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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605706A / <i>Materiel Systems Analysis</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	21.830	21.558	22.037	-	22.037	23.278	23.704	23.705	23.933	0.000	160.045
541: <i>Materiel Sys Analysis</i>	-	21.830	21.558	22.037	-	22.037	23.278	23.704	23.705	23.933	0.000	160.045

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) Data and 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 DEVCOM 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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B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	21.830	21.558	0.000	-	0.000
Current President's Budget	21.830	21.558	22.037	-	22.037
Total Adjustments	0.000	0.000	22.037	-	22.037
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	22.037	-	22.037

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605706A / <i>Materiel Systems Analysis</i>				Project (Number/Name) 541 / <i>Materiel Sys Analysis</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
541: <i>Materiel Sys Analysis</i>	-	21.830	21.558	22.037	-	22.037	23.278	23.704	23.705	23.933	0.000	160.045
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Program Element (PE) resources the Combat Capabilities Development Command (DEVCOM) Data and 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.

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Title: Materiel Systems Analysis	21.830	20.771	22.037

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

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>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.</p> <p>FY 2022 Plans: Will conduct integrated material performance analysis by developing, collecting, and retaining technology and system performance data as AFC's repository for the body of evidence concerning Army technologies and systems. Will develop and maintains essential verified and validated item/system level methodologies, tools, and models and simulations. Will provide extensive 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 PoF analyses. Will provide analytical support to the planning and conduct of T&E). Will 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. Will provide critical tools, policies and educational materials as the Army's Center for Reliability Growth to improve system reliability throughout the acquisition process. Will 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. 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 acquisition decisions.</p> <p>FY 2023 Plans: Will continue to conduct integrated materiel performance and engineering analyses as AFC's repository for the body of evidence concerning Army technologies and systems. Will continue to develop and maintain essential verified and validated item/system level methodologies, tools, and models and simulations. Will 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. Will 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. Will provide data and analysis support throughout the Project Convergence campaign of learning and Army Futures Command experimentation. Will continue to provide analytical support to the planning and conduct of T&E. Will 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. Will continue to provide critical tools, policies and educational materials</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>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.</p> <p><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding changes reflects planned lifecycle of this effort</p>			
<p><i>Title:</i> SBIR/STTR Transfer</p> <p><i>Description:</i> Funding transferred in accordance with Title 15 USC ?638</p> <p><i>FY 2022 Plans:</i> Funding transferred in accordance with Title 15 USC ?638</p> <p><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC ?638</p>	-	0.787	-
Accomplishments/Planned Programs Subtotals	21.830	21.558	22.037

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

N/A

Remarks

D. Acquisition Strategy

N/A