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

| | |
|---|--|
| 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 1206445F / <i>Commercial SATCOM (COMSATCOM) Integration</i> |
|---|--|

| 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 | - | 47.869 | 5.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 52.869 |
| 650140: <i>COMSATCOM</i> | - | 47.869 | 5.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 52.869 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | - | - |

A. Mission Description and Budget Item Justification

The subject Research, Development, Test and Evaluation (RDT&E) funds will be executed from Headquarters United States Space Force (USSF) and will be used to advance mission-critical COMSATCOM capabilities, thereby enabling transformation of USSF's SATCOM enterprise by ensuring RDT&E investments have utility and portability between Military SATCOM (MILSATCOM) and COMSATCOM requirements. These activities include: COMSATCOM financial and customer tools development and migration from the Defense Information Systems Agency (DISA) to Space Force systems; development of transformative COMSATCOM acquisition capabilities; enterprise innovation development activities focused on evolving and integrating the four principle layers of a SATCOM service - space, terminal, network, and management and control - as well as governance structures needed to normalize enterprise capabilities; and RDT&E of innovative and emerging technology and capabilities, including proliferated Low Earth Orbit (LEO) systems.

The Space Force has determined that an enterprise approach to the procurement, delivery, and management of its SATCOM capabilities is the best means to create an environment that is responsive to Combatant Commanders and other users across the spectrum of conflict. In addition, an enterprise approach will improve affordability and mission assurance. The COMSATCOM Program Element (PE) started this process and will continue to deliver specific COMSATCOM capabilities as well as support COMSATCOM integration into the SATCOM Enterprise. Procurement of COMSATCOM capability is also supported by the Defense Working Capital Fund (DWCF). An Overarching SATCOM Enterprise Program of Record that incorporates COMSATCOM, MILSATCOM and International Partners into a hybrid structure is found under Program Element 1206431F, Project 657104, MILSATCOM Space Modernization Initiative (SMI).

Space acquisition must respond with speed and agility to emerging adversary threats. The Space Force 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, the Space Force will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This PE may include necessary civilian pay expenses required to manage, execute and deliver Commercial SATCOM in a single Enterprise architecture. The use of such funds would be in addition to the civilian pay expenses budgeted in PEs 1206392F and 1206398F.

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.

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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 | 49.500 | 0.000 | 0.000 | 0.000 | 0.000 |
| Current President's Budget | 47.869 | 5.000 | 0.000 | 0.000 | 0.000 |
| Total Adjustments | -1.631 | 5.000 | 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 | 5.000 | | | |
| • Congressional Directed Transfers | 0.000 | 0.000 | | | |
| • Reprogrammings | 0.000 | 0.000 | | | |
| • SBIR/STTR Transfer | -1.631 | 0.000 | | | |
| • Other Adjustments | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 650140: *COMSATCOM*

Congressional Add: *Congressional Adds*

Congressional Add Subtotals for Project: 650140

Congressional Add Totals for all Projects

| | FY 2019 | FY 2020 |
|---|----------------|----------------|
| | - | 5.000 |
| Congressional Add Subtotals for Project: 650140 | - | 5.000 |
| Congressional Add Totals for all Projects | - | 5.000 |

C. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2019 | FY 2020 | FY 2021 |
|--|----------------|----------------|----------------|
| Title: COMSATCOM Financial and Customer Tools Development and Migration | 14.511 | 0.000 | 0.000 |
| Description: This activity will transition the existing COMSATCOM customer-facing tools and background financial management data systems from DISA services to the Space Force. These must be migrated to Space Force systems in order to continue the transition of responsibilities associated with the Space Force's sole procurement authority. A new system of tools is required to automate and securely distribute COMSATCOM acquisition and utilization of information to stakeholders, and to also reproduce and enhance the ordering, billing, activation, and provisioning, and other financial management tasks presently provided by DISA. | | | |
| FY 2020 Plans: N/A. | | | |
| FY 2021 Plans: N/A | | | |
| FY 2020 to FY 2021 Increase/Decrease Statement: | | | |

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|--|--|--|----------------|----------------|
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| C. Accomplishments/Planned Programs (\$ in Millions) | | FY 2019 | FY 2020 | FY 2021 |
| N/A | | | | |
| <p>Title: Development of Transforming COMSATCOM Procurement Capabilities</p> <p>Description: This project will consolidate lessons learned to develop a future COMSATCOM acquisition methodology that normalizes demonstrated savings potentials, closes operational gaps, and pursues increased end-user readiness, flexibility, and responsiveness. Specific to this task is research on legal and/or policy allowances that previously have not been exploited, as well as provisions that, if changed, further SATCOM acquisition transformation.</p> <p>FY 2020 Plans: N/A.</p> <p>FY 2021 Plans: N/A</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: N/A</p> | | 5.804 | 0.000 | 0.000 |
| <p>Title: Enterprise Innovation Efforts</p> <p>Description: This effort advances enterprise development in the four layers of a SATCOM capability, along with the over-arching governance structure necessary to enable ubiquitous service capability, awareness, control, and assessment. The effort will investigate Space Force's ability to influence commercial satellite systems, technologies, services, and architectures, with keen attention towards applicability across the SATCOM enterprise. Examples of focus areas include, but are not limited to: Enterprise Management & Control; Bandwidth Pooling; Terminal Flexibility; and Managed Services.</p> <p>FY 2020 Plans: N/A.</p> <p>FY 2021 Plans: See PE 1206431F, Project 657104, MILSATCOM Space Modernization Initiative (SMI), Major Thrust Fighting SATCOM Enterprise.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: N/A</p> | | 27.554 | 0.000 | 0.000 |
| Accomplishments/Planned Programs Subtotals | | 47.869 | 0.000 | 0.000 |

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|---|--|

| | FY 2019 | FY 2020 |
|--|---------|---------|
| Congressional Add: Congressional Adds FY 2020 Plans: This effort will competitively acquire a limited proliferated Low Earth Orbit (LEO) capability in order to assess operational merit and feasibility. The rapid acquisition will include three (3) components: the delivery of a limited COMSATCOM service; a limited technical architecture to support the service; and a business model, inclusive of actual or prototype service request and billing software necessary for the Government to manage the capability amongst an autonomous, diverse and dynamic user community. | - | 5.000 |
| Congressional Adds Subtotals | - | 5.000 |

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

N/A

Remarks

E. Acquisition Strategy

The strategy/plan is to do multiple competitive awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Air Force **Date:** February 2020

| | | |
|--|---|--|
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 1206445F / <i>Commercial SATCOM</i> (COMSATCOM) Integration | Project (Number/Name) 650140 / COMSATCOM |
|--|---|--|

| Product Development (\$ in Millions) | | | | FY 2019 | | FY 2020 | | FY 2021 Base | | FY 2021 OCO | | FY 2021 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 | | | |
| COMSATCOM Financial and Customer Tools Development and Migration | TBD | TBD : TBD | - | 14.511 | Jul 2020 | - | | - | | - | | - | 0.000 | 14.511 | - |
| Development of Transforming COMSATCOM Procurement Capabilities | C/CPFF | E3 Federal Solutions, LLC : McLean, VA | - | 5.804 | Oct 2019 | - | | - | | - | | - | 0.000 | 5.804 | - |
| Enterprise Innovation Efforts | Various | Various : Somerville, SC | - | 27.242 | Jul 2019 | - | | - | | - | | - | 0.000 | 27.242 | - |
| Proliferated LEO | TBD | TBD : TBD | - | - | | 5.000 | Mar 2020 | - | | - | | - | 0.000 | 5.000 | - |
| Subtotal | | | - | 47.557 | | 5.000 | | - | | - | | - | 0.000 | 52.557 | N/A |

| Management Services (\$ in Millions) | | | | FY 2019 | | FY 2020 | | FY 2021 Base | | FY 2021 OCO | | FY 2021 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 | | | |
| Other | Various | Various : Various | - | 0.312 | Jul 2019 | - | | - | | - | | - | 0.000 | 0.312 | - |
| Subtotal | | | - | 0.312 | | - | | - | | - | | - | 0.000 | 0.312 | N/A |

| | Prior Years | FY 2019 | FY 2020 | FY 2021 Base | FY 2021 OCO | FY 2021 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | - | 47.869 | 5.000 | - | - | - | 0.000 | 52.869 | N/A |

Remarks

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| | | |
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| Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force | | Date: February 2020 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 1206445F / <i>Commercial SATCOM</i> (COMSATCOM) <i>Integration</i> | Project (Number/Name) 650140 / <i>COMSATCOM</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 |
| COMSATCOM Tools | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COMSATCOM Tools Contract Award | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| COMSATCOM Tools Contract Execution | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| Transforming COMSATCOM Procurement | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Transforming COMSATCOM Procurement Contract Award | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| Transforming COMSATCOM Procurement Contract Execution | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| Enterprise Innovation Efforts | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Enterprise Innovation Efforts projects identification/requirements | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| Enterprise Innovation Efforts projects vendor bid/awards | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| Enterprise Innovation Efforts projects execution | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |
| Proliferated LEO | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P-LEO Competition Awards | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force | | Date: February 2020 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 1206445F / <i>Commercial SATCOM</i> (COMSATCOM) <i>Integration</i> | Project (Number/Name) 650140 / <i>COMSATCOM</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| COMSATCOM Tools | | | | |
| COMSATCOM Tools Contract Award | 2 | 2020 | 2 | 2020 |
| COMSATCOM Tools Contract Execution | 2 | 2020 | 4 | 2020 |
| Transforming COMSATCOM Procurement | | | | |
| Transforming COMSATCOM Procurement Contract Award | 1 | 2020 | 1 | 2020 |
| Transforming COMSATCOM Procurement Contract Execution | 1 | 2020 | 4 | 2020 |
| Enterprise Innovation Efforts | | | | |
| Enterprise Innovation Efforts projects identification/requirements | 4 | 2019 | 4 | 2019 |
| Enterprise Innovation Efforts projects vendor bid/awards | 4 | 2019 | 4 | 2019 |
| Enterprise Innovation Efforts projects execution | 4 | 2019 | 4 | 2020 |
| Proliferated LEO | | | | |
| P-LEO Competition Awards | 2 | 2020 | 1 | 2021 |