Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force											Date: February 2019	
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 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.439	3.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
675368: *GSIN (Global Integrated Sensor Network)*	-	3.439	3.579	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2020, PE 0301017F, Global Sensor Integrated on Network (GSIN), Project 675368, GSIN (Global Integrated Sensor Network, efforts were transferred to PE 1201017F, Global Sensor Integrated on Network (GSIN), Project Project 675368, GSIN (Global Integrated Sensor Network, for more accurate classification of work.

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.

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 existing radars and sensors to provide data in net-centric formats consumable by other authorized systems and mission areas, thus reducing the need to acquire more systems. Activities also include studies and analysis to support both current program planning, execution, and future program planning.

GSIN directly supports USSTRATCOM and other COCOMs and MAJCOM mission sets. GSIN meshes 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. Repurposing these traditionally stove-piped systems and sensors, GSIN enables the warfighter in several ways. GSIN 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. GSIN also improves Space Situational Awareness (SSA) by tapping additional sensor capability and provides this data for the larger space order of battle capabilities. GSIN dramatically improves the ingestion of non-traditional, but readily available, non-US government and commercial data to the Air Force Space Command (AFSPC) catalog managed by the 18SPCC at Vandenberg AFB. GSIN addresses NORTHCOM/STRATCOM's signed Joint Emergent Operational Need (JEON) ST-0010 request for uninterrupted traditional and non-traditional sensor data integration and the Global Threat Characterization Assessment (GTCA) Operational Planning Team report. GSIN provides critical and unique data to the large AFSPC SSA data repositories to facilitate the large Space Battle Management Command and Control (BMC2) suite of capabilities/programs. Finally, GSIN provides Machine Learner and Data Analysis functions to optimize and operate situational awareness in the field.

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force	Date: February 2019
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver <insert program name> weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F,0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is $14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

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.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	3.549	3.579	3.647	0.000	3.647
Current President's Budget	3.439	3.579	0.000	0.000	0.000
Total Adjustments	-0.110	0.000	-3.647	0.000	-3.647
• 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	-0.110	0.000			
• Other Adjustments	0.000	0.000	-3.647	0.000	-3.647

C. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020
Title: Radar, sensor, technical intelligence (TI), and Allied Systems	2.210	2.007	0.000
Description: Radar, sensor, technical intelligence and Allied Systems: Designs, develops, exposes and integrates data from radar, sensors and technical intelligence systems in regions of the world where potential GSIN users currently do not have coverage. Provide real time data from systems that previously reported in hours or days after critical events. Conduct studies/surveys/meetings as necessary to continually identify systems meeting GSIN user data exposure needs. Space Situational Awareness (SSA): Designs, develops, tests, exposes, and integrates SSA data from previously untapped systems into space production systems and the Global Information Grid (GIG). Develop implementation plans to mature data exposure capabilities. **FY 2019 Plans:**			

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force	Date: February 2019
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020
- Complete testing and troubleshooting of NC2. Transition capability to program of record (PoR) - Complete deployment and testing Radar/Sensor/TI Project 2 and transition to PoR - Complete deployment and testing Radar/Sensor/TI Project 3 and transition to PoR - Identify and begin development of Radar/Sensor/TI Project 4. - Initiate Strategic Study concept to identify the next series of radars/sensors for GSIN data exposure ***FY 2020 Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** In FY 2020, PE 0301017F, Global Sensor Integrated on Network (GSIN), Project 675368, GSIN (Global Integrated Sensor Network, efforts were transferred to PE 1201017F, Global Sensor Integrated on Network (GSIN), Project Project 675368, GSIN (Global Integrated Sensor Network, for more accurate classification of work.			
Title: Data Services, Net Centric Integration and Configuration Control, and program outreach ***Description:*** 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. ***FY 2019 Plans:*** - Complete deploying and testing of GAP-CIE modification allowing GSIN sensors reporting operational capability (OPSCAP) status in real time. Hand-off effort to Program of Record (PoR) - Investigated the ability to record GSIN exposed data and play it back in real time through a visualization tool - Continue developing plans to address NORTHCOM/USSTRATCOM JEON GTCA. Advocate and secure addition RDT&E funding if necessary - Continue development of new and improved data services. -- Begin development and integration of Radar/Sensor/TI Project 4 into DISA Enterprise Services ***FY 2020 Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:***	1.229	1.572	0.000

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2020 Air Force	**Date:** February 2019
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C. Accomplishments/Planned Programs ($ in Millions)	**FY 2018**	**FY 2019**	**FY 2020**
In FY 2020, PE 0301017F, Global Sensor Integrated on Network (GSIN), Project 675368, GSIN (Global Integrated Sensor Network, efforts were transferred to PE 1201017F, Global Sensor Integrated on Network (GSIN), Project Project 675368, GSIN (Global Integrated Sensor Network, for more accurate classification of work.			
Accomplishments/Planned Programs Subtotals	3.439	3.579	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• N/A: *N/A*	-	-	-	-	-	-	-	-	-	0.000	0.000

Remarks

E. Acquisition Strategy

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.

F. Performance Metrics

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force			Date: February 2019
Appropriation/Budget Activity 3600 I 7	R-1 Program Element (Number/Name) PE 0301017F I Global Sensor Integrated on Network (GSIN)		Project (Number/Name) 675368 I GSIN (Global Integrated Sensor Network)

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GSIN OPSCAP Status Capability	C/CPAF	Northrop Grumman : Omaha, NE	-	1.495	Mar 2018	-		-		-		-	Continuing	Continuing	-
GSIN Non-traditional Space Situational Awareness Data Exposure	C/CPAF	Harris Group : Colorado Springs, CO	-	-		-		-		-		-	Continuing	Continuing	-
GSIN Net-centric Command and Control Data Exposure	C/CPAF	LM : Huntsville, AL	-	-		-		-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - Project 2	C/CPAF	Raytheon : Boston, MA	-	0.918	May 2018	-		-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - Project 3	C/CPAF	Raytheon : Colorado Springs, CO	-	0.506	Jul 2018	0.800	Jul 2019	-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - Radar/Sensor/TI Project 4	C/CPAF	Raytheon : Colorado Springs, CO	-	-		1.749	Dec 2018	-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - Radar/Sensor/TI Project 5	C/CPAF	Raytheon : Colorado Springs, CO	-	-		-		-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - Radar/Sensor/TI Project 6	TBD	Raytheon : Boston, MA	-	-		-		-		-		-	Continuing	Continuing	-
GSIN Space Situational Awareness Data Exposure - Radar/Sensor/TI Project 7	TBD	Raytheon : Colorado Springs, CO	-	-		-		-		-		-	Continuing	Continuing	-
Publisher/Recorder	C/CPAF	Northrop Grumman : Omaha, NE	-	-		-		-		-		-	Continuing	Continuing	-
Strategic Study	C/CPAF	KBR Wyle : Omaha, ND	-	-		0.500	Nov 2018	-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force		Date: February 2019
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	2.919		3.049		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GSIN Program Management Administration	C/FFP	Various : Omaha, NE	-	0.520	Oct 2017	0.530	Oct 2018	-		-		-	Continuing	Continuing	-
Subtotal			-	0.520		0.530		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.439	3.579	-	-	-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force		Date: February 2019
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 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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

GSIN Data Exposure (NC2) Operational

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) Design and Development

GSIN Data Exposure (MASINT 3) Production/Fielding

GSIN Data Exposure (MASINT 3) Integration and Testing

GSIN Data Exposure (MASINT 3) Operational

GSIN Data Exposure (MASINT 4) Concept Design

GSIN Data Exposure (MASINT 4) Design and Development

GSIN OPSCAP Status Production/Fielding

GSIN OPSCAP Status Integration and Testing

GSIN OPSCAP Status Operational

Exhibit R-4A, **RDT&E Schedule Details:** PB 2020 Air Force		**Date:** February 2019	
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)*	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	**Year**	**Quarter**	**Year**
GSIN Data Exposure				
GSIN Data Exposure (NC2) Operational	1	2018	1	2019
GSIN Data Exposure (MASINT 2) Design and Development	2	2018	3	2018
GSIN Data Exposure (MASINT 2) Production/Fielding	4	2018	4	2018
GSIN Data Exposure (MASINT 2) Operational	1	2019	1	2019
GSIN Data Exposure (MASINT 3) Design and Development	3	2018	4	2018
GSIN Data Exposure (MASINT 3) Production/Fielding	1	2019	1	2019
GSIN Data Exposure (MASINT 3) Integration and Testing	2	2019	2	2019
GSIN Data Exposure (MASINT 3) Operational	3	2019	3	2019
GSIN Data Exposure (MASINT 4) Concept Design	2	2019	4	2019
GSIN Data Exposure (MASINT 4) Design and Development	4	2019	4	2019
GSIN OPSCAP Status Production/Fielding	2	2018	2	2018
GSIN OPSCAP Status Integration and Testing	3	2018	1	2019
GSIN OPSCAP Status Operational	2	2019	2	2019