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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 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605718A / <i>Army Modeling & Sim X-Cmd Collaboration & Integ</i>
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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	-	2.537	6.097	11.204	-	11.204	11.234	11.240	11.274	11.342	0.000	64.928
S03: <i>Analysis M&S Tools and Services</i>	-	2.537	6.097	11.204	-	11.204	11.234	11.240	11.274	11.342	0.000	64.928

A. Mission Description and Budget Item Justification

This Program Element (PE) promotes the Army's Modeling and Simulation (M&S) strategy, defined by five guiding priorities: (1) formulate Army M&S policies; (2) develop and employ management processes for models, simulations and data; (3) develop M&S standards, architectures, networks and environments; (4) develop/employ new M&S tools and simulation technology; (5) develop an M&S workforce. Specifically, this PE focuses on priorities 3 and 4 to include the modernization of the Center for Army Analysis (CAA) models, simulations, and analytic capabilities.

M&S Standards, Architectures, Networks and Environments: The consistent use of standards, architectures, networks and environments advances the goal of interoperability. The Army coordinates with Joint, Interagency, Intergovernmental, and Multinational (JIIM) partners along with industry and academia to develop/employ standards that promote collaboration and facilitate the sharing of tools, data and information. The Army oversees procedures and processes for the appropriate use of standards to foster common formats and increase M&S and data reuse. The Army ensures these standards, architectures, networks and environments are readily accessible and can be reliably applied by users.

M&S Tools and Simulation Technology: The Army must have credible M&S tools and data to support the full range of Army organizational missions and functional responsibilities. M&S results that are timely and credible enhance decision making. The Army must develop and accredit reliable M&S tools so that decision makers and senior leaders benefit from the results and thus support the continued development, integration and use of such tools. To ensure credibility and reliability of results, M&S managers, developers and users must make the capabilities, constraints, limitations and assumptions of their M&S tools readily accessible. PE 0605718A provides for the development and employment of tools in the form of models, simulations and data that support the full range of Army interests and deliver timely information to enhance effective decision making. Moreover, these tools can be documented, verified, validated and accredited for their intended purpose in order to provide timely, credible results. CAA conducts analysis of senior-level decisions for current and future national security issues. The suite of models, simulations, and analytic tools must remain relevant, current, and responsive to the ever-changing Operational Environment in order to support effectively the Army's analytic requirements.

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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	2.633	6.097	6.177	-	6.177
Current President's Budget	2.537	6.097	11.204	-	11.204
Total Adjustments	-0.096	0.000	5.027	-	5.027
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.096	-			
• Adjustments to Budget Years	-	-	5.027	-	5.027

Change Summary Explanation

Increase in funding supports the modernization of CAA models, simulations, and analytic capabilities.

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Appropriation/Budget Activity 2040 / 6					R-1 Program Element (Number/Name) PE 0605718A / Army Modeling & Sim X-Cmd Collaboration & Integ				Project (Number/Name) S03 / Analysis M&S Tools and Services			
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
S03: Analysis M&S Tools and Services	-	2.537	6.097	11.204	-	11.204	11.234	11.240	11.274	11.342	0.000	64.928
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project has two functions:

Function 1 (Priority 3 of the "Army Modeling and Simulation (M&S) Strategy") -- Develop M&S standards, architectures, networks and environments that promote sharing, interoperability, access, and reliable application of tools, formats, data and information among/for users.

Function 2 (priority 4 of the "Army M&S Strategy") -- Develop and improve tools and technology in the form of models, simulations and data that support the full range of Army interests and deliver timely information to enhance effective decision making. These tools can be documented, verified, validated and accredited for their intended purpose.

Resources under Project S03 support the M&S communities (Acquisition, Analysis, Experimentation, Test & Evaluation, Training, Intelligence) at the enterprise level through enabling efforts. These efforts include the following: (a) design models, simulations, data and tools that are resident within one organization but reusable and trusted by M&S users and specialists across the Army M&S enterprise; (b) leverage industry and academia; (c) promote interoperability within M&S and between M&S and operational capabilities.

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

	FY 2022	FY 2023	FY 2024
Title: Develop M&S tools and technology	1.668	3.863	7.639
Description: Develop and improve tools and technology in the form of models, simulations and data that support the full range of Army interests and deliver timely information to enhance effective decision making. These tools can be documented, verified and validated for their intended purpose.			
FY 2023 Plans: FY23 funds will be distributed among activities that promote the fourth priority of the Army M&S Strategy: develop M&S tools and technology. Specific FY23 plans include: a.) development of an Army Fires Community AEM; b.) development of network modeling scenarios and models for the test/evaluation and analysis network communities; c.) update and enhance intelligence models for existing simulations and Mission Command Information Systems (MCISs). Includes modernization and life cycle management of CAA's suite of models, simulations, data management, and analytic tools.			
FY 2024 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>FY24 funds will be distributed among activities that promote the fourth priority of the Army M&S Strategy: develop M&S tools and technology. Specific FY24 plans include: a.) development of an Army Fires Community AEM; b.) development of network modeling scenarios and models for the test/evaluation and analysis network communities; c.) update and enhance intelligence models for existing simulations and Mission Command Information Systems (MCISs). Includes modernization and life cycle management of CAA's suite of models, simulations, data management, and analytic tools.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase in funding is for development of network modeling scenarios and models for the test/evaluation and analysis network within CAA suit of models</p>				
<p>Title: Develop M&S standards, architectures, networks and environments</p> <p>Description: Develop M&S standards, architectures, networks and environments that promote sharing, interoperability, access, and reliable application of tools, formats, data and information among/for users.</p> <p>FY 2023 Plans: FY23 funds will be distributed among activities that promote the third priority of the Army M&S Strategy: develop M&S standards, architectures, networks and environments. Specific FY23 plans include: a.) development and access to cyber/electronic warfare simulated environments, b.) development of an enhanced fires training and testing environment, c.) development of an OE signal architecture, d.) enhancement and access to a network modeling architecture that bridges multiple modeling and simulation environments. FY22 M&S standards, architectures, networks and environment plans will be developed to maximize reuse across the Army M&S-enabled communities. Includes modernization and life cycle management of CAA's suite of models, simulations, data management, and analytic tools.</p> <p>FY 2024 Plans: FY23 funds will be distributed among activities that promote the third priority of the Army M&S Strategy: develop M&S standards, architectures, networks and environments. a.) development and access to cyber/electronic warfare simulated environments, b.) development of an enhanced fires training and testing environment, c.) development of an OE signal architecture, d.) enhancement and access to a network modeling architecture that bridges multiple modeling and simulation environments. FY22 M&S standards, architectures, networks and environment plans will be developed to maximize reuse across the Army M&S-enabled communities. Includes modernization and life cycle management of CAA's suite of models, simulations, data management, and analytic tools.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase is to support Enduring Advantages-Analysis Working group initiatives and cost adjustments.</p>		0.869	2.012	3.565
Title: SBIR/STTR		-	0.222	-

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Description: Funding transferred in accordance with Title 15 USC §638				
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				
Accomplishments/Planned Programs Subtotals		2.537	6.097	11.204
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				