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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Army **Date:** May 2021

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|---|---|
| Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD) | R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP) |
|---|---|

| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
|--|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | - | 7.835 | 7.670 | 14.454 | - | 14.454 | - | - | - | - | - | - |
| BV3: Technical Intel Targeting Access Node (TITAN) | - | - | - | 5.729 | - | 5.729 | - | - | - | - | - | - |
| DX9: National Integration To Tactical Systems | - | 4.490 | 4.219 | 2.796 | - | 2.796 | - | - | - | - | - | - |
| EX7: Air Vigilance System Development | - | 3.345 | 3.451 | 5.929 | - | 5.929 | - | - | - | - | - | - |

Note

Project BV3 is not a new start. BV3 continues work funded by Projects 907 and DX9 in prior fiscal years on Legacy systems, i.e. AMDAS, ADV/RGT, with funds realigned into Project BV3 for TITAN (space-ground sensor) Prototype in FY2022.

A. Mission Description and Budget Item Justification

National Integration to Tactical Systems provides centralized monitoring and synchronization by the Army's Tactical Exploitation of National Capabilities (TENCAP) office, for the transition and integration of proven advanced technologies, prototypes and standards developed by the National Intelligence Community (IC) into Army systems and Programs of Record. This Program Element includes funding for System Development, Integration and Testing for the Tactical Intelligence Targeting Access Node (TITAN) providing Assured access to Space Intelligence, Surveillance, and Recognizance (ISR): National, Commercial and Theater sensors. In addition, this PE includes System Development and Integration funds for the Air Vigilance Program of Record (POR). It also enables efficient use and oversight of system development funds for final stage integration, development, and testing of successful technologies and prototypes to advance, or make compliant, Army systems and Programs of Record that have or use National capabilities.

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Army | Date: May 2021 |
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| Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i> | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> |
|--|--|

| B. Program Change Summary (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 7.835 | 7.670 | 11.671 | - | 11.671 |
| Current President's Budget | 7.835 | 7.670 | 14.454 | - | 14.454 |
| Total Adjustments | 0.000 | 0.000 | 2.783 | - | 2.783 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Adjustments to Budget Years | - | - | 2.783 | - | 2.783 |

Change Summary Explanation

BV3 is not a new start. Project BV3 'TITAN Prototype' efforts were previously funded in Projects 907 'TENCAP' and DX9 'National Integration to Tactical Systems'.
Adjustment to FY 2022 due to internal Army realignments to priority efforts.

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 Army | | | | | | | | | | Date: May 2021 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | | | | Project (Number/Name) BV3 / <i>Technical Intel Targeting Access Node (TITAN)</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| BV3: <i>Technical Intel Targeting Access Node (TITAN)</i> | - | - | - | 5.729 | - | 5.729 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

All funding is in support of the ACTIVE COMPONENT. This is not a new start. BV3 continues work funded by Project DX9 in prior fiscal years, with funds realigned into Project BV3 in FY2022.

A. Mission Description and Budget Item Justification

Tactical Intelligence Targeting Access Node (TITAN) (space) Prototype system will provide timely assured intelligence for Long Range Precision Fires (LRPF) and maneuver in contested and Anti-access area-denial (A2AD) environments; Assured access to Space Intelligence, Surveillance, and Recognizance (ISR): National, Commercial and Theater sensors; Software Analytics capability to enable the intelligence cycle with increased speed, precision and accuracy Automated/Assisted Sensor-to-Shooter workflows: speed, scalability, accuracy to support LRPF in an A2AD environment; Modern and consolidated ground station for National, Commercial, and Theater sensors. TITAN (space) Prototype realigned from TENCAP into Project BV3 effective FY2022.

FY2022 base funds in the amount of \$5.729 million provide for continued integration of new ingest and processing capabilities into the TITAN prototype system and sub systems that will provide rapid availability of National Overhead Systems (NOS) geospatial intelligence (GEOINT) and signal intelligence (SIGINT) capabilities and Remote Ground Terminal (RGT) capabilities to include: Access to emerging Low Earth Orbit (LEO) constellations; and improved downlink, ingest and processing of commercial and government remote sensing data. Also, continues the integration and refinement of automated/assisted target recognition and integration with the fires architecture..

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| Title: BV3 / Tactical Intelligence Targeting Access Node (TITAN) Prototype System | - | - | 5.729 |
| Description: Tactical Intelligence Targeting Access Node (TITAN) prototype system will provide timely assured intelligence for Long Range Precision Fires (LRPF) and maneuver in contested and Anti-access area-denial (A2AD) environments. TITAN provides assured access to Space Intelligence, Surveillance, and Recognizance (ISR): National, Commercial and Theater sensors; Software Analytics capability to enable the intelligence cycle with increased speed, precision and accuracy Automated/Assisted Sensor-to-Shooter workflows: speed, scalability, accuracy to support LRPF in an A2AD environment; and is the Army's modern and consolidated ground station for National, Commercial, and Theater sensors. | | | |
| FY 2022 Plans: Continue the integration of new ingest and processing capabilities into the TITAN prototype system and sub systems that will provide rapid availability of National Reconnaissance Office (NRO) Overhead Systems (NOS) Geospatial Intelligence (GEOINT) | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 Army | Date: May 2021 |
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| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) BV3 / <i>Technical Intel Targeting Access Node (TITAN)</i> |
|--|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2020 | FY 2021 | FY 2022 |
|--|---------|---------|---------|
| and Signal Intelligence (SIGINT) capabilities and Ground Terminal (RGT) capabilities to include access to emerging Low Earth Orbit (LEO) constellations, improved downlink, ingest and processing of commercial and government remote sensing data. Continue the integration and refinement of automated/assisted target recognition and integration with the fires architecture to support Army's #1 priority, Long Range Precision Fires (LRPF). | | | |
| <i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Project transitions from Project DX9 to BV3 in FY2022. | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 5.729 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| Line Item | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| • 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i> | 37.490 | 182.400 | 113.365 | - | 113.365 | - | - | - | - | - | - |

Remarks

D. Acquisition Strategy
 The TITAN prototype requirement was validated by the TENCAP General Officer Steering Group in April 2019. In order to maximize agility and innovation in acquisition, TENCAP is working with the Defense Innovation Unit to establish an Other Transaction Authority agreement to develop the TITAN prototype. The TITAN prototype will provide 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 Prototype will reduce sensor to shooter latency to provide timely intelligence support to the commander. The TITAN prototype will use an agile acquisition strategy, and will maximize non-proprietary / open system architectures to enable easy upgrade of software/firmware, analytics/algorithms, and ingest additional data streams as commercial vendors and national data become available. This OTA has been preceded by Soldier touchpoints to inform this acquisition, and Soldier engagement is planned throughout the development and demonstration of the prototype.

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army | | | | | | | | | | | | Date: May 2021 | | | |
|--|------------------------|--------------------------------|-------------|---|------------|---------|------------|---|------------|-------------|------------|----------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity | | | | R-1 Program Element (Number/Name) | | | | Project (Number/Name) | | | | | | | |
| 2040 / 5 | | | | PE 0605766A / National Capabilities Integration (MIP) | | | | BV3 / Technical Intel Targeting Access Node (TITAN) | | | | | | | |
| Management Services (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| TITAN (space) Prototype Engineering Services | C/CPFF | Perspecta : Alexandria, VA | - | - | | - | | 0.329 | Jan 2022 | - | | 0.329 | 0.000 | 0.329 | - |
| Subtotal | | | - | - | | - | | 0.329 | | - | | 0.329 | 0.000 | 0.329 | N/A |
| Product Development (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| TITAN (space) Prototype | C/FFP | Northrup Grumman : Aurora, CA | - | - | | - | | 4.500 | Jan 2022 | - | | 4.500 | 0.000 | 4.500 | - |
| Subtotal | | | - | - | | - | | 4.500 | | - | | 4.500 | 0.000 | 4.500 | N/A |
| Support (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| TITAN (space) Prototype Development | C/FFP | Army TENCAP : Alexandria, VA | - | - | | - | | 0.500 | Jan 2022 | - | | 0.500 | 0.000 | 0.500 | - |
| Subtotal | | | - | - | | - | | 0.500 | | - | | 0.500 | 0.000 | 0.500 | N/A |
| Test and Evaluation (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test and Exercises for TITAN (space) Prototype Development | C/FFP | Multiple : Multiple | - | - | | - | | 0.400 | Jan 2022 | - | | 0.400 | 0.000 | 0.400 | - |
| Subtotal | | | - | - | | - | | 0.400 | | - | | 0.400 | 0.000 | 0.400 | N/A |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army | | | | | | | | Date: May 2021 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | | | | Project (Number/Name) BV3 / <i>Technical Intel Targeting Access Node (TITAN)</i> | | | |
| | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | Cost To Complete | Total Cost | Target Value of Contract | | |
| Project Cost Totals | - | - | 0.000 | 5.729 | - | 5.729 | 0.000 | 5.729 | N/A | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army | | | Date: May 2021 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | | Project (Number/Name) BV3 / <i>Technical Intel Targeting Access Node (TITAN)</i> | |

| Event Name | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | |
|---|------------|---|---|---|------------|---|---|---|------------|---|---|---|------------|---|---|---|------------|---|---|---|------------|---|---|---|---------|---|---|---|
| | 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 |
| Risk Reduction w/Legacy Ground Systems | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | | | | | | | | | | | | | |
| TITAN Pre-Production Development | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | | | | | | | | | |
| Tactical Intelligence Targeting Access Node | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | |
| TITAN Prototype | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | | | | | | | | | | | | | |
| TTITAN Prototype Delivery | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | | | | | | | | | |
| TITAN Prototype Assessment | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | | | | | | | | | |
| Operational Leave Behind | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | | | | | |
| TITAN P3I Efforts | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | ██████████ | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army | | Date: May 2021 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) BV3 / <i>Technical Intel Targeting Access Node (TITAN)</i> |

Schedule Details

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Risk Reduction w/Legacy Ground Systems | 1 | 2020 | 2 | 2022 |
| TITAN Pre-Production Development | 4 | 2020 | 2 | 2023 |
| Tactical Intelligence Targeting Access Node | 1 | 2021 | 4 | 2026 |
| TITAN Prototype | 1 | 2021 | 2 | 2022 |
| TTITAN Prototype Delivery | 3 | 2022 | 3 | 2022 |
| TITAN Prototype Assessment | 3 | 2022 | 2 | 2023 |
| Operational Leave Behind | 2 | 2023 | 2 | 2023 |
| TITAN P3I Efforts | 3 | 2023 | 4 | 2026 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 Army | | | | | | | | | | Date: May 2021 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | | | | Project (Number/Name) DX9 / <i>National Integration To Tactical Systems</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| DX9: <i>National Integration To Tactical Systems</i> | - | 4.490 | 4.219 | 2.796 | - | 2.796 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

National Integration to Tactical Systems provides for centralized monitoring and synchronization by the Army's Tactical Exploitation of National Capabilities (TENCAP) office for the transition and integration of new, updated, and emerging National Intelligence Community (IC) technologies, capabilities, and standards into Programs of Record across the Army to: (1) maintain operational relevance of Army programs and address changes in technology and the threat, (2) ensure Army programs maintain interoperability with and access to the National community architecture and systems, and (3) advance Army ability to conduct analysis and tasking, collection, processing, exploitation, dissemination and feedback (TCPEDF) of intelligence data.

FY 2022 Base funding in the amount of \$2.796 million provides integration funds for two (2) validated National Intel Community (IC) efforts: (1) National Intelligence system development and integration of tactical systems and (2) TENCAP Radio Frequency Exploitation (TRFE) funds the system development and integration efforts.

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| <p>Title: Army TNG Integration - Airborne Overhead Cooperative Operations (AOCO) / Theater Net-Centric Geolocation (TNG)</p> <p>Description: National Intelligence Community (IC) standard for interoperability and use of specific intelligence networked capabilities.</p> <p>FY 2021 Plans: Continues to provide funds to specified Army Programs of Record (PORs) for final-stage software development and integration efforts, ensuring their compliance to the National requirement and standards that enables these PORs to be interoperable within this National Intelligence Community (IC) "Theater Net-Centric Geolocation (TNG)" network for joint tactical use and improved Army battlefield awareness. (ref. CJCSI 32450.61, AOCO 13 January 2012)</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Beginning in FY2022 the TNG Integration funding realigns and is supported by individual POR's requiring AOCO/TNG compliance.</p> | 3.088 | 3.150 | - |
| <p>Title: TENCAP Radio Frequency Exploitation (TRFE)</p> | 1.402 | 1.069 | 0.500 |

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| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) DX9 / <i>National Integration To Tactical Systems</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2020 | FY 2021 | FY 2022 |
| <p>Description: Capability software that informs, influences and enhances MULTI-INT sensor systems within Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S) such as Terrestrial Layer System (TLS) by targeting modern digital communications systems employed by near-peer nation state armies. Assists with Battlespace Radio frequency (RF) Characterization for modern communication environments with the intent to synchronize Signal Intelligence (SIGINT), Cyber and Electronic Warfare operations. Utilizes commercial industry components and architectures to minimize hardware costs, risk and maximizes scalability/modularity.</p> <p>FY 2021 Plans: Continues integration of TRFE cognitive, software-based, SIGINT-Enabled, Electronic-Warfare-and-Cyber-Attack prototype capability focused on countering Peer-State and modern communication targets and threats. Will inform and potentially transition to the POR Terrestrial Layer System (TLS).</p> <p>FY 2022 Plans: Integrates the open, government-owned software framework enabling Signal Intelligence (SIGINT), Electronic Warfare and Cyber capabilities into Program of Records (PoR)s.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Changes from prototype integration to software integration.</p> | | | | |
| <p>Title: National Integration to Tactical Systems</p> <p>Description: National Integration provides for cost-saving enhancements developed by Army TENCAP's BA 6.4 Project 907 along with the integration and transition of new, updated and emerging National Intelligence Community technologies and capabilities into Program of Records (POR)s.</p> <p>FY 2022 Plans: Funds the system development and integration of National sensors, architectures and capabilities into Army programs as directed by the Tactical Exploitation of National Capabilities (TENCAP) General Officers' Steering Group (GOSG), to ensure National Overhead Systems (NOS) directly support Army warfighters during Large Scale Ground Combat Operations.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increases exploitation and integration of national intelligence community (IC) capabilities to leverage IC investments to support Army modernization priorities.</p> | | - | - | 2.296 |
| Accomplishments/Planned Programs Subtotals | | 4.490 | 4.219 | 2.796 |

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C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i> | 37.490 | 182.400 | 113.365 | - | 113.365 | - | - | - | - | - | - |
| • OMA - 122011 OMA: <i>Contractor Logistics Support and Other Weapon Support, OMA 122011</i> | - | 2.132 | - | - | - | - | - | - | - | - | - |
| • OMA - 122021 OMA: <i>Contractor Logistics Support and Other Weapon, OMA 122021 Support</i> | - | - | 11.360 | - | 11.360 | - | - | - | - | - | - |

Remarks

D. Acquisition Strategy

The 'National Integration To Tactical Systems funds provide for transition and integration of National Intelligence Community (IC) advanced technologies and prototypes leveraged by the Army's Tactical Exploitation of National Capabilities (TENCAP) program office. The Army TENCAP acquisition strategy is driven by an annual TENCAP General Officer Steering Group (TGOSG), co-chaired by the Army G2; Army G8; and the Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology [ASA(ALT)]; and includes representatives from the Army G3; Army G6; Army Futures Command Intelligence-Capability Development and Integration Directorate; Army Training and Doctrine Command (TRADOC); and the Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S). The TGOSG reviews, validates, prioritizes, and guides Army TENCAP efforts, according to Army and Defense strategy. Based on this TGOSG guidance, Army TENCAP invests BA 6.4 RDTE in Intelligence Community (IC) developments during the more cost-effective advanced development phase to ensure Army requirements are met with minimal redundancy with Army investments. Army TENCAP then uses BA 6.5 RDTE to manage the transition of these advanced development efforts through system development and integration into Army Programs of Record (POR). This strategy ensures these leveraged investments remain viable through multiple budget cycles, significantly increasing successful transition to recipient Army POR. Army TENCAP facilitates the continued access to National Intel Community (IC) 'joint' efforts and compatibility with those National standards and software baseline for those Army PORs that benefit from these leveraged National IC technologies, resulting in cost-savings through cost-sharing, and Army participation in collaborative Intelligence. Funds will be used for final-stage integration efforts identified and vetted through the Army TENCAP annual TGOSG.

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army | | | | | | | | | | | | Date: May 2021 | | | |
|--|------------------------|---|-------------|---|------------|---------|------------|--|------------|-------------|------------|----------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity | | | | R-1 Program Element (Number/Name) | | | | Project (Number/Name) | | | | | | | |
| 2040 / 5 | | | | PE 0605766A / National Capabilities Integration (MIP) | | | | DX9 / National Integration To Tactical Systems | | | | | | | |
| Management Services (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| TNG Engineers | MIPR | Multiple : Multiple | 1.333 | 0.115 | Jan 2020 | 0.150 | Jan 2021 | - | | - | | - | 0.000 | 1.598 | Continuing |
| National Integration Engineers | MIPR | Perspecta : Alexandria, VA | - | - | | - | | 0.120 | Jan 2022 | - | | 0.120 | 0.000 | 0.120 | - |
| Subtotal | | | 1.333 | 0.115 | | 0.150 | | 0.120 | | - | | 0.120 | 0.000 | 1.718 | N/A |
| Product Development (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| TNG for Multiple Army PORs | MIPR | Multiple : Multiple | 33.660 | 2.250 | Jan 2020 | 3.000 | Jan 2021 | - | | - | | - | 0.000 | 38.910 | Continuing |
| TRFE | MIPR | Classified : Classified | 2.327 | 1.100 | Jan 2020 | 1.069 | Jan 2021 | 0.462 | Jan 2021 | - | | 0.462 | 0.000 | 4.958 | Continuing |
| National Integration | MIPR | Multiple : Multiple | - | - | | - | | 1.691 | Jan 2022 | - | | 1.691 | 0.000 | 1.691 | - |
| Subtotal | | | 35.987 | 3.350 | | 4.069 | | 2.153 | | - | | 2.153 | 0.000 | 45.559 | N/A |
| Support (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| TNG Support Costs | Allot | PEO IEW&S/PM SAI : Aberdeen Proving Grounds, MD | 0.794 | 0.550 | Jan 2020 | - | | - | | - | | - | 0.000 | 1.344 | Continuing |
| National Integration Program Management | MIPR | PEO IEW&S/PM SAI : Aberdeen Proving Grounds, MD | - | - | | - | | 0.373 | Jan 2022 | - | | 0.373 | 0.000 | 0.373 | - |
| Subtotal | | | 0.794 | 0.550 | | - | | 0.373 | | - | | 0.373 | 0.000 | 1.717 | N/A |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army | | Date: May 2021 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) DX9 / <i>National Integration To Tactical Systems</i> |

| Event Name | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| Theater Net-centric Geolocation (TNG) Interoperability Standard | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TRFE Software Integration Effort | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| National Integration System Development & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army | | Date: May 2021 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) DX9 / <i>National Integration To Tactical Systems</i> |

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Theater Net-centric Geolocation (TNG) Interoperability Standards | 2 | 2014 | 4 | 2021 |
| TRFE Software Integration Effort | 1 | 2018 | 4 | 2025 |
| National Integration System Development & Integration | 1 | 2022 | 1 | 2027 |

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|--|--------------------|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|-----------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2022 Army | | | | | | | | | | Date: May 2021 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | | | | Project (Number/Name) EX7 / <i>Air Vigilance System Development</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2020 | FY 2021 | FY 2022 Base | FY 2022 OCO | FY 2022 Total | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To Complete | Total Cost |
| <i>EX7: Air Vigilance System Development</i> | - | 3.345 | 3.451 | 5.929 | - | 5.929 | - | - | - | - | - | - |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

Air Vigilance systems are a software based solution that collect critical intelligence data on emerging threat aerial systems. The intelligence data provides early warning of operations in restricted airspace to ensure force protection. An Air Vigilance system is comprised of a server unit configured and fielded with a single or multiple sub-component sensors. System Quantities are based upon server units. Operational details are classified.

FY2022 Base funding in the amount of \$5.929 million provides for system development and integration of latest software developments and hardware configurations in accordance with Capability Drop (CD) requirements and in response to emerging threat.

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

| | FY 2020 | FY 2021 | FY 2022 |
|--|----------------|----------------|----------------|
| Title: Air Vigilance System Development and Integration | 3.345 | 3.451 | 5.929 |
| Description: Software and hardware engineering, development and integration efforts. | | | |
| FY 2021 Plans: Will provide for software development and integration to ingest latest collected sensor data into the common baseline and enhance system capabilities to meet newly identified threats and latest Capability Drop requirements. | | | |
| FY 2022 Plans: Will provide for software development and integration to ingest latest collected sensor data into the common baseline and enhance system capabilities to meet newly identified threats and latest Capability Drop requirements. | | | |
| FY 2021 to FY 2022 Increase/Decrease Statement: The AV POR is currently scheduled to complete latest CD requirement; and with the proliferation of active sensors, the POR will need to continue to pace the evolving threat. | | | |
| Accomplishments/Planned Programs Subtotals | 3.345 | 3.451 | 5.929 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2022 Army | | Date: May 2021 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) EX7 / <i>Air Vigilance System Development</i> |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2020 | FY 2021 | FY 2022 | FY 2022 | FY 2022 | FY 2023 | FY 2024 | FY 2025 | FY 2026 | Cost To | |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i> | 37.490 | 182.400 | 113.365 | - | 113.365 | - | - | - | - | - | - |
| • W60001: <i>AIR VIGILANCE (AV)</i> | 8.953 | 8.160 | 13.486 | - | 13.486 | - | - | - | - | - | - |

Remarks

D. Acquisition Strategy

Air Vigilance (AV) is an Acquisition Category (ACAT) III Automated Information System (AIS) program of record (POR) that originated from a Quick Reaction Capability (QRC) developed and fielded cooperatively with the Intelligence Community (IC) through the efforts and mission of the Army's Tactical Exploitation of National Capabilities (TENCAP) office. The QRC was transitioned into an Army AIS POR by the AAE in May 2013 and assigned to Army Program Executive Office - Intelligence Electronic Warfare and Sensors (PEO IEWS), the chartered acquisition authority for management and execution of the Army's TENCAP mission and Milestone Decision Authority (MDA) for the AV POR. The Army TENCAP continues to leverage the IC common software development and support contract to field the AV systems, and ensure this primarily software based system can continue to access and leverage the common software, and input or ingest the latest sensor collects into the common Intelligence Community (IC) data library. As an AIS POR, the AV POR is currently fielding systems per its Basis of Issue Plan (BOIP) and with software and system capabilities that meet its latest validated Capability Drop (CD) requirements. The AV POR will continue to evolve to meet future validated Capability Drop requirements and maintain its effectiveness against emerging threats.

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army | | | | | | | | | | | | Date: May 2021 | | | | |
|--|------------------------|---|-------------|--|------------|---------|------------|--------------|------------|---|------------|----------------|------------------|------------|--------------------------|--|
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP) | | | | | | Project (Number/Name) EX7 / Air Vigilance System Development | | | | | | |
| Management Services (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| System Engineers and Technical Assistance (SETA) | Option/CPFF | Perspecta : Alexandria, VA | 0.992 | 0.530 | Jan 2020 | 0.550 | Mar 2021 | 1.300 | Jan 2022 | - | | 1.300 | 0.000 | 3.372 | Continuing | |
| Subtotal | | | 0.992 | 0.530 | | 0.550 | | 1.300 | | - | | 1.300 | 0.000 | 3.372 | N/A | |
| Product Development (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Air Vigilance software updates and integration | Option/CPAF | CACI : Sterling, VA | 4.413 | 1.865 | Jan 2020 | 1.900 | Mar 2021 | 3.763 | Jan 2022 | - | | 3.763 | 0.000 | 11.941 | Continuing | |
| Subtotal | | | 4.413 | 1.865 | | 1.900 | | 3.763 | | - | | 3.763 | 0.000 | 11.941 | N/A | |
| Support (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| PM Costs, Travel, Facilities | Allot | PEO IEWS/Air Vigilance POR : Alexandria, VA | 1.574 | 0.850 | Dec 2019 | 0.900 | Jan 2021 | 0.736 | Jan 2022 | - | | 0.736 | 0.000 | 4.060 | Continuing | |
| Subtotal | | | 1.574 | 0.850 | | 0.900 | | 0.736 | | - | | 0.736 | 0.000 | 4.060 | N/A | |
| Test and Evaluation (\$ in Millions) | | | | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Air Vigilance system Testing and Exercises | Option/CPAF | CACI : Sterling, VA | 0.363 | 0.100 | Jan 2020 | 0.101 | Mar 2021 | 0.130 | Jan 2022 | - | | 0.130 | 0.000 | 0.694 | Continuing | |
| Subtotal | | | 0.363 | 0.100 | | 0.101 | | 0.130 | | - | | 0.130 | 0.000 | 0.694 | N/A | |

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|---|--------------------|----------------|--|--|--|---------------------|--|---|--|----------------------|-------------------------|-------------------|---------------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army | | | | | | | | Date: May 2021 | | | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | | | | Project (Number/Name) EX7 / <i>Air Vigilance System Development</i> | | | | | |
| | Prior Years | FY 2020 | | FY 2021 | | FY 2022 Base | | FY 2022 OCO | | FY 2022 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | 7.342 | 3.345 | | 3.451 | | 5.929 | | - | | 5.929 | 0.000 | 20.067 | N/A |

Remarks

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| Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army | | Date: May 2021 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) EX7 / <i>Air Vigilance System Development</i> |

| Event Name | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | |
|--|------------|---|---|---|---------|---|---|---|------------|---|---|---|---------|---|---|---|------------|------------|---|---|------------|------------|---|---|------------|------------|---|---|--|
| | 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 | |
| Air Vigilance System Development Capability Drop (CD3) | [Redacted] | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full Deployment - Current RDP s/w Baseline (DEC22) | [Redacted] | | | | | | | | [Redacted] | | | | | | | | 1 FD | [Redacted] | | | | [Redacted] | | | | [Redacted] | | | |
| E3I GSA FEDSIM Contract 1yr Base, w/4 Options | [Redacted] | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air Vigilance Future Software Capability | [Redacted] | | | | | | | | [Redacted] | | | | | | | | [Redacted] | | | | [Redacted] | | | | [Redacted] | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army | | Date: May 2021 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i> | Project (Number/Name) EX7 / <i>Air Vigilance System Development</i> |

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Air Vigilance System Development Capability Drop (CD3) | 2 | 2016 | 1 | 2026 |
| Air Vigilance CD #3 National Assessment Group Test | 3 | 2018 | 3 | 2018 |
| Full Deployment - Current RDP s/w Baseline (DEC22) | 1 | 2023 | 1 | 2023 |
| TRFE GSA FEDSIM Bridge Contract | 2 | 2018 | 3 | 2019 |
| E3I GSA FEDSIM Contract | 2 | 2019 | 2 | 2019 |
| E3I GSA FEDSIM Contract 1yr Base, w/4 Options | 2 | 2019 | 2 | 2024 |
| Air Vigilance Future Software Capability | 2 | 2022 | 4 | 2026 |