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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 1203174F / <i>Space Innovation, Integration and Rapid Technology Development</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	36.890	0.000	0.000	0.000	0.000	-	-	-	-	-	-
67A011: <i>Space Analysis and Application Development</i>	-	36.890	0.000	0.000	0.000	0.000	-	-	-	-	-	-
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 Air Force Space 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. 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 1206392F and 1206398F.

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	33.292	0.000	0.000	0.000	0.000
Current President's Budget	36.890	0.000	0.000	0.000	0.000
Total Adjustments	3.598	0.000	0.000	0.000	0.000
• 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	-1.402	0.000			
• Other Adjustments	5.000	0.000	0.000	0.000	0.000
C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022		
Title: Model/Tool Development and Capability Upgrades	7.467	0.000	0.000		
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, Headquarters United States Space Force, and the Space and Missile Center.					
FY 2021 Plans: N/A					
FY 2022 Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: N/A					
Title: Model Verification	1.732	0.000	0.000		
Description: Conduct verification of model changes resulting from model development and modification efforts.					
FY 2021 Plans:					

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Continue to conduct verification of model changes resulting from model development and modification efforts. FY 2022 Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: N/A				
Title: Model Validation Description: Conduct validations of model changes resulting from model development and modification efforts. FY 2021 Plans: N/A FY 2022 Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: N/A		1.622	0.000	0.000
Title: Standardized Space Trainer Simulators 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. FY 2021 Plans: N/A FY 2022 Plans: N/A FY 2021 to FY 2022 Increase/Decrease Statement: N/A		26.069	0.000	0.000
Accomplishments/Planned Programs Subtotals		36.890	0.000	0.000
D. Other Program Funding Summary (\$ in Millions) N/A				

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Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 1203174F / *Space Innovation, Integration and Rapid Technology Development*

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

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-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1203174F / <i>Space Innovation, Integration and Rapid Technology Development</i>	Project (Number/Name) 67A011 / <i>Space Analysis and Application Development</i>
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Develop/modify models & tools software	C/CPFF	SigmaTek : Colorado Springs, CO	-	0.296	Mar 2020	-		-		-		-	-	-	-
Develop/modify software tools/models	C/CPFF	Perduco Group : Colorado Springs, CO	-	10.525	Jan 2020	-		-		-		-	-	-	-
Space Training Simulator Development	C/CPFF	Sonalysts Inc : San Diego, CA	-	26.069	Dec 2020	-		-		-		-	-	-	-
Subtotal			-	36.890		-		-		-		-	-	-	N/A

Remarks
Note: FY 2020 includes an -\$5.0M database error; correct total Space Training Simulator Development for FY 2020 is \$26.994M

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	36.890	0.000	-	-	-	-	-	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
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 2022 Air Force		Date: May 2021
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SIIRTD				
Model development/modification, verification, and validation	1	2020	4	2026
Space Training Simulators	1	2020	4	2026