	1	2024	4	2025

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army **Date:** March 2023

Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0604020A / <i>Cross Functional Team (CFT) Advanced Development & Prototyping</i>	Project (Number/Name) DC8 / <i>Army Experimentation and Prototyping</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
Army 24: Advanced fires	1	2024	4	2025
Army 24: Network distribution	1	2024	4	2025
Army 24: Information distribution	1	2024	4	2025
Army 24: Lab based risk reduction	1	2024	4	2024
Army 24: Risk reduction event	3	2024	1	2025
Army 24: Evaluation event	2	2025	4	2025
Army 24: Final Evaluation	4	2025	4	2025