Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603766A *I Tactical Electronic Surveillance System - Adv Dev*							
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	-	113.365	72.314	65.567	-	65.567	38.537	29.007	29.019	39.343	Continuing	Continuing
907: *Tactical Exploitation Of National Capabilities*	-	18.264	14.108	17.719	-	17.719	17.891	9.583	9.320	19.423	Continuing	Continuing
BX9: *Tactical Intel Targeting Access Node Adv Develop*	-	20.003	22.767	20.872	-	20.872	18.274	17.457	17.643	17.841	Continuing	Continuing
CC5: *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*	-	75.098	35.439	26.976	-	26.976	2.372	1.967	2.056	2.079	Continuing	Continuing

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

Tactical Exploitation of National Capabilities (TENCAP) exploits national capabilities to pace evolving threats in support of operations during conflict and competition. TENCAP systems and technologies provide deep sensing to support commanders' situational understanding (patterns of life, threat intentions, etc.), indications & warnings (detection of enemy mobilization and hostile activity), and intelligence support to targeting (order of battle, electronic target folders, target detection, Battle Damage Assessment, etc.). TENCAP systems and technologies support Theater-level fires and effects. TENCAP systems enable integrated Signals Intelligence (SIGINT) / Geospatial Intelligence (GEOINT) / Electronic Warfare (EW) / and Cyberspace operations. TENCAP supports Army modernization priorities including Long Range Precision Fires, Assured Position Navigation and Timing/Space (PNT/S), Future Vertical Lift (FVL), and Air Missile Defense (AMD). In summary, TENCAP is a key enabler to defeating peer competitor Anti-Access / Area-Denial (A2/AD) strategies.

Tactical Exploitation of National Capabilities (TENCAP) accomplishes the Army's Tactical Electronic Surveillance System Advance Development by leveraging National Intelligence Community (IC) capabilities through cross-agency engineering to evaluate, enhance, prototype, and transition Intelligence, Surveillance and Reconnaissance (ISR) technologies/capabilities from the IC into Army systems and architectures. This Program Element includes three projects:

1) TENCAP Core project (907).
2) Tactical Intelligence Targeting Access Node (TITAN) (space) Pre-Prototype development project (BX9).
3) Low Earth Orbit ISR (LEO ISR) development project (CC5).

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603766A *I Tactical Electronic Surveillance System - Adv Dev*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	113.365	72.314	64.799	-	64.799
Current President's Budget	113.365	72.314	65.567	-	65.567
Total Adjustments	0.000	0.000	0.768	-	0.768
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.768	-	0.768

Change Summary Explanation

Increased funding due to revised economic assumptions.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army											Date: March 2023	
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*				Project (Number/Name) 907 / *Tactical Exploitation Of National Capabilities*			
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**
907: *Tactical Exploitation Of National Capabilities*	-	18.264	14.108	17.719	-	17.719	17.891	9.583	9.320	19.423	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

TENCAP exploits national capabilities to pace evolving threats in support of operations during conflict and competition. TENCAP systems and technologies provide deep sensing to support commanders' situational understanding (patterns of life, threat intentions, etc.), indications & warnings (detection of enemy mobilization and hostile activity), and intelligence support to targeting (order of battle, electronic target folders, target detection, Battle Damage Assessment, etc.). TENCAP systems and technologies support Theater-level fires and effects, TENCAP systems enable integrated Signals Intelligence (SIGINT) / Electronic Warfare (EW) / and Cyberspace operations. TENCAP supports Army modernization priorities including Long Range Precision Fires, Assured Position Navigation and Timing/Space (APNT/S), and Future Vertical Lift (FVL). In summary, TENCAP is a key enabler to defeating peer competitor Anti-Access / Area-Denial (A2/AD) strategies.

The Tactical Exploitation of National Capabilities (TENCAP) office serves as the Army's centralized lead to perform National Intelligence cross-agency engineering to evaluate, enhance, prototype, and transition Intelligence, Surveillance and Reconnaissance (ISR) technologies/capabilities from the National Intelligence Community (IC) into Army systems and architectures.
TENCAP programs perform two vital functions for the Army's Warfighters: (1) ensures assured access to current and future National and Commercial sensors and supporting tactical architectures; and (2) exploits and influences new developments that focus on improving the Analysis and Tasking, Collection, Processing, Exploitation, Dissemination (TCPED) of intelligence data.

FY2024 Base funding in the amount of $17.719 million enables systems engineering and collaborative development and prototyping on multiple National Intelligence Community (IC) advanced software and prototype developments that leverage upcoming National IC investments for Army use. This collaborative environment ensures continuous Army interoperability with National IC assets and architectures, exploits advances in commercial imagery and signal technologies, and develops prototypes that directly support the Army Warfighter. In FY24, TENCAP will begin integrating Space Force's new Space-Based ISR into the Tactical Intelligence Targeting Access Node (TITAN) Program of Record.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: TENCAP Cross-agency Core Engineering activities	14.729	10.528	11.862
Description: Funds cross-agency core engineering activities using organic and matrix engineering subject matter experts (SMEs). By utilizing these SMEs, TENCAP is able to collaborate, develop and exploit emerging multi-intelligence based			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** 907 / *Tactical Exploitation Of National Capabilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
technologies to satisfy/accelerate Army Intelligence, Surveillance, Reconnaissance (ISR), Mission Command and Force Protection requirements. ***FY 2023 Plans:*** Continue the Core Army TENCAP Mission, to work with and incorporate Army requirements into the earliest, most cost-effective stages of National developments; ensure Army continued access to sensors and multi-intelligence based capabilities; monitor National Agencies' emerging technologies and systems; exploit advances in commercial imagery and signal technologies; develop prototypes that directly support Army Warfighters. ***FY 2024 Plans:*** Incorporate Army requirements into the earliest, most cost-effective stages of National developments; prototype capabilities to ensure Army access to sensors and multi-intelligence based capabilities; monitor National Agencies' emerging technologies and systems; exploit advances in national and commercial overhead capabilities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase of $1.334 million addresses significant changes to the National and Commercial overhead constellations with increased analysis and prototyping to ensure Army access to these capabilities.			
Title: Air Vigilance - Advanced Development ***Description:*** Enhanced intelligence, force protection, and indications and warning capabilities under Army TENCAP program to pace the proliferation and rapid advances in threat and technology. ***FY 2023 Plans:*** Continue to develop enhanced intelligence, force protection, and indications and warning capabilities under Army TENCAP program, to pace the proliferation and rapid advances in threat and technology. ***FY 2024 Plans:*** Exploit National investments and advances in Signal Intelligence (SIGINT) to ensure the Army's ability to identify and counter the rapidly evolving threat. Integrate advanced signals software into other Army prototype systems. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY2024 funds increased by $2.268M to integrate advanced signals software into other Army prototype systems.	2.500	2.500	4.768
Title: TENCAP Radio Frequency Exploitation (TRFE) ***Description:*** Prototype capability software that informs, influences and enhances Multi-Discipline sensor systems within PEO IEW&S such as Air Vigilance (AV), and Terrestrial Layer System (TLS) to pace the threat by targeting modern digital communications systems employed by near-peer nation state armies. Assists with Joint All-Domain Operations Radio Frequency	1.035	1.080	1.089

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** 907 / *Tactical Exploitation Of National Capabilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
(RF) Characterization for modern communication environments with the intent to synchronize Signal Intelligence (SIGINT), Electronic Warfare, and Cyber operations. Utilizes commercial industry components and architectures to minimize hardware costs, risk and maximizes scalability/modularity. ***FY 2023 Plans:*** Collaborate and exploit specific National investments and advances in Signal Intelligence (SIGINT), Electronic Warfare and Cyber capabilities for use and advancement of Army Warfighter capabilities. ***FY 2024 Plans:*** FY24 funds will leverage National investments and advances in Signal Intelligence (SIGINT), Electronic Warfare and Cyber capabilities for use and advancement of Army Warfighter capabilities in a variety of form factors and pace the threat. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY2024 level of effort anticipated to remain stable. Minor adjustment due to changing economic assumptions.			
Accomplishments/Planned Programs Subtotals	18.264	14.108	17.719

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0605766A: *National Capabilities Integration (MIP)*	13.454	17.030	15.129	-	15.129	16.953	17.358	17.542	17.738	0.000	115.204
• OMA - 122021: *Contractor Logistics Support and Other Weapon Support*	11.360	11.401	11.640	-	11.640	11.704	11.731	11.862	11.998	Continuing	Continuing

Remarks

A portion of FY24 Base OMA funding ($2.426 million) provides support for the CORE TENCAP program. The larger portion of the FY24 Base OMA funding ($9.214 million) funds sustainment of deployed CORIAN Counter UAS systems.

D. Acquisition Strategy

The Army Tactical Exploitation of National Capabilities (TENCAP) Core mission is Congressionally mandated. The Secretary of the Army chartered this organization to leverage National Intelligence Community (IC) capabilities for use by the tactical Army. TENCAP subject matter experts, in conjunction with Intelligence Community partners, conduct engineering, prototyping, testing and demonstrations of the Army's ability to receive and exploit next-generation National and commercial space-based intelligence, surveillance and reconnaissance (ISR) data through Army Intelligence collection systems.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** 907 / *Tactical Exploitation Of National Capabilities*

End state: This is an ongoing requirement to ensure that the Army's ability to exploit National and Commercial space-based ISR, to close the deep-sensing gap in Multi-Domain operations, and to enable rapid targeting of threats.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** 907 / *Tactical Exploitation Of National Capabilities*	

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
TENCAP Intelligence Engineers (SETA)	C/CPFF	TBD : Alexandria, VA	30.346	1.500	Jan 2022	1.500	Jan 2023	1.500	Feb 2024	-		1.500	0.000	34.846	Continuing
TENCAP Intelligence Engineers(Matrix Gov)	MIPR	Army Geospatial Cener (AGC) : Alexandria, VA	12.057	1.500	Oct 2022	1.300	Oct 2022	1.600	Jan 2024	-		1.600	0.000	16.457	-
		Subtotal	42.403	3.000		2.800		3.100		-		3.100	0.000	51.303	N/A

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
TENCAP core mission activities	Various	Multiple : Multiple	33.552	8.129	Feb 2022	5.494	Feb 2023	2.616	Jan 2024	-		2.616	0.000	49.791	Continuing
Air Vigilance advanced software development	MIPR	Classified : MIPR	24.251	2.500	Jan 2021	1.800	Jan 2023	4.768	Feb 2024	-		4.768	0.000	33.319	Continuing
TENCAP Engineering (Contractor)	C/TBD	TBD : TBD	-	-		-		2.500	Feb 2024	-		2.500	0.000	2.500	-
TENCAP Radio Frequency Exploitation (TRFE)	MIPR	Classified : Classified	10.146	1.035	Jan 2022	0.850	Jan 2023	1.089	Feb 2024	-		1.089	0.000	13.120	-
Space Datalink	FFRDC	MITRE : Boston, MA	-	-		-		0.125		-		0.125	0.000	0.125	-
		Subtotal	67.949	11.664		8.144		11.098		-		11.098	0.000	98.855	N/A

Support ($ 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
TENCAP Prgm Mgmt-Dir Gov,travel,etc.	Allot	Army TENCAP : Multiple Locations	22.200	2.500	Jan 2022	1.739	Oct 2022	1.707	Jan 2024	-		1.707	0.000	28.146	Continuing
TENCAP Secured Facilities and IT support	MIPR	Army Geospatial Center (AGC) : Alexandria, VA	4.602	0.700	Jan 2022	1.025	Nov 2022	1.210	Feb 2024	-		1.210	0.000	7.537	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	Project (Number/Name) 907 / *Tactical Exploitation Of National Capabilities*	

Support ($ 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
		Subtotal	26.802	3.200		2.764		2.917		-		2.917	0.000	35.683	N/A

Test and Evaluation ($ 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
TENCAP Lab Tests, Exercises, Simulations	MIPR	Multiple : Multiple	3.031	0.400	Jan 2022	0.400	Jan 2023	0.604	Dec 2023	-		0.604	0.000	4.435	Continuing
		Subtotal	3.031	0.400		0.400		0.604		-		0.604	0.000	4.435	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	140.185	18.264		14.108		17.719		-		17.719	0.000	190.276	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** 907 / *Tactical Exploitation Of National Capabilities*

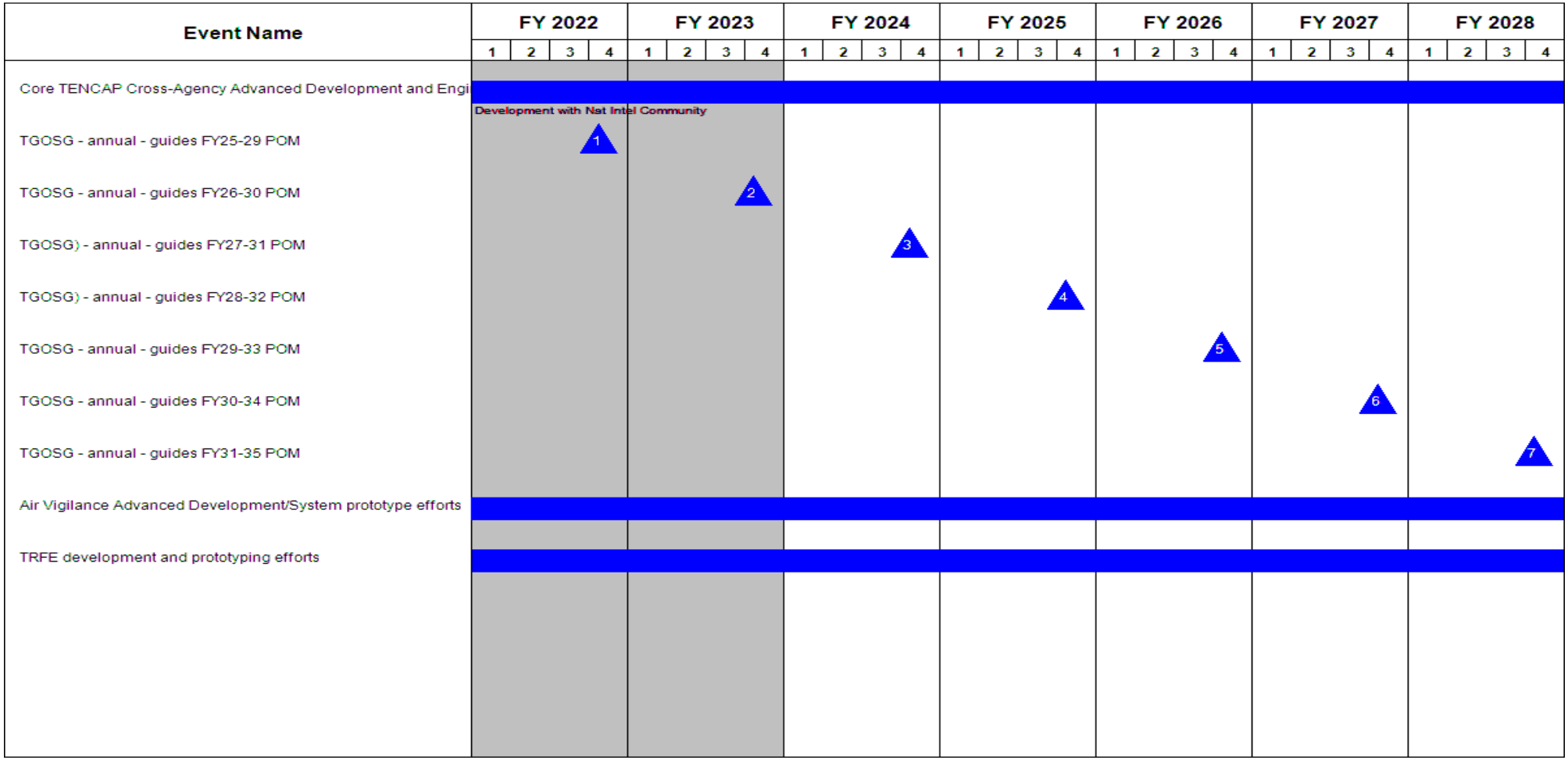

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** 907 / *Tactical Exploitation Of National Capabilities*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Core TENCAP Cross-Agency Advanced Development and Engineering	1	2018	4	2028
TGOSG - annual - guides FY23-27 POM	2	2021	2	2021
TGOSG - annual - guides FY24-28 POM	4	2021	4	2021
TGOSG - annual - guides FY25-29 POM	4	2022	4	2022
TGOSG - annual - guides FY26-30 POM	4	2023	4	2023
TGOSG) - annual - guides FY27-31 POM	4	2024	4	2024
TGOSG) - annual - guides FY28-32 POM	4	2025	4	2025
TGOSG - annual - guides FY29-33 POM	4	2026	4	2026
TGOSG - annual - guides FY30-34 POM	4	2027	4	2027
TGOSG - annual - guides FY31-35 POM	4	2028	4	2028
Air Vigilance Advanced Development/System prototype efforts	3	2013	4	2028
TRFE development and prototyping efforts	1	2018	4	2028
MDSS (realigned to PE 0604036A, Proj BY9 in FY22)	1	2021	4	2021
LEO ISR (realigned to Proj CC5 in FY22)	1	2021	4	2021

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	Project (Number/Name) BX9 / *Tactical Intel Targeting Access Node Adv Develop*	

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
BX9: *Tactical Intel Targeting Access Node Adv Develop*	-	20.003	22.767	20.872	-	20.872	18.274	17.457	17.643	17.841	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

This project funds development and prototyping of space-to-ground station capabilities to provide timely assured access to National and Commercial Space-Based Intelligence, Surveillance, and Reconnaissance (ISR) sensor data supporting commanders' situational understanding (patterns of life, threat intentions, etc.), indications & warnings (detection of enemy mobilization and hostile activity), and intelligence support to targeting (order of battle, electronic target folders, target detection, Battle Damage Assessment, etc.).

Funding for TITAN Advance Development funding will also prototype software analytic capabilities to increase the speed, precision and accuracy of the intelligence cycle through Automated/Assisted Sensor-to-Shooter (S2S) workflows. These capabilities will be integrated into the TITAN Ground Station Program of Record (POR).

FY2024 base funding in the amount of $20.872 million enables the TENCAP program to dedicate appropriate engineering support to improve the TITAN Surrogates, TITAN Pre-Prototypes, and Space Ground Component Kits (SGCK) and ensure they continues to leverage legacy and emergent National Reconnaissance (NRO) Overhead Systems (NOS) and Commercial sensors in collaboration with required systems to receive required products through planned IC architectural changes over time. The SGCK is a component of the TITAN POR that provides TITAN access to space capabilities. The SGCK consists of a mission critical small form-factor antenna, specialized software, Automated Target Recognition tools, and enhanced interoperability with the fires architecture to support the Army's Long Range Precision Fires (LRPF) priority. The SGCK, originally developed by TENCAP, was integrated into the TITAN POR in FY23 and provides, rapid availability of National Reconnaissance Office (NRO) Overhead Systems (NOS) Geospatial Intelligence (GEOINT) and Signal Intelligence (SIGINT) data from Theater, National and Commercial sources. The TITAN Surrogates and TITAN Pre-Prototypes are systems that provide risk reduction and lessons learned to improve the TITAN POR.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Tactical Intelligence Targeting Access Node (TITAN) Adv Development Prototype System	20.003	22.767	20.872
Description: The SGCK is being integrated into the Tactical Intelligence Targeting Access Node (TITAN) POR, and provides the following capability to the Army: 1. Timely, assured intelligence for Long-Range Precision Fires (LRPF) and maneuver in contested and Anti-Access / Area-Denial (A2/AD) environments.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** BX9 / *Tactical Intel Targeting Access Node Adv Develop*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
2. Assured access to ISR sensor data collected at Commercial and National levels. 3. Software analytics capability to enable the intelligence cycle with increased speed, precision, and accuracy. 4. Automated/Assisted Sensor-to-Shooter (S2S) workflows with increased speed, scalability, and accuracy. 5. Modern and consolidated ground station for National and Commercial sensors. ***FY 2023 Plans:*** Continue to develop the Satellite Ground Component Kit (SGCK) using 6.4 Research Development, Test & Evaluation (RDT&E) funds. Integrate the SGCK into the Tactical Intelligence Targeting Access Node (TITAN) Program of Record using 6.5 (integration and tests) RDT&E funds. The integration of this capability will result in rapid availability of National Reconnaissance Office (NRO) Overhead Systems (NOS), Geospatial Intelligence (GEOINT), and Signal Intelligence (SIGINT) capabilities to the Warfighter. Funding will also support the continuation of the following related efforts: development and prototyping of emerging sensor analytics in the TITAN Integration Environment (TIE), development and refinement of small form-factor antenna, and development of Automated Target Recognition tools and enhanced interoperability with the fires architecture to support Army's Long Range Precision Fires (LRPF) priority. ***FY 2024 Plans:*** Improve TITAN Surrogates, TITAN (space) Pre-Prototypes, and Space Ground Component Kits (SGCK) through Pre-Planned Program Improvements (P3I) to ensure they continue to leverage legacy and emergent NOS and Commercial sensors in collaboration with required systems to receive required products through planned IC architectural changes over time. This will be accomplished by integrating planned Commercial and IC space-based sensors. Also, funding will be used to sustain TITAN Surrogates, TITAN (space) Pre-prototypes 1 and 2 delivered to units for experimentation, and SGCKs 1 and 2. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The decrease of $1.895 million between FY23 ($22.767 million) and FY24 ($20.872 million) funding is a result of the improved development process and efficiencies accomplished during TITAN (space) Pre-Prototype development and prototyping efforts.			
Accomplishments/Planned Programs Subtotals	20.003	22.767	20.872

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0605766A: *National Capabilities Integration (MIP)*	13.454	17.030	15.129	-	15.129	16.953	17.358	17.542	17.738	0.000	115.204

Remarks

BX9 development activities are conducted in concert with integration funded in PE 0605766A BV3.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** BX9 / *Tactical Intel Targeting Access Node Adv Develop*

D. Acquisition Strategy

The TITAN (space) Pre-Prototype requirement was validated by the TENCAP General Officer Steering Group (TGOSG) in April 2019. In order to maximize agility and innovation in acquisition, TENCAP worked with the Defense Innovation Unit (DIU) to establish an Other Transaction Authority (OTA) agreement to develop the TITAN (space) Pre-Prototype and follow-on SGCK capabilities. The TITAN (space) Pre-Prototype provides a modernized, deployable, ground station capable of rapidly and semi-autonomously tasking, receiving, processing, exploiting, fusing, and disseminating space-based sensor data to provide networked situational awareness and direct tactical support to Army commanders at echelon. The TITAN (space) Pre-Prototype continues to reduce Sensor-to-Shooter (S2S) latency to allow timely intelligence support to the commander. The TITAN (space) Pre-Prototype uses an agile acquisition strategy and will continue to maximize non-proprietary / modular open system architectures (MOSA), to enable easy upgrade of software/ firmware, analytics/algorithms, and ingest additional data streams as commercial vendors and national data become available. This OTA was preceded by Soldier touchpoints to inform this acquisition, and Soldier engagement is planned throughout the development and demonstration of the TITAN (space) Pre-Prototype. The capabilities successfully demonstrated in the TITAN (space) Pre-Prototype are used to develop the SGCK that is integrated into the TITAN POR and will be improved and updated as required to ensure continued effectivity throughout planned National Overhead System Architecture changes. The capabilities and interfaces will be improved and updated as required to ensure continued effectivity throughout planned National Overhead System Architecture changes.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	Project (Number/Name) BX9 / *Tactical Intel Targeting Access Node Adv Develop*	

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
TITAN Engineering Services	MIPR	Army Geospatial Center (AGC) : Alexandria, VA	0.001	1.500	Jan 2022	1.500	Jan 2023	1.369	Jan 2024	-		1.369	0.000	4.370	-
		Subtotal	0.001	1.500		1.500		1.369		-		1.369	0.000	4.370	N/A

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
TITAN (space) Pre-Prototype Development	C/FFP	Northrup Grumman : Aurora, CA	0.001	15.503	Jan 2022	18.102	Nov 2022	11.334	Feb 2024	-		11.334	0.000	44.940	-
		Subtotal	0.001	15.503		18.102		11.334		-		11.334	0.000	44.940	N/A

Support ($ 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
TITAN (space) Pre-Prototype Operations and Support	MIPR	Army TENCAP : Alexandria, VA	0.001	2.000	Jan 2022	2.150	Oct 2022	7.242	Feb 2024	-		7.242	0.000	11.393	-
		Subtotal	0.001	2.000		2.150		7.242		-		7.242	0.000	11.393	N/A

Test and Evaluation ($ 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
TITAN (space) Pre-Prototype Test and Exercises	MIPR	Multiple : Miltiple	0.001	1.000	Jan 2022	1.015	Jan 2023	0.927	Jan 2024	-		0.927	0.000	2.943	-
		Subtotal	0.001	1.000		1.015		0.927		-		0.927	0.000	2.943	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	Project (Number/Name) BX9 / *Tactical Intel Targeting Access Node Adv Develop*	

	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	0.004	20.003		22.767		20.872		-		20.872	0.000	63.646	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** BX9 / *Tactical Intel Targeting Access Node Adv Develop*

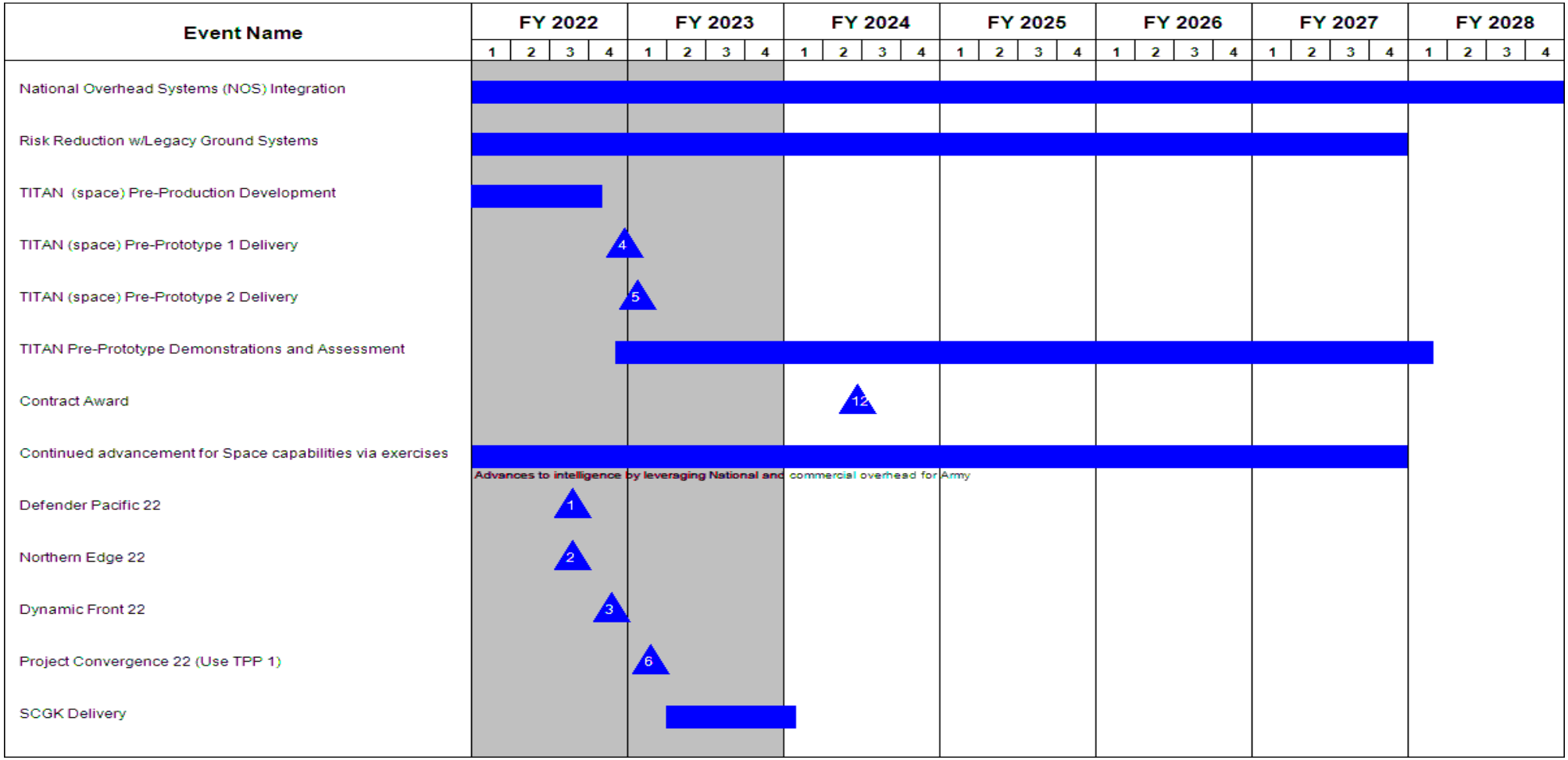

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** BX9 / *Tactical Intel Targeting Access Node Adv Develop*

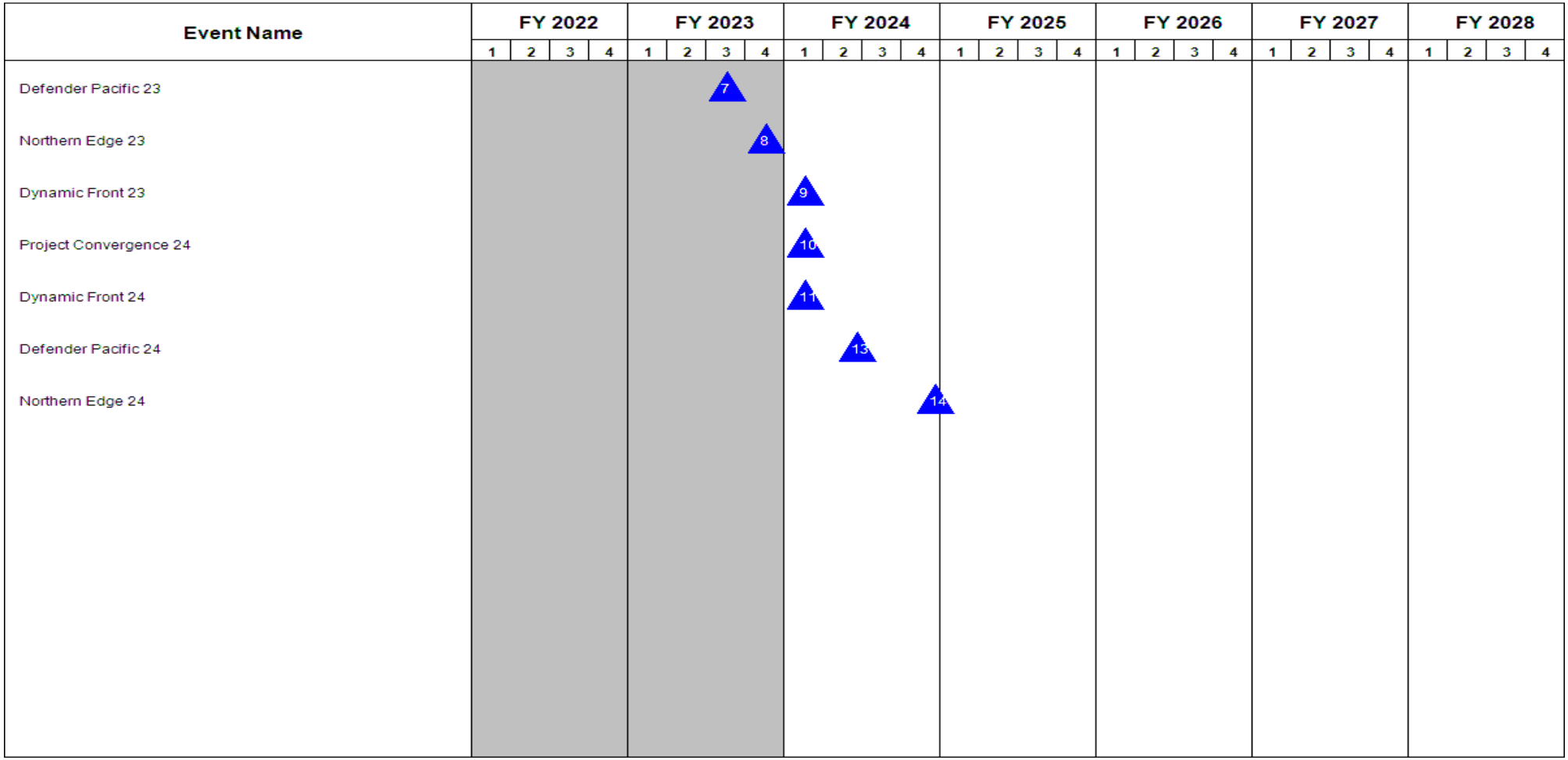

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** BX9 / *Tactical Intel Targeting Access Node Adv Develop*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
National Overhead Systems (NOS) Integration	1	2021	4	2028
Risk Reduction w/Legacy Ground Systems	1	2020	4	2027
TITAN (space) Pre-Production Development	4	2020	4	2022
TITAN (space) Pre-Prototype 1 Delivery	4	2022	4	2022
TITAN (space) Pre-Prototype 2 Delivery	1	2023	1	2023
TITAN Pre-Prototype Demonstrations and Assessment	4	2022	1	2028
Contract Award	2	2024	2	2024
Continued advancement for Space capabilities via exercises	1	2022	4	2027
Defender Pacific 22	3	2022	3	2022
Northern Edge 22	3	2022	3	2022
Dynamic Front 22	4	2022	4	2022
Project Convergence 22 (Use TPP 1)	1	2023	1	2023
SCGK Delivery	2	2023	1	2024
Defender Pacific 23	3	2023	3	2023
Northern Edge 23	4	2023	4	2023
Dynamic Front 23	1	2024	1	2024
Project Convergence 24	1	2024	1	2024
Dynamic Front 24	1	2024	1	2024
Defender Pacific 24	2	2024	2	2024
Northern Edge 24	4	2024	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	Project (Number/Name) CC5 / *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*	

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
CC5: *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*	-	75.098	35.439	26.976	-	26.976	2.372	1.967	2.056	2.079	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

Low Earth Orbit (LEO) Intelligence, Surveillance and Reconnaissance (ISR) directly supports the Army Assured Position Navigation and Timing/Space (APNT/S) and Long Range Precision Fires (LRPF) modernization priorities.

The LEO ISR effort will provide prototyping, development, and experimentation of High Altitude and Tactical Space Layer (TSL) sensors (including electro optical, synthetic aperture radar, radio frequency, and hyperspectral) and space-based Alternative Positioning, Navigation, and Timing (ALTPNT) systems, which are designed to provide wide-area, responsive, deep-area sensing and alternative signal sources required for beyond-line-of-sight (BLOS) targeting and force maneuver. The BLOS sensing will significantly reduce Sensor-to-Shooter (S2S) timelines and reliance on current, at-risk signal sources. Follow-on, persistent, prototype, tactical sensor and alternative signal capabilities will be integrated with the Army Tactical Intelligence Targeting Access Node (TITAN) ground station and theater gateways. The prototype sensor capabilities will provide direct tasking, assured access, and freedom of maneuver directly supporting live-fire, S2S demonstrations and assessments.

FY2024 Base funding in the amount of $26.976 million provides prototyping, experimentation, and risk reduction activities to space-based sensor and ALTPNT prototype systems, supporting wide-area, responsive, and deep-area sensing and force maneuver. It will enable ground stations to dynamically task, receive and disseminate data to directly support live-fire S2S demonstrations and assessments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: CC5 / Low Earth Orbit (LEO) Intel Surv Recon (ISR)	75.098	35.439	26.976
Description: The LEO ISR effort provides prototyping, development and experimentation of High Altitude and Tactical Space Layer (TSL) prototype sensors (including electro-optical, synthetic aperture radar, and radio frequency). These sensors are designed to provide wide-area, responsive, deep-area sensing required for beyond-line-of-sight (BLOS) targeting and force maneuver, and will significantly reduce Sensor-to-Shooter (S2S) timelines. Follow-on persistent prototype tactical sensor capabilities will be integrated with the Army TITAN ground station and theater gateways, which will provide direct tasking and assured access directly supporting live-fire S2S demonstrations and assessments.			
FY 2023 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** CC5 / *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funding provides for follow-on prototype development and experimentation of High Altitude and Tactical Space Layer sensor test beds, which will be integrated with the Army TITAN ground station and ATHENA gateways, to provide direct tasking and assured access directly supporting live-fire STS demonstrations and assessments. ***FY 2024 Plans:*** Funding provides for follow-on development, experimentation and support of prototype High Altitude and Tactical Space Layer sensor test beds (electro optical, synthetic aperture radar, radio frequency, and hyperspectral) and space-based Alternative Positioning, Navigation, and Timing (ALTPNT) systems, which will be integrated with the Army TITAN ground station and theater gateways to provide direct tasking and assured access directly supporting live-fire S2S demonstrations and assessments and Project Convergence events. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The decrease of $8.463M from FY 2023 ($35.439 million) down to FY 2024 ($26.976 million) is part of a planned reduction of CC5 investment that reflects the successful development, prototyping, and risk reduction activities of space-based sensor hardware and software. Initial stages of both the Geospatial Intelligence and Alternate Position Navigation and Timing systems required a significant outlay of funds during initial years for Non-Recurring Engineering and Long-lead items in order to develop the sensors and to ensure transport of the sensors on space vehicles developed in conjunction with the IC and Space Development Agency. Once initial costs were provided to the project partners in initial years, costs in later years are reduced to support testing and accomplishment of initial objectives.			
Accomplishments/Planned Programs Subtotals	75.098	35.439	26.976

C. Other Program Funding Summary ($ in Millions)

Line Item	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
• 0604035A: *Low Earth Orbit (LEO) Satellite Capability*	18.922	35.509	38.851	-	38.851	22.457	22.893	23.069	23.327	Continuing	Continuing

Remarks

Development by Project CC5 "LEO ISR" are in conjunction and complement efforts funded by Project BX7 "LEO Satellite Capability." ref. PE 0604035A.BX7

D. Acquisition Strategy

The LEO ISR effort supports work with the Intelligence Community (IC), our Mission Partner, and the Space Development Agency on the prototyping, development, experimentation and support of High Altitude and Tactical Space Layer (TSL) prototype sensors (including electro optical, synthetic aperture radar, radio frequency, and hyperspectral), and Alternative Positioning, Navigation, and Timing (ALTPNT) systems. These sensors are designed to provide wide-area, responsive, deep-area sensing required for BLOS targeting and force maneuver, significantly reducing S2S timelines. Follow-on, persistent, prototype tactical sensor capabilities (FY

Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** CC5 / *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*

2024-2025) will be integrated with the Army TITAN ground station and theater gateways, which will provide direct tasking, assured access, and freedom of maneuver directly supporting live-fire S2S demonstrations and assessments. Existing Mission Partner contracts and Aviation & Missile Technology Consortium (AMTC) Other Transaction Authority (OTAs) will be used for prototype development, engineering services and test and evaluation support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	Project (Number/Name) CC5 / *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*	

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
LEO Prototype Development and Engineering Services Support	C/FFP	A-PNT /S : Multiple Locations	-	5.000	Oct 2021	4.000	Jun 2023	3.000	Jun 2024	-		3.000	0.000	12.000	-
		Subtotal	-	5.000		4.000		3.000		-		3.000	0.000	12.000	N/A

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
LEO Development (Classified)	MIPR	TBD : TBD	-	58.598	Jan 2022	26.939	Jan 2023	20.576	Jan 2024	-		20.576	0.000	106.113	-
		Subtotal	-	58.598		26.939		20.576		-		20.576	0.000	106.113	N/A

Support ($ 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
LEO Program MGMT	TBD	APNT CFT/S : Huntsville, AL	-	3.500	Oct 2021	2.500	Jun 2023	1.900	Jun 2024	-		1.900	0.000	7.900	-
		Subtotal	-	3.500		2.500		1.900		-		1.900	0.000	7.900	N/A

Test and Evaluation ($ 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
LEO Prototype Tests and Evaluations	TBD	Multiple : Multiple	-	8.000	Jan 2022	2.000	Jan 2023	1.500	Jan 2024	-		1.500	0.000	11.500	-
		Subtotal	-	8.000		2.000		1.500		-		1.500	0.000	11.500	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	Project (Number/Name) CC5 / *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*	

	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	-	75.098	35.439	26.976	-	26.976	0.000	137.513	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** CC5 / *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*

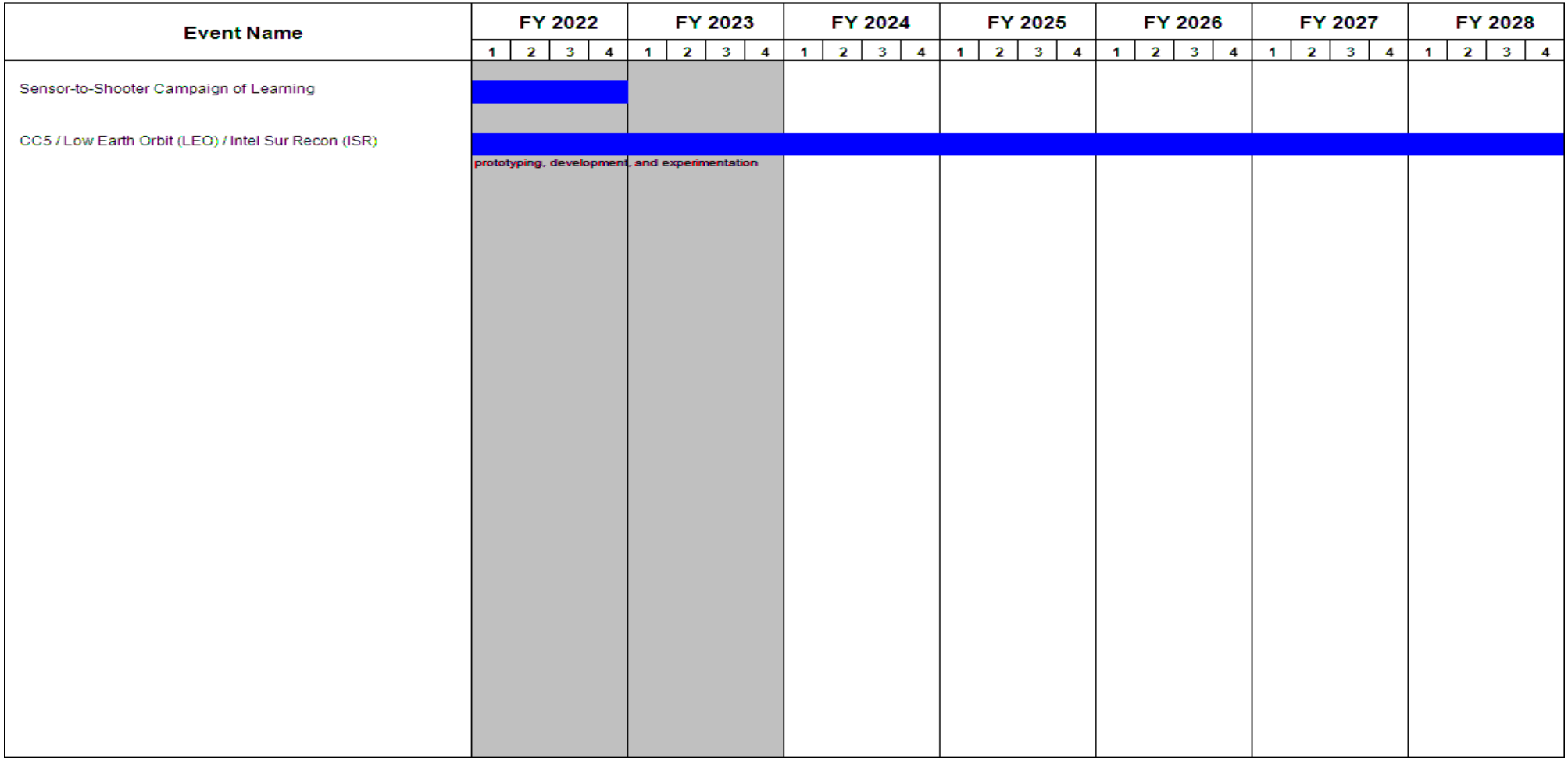

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603766A / *Tactical Electronic Surveillance System - Adv Dev*	**Project (Number/Name)** CC5 / *Low Earth Orbit (LEO) / Intel Surv Recon (ISR)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Sensor-to-Shooter Campaign of Learning	1	2022	4	2022
CC5 / Low Earth Orbit (LEO) / Intel Sur Recon (ISR)	1	2022	4	2028