Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604257F / *Advanced Technology and Sensors*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	23.745	12.311	27.650	0.000	27.650	24.161	49.678	50.994	11.278	Continuing	Continuing
642001: *Next Gen Sensors Tech Maturation/Risk Reduction*	-	0.000	0.000	12.461	0.000	12.461	8.726	33.964	35.070	0.000	Continuing	Continuing
644818: *Imaging and Targeting Support*	-	14.641	12.311	15.189	0.000	15.189	15.435	15.714	15.924	11.278	0.000	100.492
645148: *Common Airborne Sense and Avoid (C-ABSAA)*	-	9.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

FY2023, PE 0604257F (Advanced Technology and Sensors), Project 645148, (Common Airborne Sense and Avoid) funds were transferred to align funding with Air Force project priorities and requirements. FY2024 Next Generation Sensors moved from ARS PE 0305206F Project 672001 to ATS PE 0604257F Project 642001 for continued development, tech maturation, and risk reduction.

A. Mission Description and Budget Item Justification

The Advanced Technology and Sensors (ATS) program coordinates the development of platform-agile advanced technologies (sensors, low-cost, low-SWAP attritable ISR sensors, data links, targeting support, and quick reaction capabilities) in support of High Altitude Long Endurance (HALE) platforms, manned and unmanned airborne reconnaissance platforms, Autonomous Collaborative Platforms, and Collaborative Combat Aircraft. Its objectives are to develop, demonstrate, and rapidly transition advanced, interoperable, multi-platform solutions to reduce the find, fix, target, and track kill chain timeline. This program coordinates the development of common collection, processing, and dissemination solutions for near-real time intelligence, surveillance, and reconnaissance. The ATS program also increases interoperability by developing common standards and interfaces.

The funds in this program are distributed in priority order for the goal of building a comprehensive Geospatial Intelligence (GEOINT) capability for the USAF. On an annual basis, developmental technologies are reviewed against warfighter capabilities and requirements based on strategic roadmaps and on the results of the Airborne Sensors for ISR Analysis of Alternatives, as prefaced in the Challenging Targets Initial Capabilities Document. Efforts advancing the technological maturity of promising sensors and processing capabilities are reviewed and prioritized into a recommended list for senior executive direction to implement in the coming year. The program office has the ability to rapidly initiate an Imaging & Targeting Support (I&TS) project in order to expedite development and acquisition of urgently needed capabilities for the warfighter.

Next Generation Sensor (NGS) is a platform-agile suite of sensor technologies defined for the best flexibility and capability for an ever-changing scale of ISR missions. NGS will further technology maturation and risk reduction of selected technologies initiated under I&TS culminating in an operational prototype demonstrated in an AgilePod. Execution of the NGS activities are founded upon three pillars: Open Standards, Artificial Intelligence (AI)/Machine Learning(ML) algorithms, and Advanced Platform-Agile Sensors. The power behind the NGS program is an open architectural system design that enables rapid third-party software and LRU insertion/

replacement allowing for DevSecOps execution, onboard multi-modal and multi-INT processing real-time, sensor cross-cueing, and AI/ML application. The AI/ML algorithms will be used to enable assisted target detection and identification. NGS will anticipate and more quickly counter adversaries' future improvements in their abilities to hide from and defeat ISR sensors. NGS efforts include, but are not limited to: Multi-Intelligence Common Open Architecture Reconnaissance Programs Standard (MI-COARPS), Advanced Platform-Agile Sensors, Assisted Target Recognition for ISR (ATRI), and Digital Engineering (DE), to include Model-Based Systems Engineering (MBSE).

The Open Standards pillar of next generation capabilities is supported through Sensors Open Systems Architecture (SOSA) which coordinates advanced technologies and open architecture development for multi-INT sensor modalities. Consistent with NDS, algorithms are multi-INT sensor agile that are submitted for formal adoption by the DOD-Intelligence Community (IC) Joint Enterprise Standards Committee (JESC) GEOINT and SIGINT standards groups. Platform agile sensors pillar of next-generation capabilities will be supported by developing scalable sensors using both on-the-shelf and emerging sensors suites from the labs, industry, and other Government agencies.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver the ATS program for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	23.745	13.311	10.155	0.000	10.155
Current President's Budget	23.745	12.311	27.650	0.000	27.650
Total Adjustments	0.000	-1.000	17.495	0.000	17.495
• Congressional General Reductions	0.000	-1.000			
• 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	0.000	0.000	17.495	0.000	17.495

Change Summary Explanation

FY24 increased due to Next Generation Sensors move from ARS PE 0305206F Project 672001 to ATS PE 0604257F Project 642001 for continued development, tech maturation, and risk reduction. Also, increased I&TS funding to support Air Force and GCWG ISR prioritized efforts (such as radar improvement, next-generation HSI, LIDAR, ISR Standards, EO/IR, and data mitigation technologies).

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604257F / *Advanced Technology and Sensors*	Project (Number/Name) 642001 / *Next Gen Sensors Tech Maturation/Risk Reduction*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
642001: *Next Gen Sensors Tech Maturation/Risk Reduction*	-	0.000	0.000	12.461	0.000	12.461	8.726	33.964	35.070	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Next Generation Sensors (NGS) program seeks to change the paradigm of Intelligence, Surveillance, and Reconnaissance (ISR) sensor acquisitions to deliver mission critical technology more quickly and cost effectively. NGS is a platform-agile suite of sensor technologies defined for the best flexibility and capability for an ever-changing scale of ISR missions. The power behind the NGS program is an open architectural system design that enables individual sensor upgrades and enhancements and mission-specific mode and algorithm applications, establishing a path to on-board multimodal and multi-INT processing, sensor cross-cueing, and artificial intelligence applications. NGS efforts include, but are not limited to: Multi-INT Common Open Architecture Reconnaissance Programs Standard (MI-COARPS), Advanced Platform-Agile Sensors, Assisted Target Recognition for ISR (ATRI), and Digital Engineering (DE), to include Model Based Systems Engineering (MBSE). The focus is on maturing platform agile, low-SWAP attritable ISR sensors developed under Imaging and Targeting Support culminating in a fieldable prototype demonstration using an AgilePod in support of integration with High Altitude Long Endurance (HALE) platforms, manned and unmanned airborne reconnaissance platforms, Autonomous Collaborative Platforms, and Collaborative Combat Aircraft.

NGS program efforts are set by capability gaps within the Challenging Targets Initial Capabilities Document and as approved by the Capabilities Decision Memorandum (Signed Jan 2019). These requirements have been further verified, modeled, and developed through the Airborne Sensors for ISR (ASI) Analysis of Alternatives (AoA). Program requirements were further defined in the NGS Draft Capability Development Document (DCDD) approved on 21 February 2021.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver Next Gen Sensors Tech Maturation/Risk Reduction for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Next Gen Sensors Tech Maturation/Risk Reduction	-	0.000	12.461
Description: Mold current and future ISR into a platform-agile, non-proprietary, autonomous multi-INT cross cueing solution that is designed based on mission requirements. Sensors will have to penetrate up to highly contested domains and survive to operate. This project will also increase interoperability by developing common standards and interfaces for mission and sensor systems.			
FY 2023 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 642001 / *Next Gen Sensors Tech Maturation/Risk Reduction*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
N/A ***FY 2024 Plans:*** - Further development of real-time multi-domain battlespace awareness in highly contested environments. Mature open architectures for ISR systems including cybersecurity analysis, industry standardization, and open architecture demonstrations. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 Next Generation Sensors moved from ARS PE 0305206F Project 672001 to ATS PE 0604257F Project 642001 for continued development, tech maturation, and risk reduction. Increased USAF priority in FY2024 to mature ISR systems and further develop real-time multi-domain battlespace awareness in highly contested environments. Due to higher AF priorities, the following activities were strategically paused in FY23 and will resume in FY24: - Development and maturation of sensor technology for electro-optical/infrared (EO/IR), radar and other sensor modalities - Development, integration, and testing of dual-band EO/IR and LiDAR prototype sensor - Development of edge artificial intelligence (AI)/machine learning (ML) algorithms to identify (ID) critical mobile targets (CMTs)			
Accomplishments/Planned Programs Subtotals	-	0.000	12.461

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

FY2024 Next Generation Sensors moved from ARS PE 0305206F Project 672001 to ATS PE 0604257F Project 642001 for continued development, tech maturation, and risk reduction.

D. Acquisition Strategy

NGS activities will leverage parallel development activities and integrate them with a risk-informed approach to develop and demonstrate NGS capabilities that meet military needs under operationally-relevant environments and conditions. This program has established a forum of stakeholders, consisting of multiple Other Government Agencies (OGAs), end-users, and MAJCOMs to ensure that the program deliverables are answering identified warfighter needs, to ensure a clear and concise technology transition path.

Acquisition strategy is to maximize commercial and national development efforts and investment through multiple contracting methods, including the use of engineering change proposals to modify existing contracts and new contracts that were awarded both competitively or on a sole source basis.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 642001 / *Next Gen Sensors Tech Maturation/Risk Reduction*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NGS Standards (OA)	Various	Various: TBD : TBD	-	-		-		5.291	Mar 2024	-		5.291	Continuing	Continuing	-
Digital Engineering (DE), Model Based Systems Engineering (MBSE)	Various	Various: TBD : TBD	-	-		-		4.010	Mar 2024	-		4.010	Continuing	Continuing	-
		Subtotal	-	-		-		9.301		-		9.301	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: Other Govt Cost	Various	Various: TBD : TBD	-	-		-		3.160	Apr 2024	-		3.160	Continuing	Continuing	-
		Subtotal	-	-		-		3.160		-		3.160	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		12.461		-		12.461	Continuing	Continuing	N/A

Remarks

FY24 Next Generation Sensors moved from ARS PE 0305206F BPAC 672001 to ATS PE 0604257F BPAC 642001 for continued development, tech maturation, and risk reduction.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 642001 / *Next Gen Sensors Tech Maturation/Risk Reduction*

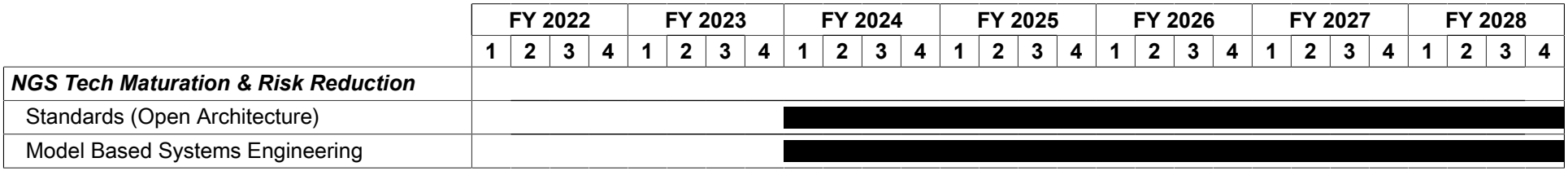

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 642001 / *Next Gen Sensors Tech Maturation/Risk Reduction*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NGS Tech Maturation & Risk Reduction				
Standards (Open Architecture)	1	2024	4	2028
Model Based Systems Engineering	1	2024	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604257F / *Advanced Technology and Sensors*	Project (Number/Name) 644818 / *Imaging and Targeting Support*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
644818: *Imaging and Targeting Support*	-	14.641	12.311	15.189	0.000	15.189	15.435	15.714	15.924	11.278	0.000	100.492
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In support of AF Operational Imperative (OI) 3, the purpose of the I&TS project is to develop, mature, demonstrate, and rapidly transition next-generation, persistent, wide area surveillance and common imagery reconnaissance sensor capabilities (active and passive systems), including sensor data processing, for multiple airborne platforms, as well as sensor products to aid in rapid targeting and sense-making (e.g., geolocation models, sensor-based exploitation tools, sensor networking capabilities). Includes multi-INT integration efforts intended to cross-cue or fuse with SIGINT products in order to create a holistic ISR picture for warfighters and the Intelligence Community.

Developmental efforts pursued include improved sensor performance, new and improved sensor capabilities and modes, new and/or unique modalities, and enabling technologies. Improved sensor performance includes but is not limited to: increased geolocation accuracy, increased dismount detection capability, and advanced sensor data correlation. New and improved sensor capabilities include but are not limited to: Hyperspectral Imagery (HSI), Polarimetric Imaging (PI), Ground and Dismount Moving target indicator (GMTI/ DMTI), maritime search/track (MMTI), Inverse Synthetic Aperture Radar, Foliage Penetration (FOPEN), and nuclear event detection. New and improved sensor modes include but are not limited to: high resolution imagery, Ground and Dismount Moving Target Indicator (GMTI/DMTI), persistent surveillance, wide area motion imagery, and Spectral Identification. New and unique sensor modalities include but are not limited to: low frequency SAR, Hyperspectral Imagery (HSI), and Light Detection And Ranging (LIDAR). Enabling Technologies include but are not limited to: automated and assisted target detection/ recognition, Artificial Intelligence (AI), Machine Learning (ML), network centric warfare, integrated multi-sensor capabilities to detect and identify obscured targets, TCPED (Tasking, Collection, Planning, Exploitation, and Dissemination) improvements related to sensors, automated registration, and imagery product quality assurance. New and improved sensor capabilities that involve massed sensing involving SUASs and low-cost sensors for Attritable aircraft.

These efforts are intended to accelerate delivery of data from sensor to user for both target search and target engagement (kill-chain) activities. This project will also increase interoperability by developing and advancing common standards (e.g. Open Mission Systems (OMS), Sensor Open System Architecture (SOSA), Common Open Architecture Radar Programs (COARPS), National Imagery Transmission Format, AgilePod and data reduction) and interfaces.

I&TS funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs.

Activities also include studies and analysis to support both current program planning and execution and future program planning. This program element may include necessary civilian pay expenses required to manage, execute, and deliver technology and sensor capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 644818 / *Imaging and Targeting Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Imaging & Targeting Support (I&TS)	14.641	12.311	15.189
Description: Corporately prioritized Air Force Multi-INT Portfolio of projects to develop and demonstrate next generation airborne sensors and processing technologies to further the art of the possible and/or transition ISR capabilities (ex: radar improvement, next-generation HSI, LIDAR, ISR Standards, EO/IR, and data mitigation technologies). ***FY 2023 Plans:*** Continue to develop, modernize, and demonstrate lower TRL projects into transition ready efforts. The following FY22 efforts continuing into FY23: - MAGIC Heat - Agile ATR in Highly-Contested Environment (HCE) (BirdBox V2) - Automated On-Board GEOINT ATR and SIGINT Sensor Fusion - Massed Sensing - GMTI Mode - Automatic Image Registration - Aether Spy Digital T/R Module (DSTIC) Maturation These efforts and new proposed projects will be approved through the GEOINT Capabilities Working Group (GCWG) Executive Element process. Efforts are approved in the summer prior to the start of the new fiscal year. ***FY 2024 Plans:*** Will continue to develop, modernize, and demonstrate lower TRL projects into transition ready efforts. The following FY23 efforts will continue into FY24: - Massed Sensing - GMTI Mode - Automatic Image Registration - Aether Spy Digital T/R Module (DSTIC) Maturation These efforts and new proposed projects will be approved through the GEOINT Capabilities Working Group (GCWG) Executive Element process. Efforts are approved in the summer prior to the start of the new fiscal year. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 funding increase due to a return to normal funding levels geared toward developing low cost/low SWAP multi-int capabilities in contested battlespace based on Air Force prioritization.			
Accomplishments/Planned Programs Subtotals	14.641	12.311	15.189

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 644818 / *Imaging and Targeting Support*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Imaging and Targeting Support efforts are prioritized on an annual basis by the GCWG, in accordance with the validated gaps in the Challenging Targets Initial Capabilities Document. Resulting funded efforts are then contracted for and/or executed by either various program offices, laboratories, industry, and/or other government agencies.

Acquisition strategy is to maximize commercial and national development efforts and investment through multiple contracting methods, including the use of Engineering Change Proposals to modify existing contracts and new contracts that were awarded both competitively or on a sole source basis.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 644818 / *Imaging and Targeting Support*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AgilePod	SS/CPFF	Various : Various	-	2.798	Sep 2022	0.000		-		-		-	Continuing	Continuing	-
Automated Electro-Optical Mobile Target Classification Deep Learning	SS/CPFF	Ball Aerospace : Dayton, OH	-	0.812	Mar 2022	0.000		-		-		-	Continuing	Continuing	-
Aether Spy DSTIC Maturation	SS/CPFF	Northrup Grumman, various : Falls Church, VA	-	0.500	Mar 2023	3.000	Dec 2022	2.800	Dec 2023	-		2.800	Continuing	Continuing	-
MOTIF	SS/CPFF	SRI : Ann Arbor, MN	-	0.709	Sep 2022	0.000		-		-		-	Continuing	Continuing	-
AUTOMATE	SS/CPFF	SRI : Ann Arbor, MN	-	0.459	Aug 2022	0.000		-		-		-	Continuing	Continuing	-
MAGIC Heat	SS/CPFF	BAE Systems : Durham, NC	-	1.595	Aug 2022	1.453	Dec 2022	1.052	Jan 2024	-		1.052	Continuing	Continuing	-
BirdBox V2 ATR in HCE	SS/CPFF	AFRL,Multiple Vendors : Dayton, OH	-	1.596	Feb 2022	1.910	Nov 2022	0.265	Jan 2024	-		0.265	Continuing	Continuing	-
Auto On-board GEOINT ATR and SIGINT Sensor Fusion	SS/CPFF	Lockheed Martin : Arlington, VA	-	2.770	Aug 2022	0.000	Mar 2023	-		-		-	Continuing	Continuing	-
Massed Sensing	SS/CPFF	AFRL, Multiple vendors : Dayton, OH	-	0.000	Mar 2023	1.000	Dec 2022	0.750	Jan 2024	-		0.750	Continuing	Continuing	-
GMTI	SS/CPFF	Lockheed Martin : Arlington, VA	-	0.000	Jan 2023	2.000	Dec 2022	-		-		-	Continuing	Continuing	-
Automatic Image Registration	SS/CPFF	Lockheed Martin : Arlington, VA	-	0.000	Jan 2023	1.500	Dec 2022	-		-		-	Continuing	Continuing	-
I&TS Demonstrator	SS/CPAF	TBD upon approval 16 Feb : TBD	-	1.327	Mar 2023	0.890	Mar 2023	-		-		-	Continuing	Continuing	-
New Technology Efforts (Prioritized by GCWG)	Various	Various : Various	-	0.000	Jul 2023	0.000	Jul 2023	8.422	Oct 2023	-		8.422	Continuing	Continuing	-
		Subtotal	-	12.566		11.753		13.289		-		13.289	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 644818 / *Imaging and Targeting Support*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support Costs (PSC) Other Gvmt Cost	Various	Various : Dayton, OH	-	2.075	Nov 2021	0.558	Dec 2022	1.900	Dec 2023	-		1.900	Continuing	Continuing	-
		Subtotal	-	2.075		0.558		1.900		-		1.900	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	14.641		12.311		15.189		-		15.189	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 644818 / *Imaging and Targeting Support*

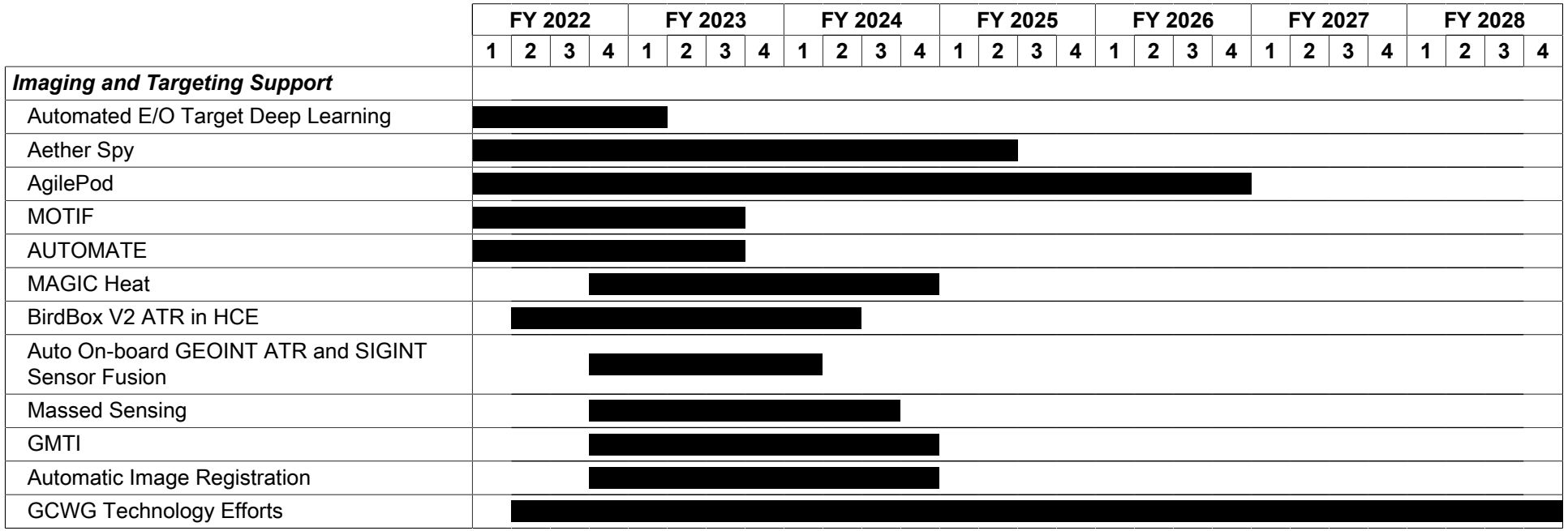

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 644818 / *Imaging and Targeting Support*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Imaging and Targeting Support				
Automated E/O Target Deep Learning	1	2022	1	2023
Aether Spy	1	2022	2	2025
AgilePod	1	2022	4	2026
MOTIF	1	2022	3	2023
AUTOMATE	1	2022	3	2023
MAGIC Heat	4	2022	4	2024
BirdBox V2 ATR in HCE	2	2022	2	2024
Auto On-board GEOINT ATR and SIGINT Sensor Fusion	4	2022	1	2024
Massed Sensing	4	2022	3	2024
GMTI	4	2022	4	2024
Automatic Image Registration	4	2022	4	2024
GCWG Technology Efforts	2	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604257F / *Advanced Technology and Sensors*	Project (Number/Name) 645148 / *Common Airborne Sense and Avoid (C-ABSAA)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
645148: *Common Airborne Sense and Avoid (C-ABSAA)*	-	9.104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Common-Airborne Sense and Avoid (C-ABSAA) project provides Group 4 and 5 Remotely Piloted Aircraft (RPA) with the ability to safely and effectively operate in all classes of airspace worldwide. The C-ABSAA project acts as a replacement for the sense and avoid capability of the pilot on board a manned aircraft.

The Air Force is pursuing a software intensive approach to maintain safe separation, avoid collisions, and provide the ability to safely integrate with other airspace users. The software solutions identified in this Information System Capability Development Document (IS-CDD) are open and modular and accept inputs from any type of sensor or data link and will operate any legacy and future Group 4 and 5 RPA. The effort includes technology maturation, risk reduction, and software processes and initiatives, such as: 1) prototyping activities, 2) system integration, test and implementation of software, 3) development of open system architecture using modular design, standards-based interfaces, and widely-supported consensus-based standards, 4) development of model based system engineering processes, standards and documentation and, 5) collaboration with the Federal Aviation Agency (FAA), National Aeronautics and Space Administration (NASA), and other services to develop national policy and standards.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver CABSAA for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Sense and Avoid (SAA)-Related Activities	9.104	0.000	0.000
Description: - FY22 Funding used for closeout actions and program office requirements. ***FY 2023 Plans:*** - Program complete. ***FY 2024 Plans:*** - Program complete. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Accomplishments/Planned Programs Subtotals	9.104	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 645148 / *Common Airborne Sense and Avoid (C-ABSAA)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Program complete. Pre-milestone B information archived for future use when needed.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604257F / *Advanced Technology and Sensors*	Project (Number/Name) 645148 / *Common Airborne Sense and Avoid (C-ABSAA)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Various : Various	-	9.104	Jan 2022	-		-		-		-	0.000	9.104	-
		Subtotal	-	9.104		-		-		-		-	0.000	9.104	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	9.104		-		-		-		-	0.000	9.104	N/A

Remarks

Program complete.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 645148 / *Common Airborne Sense and Avoid (C-ABSAA)*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Common-Airborne Sense and Avoid																												
Program Data Archived for future use																												

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604257F / *Advanced Technology and Sensors*	**Project (Number/Name)** 645148 / *Common Airborne Sense and Avoid (C-ABSAA)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Common-Airborne Sense and Avoid				
Program Data Archived for future use	1	2022	4	2022