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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 1201921F I Service Support to STRATCOM - Space Activities							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	8.381	14.255	14.161	0.000	14.161	15.001	15.170	15.398	15.679	Continuing	Continuing
670373: DCIP	-	0.474	0.492	0.487	0.000	0.487	0.488	0.496	0.506	0.515	Continuing	Continuing
672486: JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES	-	2.602	7.453	7.427	0.000	7.427	7.467	7.513	7.583	7.723	Continuing	Continuing
67A011: Space Analysis and Application Development	-	5.305	6.310	6.247	0.000	6.247	7.046	7.161	7.309	7.441	Continuing	Continuing

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

The USSTRATCOM Defense Critical Infrastructure Protection program (DCIP) is a risk management program that seeks to ensure the availability of networked assets critical to USSTRATCOM and other DoD missions. Critical infrastructure assets can include installations, facilities, antennas, vehicles, computing systems, and communications links. DCIP is directed by the Office of the Assistant Secretary of Defense (Homeland Defense & Americas' Security Affairs) [OASD (HD&ASA)]. DCIP manages the identification, prioritization, assessment, and assurance of Critical Infrastructure as a comprehensive program that includes the development of adaptive plans and procedures to mitigate risk, restore capability in the event of loss or degradation, support incident management, and protect defense critical infrastructure.

Navigation Warfare (Navwar) is deliberate defensive and offensive action to assure positioning, navigation, and timing (PNT) information through coordinated employment of space, cyberspace, and electronic warfare (EW) operations. The JNWC develops and maintains the Department's premier collection of Navwar knowledge, and provides subject matter expertise support to warfighters, Department decision makers, the Federal Interagency (the Department of Homeland Security and other civil agencies concerned with the Critical National Infrastructure), and the Coalition. Navwar expertise is developed in part by execution of PNT Operational Field Assessments (POFAs), modeling and simulation, analysis, and exercise and training support. JNWC-conducted POFAs are a key element in evaluating US and Coalition Navwar capabilities and vulnerabilities and adversary capabilities and vulnerabilities, both crucial to executing PNT superiority mission sets in potentially denied / degraded PNT environments. JNWC provides Department wide PNT posture through the PNT Annual assessment. JNWC helps develop defensive and offensive PNT capabilities by focusing on two Joint Mission Essential Tasks:

1. Provide Operational Navwar Support - Enable Navwar operations and provide planning subject matter expertise to Combatant Commands, Services, interagency partners and the coalition; Advocate DoD-wide Navwar activities to fully integrate Navwar into military operations and the future force structure.
2. Create and Maintain Navwar Knowledge Operationalize PNT Superiority - Conduct PNT operational field assessments, studies and analyses, analyze and disseminate Navwar R intelligence, and maintain a Navwar armory

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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force				Date: February 2018		
Appropriation/Budget Activity		R-1 Program Element (Number/Name)				
3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		PE 1201921F I Service Support to STRATCOM - Space Activities				
The Space Analysis and Application Development program integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation (M&S) models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into the Synthetic Theater Operations Research Model (STORM) campaign level M&S tool. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions. The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.						
USSTRATCOM Data Integration and Fusion Center (DIFC) is an innovative organization developing and experimenting innovative concepts designed to validate both material and non-material methodologies to overcome data isolation in order to enable kill chains in the Joint Battlespace. These data isolation challenges result from network isolation, incomplete communications architectures, data security, incompatible information formats, security release policy, etc., inhibiting effective and efficient consolidation of decision quality strategic, operational and tactical information. The DIFC develops machine to machine solutions capable of ingesting Title 10 data at multiple classification levels, to include Special Access Program data, and associating/correlating with National Technical Means at multiple classification levels to both enhance and amplify the Common Operational Picture. The DIFC works closely with DoD SAPCO and elements of the Director of National Intelligence, to include NSA, NRO and CIA, to both identify and address policy barriers, architectures and training opportunities necessary to enable seamless flow of data from all available sensors to warfighters during time of conflict, primarily leveraging currently fielded tactical data links. Though some recommended solutions validated during demonstration events may not transition to operations immediately, but nevertheless provide validated architecture solutions and approved security policies for use should conflict arise versus ad hoc attempts to solve data movement issues during conflict.						
B. Program Change Summary (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget		8.674	14.255	14.268	0.000	14.268
Current President's Budget		8.381	14.255	14.161	0.000	14.161
Total Adjustments		-0.293	0.000	-0.107	0.000	-0.107
• 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		-0.293	0.000	-0.107	0.000	-0.107

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities				Project (Number/Name) 670373 / DCIP			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
670373: DCIP	-	0.474	0.492	0.487	0.000	0.487	0.488	0.496	0.506	0.515	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note												
An October 2014 memorandum of agreement between USSTRATCOM and Deputy Assistant Secretary of Defense for Defense Continuity and Mission Assurance transferred budget authority for DCIP funding to USSTRATCOM beginning in FY16. THIS IS NOT A NEW START.												
A. Mission Description and Budget Item Justification												
The USSTRATCOM Defense Critical Infrastructure Protection program (DCIP) is a risk management program that seeks to ensure the availability of networked assets critical to USSTRATCOM and other DoD missions. Critical infrastructure assets can include installations, facilities, antennas, vehicles, computing systems, and communications links. DCIP is directed by the Office of the Assistant Secretary of Defense (Homeland Defense & Americas' Security Affairs) [OASD (HD&ASA)]. DCIP manages the identification, prioritization, assessment, and assurance of Critical Infrastructure as a comprehensive program that includes the development of adaptive plans and procedures to mitigate risk, restore capability in the event of loss or degradation, support incident management, and protect defense critical infrastructure.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Assett Dependency / Risk Characterization, Mitigation, and Prototyping								0.474	0.492	0.487	0.000	0.487
Description: Supports 1) systems engineering analysis for the decomposition of mission systems and assets, and supporting networks and infrastructure that execute USSTRATCOM mission, 2) research, studies, and operational assessment of mission system capabilities, methodologies, and tactics to identify critical assets and dependency relationships, and 3) evaluation of mission risk through research, studies, analysis and assessment of threats and hazards paired with exploitable vulnerabilities. Supports analysis for the identification and development of risk mitigation and remediation options through research, studies, analysis and assessment of current and future tactics, techniques and procedures and materiel solutions, enabling USSTRATCOM mission assurance planning, coordination, integration, synchronization supporting the reduction of risk to CDRUSSTRATCOM acceptable levels. Supports three spiral development cycles annually consisting of concept and requirement development, tool engineering, algorithm development, prototyping, and testing to support rapid mission impact assessment, risk assessment, and risk management.												
FY 2018 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force				<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600 / 7		<b>R-1 Program Element (Number/Name)</b> PE 1201921F / <i>Service Support to STRATCOM - Space Activities</i>		<b>Project (Number/Name)</b> 670373 / <i>DCIP</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>						
		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<p>Supports analysis, studies and research of critical infrastructure assets and dependencies supporting all USSTRATCOM assigned missions, to include focusing efforts of future critical infrastructure vulnerability assessments and researching the various sources to perform threats and hazards assessments.</p> <p><b><i>FY 2019 Base Plans:</i></b> Continued support of analysis, studies and research of critical infrastructure assets and dependencies supporting all USSTRATCOM assigned missions, to include focusing efforts of future critical infrastructure vulnerability assessments and researching the various sources to perform threats and hazards assessments.</p> <p><b><i>FY 2019 OCO Plans:</i></b> No OCO requested</p> <p><b><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i></b> Decrease of \$5K is due to Air Force allocation to the program.</p>						
<b>Accomplishments/Planned Programs Subtotals</b>		0.474	0.492	0.487	0.000	0.487
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
Projects funded through DCIP will be awarded using competitive contracts to the maximum extent possible.						
<b>E. Performance Metrics</b>						
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.						

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2019 Air Force												<b>Date:</b> February 2018			
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 1201921F / <i>Service Support to STRATCOM - Space Activities</i>				<b>Project (Number/Name)</b> 670373 / <i>DCIP</i>					

  

<b>Product Development (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Asset Dependency and Risk Characterization Research	C/Various	TBD : TBD	-	0.474	Jan 2017	0.492	Jan 2018	0.487	Jan 2019	-		0.487	Continuing	Continuing	-
<b>Subtotal</b>			-	0.474		0.492		0.487		-		0.487	Continuing	Continuing	N/A

  

	<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	-	0.474		0.492		0.487		-		0.487	Continuing	Continuing	N/A

  

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force										Date: February 2018																			
Appropriation/Budget Activity 3600 / 7										R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities										Project (Number/Name) 670373 / DCIP									

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
Defense Critical Infrastructure Program																												
Asset Dependency, Risk Mitigation, Ops Research, Design/Development, Modeling and Simulation, Test and Evaluation																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities	Project (Number/Name) 670373 / DCIP

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Defense Critical Infrastructure Program</b>				
Asset Dependency, Risk Mitigation, Ops Research, Design/Development, Modeling and Simulation, Test and Evaluation	1	2017	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities				Project (Number/Name) 672486 / JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
672486: JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES	-	2.602	7.453	7.427	0.000	7.427	7.467	7.513	7.583	7.723	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

FY18 PDM plus up of \$4.8M per year thru the FYDP.

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

Navigation Warfare (Navwar) is deliberate defensive and offensive action to assure positioning, navigation, and timing (PNT) information through coordinated employment of space, cyberspace, and electronic warfare (EW) operations. The JNWC develops and maintains the Department's premier collection of NAVWAR knowledge, and provides subject matter expertise support to the warfighters, Department decision makers, the Federal Interagency (the Department of Homeland Security and other civil agencies concerned with Critical National Infrastructure), and the Coalition. Navwar expertise is developed in part by execution of PNT Operational Field Assessments (POFAs), modeling and simulation, analysis, and exercise and training support. JNWC conducted POFAs are a key element in evaluating US and Coalition NAVWAR capabilities and vulnerabilities and adversary capabilities and vulnerabilities, both crucial to executing PNT superiority mission sets in potentially denied / degraded PNT environments. JNWC provides Department wide PNT posture through the PNT annual assessment. JNWC helps develop defensive and offensive PNT capabilities by focusing on two Joint Mission Essential Tasks:

1. Provide Operational Navwar Support - Enable Navwar operations and provide planning subject matter expertise to Combatant Commands, Services, interagency partners and the coalition; Advocate DoD-wide Navwar activities to fully integrate Navwar into military operations and the future force structure.
2. Create and Maintain Navwar Knowledge Operationalize PNT Superiority - Conduct PNT operational field assessments, studies and analyses, analyze and disseminate Navwar R intelligence, and maintain a Navwar armory.

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

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b>Title:</b> PNT Operational Field Assessments	2.602	7.453	7.427	0.000	7.427
<b>Description:</b> The JNWC will investigate, operationally assess, and simulate potential threats and mitigation strategies for denial of blue force PNT capabilities as well as preventing the hostile use of PNT information. Major Performers - Best value to the government selected contractors, universities, government facilities, federally funded research and development centers, laboratories, or other organizations					
<b>FY 2018 Plans:</b>					



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force				<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600 / 7		<b>R-1 Program Element (Number/Name)</b> PE 1201921F / <i>Service Support to STRATCOM - Space Activities</i>		<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>		
<b><u>B. Accomplishments/Planned Programs (\$ in Millions)</u></b>						
		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<p>- Operational assessments - Simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities - Continuing development to prevent the hostile use of Positioning, Navigation and Timing (PNT) information.</p> <p><b><i>FY 2019 Base Plans:</i></b>          - Continuing Operational assessments - Simulate potential threats and mitigation strategies for potential denial of blue force PNT capabilities - Continuing development to prevent the hostile use of Positioning, Navigation and Timing (PNT) information.</p> <p><b><i>FY 2019 OCO Plans:</i></b>          No OCO requested</p> <p><b><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i></b>          Decrease of \$26K is due to Air Force allocation to the program.</p>						
<b>Accomplishments/Planned Programs Subtotals</b>		2.602	7.453	7.427	0.000	7.427
<b><u>C. Other Program Funding Summary (\$ in Millions)</u></b>						
N/A						
<b><u>Remarks</u></b>						
<b><u>D. Acquisition Strategy</u></b>						
New contracts will be awarded using competitive procedures to the maximum extent possible.						
<b><u>E. Performance Metrics</u></b>						
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.						

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2019 Air Force</b>												<b>Date:</b> February 2018			
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 1201921F / Service Support to STRATCOM - Space Activities				<b>Project (Number/Name)</b> 672486 / JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES					
<b>Product Development (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PNT Operational Field Assessments	PO	Multiple : Kirtland AFB, NM	-	2.602	Oct 2016	7.453	Oct 2017	7.427	Oct 2018	0.000		7.427	Continuing	Continuing	-
<b>Subtotal</b>			-	2.602		7.453		7.427		0.000		7.427	Continuing	Continuing	N/A
<b>Remarks</b> Beginning in FY 2018 the JNWC portfolio transferred out of PE 15921F in to PE 120921F.															
			<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	2.602		7.453		7.427		0.000		7.427	Continuing	Continuing	N/A
<b>Remarks</b>															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force																Date: February 2018							
Appropriation/Budget Activity 3600 / 7								R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities								Project (Number/Name) 672486 / JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES							

# UNCLASSIFIED

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Air Force		<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1201921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Navigation Warfare (NAVWAR)</i></b>				
NAVWAR Operational Field Assessments	1	2017	4	2023
Create Maintain NAVWAR Knowledge - PNTAA	2	2017	2	2023
NAVWAR Operations & CONOPS Events	1	2017	4	2023

### Note

Joint Navigation Warfare Center (JNWC) conducts PRISM, FORTUNE, and GYPSY operational field assessments on an on-going, annual basis.

PRISM events encompass all Operations, Actions, and Activities (OAAs) associated with events outside of specific Combatant Command and/or Service exercise or mission event.

FORTUNE events are Positioning, Navigation, and Timing (PNT) vulnerability field assessments and are small scale technical risk assessments or can be risk reduction events for larger GYPSY events.

GYPSY events are larger than FORTUNE PNT related events and involve other coalition partners, and multiple US services in direct support of Geographic Combatant Command requirements.

JNWC uses the Major Range and Test Facility Base (MRTFB) program, administered by USD (AT&L). Requirements dictate which MRTFB facility will be contracted to host a GYPSY or FORTUNE event.

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities				Project (Number/Name) 67A011 / Space Analysis and Application Development			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
67A011: Space Analysis and Application Development	-	5.305	6.310	6.247	0.000	6.247	7.046	7.161	7.309	7.441	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Space Analysis and Application Development program Integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation (M&S) models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into the Synthetic Theater Operations Research Model (STORM) and other mission and campaign-level M&S tools. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions.

The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.

USSTRATCOM Data Integration and Fusion Center (DIFC) is an innovative organization developing and experimenting innovative concepts designed to validate both material and non-material methodologies to overcome data isolation in order to enable kill chains in the Joint Battlespace. Funds are necessary to update current government-owned software to ingest and disseminate new data sources from Title 10 and Title 50 sensors. The DIFC efforts at COCOM sponsored experimentation events will inform service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures (TTP) development and implementation to mitigate effects on warfighter operations.

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

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b>Title:</b> Space Campaign Modeling and Simulation, Development/Modification/Verification/Validation	4.315	5.492	5.447	0.000	5.447
<b>Description:</b> Developed, modifies, verifies, and validates new models for space mission areas and modifies existing models to portray new capabilities.					
<b>FY 2018 Plans:</b> Determine touchpoints between space capabilities and mission tasks for additional Joint Mission Threads.					
- Extend space modeling, simulation and analysis process to classified space capabilities - Expand analysis of degraded/denied space capabilities to an additional Theater					

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Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities	Project (Number/Name) 67A011 / Space Analysis and Application Development				
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<div>- Assess use of Joint Space Warfighting Forum (JSWF) Space Modeling, Simulation and Analysis process in a different campaign model such as Joint Interagency Contingency Model (JICM)</div> <div>- Analyze/assess modeling results to determine impact/effects of space activities on U.S. military campaigns and global operations</div> <div>- Integrate enterprise-level model data for Position, Navigation, and Timing (PNT), Missile Warning, Battlespace Awareness, and Satellite Communications (SATCOM) space-based capabilities into campaign-level modeling</div> <div>- Coordinate and update Blue space order of battle data, Red counterspace order of battle data, and Red counterspace CONOPS to support integration of space into mission and campaign-level M&amp;S</div> <div>- Integrate Red counterspace capability for an additional theater into mission-level modeling to support estimation of Blue survivability and assessment of Blue Defensive Space Control options</div> <div>- Support cost-benefit analyses of Defensive Space Control alternatives with quantifiable impacts to warfighter operations- Develop change request proposals and submit to STORM Configuration Control Board (CCB) to improve instantiation of the effects of denied/degraded Satellite Communications (SATCOM), Battlespace Awareness, and Position, Navigation, and Timing (PNT) on the Warfighter in STORM</div> <div>- Provide Modeling, Simulation, and Analysis support to inform Air Force Space Command's Space Enterprise Vision (SEV)</div> <div>No OCO Requested</div> <div><b>FY 2019 Base Plans:</b> In coordination with European Command and Pacific Command, identify and select 4 joint missions for mission-level analysis and integration into campaign-level modeling</div> <div>- Analyze/assess modeling results to determine impact/effects of space activities on U.S. military campaigns and global operations</div> <div>- Assess and integrate enterprise-level model data for Environmental Monitoring and ISR space-based capabilities into campaign-level modeling</div> <div>- Coordinate and update Blue space order of battle data, Red counterspace order of battle data, and Red counterspace CONOPS to support integration of space into mission and campaign-level M&amp;S</div> <div>- Support cost-benefit analyses of Offensive Space Control alternatives with quantifiable impacts to warfighter operations</div>							

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force				Date: February 2018		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 1201921F / Service Support to STRATCOM - Space Activities		Project (Number/Name) 67A011 / Space Analysis and Application Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
<p>- Develop change request proposals and submit to STORM Configuration Control Board (CCB) to improve instantiation of denied/degraded Intelligence, Surveillance, and Reconnaissance (ISR) space-based capability and its effects on the Warfighter in STORM</p> <p>- In coordination with HAF/A9 (Headquarters Air Force Studies, Analyses and Assessments), develop schedule and identify funding requirements and sources toward implementation of approved change requests and improved instantiation of space and contested space capabilities in STORM</p> <p>- Provide Modeling, Simulation, and Analysis support to inform Air Force Space Command's Space Enterprise Vision (SEV)</p> <p>No OCO Requested</p> <p><b>FY 2019 OCO Plans:</b> No OCO Requested</p> <p><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease is due to Air Force allocation to the program.</p>						
<p><b>Title:</b> Data Integration and Fusion Center</p> <p><b>Description:</b> USSTRATCOM/J8 Data Integration and Fusion Center (DIFC) is an innovative organization developing and experimenting innovative concepts designed to validate both material and non-material methodologies to overcome data isolation in order to enable kill chains in the Joint Battlespace. The DIFC will work to update current government-owned software to ingest and disseminate new data sources from Title 10 and Title 50 sensors. The DIFC efforts at COCOM sponsored experimentation events will inform service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures (TTP) development and implementation to mitigate effects on warfighter operations.</p> <p><b>FY 2018 Plans:</b> The DIFC will continue to investigate, experiment, and disseminate various Title 10 and Title 50 data sources from collect through dissemination to tactical platforms using machine to machine solutions to move data more efficiently and affect kill chain timelines.</p> <p><b>FY 2019 Base Plans:</b></p>		0.990	0.818	0.800	0.000	0.800

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Air Force				<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600 / 7		<b>R-1 Program Element (Number/Name)</b> PE 1201921F / <i>Service Support to STRATCOM - Space Activities</i>		<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>						
		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<p>The DIFC will continue to investigate, experiment, and disseminate various Title 10 and Title 50 data sources from collect through dissemination to tactical platforms using machine to machine solutions to move data more efficiently and affect kill chain timelines.</p> <p><b><i>FY 2019 OCO Plans:</i></b> No OCO Requested</p> <p><b><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i></b> FY17 RMD allocated funding stream in FY19 at \$800K</p>						
<b>Accomplishments/Planned Programs Subtotals</b>		5.305	6.310	6.247	0.000	6.247
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
Any new projects funded in this program will be awarded using competitive procedures to the maximum extent possible.						
Best value to the government selected contractors, universities, government facilities, federally funded research and development centers, laboratories, or other organizations						
<b>E. Performance Metrics</b>						
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.						



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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2019 Air Force												<b>Date:</b> February 2018			
<b>Appropriation/Budget Activity</b> 3600 / 7						<b>R-1 Program Element (Number/Name)</b> PE 1201921F / <i>Service Support to STRATCOM - Space Activities</i>				<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>					

  

<b>Product Development (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>		<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Model Space effects for two mission tasks and integrate into STORM for joint campaign analysis	TBD	TBD : TBD	-	4.315	Oct 2016	5.455	Oct 2017	5.447	Oct 2018	0.000		5.447	Continuing	Continuing	-	
Data Integration and Fusion Center	C/Various	Multiple Gov/Civ Agencies : Schriever AFB, CO	-	0.990	Oct 2016	0.855	Oct 2017	0.800	Oct 2018	0.000		0.800	Continuing	Continuing	-	
<b>Subtotal</b>			-	5.305		6.310		6.247		0.000		6.247	Continuing	Continuing	N/A	

  

<b>Remarks</b> Best value to the government selected contractors, universities, government facilities, federally funded research and development centers, laboratories, or other organizations																
			<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>			-	5.305		6.310		6.247		0.000		6.247	Continuing	Continuing	N/A	
<b>Remarks</b>																

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2019 Air Force

Date: February 2018

## Appropriation/Budget Activity

3600 / 7

## R-1 Program Element (Number/Name)

PE 1201921F / Service Support to  
STRATCOM - Space Activities

## Project (Number/Name)

67A011 / Space Analysis and Application  
Development

FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
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

**Space Analysis Modeling & Simulation**

Develop 22 Joint Mission Threads accounting for Warfighter tasks dependent on space-based capabilities

Conduct operational risk analysis with Combatant Commands on impacts of contested space to OPLAN missions and tasks; identify priority risk areas

Coordinate implementation and schedule to implement modification proposals for improved space and counterspace effects in STORM

Complete mission-level modeling and analysis of 22 Joint Mission Threads

Complete priority integration of 22 Joint Mission Threads, space-based capabilities, and counterspace effects on the Warfighter in STORM.

Run improved STORM model and update integrated risk analysis with Combatant Commands

Identify and develop 10 additional Joint Mission Threads for integration into mission and campaign-level modeling

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Air Force			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1201921F / <i>Service Support to STRATCOM - Space Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Space Analysis Modeling &amp; Simulation</i></b>				
Develop 22 Joint Mission Threads accounting for Warfighter tasks dependent on space-based capabilities	1	2017	4	2017
Conduct operational risk analysis with Combatant Commands on impacts of contested space to OPLAN missions and tasks; identify priority risk areas	1	2018	4	2018
Coordinate implementation and schedule to implement modification proposals for improved space and counterspace effects in STORM	1	2019	4	2019
Complete mission-level modeling and analysis of 22 Joint Mission Threads	1	2020	4	2020
Complete priority integration of 22 Joint Mission Threads, space-based capabilities, and counterspace effects on the Warfighter in STORM.	1	2021	4	2021
Run improved STORM model and update integrated risk analysis with Combatant Commands	1	2022	4	2023
Identify and develop 10 additional Joint Mission Threads for integration into mission and campaign-level modeling	1	2022	4	2023