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

<b>Appropriation/Budget Activity</b> 3620F: <i>Research, Development, Test &amp; Evaluation, Space Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</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	-	48.166	41.483	48.900	0.000	48.900	40.330	41.166	42.651	43.492	Continuing	Continuing
674671: <i>Enterprise Training Services Development</i>	-	0.000	31.670	38.866	0.000	38.866	30.058	30.676	31.783	32.410	Continuing	Continuing
67A011: <i>Space Analysis and Application Development</i>	-	48.166	9.813	10.034	0.000	10.034	10.272	10.490	10.868	11.082	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Space Innovation, Integration, and Rapid Technology Development (SIIRTD) program element delivers enterprise capabilities and solutions to help field combat-ready forces and secure space domain superiority in an evolving threat environment.

Enterprise Training Services Development (ETSD) delivers operationally and tactically relevant and realistic enterprise space training capabilities via a system-of-systems architecture to generate, assess, and sustain readiness levels demanded by the current and emerging strategic threat environment in accordance with the USSF Operational Test and Training Infrastructure (OTTI) Strategic Requirements Document (SRD). This architecture includes multi-mission collaborative training systems and platforms; networks; modeling and simulation tools; and training services required to conduct High-End Advanced Test, Training and Tactics (HEAT3) development for the USSF and mission partners representative of combat with potential adversaries.

Space Analysis and Application Development (SA&AD) develops and modifies modeling and simulation tools that USSF/Space Operations Command uses for operational analysis and assessment. Provides operational assessments using analytic rigor to tackle senior leader questions associated with "tonight's" all-domain fight using Combatant Command OPORDS. Leads assessments on space operations, security cooperation activities, and the COMSPACEFOR component space plans while also performing business analytics to develop digital HQ data standards and tools. Development activities incorporate changes in fielded and projected space operational capabilities, as well as technical improvements, into the group's software tools to ensure their data and technology remain current. Operationalize the state of the art in digital tools, modeling, simulation and analysis. These efforts are laying the framework for the Space Force's digital future to include anomaly detection and AI automation and alerts on spacecraft and ops floors across the Service. SIIRTD projects counter known and emerging threats, enable USSF and joint warfighters to realize the full potential of existing and planned space capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver ETSD and SA&AD training 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	45.203	41.483	48.815	0.000	48.815
Current President's Budget	48.166	41.483	48.900	0.000	48.900
Total Adjustments	2.963	0.000	0.085	0.000	0.085
• 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	2.963	0.000	0.085	0.000	0.085

**Change Summary Explanation**

FY 2025: Increase due to inflation rate adjustment.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3620F / 7					<b>R-1 Program Element (Number/Name)</b> PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>				<b>Project (Number/Name)</b> 674671 / <i>Enterprise Training Services Development</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
674671: <i>Enterprise Training Services Development</i>	-	0.000	31.670	38.866	0.000	38.866	30.058	30.676	31.783	32.410	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Enterprise Training Services Development (ETSD) builds combat-ready forces by delivering a robust and enduring enterprise training architecture in alignment with the OTTI SRD. ETSD capabilities enable Guardians to train and develop tactics in an operationally relevant environment to achieve and sustain full-spectrum readiness. Capabilities include:

- high-fidelity mission-specific simulators for readiness and operations training (Unit Training (UT)) and threat/scenario-driven Advanced Training (AT) and tactics development
- high-fidelity threat-representative models of adversary capabilities
- synthetic, physics-based digital environments capable of conducting multi-mission and multi-user full-force distributed training and exercises
- synthetic environment visualizations and friendly/adversary/integrated operational pictures
- networks and Information Technology (IT) infrastructure required to deliver the above capabilities and interoperate with other joint acquisition, test, training, exercise, and exercise infrastructures

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

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> Enterprise Training Services Development	-	31.670	38.866
<b>Description:</b> Enterprise Training Services Development (ETSD) is fundamental to deliver enterprise-wide combat force readiness. The robust, enduring architecture-based capabilities ETSD enables Guardians to train and develop tactics in an operationally relevant environment to achieve and sustain full-spectrum readiness against real-world and emerging/potential threats.			
<b>FY 2024 Plans:</b>			
Continue to develop and deliver UT/AT systems and capabilities for Missile Warning (Delta 4, Upgraded Early Warning Radar); Space Domain Awareness (Delta 2, Space Fence and Eglin Radar); and Orbital Warfare (Delta 9, 1st Space Operations Squadron); required to assure operational readiness and integrate these missions for interoperable, virtual warfighting exercises. Continue transition from Distributed Mission Operations - Space (DMO-S) to Virtual Space Training and Exercise Environment (VSTEE). Continue efforts to develop and integrate UT/AT systems and capabilities and M&S tools into VSTEE; required for enterprise-wide, interoperable, threat-based training, exercises, and tactics development to 'train like you fight' in a CDO space domain. Modernize UT/AT system hardware; required for the Virtual Space Training Exercise Environment (VSTEE) integration and capability availability. Continue implementing training system resiliency and situational awareness; required to assure training and exercise continuity in a Contested, Degraded, and			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force		<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3620F / 7	<b>R-1 Program Element (Number/Name)</b> PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>	<b>Project (Number/Name)</b> 674671 / <i>Enterprise Training Services Development</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>Operationally-Limited (CDO) environment. Efforts may include, but are not limited to, program office support, studies, technical analyses, experimentation, prototyping, etc.</p> <p><b>FY 2025 Plans:</b>                      Execute multiple risk reduction activities required by the OTTI Strategic Requirements Document to buy down in advance of an enterprise-wide synthetic environment contract(s) to support High-End Advanced Test, Training, and Tactics (HEAT3) development and readiness generation for the Space Force. Specific risk reduction activities will include:                      - Prototype cross-domain solution and multi-level security simulation capabilities up to Special Access Programs to allow Guardians at different security levels to train against current and emerging threats.                      - Integration of training capabilities and M&amp;S tools from multiple vendors into the Virtual Space Training and Exercise Environment (VSTEE) synthetic environment to allow Guardians to use emerging capabilities to train collectively against validated threats.                      - Accelerate threat model and AI development to allow Guardians to train together against thinking, realistic and responsive threats.                      - Build space situational awareness simulation capabilities across the Space Force, enabling ability to simulate operations with coalition partners in contested space domain.                      Continue to develop and deliver high-fidelity mission simulations for mission sets to include Space Domain Awareness and Orbital Warfare mission areas in accordance with Space Operations Command and Space Training and Readiness Command training priorities. This effort will also conduct additional OTTI risk reduction efforts to identify potential materiel solutions to accelerate OTTI capabilities, including high-fidelity mission simulations, cloud computing and network infrastructure these activities will require. Additional activities may include, but are not limited to, program office support, studies, technical analyses, experimentation, prototyping, etc.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b>                      FY 2025 increase is due to an increase in requirements to develop mission and threat simulations for space warfighting training, while simultaneously integrating multiple digital environments, and transitioning both legacy and prototype training systems to OTTI architecture.</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		-	31.670	38.866
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>Remarks</b>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force		<b>Date:</b> March 2024
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**D. Acquisition Strategy**  
FY24 and 25 activities executed via existing contracts, both competitively awarded and sole sourced (as directed by Small Business Innovative Research Policy Directive, May 2023). These contracts allow for immediate execution of all FY24 and FY25 funds with minimal contracting actions required to ensure continuity of effort across the FYs.



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2025 Air Force</b>		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3620F / 7	<b>R-1 Program Element (Number/Name)</b> PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>	<b>Project (Number/Name)</b> 674671 / <i>Enterprise Training Services Development</i>

	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
<b>SIIRTD</b>																												
Mission-Specific Simulators																												
Threat Models																												
Digital Environments and Visualization																												
Networks and Training Infrastructure																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3620F / 7	<b>R-1 Program Element (Number/Name)</b> PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>	<b>Project (Number/Name)</b> 674671 / <i>Enterprise Training Services Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>SIIRTD</b>				
Mission-Specific Simulators	1	2024	4	2029
Threat Models	1	2024	4	2029
Digital Environments and Visualization	1	2024	4	2029
Networks and Training Infrastructure	1	2025	4	2029

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3620F / 7					<b>R-1 Program Element (Number/Name)</b> PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>				<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
67A011: <i>Space Analysis and Application Development</i>	-	48.166	9.813	10.034	0.000	10.034	10.272	10.490	10.868	11.082	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Located at Peterson SFB, Colorado, the Space Innovation, Integration and Rapid Technology Development (SIIRTD) program develops and modifies modeling and simulation tools that USSF/Space Operations Command's Space Analysis Center uses for operations research, military utility analyses, tradeoff studies, and other evaluations of space mission areas to guide planning, programming, requirements generation, analyses of alternatives, and other activities. Development activities incorporate changes in fielded and projected space operational capabilities, as well as technical improvements, into the group's software tools to ensure their data and technology remain current.

Programs and projects in the space warfighting enterprise are evaluating ways to increase innovation and resiliency to known and emerging threats. Space enterprise efforts aim to execute technology risk reduction efforts, integrate new capabilities or repurpose existing capabilities, implement enterprise decision-making tools/ experimentation/rapid prototyping and fielding via all appropriate acquisition authorities and contract mechanisms.

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

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> Model/Tool Development and Capability Upgrades	9.581	9.813	10.034
<p><b>Description:</b> Develops, verifies, and validates models for space mission areas and modifies existing models to portray new capabilities that meet senior leader intent. Advancing Modeling &amp; Simulation (M&amp;S) tools to provide space linkages and impacts to the warfighter as constellations are degraded in a contested environment and incorporate space effects at the campaign, mission and engagement levels with the goal of enhancing decision support, visualization, exercise and wargaming. Rapidly meet downward-directed guidance implementing the system resiliency and situational awareness necessary to win in a contested space domain. Activities may include, but are not limited to, performance assessments of operational units, developing combat analysis and tools supporting operational C2, providing data science solutions supporting tactical acceleration and data driven decisions supporting staff functions. Accelerating space operations and enabling a more lethal force supporting OSD, Joint Staff, Headquarters Air Force, Headquarters United States Space Force, and the USSF Field Commands.</p> <p><b>FY 2024 Plans:</b> Continue supporting the SpOC field command to develop assessment strategies to assist with deliberate and contingency planning analyzing force structure for the USSF. Also, the funds will support space capability development and space systems delivery as well as strengthen the commander's "fight tonight"</p>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p>strategy with quick-turn senior leader ops assessment. Provides senior leaders with strategic and operational level analysis - converting data into decision quality information. Specifically, funds will support:</p> <ul style="list-style-type: none"> <li>• Support Commander (CC) management (mgt) Headquarters (HQ) and Space Forces Forward (SFFOR) (Operation Order (OPORD direction)) missions; force status to COMSPACEFOR and CDR USSPACECOM</li> <li>• Identifies Space Force "fight tonight" risk in multi-domain warfight using specific scenarios and campaign plans</li> <li>• Developing SpOC and delta metrics as inputs to ops assessments</li> <li>• Campaign modeling initiative response to VCSO "go do"; ensure DoD accurately representing space</li> <li>• Explore and develop AI/ML applications to meet space mission requirements (e.g. Conjunction assessment, satellite maneuver pattern of life)</li> <li>• Develop space analysis tools to improve enterprise accuracy/ efficiency</li> <li>• Reinforce SDA community decisions with comprehensive studies and analysis</li> <li>• Present digital operations to CSO</li> </ul> <p><b>FY 2025 Plans:</b> Continue supporting the SpOC field command to develop assessment strategies to assist with deliberate and contingency planning analyzing force structure for the USSF. Also, the funds will support space capability development and space systems delivery as well as strengthen the commander's "fight tonight" strategy with quick-turn senior leader ops assessment. Provide senior leaders with strategic and operational level analysis-converting data into decision quality information. Specifically, funds will support:</p> <ul style="list-style-type: none"> <li>• Deploy COMSPACEFOR tool - Integrate into major theater exercise and operations to provide SpOC/CC and CCMDs with status of space forces near real time</li> <li>• Explore and develop AI/ML applications to meet space mission requirements (e.g. Conjunction assessment, satellite maneuver pattern of life, operator data-driven insights)</li> <li>• Identify areas for investment to allow future capabilities such as, AI/ML exploitation of USSF mission data</li> <li>• Develop and implement anomalous satellite maneuver classification and prediction algorithm</li> <li>• Operationalize the state of the art in digital tools, modeling, simulation and analysis</li> </ul> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> FY 2025 increase due to inflation adjustment.</p>				
<b>Title:</b> Standard Space Trainer Development		38.585	0.000	0.000
<b>Description:</b> Develop, evolve, and enhance space training capabilities to meet USSF Operation Test & Training Infrastructure (OTTI) requirements, including: Unit-level Training (UT); threat-based Advanced Training (AT); and interoperable exercise services, including connectivity to Distributed Mission Operations - Space (DMO-S) training networks and Modeling and				

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
Simulation (M&S) tools integration. Plan and execute efforts in accordance with USAF Operational Training Infrastructure (OTI) Flight Plan and STRATCOM Integrated Priority List (IPL) priorities.			
<b>FY 2024 Plans:</b> N/A			
<b>FY 2025 Plans:</b> N/A			
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> N/A			
<b>Accomplishments/Planned Programs Subtotals</b>	48.166	9.813	10.034

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• SPAF 01 GNRLIT: <i>General Information Tech - Space</i>	-	-	-	-	-	-	-	-	-		
• SPSF 01 GNRLIT: <i>General Information Tech - Space</i>	0.427	0.434	0.441	-	0.441	0.450	0.462	0.471	-	Continuing	Continuing

**Remarks**  
Funding and content procures equipment for the SIIRTD USSF Virtual Analysis Capability system. Supports space and cyber modeling & analysis using a variety of Linux and Windows based hardware and software suites. Also procures Information Technology (IT) hardware and software infrastructure for the Distributed Communications Architecture for HQ ACC.

**D. Acquisition Strategy**  
Any new project funded in this program will be awarded using competitive procedures to the maximum extent possible.



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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2025 Air Force		<b>Date:</b> 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

<b>SIIRD</b>	
Model Development/Modification, verification & validation	
Standard Space Trainer Development	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>SIIRTD</b>				
Model Development/Modification, verification & validation	1	2023	4	2029
Standard Space Trainer Development	1	2023	4	2023