Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605706A *I Materiel Systems Analysis*							
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	-	20.771	22.004	26.902	-	26.902	27.365	27.391	27.647	27.913	0.000	179.993
541: *Materiel Sys Analysis*	-	20.771	22.004	26.902	-	26.902	27.365	27.391	27.647	27.913	0.000	179.993

A. Mission Description and Budget Item Justification

This funding line supports testing of Army Modernization Priority Programs.

This Program Element (PE) resources the Combat Capabilities Development Command (DEVCOM) Analysis Center (DAC) to conduct integrated material performance analyses to support Army decisions in technology, materiel acquisition, and the design, development, fielding and sustainment of Army materiel systems. The analysis products funded by this PE are leveraged to support Materiel Acquisition decisions and influence the design, development, and sustainment of Army weapon/materiel systems in support of the current and future force in the areas of Long-Range Precision Fires, Next Generation Combat Vehicles, Future Vehicle Lift, Network/ Command, Control, Communications and Intelligence, Air and Missile Defense, Soldier Lethality and other Army Priority efforts.

As the Army's center for integrated materiel performance analysis, the DAC supports Army and Department of Defense (DoD) decision makers throughout the entire acquisition process in responding to analytical requirements across the full spectrum of materiel. The DAC's unique in-house, consistent, integrated analytical capability provides the Army Futures Command (AFC) and Army leadership with timely, independent, unbiased, reliable, and high quality analysis to support complex decisions required for Current Operations and the development of the Future Force. The DAC's integrated set of skills, tools, and data repository are focused on the highest Army Priorities with a core mission to build the body of evidence and deliver objective analysis and experimentation across the entire life cycle to ensure Readiness today and a more lethal Future Force tomorrow.

This PE develops and certifies system level, and systems-of-systems level, performance and effectiveness data across a broad range of capabilities such as target acquisition, probability of inflicting catastrophic damage, personnel and vehicle survivability, mobility, network, system reliability, and several additional capability areas used in Army studies. The PE funds the development of item-level performance methodology, and Models and Simulations (M&S) for the current and future operational environments and emerging threats. The M&S capabilities support the development, linkage and accreditation of live, virtual, and constructive simulations, and provide unique tools that support systems analysis of individual systems and the combined arms environment. This M&S infrastructure provides a hierarchical modeling framework that is unique to the DAC and allows for a comprehensive performance and effectiveness analysis and prediction capability that can be utilized to support trade-off and investment decisions prior to extensive and expensive hardware testing of proposed systems/technologies.

This PE funds the Center for Reliability Growth (CRG), to develop critical tools, methodologies, policies, guidance and educational materials required to help acquisition programs achieve required reliability during the acquisition process. The CRG develops and applies engineering approaches to assess the reliability of Army materiel and provides recommendations on ways to improve reliability, thereby, reducing logistics footprints and life cycle costs, and extending failure-free periods for materiel. The CRG has developed an integrated set of skills and tools focused on its core competencies to be responsive in delivering objective data and analysis across the entire life cycle to ensure Readiness today and a more lethal future force tomorrow.

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Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 6: *RDT&E Management Support*			R-1 Program Element (Number/Name) PE 0605706A *I Materiel Systems Analysis*		
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	21.558	22.037	23.278	-	23.278
Current President's Budget	20.771	22.004	26.902	-	26.902
Total Adjustments	-0.787	-0.033	3.624	-	3.624
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.787	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	3.624	-	3.624
• FFRDC Transfer	-	-0.033	-	-	-

Change Summary Explanation

FY24 funding is increased to support efforts for systems and engineering analyses for the development, fielding and sustainment of Army materiel systems and the development of system level performance and effectiveness data and item-level performance methodology.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 6	R-1 Program Element (Number/Name) PE 0605706A / *Materiel Systems Analysis*	Project (Number/Name) 541 / *Materiel Sys Analysis*	

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
541: *Materiel Sys Analysis*	-	20.771	22.004	26.902	-	26.902	27.365	27.391	27.647	27.913	0.000	179.993
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Program Element (PE) resources the Combat Capabilities Development Command (DEVCOM) Analysis Center (DAC) to conduct integrated material performance analyses to support Army decisions in technology, materiel acquisition, and the design, development, fielding and sustainment of Army materiel systems. The analysis products funded by this PE are leveraged to support Materiel Acquisition decisions and influence the design, development, and sustainment of Army weapon/materiel systems in support of the current and future force in the areas of Long-Range Precision Fires, Next Generation Combat Vehicles, Future Vehicle Lift, Network/ Command, Control, Communications and Intelligence, Air and Missile Defense, Soldier Lethality and other Army Priority efforts.

As the Army's center for integrated materiel performance analysis, the DAC supports Army and Department of Defense (DoD) decision makers throughout the entire acquisition process in responding to analytical requirements across the full spectrum of materiel. The DAC's unique in-house, consistent, integrated analytical capability provides Army Futures Command (AFC) and Army leadership with timely, independent, unbiased, reliable, and high quality analysis to support complex decisions required for Current Operations and the development of the Future Force. The DAC's integrated set of skills, tools and data repository are focused on the highest Army Priorities with a core mission to build the body of evidence and deliver objective analysis and experimentation across the entire life cycle to ensure Readiness today and a more lethal Future Force tomorrow.

This PE develops and certifies system level, and systems-of-systems level, performance and effectiveness data across a broad range of capabilities such as target acquisition, probability of inflicting catastrophic damage, personnel and vehicle survivability, mobility, network, system reliability, and several additional capability areas used in Army studies. The PE funds the development of item-level performance methodology, and Models and Simulations (M&S) for the current and future operational environments and emerging threats. The M&S capabilities support the development, linkage and accreditation of live, virtual, and constructive simulations, and provide unique tools that support systems analysis of individual systems and the combined arms environment. This M&S infrastructure provides a hierarchical modeling framework that is unique to the DAC and allows for a comprehensive performance and effectiveness analysis and prediction capability that can be utilized to support trade-off and investment decisions prior to extensive and expensive hardware testing of proposed systems/technologies.

This PE funds the Center for Reliability Growth (CRG), to develop critical tools, methodologies, policies, guidance and educational materials required to help acquisition programs achieve required reliability during the acquisition process. The CRG develops and applies engineering approaches to assess the reliability of Army materiel and provides recommendations on ways to improve reliability, thereby, reducing logistics footprints and life cycle costs, and extending failure-free periods for materiel. The CRG has developed an integrated set of skills and tools focused on its core competencies to be responsive in delivering objective data and analysis across the entire life cycle to ensure Readiness today and a more lethal future force tomorrow.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Materiel Systems Analysis	20.771	22.004	26.902

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605706A / *Materiel Systems Analysis*	**Project (Number/Name)** 541 / *Materiel Sys Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: This activity provides for systems and engineering analyses to support the entire Future Force Modernization Enterprise decisions in technology, materiel acquisition, and the design, development, fielding and sustainment of Army materiel systems; the development of system level performance and effectiveness data and item-level performance methodology, and models and simulations; and the development of critical tools, methodologies, policies and guidance as the Center for Reliability Growth to improve reliability, extend failure-free periods, and reduce support costs. ***FY 2023 Plans:*** Continue to conduct integrated materiel performance and engineering analyses as AFC's repository for the body of evidence concerning Army technologies and systems. Continue to develop and maintain essential verified and validated item/system level methodologies, tools, and models and simulations. Provide analytical support to the CFTs to include AoA's, system cost/ performance tradeoffs, early technology trade-offs, weapons/systems mix analyses, system Technical and Schedule risk assessments, business case analyses, cost benefit analyses, requirements analyses, technology insertion studies, reliability growth studies, and Physics of Failure analyses. Conduct systems analysis and assessments in support of multiple high-priority programs including Long Range Precision Fires systems, Next Generation Combat Vehicles, Future Vertical Lift, Network / Command, Control, Communications and Intelligence (C3I), Air & Missile Defense, Soldier Lethality, and other highest Army priority efforts. Provide data and analysis support throughout the Project Convergence campaign of learning and Army Futures Command experimentation. Continue to provide analytical support to the planning and conduct of T&E. Perform follow-on studies for major Army programs undergoing engineering change proposals and provide essential certified weapons system performance data for all major Army studies. Continue to provide critical tools, policies and educational materials as the Army's Center for Reliability Growth to improve system reliability throughout the acquisition process. For systems and technologies analyzed will provide relevant data and results to materiel developers, evaluators, senior decision makers, and downstream force-on-force modelers to support technology development and acquisition decisions. ***FY 2024 Plans:*** Will develop, maintain, and advance essential verified and validated item/system level methodologies, tools, and models and simulations (M&S) to conduct integrated materiel performance and engineering analyses for AFC's highest priority technologies. Will serve as AFC's repository for the body of technical and quantitative evidence concerning AFC experimentation and Army modernization technologies and systems. For AFC and DEVCOM Centers/ARL, will implement analytical capabilities to inform system cost/ performance trades, early technology development decisions, weapons/systems performance analyses, operational energy analyses, climate change analyses, system technical and schedule risk assessments, business case analyses, cost benefit analyses, requirements definition, technology insertion studies, reliability growth studies, and Physics of Failure analyses. Will continue to provide data and analysis support throughout the Project Convergence Campaign of Learning and other AFC experimentation. Will perform studies to provide essential certified weapons system performance data for AFC and DEVCOM Centers/ARL. Will continue to provide foundational analytical tools and capabilities as the Army's Center for Reliability Growth to improve the reliability of Army systems and technologies. For DEVCOM Centers/ARL, will provide relevant data and results to			

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Appropriation/Budget Activity 2040 / 6	**R-1 Program Element (Number/Name)** PE 0605706A / *Materiel Systems Analysis*	**Project (Number/Name)** 541 / *Materiel Sys Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
prototype technology developers, evaluators, senior decision makers, and downstream force-on-force modelers to constructively influence design, mature technologies, and reduce risk. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding changes reflect planned lifecycle of this effort to include increase for climate-ground vehicles & fuels.			
Accomplishments/Planned Programs Subtotals	20.771	22.004	26.902

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A