

UNCLASSIFIED

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 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603025A / <i>Army Agile Innovation and Demonstration</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
Total Program Element	-	21.420	20.900	23.156	-	23.156	24.242	28.558	31.989	33.447	0.000	183.712
CK8: <i>Advanced Technology Development and Convergence</i>	-	21.420	15.200	15.319	-	15.319	15.358	16.372	16.433	16.612	0.000	116.714
DA3: <i>Army Advanced Innovation</i>	-	-	5.700	7.837	-	7.837	8.884	12.186	15.556	16.835	0.000	66.998

A. Mission Description and Budget Item Justification

This Program Element (PE) funds the Army's goal of accelerating innovative solutions to achieve future force modernization. The Army is developing new ways of doing business to include strategic and "non-traditional" partnerships, and working with traditional vendors in novel ways to allow for agile integration of leading-edge technology. Critical technologies that allow for technological superiority are increasingly dual-use or developed in academia-led partnerships that leverage cutting edge innovation. In an era of global competition, technological superiority requires agile and rapid innovation. Cross-cutting modernization initiatives leveraging strategic partnerships 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 demonstrate emerging technologies and systems with high payoff potential to address current technology shortfalls or future capability gaps and systems. This PE will also allow for exploration and adaptation of various technologies in the early stages of development, enabling cost saving decisions early in the procurement life-cycle by using the try, buy, decide model of identifying and investing in proof of technology demonstrations that the army can adapt and integrate. 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 as stand-alone initiatives and as part of broader innovation to programs and technology development. Oversight includes a joint Innovation governance process which requires joint evaluation of programs that will meet the the basis of Army Priorities and Army Modernization needs to inform an optimal technology investment strategy.

Research in this PE is closely coordinated with PE 0602002A (Army Agile Innovation and Development-Applied Research)

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.

UNCLASSIFIED

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 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603025A / <i>Army Agile Innovation and Demonstration</i>
---	--

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	22.231	20.900	23.055	-	23.055
Current President's Budget	21.420	20.900	23.156	-	23.156
Total Adjustments	-0.811	0.000	0.101	-	0.101
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.811	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.101	-	0.101

Change Summary Explanation

Increased funding due to revised economic assumptions.

UNCLASSIFIED

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 0603025A / Army Agile Innovation and Demonstration				Project (Number/Name) CK8 / Advanced Technology Development and Convergence			
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
CK8: <i>Advanced Technology Development and Convergence</i>	-	21.420	15.200	15.319	-	15.319	15.358	16.372	16.433	16.612	0.000	116.714
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project aims to accelerate the Army's goal of finding innovative and nontraditional solutions to the most difficult technological problems. Efforts to pair with nontraditional entities, such as industry, to rapidly solve System and Sub-System Component and Prototype Convergence by merging smaller subsystems towards a more complex solution and integrating one or more technologies to prove out concepts. Efforts for the Army Futures Command Software Factory, leverage Soldiers to develop software that will be used closer to the tactical edge. Soldiers adopt an Agile Development Process to rapidly mature experimental software for mobile technology, secure authentication procedures, and other software needs for Army-specific hardware platforms. This will bring new ways of doing business to demonstrate emerging technologies and systems with high payoff potential to address current technology shortfalls or future capability gaps and systems.

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

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

Research in this Project supports all Army Modernization Priorities.

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

	FY 2022	FY 2023	FY 2024
Title: Advanced Technology Development of Existing Commercial Technology	5.781	9.923	10.226
Description: Advanced commercial development exists when direct investment leads to rapid technology applications and demonstration. The Army identifies existing technology to further develop and modify for Army use. Partnerships with industry both traditional and non-traditional, allow the Army to advance non-military commercial research and development investments through focused engagements resulting in commercial adaption and integration to address Army technology and modernization efforts. Initial nominal Army investment in proof of technology and technology demonstrations will expedite novel technologies shaping their development to meet Army requirements and expediting both component and complete system adaptation and integration.			
FY 2023 Plans: The Army enterprise will identify commercial solutions to technology problem areas focused on next generation combat vehicles, dismounted soldier lethality, power generation and storage, infrastructure to enable power generation, data driven human			

UNCLASSIFIED

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 0603025A / Army Agile Innovation and Demonstration	Project (Number/Name) CK8 / Advanced Technology Development and Convergence		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>performance and Soldier readiness, AI and robotic enabled small units, network and satellite support, and novel sensors and technologies.</p> <p>FY 2024 Plans: Address operational challenges that enable the Army to conduct operations in contested environments, which will enable our ability to prevail on the future battlefield. These include, but are not limited to emerging and commercially available technology that enhances next generation combat vehicles, dismounted soldier lethality, power generation and storage, logistics, data driven human performance and soldier readiness, AI and robotic enabled small units, and network and satellite support.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase supports the planned lifecycle of the effort.</p>				
<p>Title: Sub-System Component and Prototype Convergence</p> <p>Description: The Army investigates, develops, and integrates non-traditional cutting-edge technology. Sub-system component and prototype convergence seeks to develop or integrate one or more technologies to prove out concepts or to merge smaller subsystems towards a more complex solution. This task informs requirements developers where the state of technologies is at, where it is going and on what timeline confirming viability for incorporation into larger technology programs.</p>		3.854	-	-
<p>Title: Experimentation and Development of Commercial Dual Use Technologies</p> <p>Description: The Army seeks to connect with industry early in a technology's commercialization process. Experimentation and development will connect with these non-traditional technologies to determine the feasibility and ability to be leveraged against military applications. Technology development will be conducted concurrently to commercial activities with experimentation used to understand proof-of-concept applicability for further Government initiative. As part of this process strategic partnerships will be cultivated with technology aggregators such as In-Q-Tel to ensure a comprehensive approach to connect and transition technologies to the Army.</p>		4.007	-	-
<p>Title: Software Factory Advanced Software Development</p> <p>Description: As part of the novel Software Factory stood up by Army Futures Command (AFC), Soldiers will be leveraged to address some of the most challenging software research problems that the Army faces. Soldiers will adopt an Agile Development Process to rapidly mature experimental software for mobile technology, secure authentication procedures, and other software needs for Army-specific hardware platforms.</p>		4.721	-	-
<p>Title: Demonstration and Development of Army Discovered Innovative Technologies</p> <p>Description: The Army seeks to develop and demonstrate technology that display unique and innovative potential in a cross-domain fashion. This effort seeks to direct advanced research funding towards technologies that are discovered from Army</p>		3.057	4.722	5.093

UNCLASSIFIED

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 0603025A / Army Agile Innovation and Demonstration	Project (Number/Name) CK8 / Advanced Technology Development and Convergence		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>Innovation events such as Innovation Days funded by PE 0605054A (Emerging Technology Initiatives) / Project FI3 (Rapid Capability Development and Maturation) or the Expeditionary Technology Search effort in PE 0605803A (Technical Information Activities) / Project CC2 (Expeditionary Technologies).</p> <p>FY 2023 Plans: Will develop and demonstrate unique solutions to Army wide problems leveraging technology discovered through Army technology search events.</p> <p>FY 2024 Plans: Will develop and demonstrate unique solutions to Army wide problems leveraging technology discovered through Army technology search events.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase supports the planned lifecycle of the effort.</p>				
<p>Title: SBIR/STTR Transfer</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>		-	0.555	-
Accomplishments/Planned Programs Subtotals		21.420	15.200	15.319
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

UNCLASSIFIED

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 0603025A / <i>Army Agile Innovation and Demonstration</i>				Project (Number/Name) DA3 / <i>Army Advanced Innovation</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
DA3: <i>Army Advanced Innovation</i>	-	-	5.700	7.837	-	7.837	8.884	12.186	15.556	16.835	0.000	66.998
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project funds the Advanced Development 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 with the ability to adapt and integrate multi-disciplinary innovative technologies by bridging the interfaces between internal and external efforts for a holistic entry into the acquisition pipeline at the most appropriate milestone. This Project also seeks to further develop and demonstrate these technologies in support of cross-domain operations, with emphasis on open/modular systems architecture and digital thread/engineering, and provide a pathway for entry into the acquisition process.

This Project is coordinated with PE 0602002A (Army Agile Innovation and Development-Applied Research) / Project DC4 (Army Applied Innovation).

Army Senior Leadership approves Army innovation projects prior to budget year programming based on priority, opportunity, and return on investment for the American taxpayer- ensuring that innovations have a high potential for filling capability gaps and transitioning.

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

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

Research in this Project supports all Army Modernization Priorities.

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

	FY 2022	FY 2023	FY 2024
Title: Army Advanced Innovation	-	5.492	7.837
Description: The Army seeks to develop and demonstrate technology that display unique and innovative potential in a cross-domain fashion. This effort will serve as funding to rapidly transition disruptive and groundbreaking capabilities that fall outside of the normal acquisition pipeline.			
FY 2023 Plans:			
Initiate a competitive process that selects technologies with a high promise of advancing and accelerating capabilities to be investigated in open systems and digital engineering architectures, prior to be transitioned either to further Science and Technology efforts, or Research Development Testing & Evaluation (RDTE) Budget Activity (BA) 6.4 funding, depending on the technology readiness level (TRL) at the end of the effort. The Army Innovation Program will accept multiple new efforts			

UNCLASSIFIED

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 0603025A / Army Agile Innovation and Demonstration	Project (Number/Name) DA3 / Army Advanced Innovation		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
that support Army Modernization, to include cyber, Electronic Warfare, Sensors, Power and Energy, Artificial Intelligence and Autonomy, Communications, Position, Navigation and Timing, advancing Synthetic Training Environments; and Air and Ground Platform integration. FY 2024 Plans: Assess, seed, demonstrate, integrate and bridge technologies from experimentation demonstrations which will allow for rapid transitions that meet persistent modernization requirements. The Army Innovation Program will accelerate multiple efforts to include cyber, Electronic Warfare, Sensors, Power and Energy, Artificial Intelligence and Autonomy, Communications, Position, Navigation and Timing, advancing Synthetic Training Environments; and Air and Ground Platform integration, Long Range Precision Fires, and Air and Missile Defense FY 2023 to FY 2024 Increase/Decrease Statement: Increase in program to consolidate innovation program focused on foundational network to a broader innovation program focused on transitions that support multiple technologies areas supporting modernization				
Title: SBIR/STTR 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		-	0.208	-
Accomplishments/Planned Programs Subtotals		-	5.700	7.837
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				