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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 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605056F / <i>Open Architecture Management</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	-	37.262	36.582	41.223	0.000	41.223	45.079	46.002	47.666	48.607	Continuing	Continuing
656060: <i>Standards Management</i>	-	37.262	36.582	41.223	0.000	41.223	45.079	46.002	47.666	48.607	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Open Architecture Management Office (OAMO) at the Air Force Life Cycle Management Center is responsible for developing, evolving, and managing open standards. Open standards permit Department of Defense programs to reduce acquisition and life-cycle costs as well as the risks associated with development, sustainment, technology refresh, and capability upgrades of mission systems on weapon systems. The OAMO continues to manage the Open Mission Systems (OMS) and the Universal Command and Control Interface (UCI) Standards. The OAMO will continue executing efforts to mature various open standards and government reference architectures (GRAs) to ensure compatibility and interoperability to meet program needs. Finally, OAMO will continue to enable application of open standards in weapon system designs, and to enable open standards and GRAs to transition to OAMO management.

OAMO provides funding to multiple entities, including but not limited to the Air Force Research Laboratory (AFRL), the 76th Software Engineering Group (76 SWEG), defense contractors, Federally Funded Research and Development Centers, and University Affiliated Research Centers in support of standards management activities. AFRL is responsible for executing science and technology initiatives to further develop the OMS/UCI Standards. The 76 SWEG is responsible for key activities and deliverables for the OMS and UCI standards Starter Kit, updating the Government critical abstraction layer, maintaining the Reference Implementation, integrating, and testing the Mission Package, completing Change Package Development and Sponsorship, supporting the Open Mission Systems (OMS) and Universal Command and Control Interfaces (UCI) management activities, providing support to adopting programs, and providing training and associated documentation. These entities will also be funded to support activities for other open standards and GRA initiatives Managing a collaborative tools environment, updating tools in the OMS/UCI Defense contractors have been on contract for over 5 years working as one government led consortium (the Open Architecture Collaborative Working Group (OACWG)) to produce the OMS/UCI standards, and new to 2023 was an included subset of the OACWG, The Normalization Subgroup (NS) which researches, determines, and evolves the set of normalized UCI messages, behaviors, and use cases as well as support the inclusion of the additions into the OMS/UCI Standards. The NS is responsible for delivering an updated digital model (ECD 2025) and providing principles and methodology to the annual OMS/UCI standards.

The OAMO will continue to develop the Government Avionics Reference Architecture (GARA) which provides a reference architecture and digital engineering model (e.g., Model Based Systems Engineering (MBSE)) for legacy platforms to adopt an open architecture approach as defined in the NDAA and to follow senior leader direction. GARA is a key initiative to ensure alignment and interoperability of legacy programs, break "vendor-lock" to increase competition while lowering capability upgrade cost and enable legacy platforms to upgrade at a pace relevant to today's threat.

The OAMO will execute P3I initiatives as required and include activities such as specifically targeted improvements to open standards and open architecture initiatives (e.g., Sensor Open Systems Architecture), coordination with other standardization efforts, enhancements (including cybersecurity, as required), and widening the relevancy and applicability of the standards the OAMO is involved with.

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This program element may include necessary civilian pay expenses required to manage, execute, and deliver open standards capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605829F, 0605830F, 0605831F, 0605832F, 0605898F, and 0605833F.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver Open Architecture Management for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0056.”

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	38.201	36.582	44.028	0.000	44.028
Current President's Budget	37.262	36.582	41.223	0.000	41.223
Total Adjustments	-0.939	0.000	-2.805	0.000	-2.805
• 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	-0.939	0.000			
• Other Adjustments	0.000	0.000	-2.805	0.000	-2.805

Change Summary Explanation

The FY 2025 funding request was reduced by \$2.877 million to account for the availability of prior year execution balances.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Open Architecture Management Office	37.262	36.582	41.223
Description: Accomplish all industry activities that result in the annual release of the OMS and UCI standards along with the associated documentation, including training materials. Manage government activities to support the OMS and UCI Standards. GARA will complete an initial reference architecture (RA) Fall 23 comprised of OMS/UCI, Big Iron, and SOSA aligned hardware and will continue maturing the RA and model in support of adopting programs and incorporating other open architectures into the			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>RA. Conduct activities to add capability and evolve standards and open architecture initiatives managed and supported by the OAMO to existing open standards and/or initiate new open standards to meet acquisition needs.</p> <p><i>FY 2024 Plans:</i> Continue to modify and update the existing OMS and UCI Standards to include normalized behaviors to increase and widen the pool of OMS/UCI applicability, account for emerging technologies, adjust for program specific needs, and conduct targeted training. In coordination with industry partners and government agencies, complete all activities (including quarterly common governance boards) to develop annual releases of the OMS/UCI Standards. Provide government expertise to support open standards and open architecture development efforts. Continue the development and maturation of GARA which includes integration of additional open standards into the GARA while supporting adopting programs. Execute activities to enhance the applicability of open standards and GRAs, and to enable open standards and GRAs to transition to OAMO management.</p> <p><i>FY 2025 Plans:</i> Continue to modify and update the existing OMS and UCI Standards to increase and widen the pool of OMS/UCI applicability, account for emerging technologies, adjust for program specific needs, and conduct targeted training. In coordination with industry partners and government agencies, complete all activities (including monthly common governance boards) to advance quarterly engineering releases and annual releases of the OMS/UCI Standards. Provide government expertise to support open standards and open architecture development efforts. Continue development and maturation of GARA to a state that is ready for transfer to a collaborative industry consortium similar to OMS/UCI's OACWG. Execute activities to enhance the applicability of open standards and GRAs, and to enable open standards and GRAs to transition to OAMO management.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> FY25 funding increased by \$4.641 million compared to FY24 due to continued support for OMS and UCI, development of GARA, and other open standard and open architecture efforts.</p>			
Accomplishments/Planned Programs Subtotals	37.262	36.582	41.223

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy
The Air Force Life Cycle Management Center's OAMO awarded a follow-on contract to continue the standards management activities conducted under a previously classified Air Force RDT&E Program Element. The contract is a cost-plus fixed fee (CPFF) indefinite delivery/indefinite quantity (ID/IQ) that was awarded in December 2018. The first delivery order has a period of performance of 3 years beginning 1 January 2019. A second delivery order with a one-year period of performance was awarded in first quarter of FY2021 to cover the period 1 January 2022 through 31 December 2022. A period of performance extension will be exercised for January

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2023 through 31 December 2023. Follow-on contract through the Air Force Life Cycle Management Center's XA directorate under the XA IDIQ will have a period of performance of 2 years, 1 January 24 through 31 December 2025.		

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

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605056F / <i>Open Architecture Management</i>	Project (Number/Name) 656060 / <i>Standards Management</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Open Architecture Collaborative Working Group - BAE Systems	C/CPFF	BAE Systems : Nashua, NH	-	1.250	Dec 2022	0.000	Dec 2023	0.000	Dec 2024	-		0.000	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Boeing	C/CPFF	Boeing Company : St. Louis, MO	-	2.966	Dec 2022	3.495	Dec 2023	3.495	Dec 2024	-		3.495	Continuing	Continuing	-
Open Architecture Collaborative Working Group - General Atomics ASI	C/CPFF	Anduril Industries Inc : Washington, DC	-	0.515	Dec 2022	3.215	Dec 2023	2.276	Dec 2024	-		2.276	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Collins Aerospace	C/CPFF	Collins Aerospace : Cedar Rapids, IA	-	0.643	Dec 2022	0.855	Dec 2023	0.855	Dec 2024	-		0.855	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Lockheed Martin	C/CPFF	Lockheed Martin : Fort Worth, TX	-	5.935	Dec 2022	5.133	Dec 2023	5.133	Dec 2024	-		5.133	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Northrop Grumman	C/CPFF	Northrop Grumman : Melbourne, FL	-	8.454	Dec 2022	8.151	Dec 2023	8.151	Dec 2024	-		8.151	Continuing	Continuing	-
Open Architecture Collaborative Working Group - Raytheon	C/CPFF	Raytheon Company : El Segundo, CA	-	2.804	Dec 2022	2.204	Dec 2023	2.204	Dec 2024	-		2.204	Continuing	Continuing	-
Open Architecture Collaborative Working Group - General Dynamics	C/CPFF	General Dynamics : Fairfax, VA	-	1.917	Dec 2022	1.705	Dec 2023	1.705	Dec 2024	-		1.705	Continuing	Continuing	-
76th Software Maintenance Group (76 SMXG) Development	PO	76 SWEG : Tinker AFB, OK	-	4.600	Dec 2022	4.514	Dec 2023	5.672	Dec 2024	-		5.672	Continuing	Continuing	-
Air Force Research Laboratory (AFRL) Science and Technology Initiatives	MIPR	AFRL : Various	-	2.100	Dec 2022	1.968	Dec 2023	2.366	Dec 2024	-		2.366	Continuing	Continuing	-

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

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605056F / <i>Open Architecture Management</i>	Project (Number/Name) 656060 / <i>Standards Management</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			
Engineering Studies (1)	PO	MITRE: : Bedford, MA	-	1.200	Dec 2022	0.000	Dec 2023	0.000	Dec 2024	-		0.000	Continuing	Continuing	-
Engineering Studies (2)	PO	MIT-LL : Lexington, MA	-	0.241	Dec 2022	0.540	Dec 2023	0.540	Dec 2024	-		0.540	Continuing	Continuing	-
SOSA Initiatives	Various	Existing IDIQ: : Various	-	1.321	Dec 2022	1.026	Dec 2023	3.139	Dec 2024	-		3.139	Continuing	Continuing	-
Government Avionics Reference Architecture (GARA)	SS/CPFF	GTRI UARC : Atlanta, GA	-	1.566	Dec 2022	2.482	Dec 2023	4.125	Dec 2024	-		4.125	Continuing	Continuing	-
Subtotal			-	35.512		35.288		39.661		-		39.661	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	Various	OAM Program Office : Wright-Patterson AFB, OH	-	1.750	Jan 2023	1.294	Jan 2024	1.562	Jan 2025	-		1.562	Continuing	Continuing	-
Subtotal			-	1.750		1.294		1.562		-		1.562	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			-	37.262	36.582	41.223	-	41.223	Continuing	Continuing	N/A

Remarks

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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

<i>Develop and Evolve Standards</i>	
Quarterly Governance Boards	
FY 2023 Annual Release of OMS/UCI Standards	
FY 2024 Annual Release of OMS/UCI Standards	
FY 2025 Annual Release of OMS/UCI Standards	
FY 2026 Annual Release of OMS/UCI Standards	
FY 2027 Annual Release of OMS/UCI Standards	
FY 2028 Annual Release of OMS/UCI Standards	
FY 2029 Annual Release of OMS/UCI Standards	
FY 2023 Annual Integration Event	
FY 2024 Annual Integration Event	
FY 2025 Annual Integration Event	
FY 2026 Annual Integration Event	
FY 2027 Annual Integration Event	
FY 2028 Annual Integration Event	
FY 2029 Annual Integration Event	
FY 2023 GARA Quarterly Model Update	
FY 2024 GARA Quarterly Model Update	
FY 2025 GARA Quarterly Model Update	

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

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605056F / <i>Open Architecture Management</i>	Project (Number/Name) 656060 / <i>Standards Management</i>
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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
FY 2026 GARA Quarterly Model Update																												
FY 2027 GARA Quarterly Model Update																												
FY 2028 GARA Quarterly Model Update																												
FY 2029 GARA Quarterly Model Update																												
FY 2023 GARA Quarterly Configuration Management Plan Updates																												
FY 2024 GARA Quarterly Configuration Management Plan Updates																												
FY 2025 GARA Quarterly Configuration Management Plan Updates																												
FY 2026 GARA Quarterly Configuration Management Plan Updates																												
FY 2027 GARA Quarterly Configuration Management Plan Updates																												
FY 2028 GARA Quarterly Configuration Management Plan Updates																												
FY 2029 GARA Quarterly Configuration Management Plan Updates																												
FY 2023 GARA Quarterly Conformance Plan Updates																												
FY 2024 GARA Quarterly Conformance Plan Updates																												
FY 2025 GARA Quarterly Conformance Plan Updates																												
FY 2026 GARA Quarterly Conformance Plan Updates																												
FY 2027 GARA Quarterly Conformance Plan Updates																												

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

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605056F / <i>Open Architecture Management</i>	Project (Number/Name) 656060 / <i>Standards Management</i>
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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				
FY 2028 GARA Quarterly Conformance Plan Updates																																
FY 2029 GARA Quarterly Conformance Plan Updates																																

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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
<i>Develop and Evolve Standards</i>				
Quarterly Governance Boards	1	2023	4	2029
FY 2023 Annual Release of OMS/UCI Standards	1	2023	1	2023
FY 2024 Annual Release of OMS/UCI Standards	1	2024	1	2024
FY 2025 Annual Release of OMS/UCI Standards	1	2025	1	2025
FY 2026 Annual Release of OMS/UCI Standards	1	2026	1	2026
FY 2027 Annual Release of OMS/UCI Standards	1	2027	1	2027
FY 2028 Annual Release of OMS/UCI Standards	1	2028	1	2028
FY 2029 Annual Release of OMS/UCI Standards	1	2029	1	2029
FY 2023 Annual Integration Event	4	2023	4	2023
FY 2024 Annual Integration Event	4	2024	4	2024
FY 2025 Annual Integration Event	4	2025	4	2025
FY 2026 Annual Integration Event	4	2026	4	2026
FY 2027 Annual Integration Event	4	2027	4	2027
FY 2028 Annual Integration Event	4	2028	4	2028
FY 2029 Annual Integration Event	4	2029	4	2029
FY 2023 GARA Quarterly Model Update	1	2023	4	2023
FY 2024 GARA Quarterly Model Update	1	2024	4	2024
FY 2025 GARA Quarterly Model Update	1	2025	4	2025
FY 2026 GARA Quarterly Model Update	1	2026	4	2026
FY 2027 GARA Quarterly Model Update	1	2027	4	2027
FY 2028 GARA Quarterly Model Update	1	2028	4	2028

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

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
FY 2029 GARA Quarterly Model Update	1	2029	4	2029
FY 2023 GARA Quarterly Configuration Management Plan Updates	1	2023	4	2023
FY 2024 GARA Quarterly Configuration Management Plan Updates	1	2024	4	2024
FY 2025 GARA Quarterly Configuration Management Plan Updates	1	2025	4	2025
FY 2026 GARA Quarterly Configuration Management Plan Updates	1	2026	4	2026
FY 2027 GARA Quarterly Configuration Management Plan Updates	1	2027	4	2027
FY 2028 GARA Quarterly Configuration Management Plan Updates	1	2028	4	2028
FY 2029 GARA Quarterly Configuration Management Plan Updates	1	2029	4	2029
FY 2023 GARA Quarterly Conformance Plan Updates	1	2023	4	2023
FY 2024 GARA Quarterly Conformance Plan Updates	1	2024	4	2024
FY 2025 GARA Quarterly Conformance Plan Updates	1	2025	4	2025
FY 2026 GARA Quarterly Conformance Plan Updates	1	2026	4	2026
FY 2027 GARA Quarterly Conformance Plan Updates	1	2027	4	2027
FY 2028 GARA Quarterly Conformance Plan Updates	1	2028	4	2028
FY 2029 GARA Quarterly Conformance Plan Updates	1	2029	4	2029