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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Air Force **Date:** February 2020

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 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	44.746	0.000	44.746	24.643	24.851	67.128	68.358	Continuing	Continuing
67A011: <i>Space Analysis and Application Development</i>	-	0.000	0.000	44.746	0.000	44.746	24.643	24.851	67.128	68.358	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY 2021, PE 1203174F, Space Innovation, Integration and Rapid Technology Development efforts were transferred to Appropriation 3620, Research, Development, Test & Evaluation, Space Force, PE 1203174SF, Space Innovation, Integration and Rapid Technology Development from Appropriation 3600, Budget Activity 07 due to the creation of a new Appropriation for Space Force.

Located at Peterson AFB, Colorado, the Space Innovation, Integration and Rapid Technology Development (SIIRTD) program develops and modifies modeling and simulation tools that the US Space Force (USSF) HQ'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. Space Training Simulators develop and upgrades space training emulators using Standard Space Trainer (SST) to meet Space Mission Force (SMF) threat-based, advanced training requirements as well as funds connection to Distributed Mission Operations (DMO) training networks. Finally, its innovation, education, and training activities foster solutions to operational deficiencies and enhance the integration of space systems into Air Force operations, thereby enabling service and joint warfighters to realize the full potential of existing and planned space capabilities.

Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) is transforming the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver SIIRTD 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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	44.746	0.000	44.746
Total Adjustments	0.000	0.000	44.746	0.000	44.746
• 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	44.746	0.000	44.746

Change Summary Explanation

FY 2021: +\$44.746M; funds starting in FY 2021 were transferred from RDT&E, Air Force to RDT&E, Space Force.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
<p>Title: Model/Tool Development and Capability Upgrades</p> <p>Description: Develops, verifies, and validates models for space mission areas and modifies existing models to portray new capabilities that meet the national senior leader intent. Advancing M&S tools to 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, acquisition, program office support, studies, technical analysis, prototyping, etc. The space M&S is used for military utility analyses, trade studies, and other space program evaluations supporting OSD, Joint Staff, Headquarters Air Force, US Space Force (USSF) Headquarters, and the Space and Missile Center.</p> <p>FY 2020 Plans: N/A</p> <p>FY 2021 Plans: Continue development of campaign and mission level models/tools to support force structure decisions as well as OPLAN risk assessments.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: N/A</p>	0.000	0.000	9.769
Title: Space Analysis Model/Tool Development and Capability Upgrades	0.000	0.000	1.724

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Description: Develops, verifies, and validates models for space mission areas and modifies existing models to portray new capabilities that meet the national senior leader intent. Advancing M&S tools to 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, acquisition, program office support, studies, technical analysis, prototyping, etc. The space M&S is used for military utility analyses, trade studies, and other space program evaluations supporting OSD, Joint Staff, Headquarters Air Force, US Space Force (USSF) Headquarters, and the Space and Missile Center.</p> <p>FY 2020 Plans: N/A</p> <p>FY 2021 Plans: Continue development of campaign and mission level models/tools to support force structure decisions as well as OPLAN risk assessments</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: N/A</p>				
<p>Title: Standardized Space Trainer Simulators</p> <p>Description: Develop/upgrade Standard Space Trainer (SST) simulators to meet Space Mission Force (SMF) threat-based, advanced training requirements as well as build connectivity to Distributed Mission Operations (DMO) training networks. Follows direction set out in USAF Operational Training Infrastructure (OTI) Flight Plan, as well as meets STRATCOM Integrated Priority List (IPL) priorities.</p> <p>FY 2020 Plans: N/A</p> <p>FY 2021 Plans: Accelerate completion of GSSAP SST, UEWR SST, and advanced training capabilities for MILSATCOM SSTs. Begin development for SSTs supporting training for phased-array radars based at Eglin AFB and Cavalier AFS as well as threat-based advanced training capabilities for the Space-Based Infrared System (SBIRS) SST. Continue ongoing enterprise mission training and DMO-S M&S development for Blue/White/Red consoles based on evolving mission requirements and threat analyses.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: N/A</p>		0.000	0.000	33.253
Accomplishments/Planned Programs Subtotals		0.000	0.000	44.746

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

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>			<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• SPAF 01 GNRLIT: <i>General IT</i>	1.064	1.350	-	-	-	-	-	-	-	Continuing	Continuing
• SPSF 10 GNRLIT: <i>General IT</i>	-	-	1.373	-	1.373	1.397	1.424	1.450	1.477	Continuing	Continuing

Remarks

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

E. Acquisition Strategy

Any new projects funded in this program will be awarded using competitive procedures to the maximum extent possible.

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force		Date: February 2020
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>	Project (Number/Name) 67A011 / <i>Space Analysis and Application Development</i>

	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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

SIIRTD																												
Model development/modification, verification, and validation																												
Space Training Simulators																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force		Date: February 2020
Appropriation/Budget Activity 3620F / 7	R-1 Program Element (Number/Name) PE 1203174SF / <i>Space Innovation, Integration and Rapid Technology Development</i>	Project (Number/Name) 67A011 / <i>Space Analysis and Application Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SIIRTD				
Model development/modification, verification, and validation	1	2021	4	2025
Space Training Simulators	1	2021	4	2025