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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0708051F / <i>Rapid Sustainment Modernization (RSM)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	69.000	43.431	37.044	0.000	37.044	32.794	27.938	26.165	26.682	0.000	263.054
648051: <i>Rapid Sustainment Modernization Technologies</i>	-	69.000	43.431	37.044	0.000	37.044	32.794	27.938	26.165	26.682	0.000	263.054
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Rapid Sustainment Modernization program provides funding to develop, test and deploy new technologies for implementation across the sustainment enterprise, to improve readiness, and reduce sustainment costs.

RSO will achieve this by reaching across the sustainment enterprise to include the warfighter, depot maintenance, field maintenance, supply chain and program offices to identify enterprise needs. The RSO will then identify, assess, develop, validate and verify new technology projects that support these areas, all while reducing costs and increasing aircraft readiness.

RSO New Sustainment technologies such as Advanced Manufacturing (Additive Manufacturing/Coldspray), Artificial Intelligence/ Machine Learning (Conditioned Based Maintenance Plus (CBM+), RSM Technologies to include Data and Digital Engineering, Automation/Robotics, Augmented and Virtual Reality, and Rapid and Austere Environments are evaluated across the technology space in support of the Department of the Air Force (DAF) sustainment enterprise.

This is a new program element created based off the FY 2021 appropriation line item 56A. This requirement is not a new start as it was previously funded and executed with DAF Research, Development, Test and Evaluation (RDT&E) funding.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY 0M was expended for civilian pay expenses in this program element, and in CY 2.4M is forecasted for civilian pay expenses in this program element.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver RSO Innovative capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	
Previous President's Budget	69.000	43.431	26.976	0.000	26.976	
Current President's Budget	69.000	43.431	37.044	0.000	37.044	
Total Adjustments	0.000	0.000	10.068	0.000	10.068	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	0.000	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	0.000				
• Congressional Directed Transfers	0.000	0.000				
• Reprogrammings	0.000	0.000				
• SBIR/STTR Transfer	0.000	0.000				
• Other Adjustments	0.000	0.000	10.068	0.000	10.068	
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2023	FY 2024	FY 2025
Title: Rapid Sustainment Modernization-Advanced Manufacturing				69.000	36.231	18.849
Description: Advanced Repair and Qualification						
FY 2024 Plans: Continue to assess new technologies/equipment and develop standardized processes to allow for deployment across the enterprise Continue to bring AM under a single umbrella program to focus technology growth via the RSM AM AGORA Marketplace: a centralized platform accessible via Cloud One to access Government AM capabilities, AM part requests/approvals, and approved AM hardware						
FY 2025 Plans: Continue to assess new technologies/equipment and develop standardized processes to allow for deployment across the enterprise Continue to bring AM under a single umbrella program to focus technology growth via the RSM AM AGORA Marketplace: a centralized platform accessible via Cloud One to access Government AM capabilities, AM part requests/approvals, and approved AM hardware						
FY 2024 to FY 2025 Increase/Decrease Statement: AGORA development is complete in FY24 and moves into sustainment.						
Title: Rapid Sustainment Modernization-RSM Technologies				0.000	5.300	5.300
Description: RSM Technologies						

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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<p>FY 2024 Plans: Develop the LITE API Mgmt Platform to increase sortie generation at reduced cost by enhancing data flow between LogIT Systems. Expand advancement of RSM technology capabilities in the AF enterprise by scaling "best of breed" technology across the sustainment enterprise. Assess Intermittent Fault Detection (IFD) that supports efforts to address the No Fault Found issue by enabling the investigation of IFD technologies and the associated process by which to test, evaluate, identify best of breed, deploy, and sustain the assets. Assess Black Gold to accomplish testing and evaluation of the Black Gold compressor blade coating on turbine engines to enable certification and fleet integration of the coatings on aircraft engines for enhancement of fuel efficiency, improved erosion protection, and associated sustainment benefits.</p> <p>FY 2025 Plans: Continue to develop the LITE API Mgmt Platform to increase sortie generation at reduced cost by enhancing data flow between LogIT Systems. Expand advancement of RSM technology capabilities in the AF enterprise by scaling "best of breed" technology across the sustainment enterprise. Assess Intermittent Fault Detection (IFD) that supports efforts to address the No Fault Found issue by enabling the investigation of IFD technologies and the associated process by which to test, evaluate, identify best of breed, deploy, and sustain the assets. Assess Black Gold to accomplish testing and evaluation of the Black Gold compressor blade coating on turbine engines to enable certification and fleet integration of the coatings on aircraft engines for enhancement of fuel efficiency, improved erosion protection, and associated sustainment benefits.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Approved RSIP projects are included in the PB</p>			
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<p>Title: Rapid Sustainment Modernization-AI/ML (CBM+)</p> <p>Description: CBM+</p> <p>FY 2024 Plans: Implementation, expansion, sustainment, and enhancement of CBM+ SBA processes and CBM+ tool-kit to improve reliability of weapon systems, minimize Logistics Analytics Data Environment (BLADE) to enhance the synthesis of data across the enterprise and enhance analysis/unscheduled repairs, synchronize maintenance actions, reduce mission aborts, decrease maintenance costs, and reduce cycle time through Enhanced Reliability Centered Maintenance (eRCM) and Sensor Based Algorithms (SBAs) CBM+ will use databases and information systems such as Basing and decision making information in the RSM CBM+ tool-kit (PANDA)</p>	0.000	1.900	12.895
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Investment funding will be used for expansion of software enhancements in Panda and sensor based efforts such as aircraft (a/c) sensor 1553 (BUS) box decoders, sniffers, and SBA advancements.			
FY 2025 Plans: Implementation, expansion, and enhancement of CBM+ SBA processes and CBM+ tool-kit to improve reliability of weapon systems, minimize Logistics Analytics Data Environment (BLADE) to enhance the synthesis of data across the enterprise and enhance analysis/unscheduled repairs, synchronize maintenance actions, reduce mission aborts, decrease maintenance costs, and reduce cycle time through Enhanced Reliability Centered Maintenance (eRCM) and Sensor Based Algorithms (SBAs) CBM+ will use databases and information systems such as Basing and decision making information in the RSM CBM+ tool-kit (PANDA) Investment funding will be used for expansion of software enhancements in Panda and sensor based efforts such as aircraft (a/c) sensor 1553 (BUS) box decoders, sniffers, and SBA advancements.			
FY 2024 to FY 2025 Increase/Decrease Statement: Approved RSIP project to fund the capability to enable data transfer and communication across joint domain platforms via Modular Open Systems Approach (MOSA) architectures. This will provide common interfaces to transfer standardized digital data and file formats for Predictive Logistics across the Joint Force to improve sustainment mission command capabilities and inform lethality decisions.			
Accomplishments/Planned Programs Subtotals	69.000	43.431	37.044

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPAF 04 845010: <i>Base Procured Equipment</i>	0.000	45.820	59.960	-	59.960	21.710	22.520	23.450	-	0.000	173.460

Remarks

E. Acquisition Strategy
RSO develops, tests and deploys new technologies for implementation across the Sustainment Enterprise to improve readiness and reduce sustainment costs. New technologies are the key to meeting the challenges of aging weapon systems, increasing readiness, decreasing diminishing manufacturing sources and parts obsolescence and will drive higher readiness and lower weapon system sustainment costs.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0708051F / <i>Rapid Sustainment Modernization (RSM)</i>	Project (Number/Name) 648051 / <i>Rapid Sustainment Modernization Technologies</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Advanced Manufacturing(Additive and Coldspray)	Various	Various : Wright Patterson, OH	-	69.000	Dec 2023	34.420	Dec 2023	17.501	Dec 2024	-		17.501	Continuing	Continuing	-
Conditioned Based Maintenance(CBM+)	Various	Various : Wright Patterson, OH	-	-		1.800	Dec 2023	5.300	Dec 2024	-		5.300	Continuing	Continuing	-
RSM Technologies	Various	Various : Wright Patterson, OH	-	-		5.039	Dec 2023	12.895	Dec 2024	-		12.895	Continuing	Continuing	-
Subtotal			-	69.000		41.259		35.696		-		35.696	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration (PMA)	Various	Various : Wright Patterson, OH	-	-		2.172	Dec 2023	1.348	Dec 2024	-		1.348	Continuing	Continuing	-
Subtotal			-	-		2.172		1.348		-		1.348	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
	Project Cost Totals		-	69.000	43.431	37.044	37.044	Continuing	Continuing

Remarks
 FY20 - New areas of additive manufacturing and cold spray technologies, equipment and qualification processes that are maturing and providing benefit to the DAF

 FY21 - Digital Engineering/Digital Twin: digital transformation of the existing Air Force fleet to increase operational readiness levels, decrease parts obsolescence and diminishing manufacturing sources required to get mission capable rates to acceptable levels

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Advanced Manufacturing	
AM/Cold Spray	[REDACTED]
AI/ML	
CBM+	[REDACTED]
RSM Technologies	
RSM Technologies	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Advanced Manufacturing				
AM/Cold Spray	2	2024	4	2028
AI/ML				
CBM+	2	2024	4	2028
RSM Technologies				
RSM Technologies	2	2024	4	2028