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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army **Date:** March 2024

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603044A / <i>Soldier Advanced Technology</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.462	1.214	10.133	-	10.133	13.384	6.062	7.111	8.559	0.000	46.925
CN8: <i>Soldier Enabled University Advanced Development</i>	-	0.462	0.587	2.874	-	2.874	2.802	2.804	2.835	2.863	0.000	15.227
CW1: <i>Technical-SAVVY Soldier Advanced Research</i>	-	-	0.627	1.047	-	1.047	1.364	1.154	1.671	1.688	0.000	7.551
EA7: <i>Enhanced Indirect Fire Adv Tech</i>	-	-	-	6.212	-	6.212	9.218	2.104	2.605	4.008	0.000	24.147

Note

Enhanced Indirect Fire Adv Tech is a new start within the Soldier Advanced Technology program in FY 2025.

A. Mission Description and Budget Item Justification

This Program Element (PE) matures, optimizes, and validates applied research technologies to demonstrate improved capabilities and systems that advance Soldier and Squad lethality-overmatch and Soldier performance beyond those technologies planned within the Soldier Lethality Cross-Functional Team. Advanced technology research efforts focus on the maturation and integration of broad capabilities and systems that span a range of technical areas to address enduring Soldier needs. These efforts transition outputs to existing and emerging systems in support of continuing enhancement of Soldier capabilities. This PE will fund civilian salaries for in-house researchers/scientists and program managers collaborating with external subject matter experts in academia and industry who are leaders in these technology research areas.

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

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.479	1.214	3.913	-	3.913
Current President's Budget	0.462	1.214	10.133	-	10.133
Total Adjustments	-0.017	0.000	6.220	-	6.220
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.017	-			
• Adjustments to Budget Years	-	-	6.220	-	6.220

Change Summary Explanation

Increase funding reflects planned research support increased mortar system lethality and effective range across 81mm and 120mm calibers for enhanced Brigade Combat Team (BCT) operations.

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Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603044A / <i>Soldier Advanced Technology</i>				Project (Number/Name) CN8 / <i>Soldier Enabled University Advanced Development</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
CN8: <i>Soldier Enabled University Advanced Development</i>	-	0.462	0.587	2.874	-	2.874	2.802	2.804	2.835	2.863	0.000	15.227
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project leverages advanced technological innovations from academia to accelerate the optimization and demonstration of improved capabilities and systems that advance Soldier and Squad lethality-overmatch and Soldier performance and meet mission needs in the future operating environments. This Project funds collaborative, enduring advanced extramural university-based maturation and demonstration of technologies and brings together competitively selected universities with Army research teams into Technical Alliances. This Project will focus efforts on mid- to far-term Army modernization priorities while also maintaining delivery of near-term technologies critical to supporting the modernization priorities. The technical scope of this Project includes the optimization, maturation and demonstration of overarching Soldier-centric technologies including human systems integration, simplified synthetic training environments, advanced protective materials, power and energy, Warfighter endurance, robotics, as well as other innovative Soldier enabled advanced research technologies that will accelerate the Army modernization in Synthetic Training Environment, and Soldier Lethality. This Project conducts advanced research and development leading to potential emerging technologies in areas of strategic importance to the Army in Soldier capabilities related to increased protection, performance, agility, situational awareness, and lethality. This Project will also continuously strive to engage and collaborate with entities that might not otherwise collaborate with the Department of Defense (DoD) to demonstrate and provide novel Soldier-centric technologies for accelerating the adoption of emerging technologies for the Warfighter in the Army Soldier portfolio.

The work cited 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 University Technology Development Division.

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

	FY 2023	FY 2024	FY 2025
Title: Advanced Soldier Performance and Training	0.462	0.587	2.874
Description: Mature and demonstrates Soldier capabilities related to increased protection, performance, agility, situational awareness, training, and lethality.			
FY 2024 Plans: Prototype data lake environment and data ecosystem to refine the synthetic training environment data management architecture; mature and demonstrates technologies to monitor health, cognitive state and readiness of Warfighters through digital biosensors.			
FY 2025 Plans: Will mature and demonstrate the capture, warehousing, and manipulation of synthetic training data to support Commanders in making training and operational readiness decisions; mature and demonstrate technologies to monitor health, cognitive state			

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603044A / <i>Soldier Advanced Technology</i>	Project (Number/Name) CN8 / <i>Soldier Enabled University Advanced Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
and readiness of Warfighters through digital biosensors; mature and demonstrate emerging Soldier related technologies related to increased protection, performance, agility, situational awareness, training, and lethality. The benefit of this effort is improved realistic training for decision making and improved understanding of a Soldier's cognitive load.				
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase reflects increased activity to identify and mature emerging technologies for advanced Soldier Lethality applications.				
Accomplishments/Planned Programs Subtotals		0.462	0.587	2.874
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 0603044A / <i>Soldier Advanced Technology</i>				Project (Number/Name) CW1 / <i>Technical-SAVVY Soldier Advanced Research</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
CW1: <i>Technical-SAVVY Soldier Advanced Research</i>	-	-	0.627	1.047	-	1.047	1.364	1.154	1.671	1.688	0.000	7.551
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project conducts applied technology development to provide critical breakthroughs in developing a "technologically" fluent force. This research will refine, adapt, and validate methods and measures to assess and develop the technological fluency (TF) of Soldiers across a career (TF Personnel Assessments) and technologies to maximize technological fluency resilience and performance in Soldiers and units (Maximizing TF). TF is defined as the ability of Soldier and units to use and rapidly adapt new and intelligent technologies without formal training on these technologies, and it will be a decisive factor in a future operating environment in which Soldiers and squads are teamed with increasingly sophisticated and evolving technologies. Soldiers and leaders in specialty areas (e.g., Cyber, and Emerging Tech) and general purpose forces will require increased technological aptitudes and skills to adapt emerging technologies to evolving mission sets and avoid being overmatched by Artificial Intelligence (AI)-enabled "smart" technologies.

This Project supports key Army needs and will coordinate and/or leverage findings of several PEs to include 0602184A (Soldier Applied Research), and 0603007A (Manpower, Personnel and Training Advanced Technology).

This research will be performed by the U.S. Army Research Institute (ARI) for Behavioral and Social Sciences, and in coordination with collaborative research between ARI and the Army Research Laboratory (ARL) performed within 0602184A (Soldier Applied Research).

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

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

	FY 2023	FY 2024	FY 2025
Title: Soldier Technical Enhancement Advanced Research	-	0.627	1.047
FY 2024 Plans: Will initiate validation of assessment instruments to assess Technological Fluency (TF) attributes.			
FY 2025 Plans: Will validate assessment instruments to measure TF attributes. Will conduct preliminary analysis of proof-of-concept training methods to enhance TF performance.			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Funding increase reflects planned milestones for validation of assessment instruments to measure Technological Fluency attributes.				
Accomplishments/Planned Programs Subtotals		-	0.627	1.047
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 0603044A / <i>Soldier Advanced Technol ogy</i>				Project (Number/Name) EA7 / <i>Enhanced Indirect Fire Adv Tech</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
<i>EA7: Enhanced Indirect Fire Adv Tech</i>	-	-	-	6.212	-	6.212	9.218	2.104	2.605	4.008	0.000	24.147
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Enhanced Indirect Fire Adv Tech is a new start within the Soldier Advanced Technology program in FY 2025.

A. Mission Description and Budget Item Justification

This project matures and demonstrates enhancements to current mortar systems. This effort will provide solutions that increase the range and lethality of currently fielded systems.

Work in this Project complements work done in Program Element (PE) 0602141A (Lethality Technology) / Project AH9 (Advanced Warheads Technology).

The cited work is consistent with the Assistant 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 (AFC), U.S. Army Combat Capabilities Development Command (DEVCOM) Armaments Center.

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

	FY 2023	FY 2024	FY 2025
Title: Enhanced Range & Lethality Mortar System	-	-	6.212
Description: This effort demonstrates technology to support increased mortar system lethality and effective range across 81mm and 120mm calibers for enhanced Brigade Combat Team (BCT) operations.			
FY 2025 Plans: Will mature mortar cartridge and tube component technologies to extend the range of current 81mm fielded systems required to defeat current and emerging threats; mature mortar cartridge components including the airframe, propulsion systems, and payloads to increase lethal effects at extended ranges; optimize mortar system prototype to comply with safe firing standards.			
FY 2024 to FY 2025 Increase/Decrease Statement: In Fiscal Year (FY) 2025, this effort is a New Start.			
Accomplishments/Planned Programs Subtotals	-	-	6.212

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603044A / <i>Soldier Advanced Technol ogy</i>	Project (Number/Name) EA7 / <i>Enhanced Indirect Fire Adv Tech</i>

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

N/A

Remarks

D. Acquisition Strategy

N/A