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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)	R-1 Program Element (Number/Name) PE 0603727D8Z I Joint Warfighting Program (JWP)
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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	53.406	3.727	2.157	2.411	-	2.411	2.486	2.555	2.606	2.658	-	-
<i>727: Joint Warfighting</i>	53.406	3.727	2.157	2.411	-	2.411	2.486	2.555	2.606	2.658	-	-

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Deter Aggression, Defend the Homeland, and Build Sustainable and Long-Term Advantage.

The Joint Warfighting Program (JWP) supports the Assistant Secretary of Defense for Acquisition (ASD(A))'s responsibilities for acquisition and portfolio management. The JWP underwrites analyses, studies, performs limited scope experiments, wargaming, and partnerships that define joint capability gaps and develops credible requirements for follow-on acquisition efforts. These analyses and assessments deliver independent perspectives on potential remedies to align acquisition investments and solutions for joint capability gaps created by future warfighting environments and emerging threats. The JWP supports mission engineering integration management, as well as other high priority emerging issues requiring independent analysis to inform acquisition decisions that impact National Security.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>
Previous President's Budget	3.869	2.169	0.000	0.000	0.000
Current President's Budget	3.727	2.157	2.411	0.000	2.411
Total Adjustments	-0.142	-0.012	2.411	-	2.411
• Congressional General Reductions	-	-0.012			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.142	-			
• Adjustments to Budget Year	-	-	2.411	-	2.411

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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Exhibit R-2A, RDT&E Project Justification: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603727D8Z / Joint Warfighting Program (JWP)	Project (Number/Name) 727 / Joint Warfighting
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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
<i>727: Joint Warfighting</i>	53.406	3.727	2.157	2.411	-	2.411	2.486	2.555	2.606	2.658	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Joint Warfighting Program (JWP) supports the Assistant Secretary of Defense for Acquisition (ASD(A))'s responsibilities for acquisition and portfolio management. The JWP underwrites analyses, studies, performs limited scope experiments, wargaming, and partnerships that define joint capability gaps and develops credible requirements for follow-on acquisition efforts. These analyses and assessments deliver independent perspectives on potential remedies to align acquisition investments and solutions for joint capability gaps created by future warfighting environments and emerging threats. The JWP supports mission engineering integration management, as well as other high priority emerging issues requiring independent analysis to inform acquisition decisions that impact National Security.

Anticipated Impact:

Provides analytical support for acquisition efforts for ASD(A) staff elements and joint customers. It promotes analyses and assessments for acquisition insights and decisions focused on capability development serving the needs of joint forces and the warfighter.

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

	FY 2021	FY 2022	FY 2023
Title: Acquisition Analysis for Joint Capability Requirements	3.727	2.157	2.411
Description: Small Satellite Coordinating Activity (FY 2021 Accomplishments):			
-SSCA Phase 3 developed an integrated SmallSat and related technology roadmap and strategy for implementation and maintenance.			
-Revised and matured the SmallSat Roadmap such that it can begin to directly inform OUSD(A&S) priorities for Future Years Defense Program 2022-2026.			
Mission Engineering Data Modeling in Strategic Portfolio Reviews (FY 2021 Accomplishments):			
-Provided Mission Engineering Data Modeling and Characterization to support OSD Cost Assessment and Program Evaluation (CAPE) and Joint Staff Strike Strategic Portfolio Review (SPR).			
-Identified minimum set of critical data types and developed a pilot case for authoritative data modeling that is repeatable and scalable for mission capability portfolio management.			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
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-Integrated user models to support machine learning and provide automation in the MUSE User Interface.

-Delivered initial automated task extraction methodology and started coding in MUSE to facilitate automatic population of warfighter task information (e.g. Uniform Joint Task Lists) into the MUSE database.

Mission Engineering (ME) Capabilities Development (FY 2021 Accomplishments):

-Developed technical ME analytical framework (the effects/kill-chain framework) and application tool (MUSE). Integrated analytical tools to identify and exploit opportunities for interoperability with potential allied partners.

Mission Engineering-Automate Effects/Kill Chain & Architecture Products into M&S tools (FY 2021 Accomplishments):

-Developed an automated methodology to execute Mission Engineering and Integration to transition from static architectures to executable dynamic models for time-dependent assessments of complex operations.

-Developed prototype plan for methodology and tools to develop and assess Mission Effects Chain (MEC) using a model-based systems engineering approach combined with automation technologies.

Anticipated Impact:
Provides analytical support for acquisition efforts for ASD(A) staff elements and joint customers. It promotes analyses and assessments for acquisition insights and decisions focused on capability development serving the needs of joint forces and the warfighter.

FY 2022 Plans:
Mission Engineering and Integration Mission Thread Pathfinder Analysis: Develop and pilot a Digital Engineering environment a re-usable Digital Engineering environment and methodology for these mission threads to help automate, simplify, and integrate Mission Engineering.

Follow-on USSF C2 Review: Assess the status of execution phase activities and challenges in costing an agile software program, flexibility and extensibility of the technical architecture, software development control processes, and sufficiency of mechanisms used to map requirements and monitor execution progress to product roadmaps.

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
<p>RIZER Assessment: Identify any cybersecurity vulnerabilities or gaps in the operational effectiveness of using RAZER software on the latest versions of Da-Jiang Innovation systems.</p> <p>FY 2023 Plans: Continued acquisition analysis through a portfolio management lens to address the critical joint warfighting mission areas critical to national defense. Major focus areas will support the following projects:</p> <ul style="list-style-type: none"> - Continued Mission Engineering and Integration Mission Thread Pathfinder Analysis: Develop and pilot a Digital Engineering environment a re-usable Digital Engineering environment and methodology for these mission threads to help automate, simplify, and integrate Mission Engineering. -Continued Follow-on USSF C2 Review: Assess the status of execution phase activities and challenges in costing an agile software program, flexibility and extensibility of the technical architecture, software development control processes, and sufficiency of mechanisms used to map requirements and monitor execution progress to product roadmaps. -Continued RIZER Assessment: Identify any cybersecurity vulnerabilities or gaps in the operational effectiveness of using RAZER software on the latest versions of Da-Jiang Innovation systems. <p>FY 2022 to FY 2023 Increase/Decrease Statement: ASD(A) adjusted funding and focus to address mission priority areas and realigned funding for enduring requirements for independent analyses in support of agile software development and software provenance mission areas. In FY 2020 and beyond, this segment was combined with Acquisition Analytic Development of Joint Military Requirements.</p>				
Accomplishments/Planned Programs Subtotals		3.727	2.157	2.411
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				