Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army											Date: March 2024	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 2: *Applied Research*					R-1 Program Element (Number/Name) PE 0602002A *I Army Agile Innovation and Development-Applied Research*							
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	-	0.127	5.613	8.032	-	8.032	7.639	6.391	6.457	6.704	0.000	40.963
DC4: *Army Applied Innovation*	-	0.001	3.135	1.750	-	1.750	2.063	2.286	2.303	2.205	0.000	13.743
DC5: *Team Ignite*	-	0.126	0.345	-	-	-	-	-	-	-	0.000	0.471
DC6: *Sci & Analysis for Autonomous Sys & Counter-Auton*	-	-	2.133	6.282	-	6.282	5.576	4.105	4.154	4.499	0.000	26.749

Note

DC5 / Team Ignite - In Fiscal Year (FY) 2025 this Project is Terminated.

A. Mission Description and Budget Item Justification

This Program Element (PE) funds the Army's goal of assessing and seeding innovative research solutions to achieve future force modernization. Critical technologies that allow for technological superiority are increasingly dual-use or developed in academia-led partnerships that leverage cutting edge innovation. Cross-cutting modernization initiatives leverage strategic partnerships and foster an environment to bring knowledge and expertise to demonstrate breakthrough and innovative technologies that will benefit the warfighter. These collaborations bring new ways of doing business to assess and evaluate emerging technologies with high payoff potential to address current technology shortfalls. Leveraging other innovative mechanisms, to include accelerators, incubators, and other technology accelerants, to enhance innovation is part of the overall innovation strategy. Innovation includes not only hardware and physical products but also software, software development, artificial intelligence (AI) and machine learning; all are stand-alone initiatives that are part of broader innovation to programs and technology development. Through the Army's Innovation Oversight Board, Army senior leadership approves innovation projects in the budget year and year of execution based on priority and opportunity, ensuring that innovations have a high potential for filling capability gaps and transitioning to Army S&T projects to inform an optimal technology investment strategy and rapidly deliver capabilities to the Soldier.

Work is performed by the United States Army Combat Capabilities Development Command (DEVCOM), Army Artificial Intelligence Integration Center (AI2C), the Engineering Research and Development Center, Space and Missile Defense Technical Center, and the United States Army Research Institute for the Behavioral and Social Sciences.

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army	Date: March 2024
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 0602002A *I Army Agile Innovation and Development-Applied Research*

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	1.000	5.613	18.845	-	18.845
Current President's Budget	0.127	5.613	8.032	-	8.032
Total Adjustments	-0.873	0.000	-10.813	-	-10.813
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.837	-			
• SBIR/STTR Transfer	-0.036	-			
• Adjustments to Budget Years	-	-	-10.813	-	-10.813

Change Summary Explanation

Decrease in funding is due to the termination of the Team Ignite program, since it was determined that the expansion of the multi-tiered Innovation plan to integrate non-traditional technologies in support of Army Modernization is already supported in the Science & Technology Program. Funding was realigned to support the Army's priority for Long Range Maneuverable Fires Precision Strike Missile, Increment 4, to address extended range.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 2	R-1 Program Element (Number/Name) PE 0602002A / *Army Agile Innovation and Development-Applied Research*	Project (Number/Name) DC4 / *Army Applied Innovation*	

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
DC4: *Army Applied Innovation*	-	0.001	3.135	1.750	-	1.750	2.063	2.286	2.303	2.205	0.000	13.743

A. Mission Description and Budget Item Justification

This project funds the Applied Research portion of the Army Innovation Plan, the Army's investment strategy to rapidly accelerate innovative solutions to challenging Warfighter problems. This project will provide the Army with the most advanced and cutting-edge solutions and the ability to adapt and integrate multi-disciplinary innovative technologies. This project accelerates breakthrough and disruptive innovations based on assessing and seeding a solution with multi-disciplinary knowledge. It addresses ideation and system-level integration applied research and development leading to potential emerging technologies in areas of strategic importance to the Army. Through the Army's Innovation Oversight Board, the Army senior leadership approves the innovation projects in the budget year and year of execution based on priority and opportunity, ensuring that innovations have a high potential for filling capability gaps and transitioning to Army S&T projects to inform an optimal technology investment strategy and rapidly deliver capabilities to the Soldier.

This project is coordinated with Program Element 0603025A (Army Agile Innovation and Demonstration), Project DA3 (Army Advanced Innovation).

The cited work 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 Assistant Secretary of the Army for Acquisition Logistics and Technology and the Army Science and Technology Executing Commands.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Army Applied Innovation	0.001	3.135	1.750
Description: The Army seeks to research, evaluate, and validate cross-domain technology that display unique and innovative potential to rapidly produce disruptive and groundbreaking capabilities that fall outside of the normal acquisition pipeline.			
FY 2024 Plans: Identify breakthrough and disruptive technologies, engage novel ideation & system-level integration at the initial phase of the scientific concepts and technology development. Merge synergistic cross-cutting innovations that will lead to advance disruptive technological solutions to Army priorities that require an accelerated solution. Also Identify and initiate development of emergent technologies, for integration in the science and technology program, to address challenges in future operating concepts, operational needs and Army identified priorities.			
FY 2025 Plans: Innovation projects from the Army S&T Executing Commands will be approved by the Army Innovation Oversight Board in the budget year and year of execution based on priority and opportunity. Proposal topics will focus on mid-far term transformational			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602002A / *Army Agile Innovation and Development-Applied Research*	**Project (Number/Name)** DC4 / *Army Applied Innovation*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
technologies with a shift in focus to the design of the Army of 2040. Proposal will be informed by the Critical Technology Areas, Future Capabilities/Activities, and Army Senior Leader Priorities. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decrease reflects reduction of selected innovation proposal opportunities.			
Accomplishments/Planned Programs Subtotals	0.001	3.135	1.750

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 2	R-1 Program Element (Number/Name) PE 0602002A / *Army Agile Innovation and Development-Applied Research*	Project (Number/Name) DC5 / *Team Ignite*	

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
DC5: *Team Ignite*	-	0.126	0.345	-	-	-	-	-	-	-	0.000	0.471

Note

In Fiscal Year (FY) 2025 this Project is Terminated.

A. Mission Description and Budget Item Justification

IGNITE is part of the multi-tiered Army Innovation Plan to investigate non-traditional and innovative technologies to rapidly develop the technology, delivering quick solutions for Army identified problems. IGNITE empowers individuals to create new approaches to ensure competitive advantage, identifies future warfighting concepts from recent scientific discoveries, ensures capability requirements are grounded in feasible technological advancements, and uses data and analytics to build a common language across communities. The primary end state of IGNITE is an Army Modernization Enterprise that has institutionalized a new way of business where modernization processes are inherently collaborative across our diverse expertise, including Science and Technology (S&T); conceptual, analytical, operational, experimental, requirements; and threat communities. This will allow decisive capabilities to be developed at a faster pace than our adversaries.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Team IGNITE	0.126	0.345	-
Description: The IGNITE philosophy emphasizes integration through numerous pathways and mechanisms. These include, but are not limited to, cross-organizational events, organizational offices, enduring cohorts, enabling processes, and Ignite innovators. ***FY 2024 Plans:*** Will support limited engagements between multiple communities to wrap up FY23 efforts and document collaborative learning outcomes/best practices. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** In Fiscal Year (FY) 2025 this Project is Terminated.			
Accomplishments/Planned Programs Subtotals	0.126	0.345	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 2	R-1 Program Element (Number/Name) PE 0602002A / *Army Agile Innovation and Development-Applied Research*	Project (Number/Name) DC6 / *Sci & Analysis for Autonomous Sys & Counter-Auton*	

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
DC6: *Sci & Analysis for Autonomous Sys & Counter-Auton*	-	-	2.133	6.282	-	6.282	5.576	4.105	4.154	4.499	0.000	26.749

A. Mission Description and Budget Item Justification

This Project investigates and develops capabilities to understand and characterize emerging Science and Technology (S&T) technical pursuits and impacts through collaborative analytics that enable the assessment of autonomous systems-of-systems, their implications to the future threat environment, and analyzes their contributions to the Multi-Domain Operations (MDO) concept in relevant operational scenarios. This is a cross-cutting effort that supports S&T, analysis, and modeling and simulation (M&S) efforts associated with the development of autonomous systems and their application in military operations.

Work in this Project also funds research to investigate, develop, and validate tools, methodologies, and analytical techniques to extend experimental results, assure early consideration of technology and system vulnerabilities, reduce developmental risk, provide mission context, and improve the robustness of technology readiness assessments.

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 Army Research Laboratory (ARL) and Data and Analysis Center (DAC).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Threat and Operations Based Intelligent Autonomy Science (TOBIAS)	-	1.257	3.352
Description: This effort develops and implements models that will be used to assess the vulnerability and lethality (kinetic and non-kinetic) of U.S. and threat autonomous systems. This work will also incorporate the software-based behavioral capabilities of these systems including interfacing with humans. Technology forecasting will be used to enable the development of optimal investment strategies for autonomy science on the basis of operational merit. ***FY 2024 Plans:*** Will characterize the elements of vulnerability of autonomy science for unmanned ground and air platforms; define taxonomy and metrics and the representation of these effects in tools that will be developed by the DEVCOM Data and Analysis Center (DAC); investigate the fragility of Artificial Intelligence/Machine Learning (AI/ML) for autonomous mobility of unmanned ground and air vehicles operating in a contested environment; perform baseline studies on vulnerability of software-based behaviors to non-			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602002A / *Army Agile Innovation and Development-Applied Research*	**Project (Number/Name)** DC6 / *Sci & Analysis for Autonomous Sys & Counter-Auton*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
kinetic effects; investigate approaches for modeling the vulnerabilities; explore forecasting science for autonomous warfare and its effective operational use during the period of 2030-2050, scope includes U.S. and allies versus near-peer threats. ***FY 2025 Plans:*** Will create digital models of unmanned ground and aerial vehicle concepts suitable for use in combat simulations versus near-peer threats; develop digital models that have the ability to represent the vulnerability and lethality characteristics of future science and technology options for autonomous combat systems with respect to mobility, target recognition, and classification; perform technology forecasting in the field of autonomy science and future autonomous warfare; develop digital representations of threat counter-autonomy capabilities for use as the opposing force in simulations; research and prioritize combat operational scenarios suitable for exploring the interdependencies between autonomy science and military science; investigate options for representing man-machine interfaces within the combat simulation; investigate metrics for characterizing resiliency of a team of autonomous combat systems for a baseline mission; assess the impact of enhanced autonomy science on effectiveness of Unmanned Ground Vehicles (UGVs) in simulated combat vignette. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding increase supports additional research in the area of digital models for unmanned ground and air vehicles.			
Title: Vulnerability and Lethality Analysis Tools for Early Science and Technology ***Description:*** Investigates, develops, and validates analytical tools, techniques, and methodologies to extend experimental and research results, ensuring early investigation of technology, system vulnerabilities, human systems integration, system performance, and mission effectiveness. Task objectives reduce developmental risk, provide validation of methodologies and tools in realistic mission contexts, and improve the robustness of technology readiness assessments. ***FY 2024 Plans:*** Will develop analytical capabilities for high priority autonomous technologies to enhance discovery and motivate early and comprehensive consideration of vulnerabilities; determine tactically critical technology metrics through scientific research and promote transition of science into systems at reduced risk with greater maturity and enhanced trust in functional autonomy; optimize analytical capabilities and assess system performance and effectiveness in an operational mission context. ***FY 2025 Plans:*** Will research and investigate novel techniques and initial methodologies to enable Modeling and Simulation (M&S) and analysis of unmanned ground system concepts; identify parameters and near-peer cyber and electromagnetic threats focusing initially on future autonomous ground system operating environments; develop initial methodologies for M&S and analysis of autonomous ground systems, including vulnerability and lethality performance characteristics and synergistic effects in the kinetic,	-	0.876	2.930

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 2	**R-1 Program Element (Number/Name)** PE 0602002A / *Army Agile Innovation and Development-Applied Research*	**Project (Number/Name)** DC6 / *Sci & Analysis for Autonomous Sys & Counter-Auton*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
electromagnetic, and cyber domains; identify learning objectives and applicable metrics for initial trial simulation experiments using developmental science and technology (S&T) alternatives for autonomous ground systems. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase supports additional Modeling and Simulation development and analysis.			
Accomplishments/Planned Programs Subtotals	-	2.133	6.282

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A