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

Appropriation/Budget Activity 3620F: <i>Research, Development, Test & Evaluation, Space Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1206770SF / <i>Enterprise Ground Services</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	-	130.148	155.825	111.284	0.000	111.284	107.652	109.711	114.754	117.613	Continuing	Continuing
673140: <i>Enterprise Ground Services EGS</i>	-	130.148	155.825	111.284	0.000	111.284	107.652	109.711	114.754	117.613	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In February 2023, the Assistant Secretary of the Air Force for Space Acquisition and Integration directed the formation of a Combined Program Office (CPO) by merging Enterprise Ground Services (EGS) from Space Systems Command (SSC) and Ground Command, Control, and Communications (GC3) from the Space Rapid Capabilities Office (Space RCO). The newly formed CPO is called the Rapid Resilient Command and Control (R2C2) CPO, using Space RCO acquisition authorities under the Space RCO Program Executive Officer to execute funding in the EGS and GC3 program elements to develop an extensible, scalable, modular ground segment solution capable of supporting dynamic space operations missions of the United States Space Force. Combined EGS and GC3 funding will be used wholly and directly to support CPO operations. R2C2 will continue development and integration of the satellite operations ground segment solution (SatOps) to support the dynamic space operations mission set, including, but not limited to, capabilities and services needed to perform command and control (C2) functions.

The appropriate Congressional Committees were briefed on the associated program changes and acquisition strategy beginning in FY 2023.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392SF and 1206398SF.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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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	123.251	155.825	137.645	0.000	137.645
Current President's Budget	130.148	155.825	111.284	0.000	111.284
Total Adjustments	6.897	0.000	-26.361	0.000	-26.361
• 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	11.150	0.000			
• SBIR/STTR Transfer	-4.253	0.000			
• Other Adjustments	0.000	0.000	-26.361	0.000	-26.361

Change Summary Explanation

FY 2023: +11.150M above threshold reprogramming and -4.253M for SBIR/STTR.

FY 2025: Decrease is due to realignment of funds to higher priority requirements.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: Rapid Resilient Command and Control (R2C2) Development	66.814	100.521	72.041
Description: Develop and integrate common SatOps C2 services in cloud environments. Refine standards and interfaces, develop and implement cybersecurity and cryptography requirements, develop training, address Zero Trust, mature antenna network services and connectivity, and integrate capabilities into the enterprise. Support mission partner demonstrations, integration, and test of mission-unique software.			
FY 2024 Plans: Continued development, integration, and deployment of enterprise SatOps C2 services, such as flight dynamics and associated standards and interfaces for Research and Development Space and Missile Operations (RDSMO) and dynamic space operations mission partners. Continued deployment of cybersecurity, cryptography, and security architectures to support dynamic space operations capabilities. Continued integration and testing with mission-partner developed unique software to meet end-to-end C2 requirements. Continued growth of infrastructure and network connectivity to support mission partners. Continued maturing of cloud architectures and Distributed Software Integration Labs (dSIL) in support of dynamic space operations. Continued development of antenna networking services to enable mission planning and scheduling for commercial and government antennas. Continued integration of developed capabilities with the dynamic space operations enterprise. Expansion of R2C2			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Development to a growing number of mission partners integrating and operating with R2C2, including RDSMO and dynamic space operations mission partners. Continued risk reduction demos for R2C2 capabilities.</p> <p>Compared to the FY24PB amount of \$78.268M for this effort, the current FY24 funding reflects a \$22.253M increase for continuing and expanded efforts as noted above.</p> <p>FY 2025 Plans: Continue development, integration, and deployment of enterprise SatOps C2 services, such as flight dynamics and associated standards and interfaces for RDSMO and dynamic space operations mission partners. Continue deployment of cybersecurity, cryptography, and security architectures to support dynamic space operations capabilities. Continue integration and testing with mission-partner developed unique software to meet end-to-end C2 requirements. Continue growing infrastructure and network connectivity to support mission partners. Continue maturing a commercial cloud architecture in support of dynamic space operations. Continue development of antenna networking services to enable mission planning and scheduling for commercial and government antennas. Continue integration of developed capabilities with the dynamic space operations enterprise. Continue risk reduction demos as test assets become available and deliver R2C2 Article 1.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 Development funding decreased due to realigning funds to other Space Force priorities.</p>				
<p>Title: R2C2 Pre-Operations (Pre-Ops) Support</p> <p>Description: Maintain hardware and software baselines, update software licenses, integrate cybersecurity, and provide help-desk operations with associated training.</p> <p>FY 2024 Plans: Continued scaling pre-ops support activities and facilities for increasing number of mission partners using R2C2 capabilities. Continued maintaining hardware and software baselines for R2C2 capabilities, hosted on cloud environments, maintained software licenses, and continued 24x7 help desk operations, associated training, and cybersecurity support. R2C2. Continued improving service center capabilities to support mission partners developing, integrating, testing, and operating with R2C2. Accomplished infrastructure technical refresh, patching, and cybersecurity updates. Expanded Pre-Ops support to a growing number of mission partners integrating and operating with R2C2, including RDSMO and dynamic space operations mission partners. Continued support of antenna networking services.</p> <p>Compared to the FY24PB amount of \$31.477M for this effort, the current FY24 funding reflects a \$23.827M increase for continuing and expanded efforts as noted above.</p> <p>FY 2025 Plans:</p>		10.417	55.304	39.243

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Continue pre-ops support activities and facilities for dynamic space operations mission partners using R2C2 SatOps ground segment services to include maintaining software baselines, expanding commercial cloud environments, supporting private cloud environments, updating software licenses, facilitating user engagements, and continuing 24x7 help desk operations, associated training, and cybersecurity support. Continue service center capabilities to support mission partners developing, integrating, testing, and operating R2C2 SatOps services. Accomplish necessary infrastructure technical refresh, patching, and cybersecurity updates. Continue support of antenna networking services.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 Pre-Ops funding decreased due to realigning funds to other Space Force priorities.</p>			
<p>Title: R2C2 Deployment</p> <p>Description: Rapidly deploy the SatOps ground segment solution to support dynamic space operations mission set.</p> <p>FY 2024 Plans: N/A. FY 2024 funds realigned to other efforts to support pivot to dynamic space operations mission set.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A. FY 2024 and FY 2025 R2C2 Deployment funding realigned to Development and Pre-Ops efforts to support pivot to dynamic space operations mission set, in accordance with revised acquisition strategy.</p>	52.917	0.000	0.000
Accomplishments/Planned Programs Subtotals	130.148	155.825	111.284

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

Remarks

E. Acquisition Strategy
The R2C2 Combined Program Office (CPO) has an approved acquisition strategy to award contracts under a small business, multiple award Indefinite Delivery / Indefinite Quantity in FY 2024 to operationalize the SatOps ground segment solution and provide pre-ops support for dynamic space operations mission partners. The Service Acquisition Executive approved this revised strategy after the Department submitted FY 2024 budget documentation. FY 2023 funding is revised to reflect an approved above threshold reprogramming supporting this new strategy, and FY 2024 funding is revised to reflect the updated acquisition strategy.

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

Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206770SF / Enterprise Ground Services	Project (Number/Name) 673140 / Enterprise Ground Services EGS
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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			
R2C2 Development	Various	Various : Various	-	52.017	Nov 2022	78.497	Nov 2023	55.976	Nov 2024	-		55.976	Continuing	Continuing	-
R2C2 Pre-Ops Support	Various	Various : Various	-	10.417	Dec 2022	49.886	Dec 2023	35.505	Dec 2024	-		35.505	Continuing	Continuing	-
R2C2 Deployment	Various	Various : Various	-	46.781	Nov 2022	0.000	Oct 2023	0.000		-		0.000	0.000	46.781	-
R2C2 Technical Mission Analysis	RO	Aerospace Corp : El Segundo, CA	-	4.175	Oct 2022	0.000	Jan 2024	0.000	Jan 2025	-		0.000	Continuing	Continuing	-
Enterprise Systems Engineering and Integration (SE&I)	Various	MITRE : Bedford, MA	-	5.615	Oct 2022	14.038	Oct 2023	10.001	Oct 2024	-		10.001	Continuing	Continuing	-
SBIR/STTR	Allot	TBD : TBD	-	-		5.454	Oct 2023	3.887	Oct 2024	-		3.887	Continuing	Continuing	-
Subtotal			-	119.005		147.875		105.369		-		105.369	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			
FFRDC	RO	Aerospace Corp : El Segundo, CA	-	3.828	Oct 2022	0.872	Oct 2023	0.872		-		0.872	0.000	5.572	-
A&AS Support	Various	Various : Various	-	6.604	Dec 2022	6.748	Dec 2023	4.808	Dec 2024	-		4.808	Continuing	Continuing	-
Other Support	Various	Various : Various	-	0.711	Dec 2022	0.330	Dec 2023	0.235	Dec 2024	-		0.235	Continuing	Continuing	-
Subtotal			-	11.143		7.950		5.915		-		5.915	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		-	130.148	155.825	111.284	111.284	-	Continuing	Continuing	N/A

Remarks

- FY 2025 Product Development and Management Services requirements may vary during year of execution due to integration and cybersecurity necessary to complete delivery of SatOps ground segment services for dynamic space operations mission partners.
- EGS Pre-Ops Support transitioned to R2C2 Pre-Ops Support in FY 2023 in accordance with revised acquisition strategy.

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1206770SF / <i>Enterprise Ground Services</i>	Project (Number/Name) 673140 / <i>Enterprise Ground Services EGS</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
R2C2 Development				
Distributed Software Integration Lab (dSIL)	1	2023	4	2024
Catalyst Campus	1	2023	3	2023
Continuous SatOps Development & Integration	1	2023	4	2029
R2C2 Demo 1	1	2024	2	2024
R2C2 Demo 2	3	2024	3	2024
R2C2 Article 1 Delivery	2	2025	2	2025
Cloud Environments	1	2023	4	2029
R2C2 Pre-Ops Support				
R2C2 Pre-Ops Support	1	2023	4	2029
R2C2 Deployment				
R2C2 Deployment	1	2023	4	2023

Note
R2C2 milestones include initial delivery and maturation of tactical SatOps ground segment solutions for the dynamic space operations mission set. R2C2 Pre-Ops support milestones include phased initial integration of dynamic space operations mission partners. Pre-ops support is on-going.