

# UNCLASSIFIED

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 0301017F I Global Sensor Integrated on Network (GSIN)							
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	-	3.296	3.549	3.579	0.000	3.579	3.647	3.709	3.787	3.856	Continuing	Continuing
675368: GSIN (Global Integrated Sensor Network)	-	3.296	3.549	3.579	0.000	3.579	3.647	3.709	3.787	3.856	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The mission of USSTRATCOM is to establish and provide full-spectrum, global strike, coordinated space and information operations capabilities to meet both deterrent and decisive national security objectives and to provide operational space support, integrated missile defense, Global Command Control, Communications, and Computers Intelligence Surveillance and Reconnaissance (C4ISR), and specialized planning expertise to the joint warfighter.

GSIN directly supports USSTRATCOM's mission. It nets together selected systems and sensors (from tactical to strategic), including the Nation's most modern and capable assets, taking advantage of their larger numbers, improved algorithms, mobility, and forward deployment to provide earlier cross-cueing and expanded decision space when every second counts. Using these traditionally stove-piped systems and sensors, GSIN enables the warfighter in several ways. First it enables creation of a User Defined Operating Picture (UDOP) to provide a single, unambiguous missile event picture allowing real-time collaboration for nuclear C2 and improved senior leader situational awareness (SA) for effective decision-making. Secondly, it improves Space Situational Awareness (SSA) by tapping additional sensor capability. Thirdly, GSIN dramatically improves the ingestion of non-traditional, but readily available non-US government and commercial data to the space catalog. Finally, the effort addresses several recently signed Joint Urgent Operational Need (JUON) requests for uninterrupted traditional and non-traditional sensor data integration.

The Nation's strategic C2, sensors, and mission planning programs cannot rapidly exchange information across multiple missions creating ambiguity that delays time critical national C2 decision making processes. GSIN developed and established a unified schema that integrates disparate Missile Warning/Missile Defense (MW/MD) data into a single exposed data set providing redundant and unambiguous MW/MD data to national leadership. GSIN also enables other existing sensors to provide data in net-centric formats consumable by other authorized systems and mission areas, thus reducing the need to acquire more sensors. Activities also include studies and analysis to support both current program planning, execution, and future program planning.

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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Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0301017F I Global Sensor Integrated on Network (GSIN)				
B. Program Change Summary (\$ in Millions)		FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget		3.470	3.549	3.606	0.000	3.606
Current President's Budget		3.296	3.549	3.579	0.000	3.579
Total Adjustments		-0.174	0.000	-0.027	0.000	-0.027
• Congressional General Reductions		-0.078	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		-0.096	0.000	-0.027	0.000	-0.027
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019
Title: Radar/MASINT, other technical intelligence, and Allied Systems				0.594	2.320	2.007
Description: Radar/Measurement and Signals Intelligence (MASINT)/ Technical Intelligence (TI): Designs, develops, exposes and integrates data from various radars, MASINT and other technical intelligence sensors in regions of the world where we currently do not have coverage. Provide real time data from the sensors that previously reported in hours or days after events. Space Situational Awareness (SSA): Designs, develops, tests, exposes, and integrates SSA data from previously untapped sensors into space production systems and the Global Information Grid (GIG). Develop implementation plans to mature data exposure capabilities. Non-traditional Data Pre Processor (NDPP): Designs, develops, exposes and integrates Space Situational Awareness (SSA) data from Commercial, Owner-Operator, and Allied non-traditional sensors into space production systems and Space Catalog via the Global Information Grid. Develops implementation plans to mature data exposure capabilities. Army Navy Transportable Radar (AN/TPY-2): Designs, develops, tests, exposes, and integrates SSA data from the missile defense AN/TPY-2 sensor into space production systems and the GIG.						
FY 2018 Plans:						
- Assist in developing plans to address JUONs. Advocate and secure addition RDT&E funding if necessary						
- Continue developing and releasing periodic configuration control processes.						
- Continue technical outreach processes for new GSIN data consumers and providers.						
- Deliver new GSIN capabilities to match evolving DISA Enterprise Service updates.						
- Ensure common XML data schema is compatible with newly delivered capability.						
- Continue development of new and improved data services.						
-- Continued development and deployment of Radar/MASINT Phase 2 (including operational testing and fielding activities).						

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2019 Air Force		<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>		<b>R-1 Program Element (Number/Name)</b> PE 0301017F <i>I Global Sensor Integrated on Network (GSIN)</i>		
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
-- Begin development and deployment of Radar/MASINT Phase 3 (including operational testing and fielding activities).  <b>FY 2019 Plans:</b> <ul style="list-style-type: none"> <li>- Continue developing and releasing periodic configuration control processes.</li> <li>- Continue technical outreach processes for new GSIN data consumers and providers.</li> <li>- Deliver new GSIN capabilities to match evolving DISA Enterprise Service updates.</li> <li>- Continue development of new and improved data services.</li> <li>- Complete development of Radar/MASINT Phase 3.</li> </ul> <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Program funding decreased according to the FY19 requirements.				
<b>Title:</b> GSIN Data Integration: Launch Characterization Data Services Net Centric Data Integration Schema Configuration Control Technical Outreach  <b>Description:</b> Develop common XML net-enabled data schemas and configuration management processes and procedures for Missile Warning, Missile Defense, Space, MASINT/Technical Intelligence, and Sensor data to manage the XML schema and associated XML messaging and services. Develop technical outreach for potential new GSIN data consumers and providers who require GSIN sensor data. Upgrade GSIN capabilities as DISA Enterprise Services evolve. Continue modifications to data services. Support integration of GSIN sensor data into appropriate registries/catalogs. Continue development of GSIN data services to enable visualization in a common operating picture. Conduct studies and demonstrations of SSA capabilities, data correlation, and assessment services for risk reduction evaluations.  <b>FY 2018 Plans:</b> <ul style="list-style-type: none"> <li>- Continue developing and releasing periodic configuration control processes.</li> <li>- Continue technical outreach processes for new GSIN data consumers and providers.</li> <li>- Deliver new GSIN capabilities to match evolving DISA Enterprise Service updates.</li> <li>- Ensured common XML data schema was compatible with newly delivered capability.</li> <li>- Continue development of new and improved data services.</li> </ul> -- Continued development and deployment of MASINT Phase 2 (including operational testing and fielding activities). -- Began development and deployment of MASINT Phase 3 (including operational testing and fielding activities).  <b>FY 2019 Plans:</b> <ul style="list-style-type: none"> <li>- Continue developing and releasing periodic configuration control processes.</li> <li>- Continue technical outreach processes for new GSIN data consumers and providers.</li> <li>- Deliver new GSIN capabilities to match evolving DISA Enterprise Service updates.</li> <li>- Continue development of new and improved data services.</li> </ul>		2.702	1.229	1.572

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
- Complete development of MASINT Project 3 (including operational testing and fielding activities).				
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Program funding increased according to the FY19 requirements.				
<b>Accomplishments/Planned Programs Subtotals</b>		3.296	3.549	3.579
<b>D. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>Remarks</b>				
<b>E. Acquisition Strategy</b> GSIN uses existing government contract vehicles (from agencies such as Missile Defense Agency (MDA) or Air Force Life Cycle Management Center (AFLCMC) to develop and modernize the combined SSA/MW/MD/MASINT/TI data exposure architecture and solution. The contracts are managed by the relevant organizations contracting office. GSIN does not award or manage any contracts. The AFLCMC at Hanscom AFB, (AFLCMC/HB) provides necessary program management, financial management, and other support as may be applicable for GSIN.				
<b>F. 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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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force												Date: February 2018			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0301017F / Global Sensor Integrated on Network (GSIN)				Project (Number/Name) 675368 / GSIN (Global Integrated Sensor Network)					
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GSIN OPSCAP Status Capability	C/CPAF	Northrop Grumman : Omaha, NE	-	2.696	Aug 2017	0.488	Dec 2017	-		-		-	Continuing	Continuing	-
GSIN Non-traditional Space Situational Awareness Data Exposure	C/CPAF	Harris Group : Colorado Springs, CO	-	0.000		-		-		-		-	Continuing	Continuing	-
GSIN Net-centric Command and Control Data Exposure	C/CPAF	LM : Huntsville, AL	-	-		-		-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - MASINT/TI 3	C/CPAF	Raytheon : Boston, MA	-	0.206	Sep 2017	-		-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - MASINT/TI 4	C/CPAF	Raytheon : Colorado Springs, CO	-	0.000	Oct 2016	1.600	Dec 2017	-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - MASINT/TI 5&6	C/CPAF	MIT : Boston, MA	-	0.000		0.000		2.088	Apr 2019	-		2.088	Continuing	Continuing	-
Publisher/Recorder	C/CPAF	Northrop Grumman : Omaha, NE	-	-		0.956	Nov 2017	1.000	Nov 2018	-		1.000	Continuing	Continuing	-
Strategic Study	C/CPAF	KBR Wyle : Omaha, ND	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			-	2.902		3.044		3.088		-		3.088	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GSIN Program Management Administration	C/FFP	Various : Omaha, NE	-	0.394	Oct 2016	0.505	Oct 2017	0.491	Oct 2018	-		0.491	Continuing	Continuing	-
Subtotal			-	0.394		0.505		0.491		-		0.491	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force										Date: February 2018					
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0301017F / Global Sensor Integrated on Network (GSIN)					Project (Number/Name) 675368 / GSIN (Global Integrated Sensor Network)					
			Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	3.296		3.549		3.579		-		3.579	Continuing	Continuing	N/A

Remarks

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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 0301017F / Global Sensor Integrated on Network (GSIN)

## Project (Number/Name)

675368 / GSIN (Global Integrated Sensor Network)

	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
<b>GSIN Data Exposure</b>																												
GSIN Data Exposure (NDPP) Development	■																											
GSIN Data Exposure (NDPP) Production		■																										
GSIN Data Exposure (NDPP) Fielding/ Testing			■	■																								
GSIN Data Exposure (NDPP) Operational				■																								
GSIN Data Exposure (NC2) Design and Development	■																											
GSIN Data Exposure (NC2) Fielding	■	■	■																									
GSIN Data Exposure (NC2) Operational					■																							
GSIN Data Exposure (MASINT 2) Concept Development	■	■	■																									
GSIN Data Exposure (MASINT 2) Design and Development						■	■																					
GSIN Data Exposure (MASINT 2) Production/ Fielding							■																					
GSIN Data Exposure (MASINT 2) Operational								■																				
GSIN Data Exposure (MASINT 3) Concept Design		■	■	■																								
GSIN Data Exposure (MASINT 3) Design and Development						■	■																					
GSIN Data Exposure (MASINT 3) Production/ Fielding								■																				
GSIN Data Exposure (MASINT 3) Integration and Testing									■																			
GSIN Data Exposure (MASINT 3) Operational									■																			

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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 0301017F / Global Sensor Integrated on Network (GSIN)								Project (Number/Name) 675368 / GSIN (Global Integrated Sensor Network)																			
										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
GSIN Data Exposure (MASINT 4) Concept Design										<div></div>																											
GSIN Data Exposure (MASINT 4) Design and Development										<div></div>																											
GSIN Data Exposure (MASINT 4) Production/Fielding										<div></div>																											
GSIN Data Exposure (MASINT 4) Integration and Testing										<div></div>																											
GSIN Data Exposure (MASINT 4) Operational										<div></div>																											
GSIN Data Exposure (MASINT 5) Design and Development										<div></div>																											
GSIN Data Exposure (MASINT 5) Production/Fielding										<div></div>																											
GSIN Data Exposure (MASINT 5) Integration and Testing										<div></div>																											
GSIN Data Exposure (MASINT 5) Operational										<div></div>																											
GSIN Data Exposure (Radar/MASINT 6) Design and Development										<div></div>																											
GSIN Data Exposure (Radar/MASINT 6) Production/Fielding										<div></div>																											
GSIN Data Exposure (Radar/MASINT 6) Integration and Testing										<div></div>																											
GSIN Data Exposure (Radar/MASINT 6) Operational										<div></div>																											
GSIN Data Exposure (Radar/MASINT 7) Design and Development										<div></div>																											
GSIN Data Exposure (Radar/MASINT 7) Production/Fielding										<div></div>																											



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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force														Date: February 2018																							
Appropriation/Budget Activity										R-1 Program Element (Number/Name)										Project (Number/Name)																	
3600 / 7										PE 0301017F / Global Sensor Integrated on Network (GSIN)										675368 / GSIN (Global Integrated Sensor Network)																	
										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
GSIN Data Exposure (Radar/MASINT 7) Integration and Testing																																					
GSIN Data Exposure (Radar/MASINT 7) Operational																																					
GSIN Publisher/Recorder Design/ Development																																					
GSIN Publisher/Recorder Production/Fielding																																					
GSIN Publisher/Recorder Integration and Testing																																					
GSIN Complete Deployment of Publisher Recorder																																					
GSIN OPSCAP Status Design and Development																																					
GSIN OPSCAP Status Production/Fielding																																					
GSIN OPSCAP Status Integration and Testing																																					
GSIN OPSCAP Status Operational																																					

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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 0301017F / <i>Global Sensor Integrated on Network (GSIN)</i>	<b>Project (Number/Name)</b> 675368 / <i>GSIN (Global Integrated Sensor Network)</i>	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>GSIN Data Exposure</b>				
GSIN Data Exposure (NDPP) Development	1	2017	1	2017
GSIN Data Exposure (NDPP) Production	2	2017	2	2017
GSIN Data Exposure (NDPP) Fielding/Testing	3	2017	4	2017
GSIN Data Exposure (NDPP) Operational	4	2017	4	2017
GSIN Data Exposure (NC2) Design and Development	1	2017	1	2017
GSIN Data Exposure (NC2) Fielding	1	2017	4	2017
GSIN Data Exposure (NC2) Operational	1	2018	1	2018
GSIN Data Exposure (MASINT 2) Concept Development	1	2017	1	2018
GSIN Data Exposure (MASINT 2) Design and Development	2	2018	3	2018
GSIN Data Exposure (MASINT 2) Production/Fielding	3	2018	3	2018
GSIN Data Exposure (MASINT 2) Operational	4	2018	4	2018
GSIN Data Exposure (MASINT 3) Concept Design	3	2017	1	2018
GSIN Data Exposure (MASINT 3) Design and Development	2	2018	3	2018
GSIN Data Exposure (MASINT 3) Production/Fielding	4	2018	4	2018
GSIN Data Exposure (MASINT 3) Integration and Testing	1	2019	1	2019
GSIN Data Exposure (MASINT 3) Operational	1	2019	1	2019
GSIN Data Exposure (MASINT 4) Concept Design	2	2018	3	2018
GSIN Data Exposure (MASINT 4) Design and Development	4	2018	4	2018
GSIN Data Exposure (MASINT 4) Production/Fielding	1	2019	2	2019
GSIN Data Exposure (MASINT 4) Integration and Testing	3	2019	3	2019
GSIN Data Exposure (MASINT 4) Operational	4	2019	4	2019

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2019 Air Force **Date:** February 2018

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0301017F / <i>Global Sensor Integrated on Network (GSIN)</i>	<b>Project (Number/Name)</b> 675368 / <i>GSIN (Global Integrated Sensor Network)</i>
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<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
GSIN Data Exposure (MASINT 5) Design and Development	3	2019	4	2019
GSIN Data Exposure (MASINT 5) Production/Fielding	1	2020	2	2020
GSIN Data Exposure (MASINT 5) Integration and Testing	3	2020	3	2020
GSIN Data Exposure (MASINT 5) Operational	4	2020	4	2020
GSIN Data Exposure (Radar/MASINT 6) Design and Development	1	2021	4	2021
GSIN Data Exposure (Radar/MASINT 6) Production/Fielding	1	2022	2	2022
GSIN Data Exposure (Radar/MASINT 6) Integration and Testing	3	2022	3	2022
GSIN Data Exposure (Radar/MASINT 6) Operational	4	2022	4	2022
GSIN Data Exposure (Radar/MASINT 7) Design and Development	3	2022	4	2022
GSIN Data Exposure (Radar/MASINT 7) Production/Fielding	1	2023	2	2023
GSIN Data Exposure (Radar/MASINT 7) Integration and Testing	3	2023	3	2023
GSIN Data Exposure (Radar/MASINT 7) Operational	4	2023	4	2023
GSIN Publisher/Recorder Design/Development	2	2018	2	2019
GSIN Publisher/Recorder Production/Fielding	2	2019	2	2020
GSIN Publisher/Recorder Integration and Testing	2	2020	2	2020
GSIN Complete Deployment of Publisher Recorder	3	2020	3	2020
GSIN OPSCAP Status Design and Development	4	2017	1	2018
GSIN OPSCAP Status Production/Fielding	2	2018	2	2018
GSIN OPSCAP Status Integration and Testing	3	2018	3	2018
GSIN OPSCAP Status Operational	4	2018	4	2018

**Note**

Program transitioned to 03010107F in FY16.