Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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 0604003F / *Advanced Battle Management System (ABMS)*

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	229.842	500.575	743.842	0.000	743.842	958.948	727.834	562.905	577.983	Continuing	Continuing
640141: *Advanced Battle Management System (ABMS)*	-	229.842	500.575	743.842	0.000	743.842	958.948	727.834	562.905	577.983	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

ABMS is the PE funding architecture and systems engineering (ASE), digital infrastructure, software and applications, and aerial networking for the DAF's primary contribution to the Combined Joint All-Domain Command and Control (CJADC2) warfighting concept, which the DAF formally refers to as the DAF BATTLE NETWORK. The DAF Program Executive Office for Command, Control, Communication, and Battle Management (DAF PEO C3BM) has the lead role in battle management and Command and Control (C2) capabilities for the DAF. This entails not only directing technical integration throughout the DAF but also holding acquisition authorities to develop and implement organic materiel solutions. These solutions aim to establish resilient and widely distributable command and control capabilities within the DAF BATTLE NETWORK. The ABMS PE portfolio funds the specific programs over which the DAF PEO C3BM exercises direct oversight in terms of cost, schedule, and performance. This encompasses both the management of these programs and the necessary architectural and systems engineering efforts to ensure effective technical coordination across the broader DAF infrastructure.

Additionally, DAF PEO C3BM has identified an initial array of approximately 50 core programs spanning various PEOs, whose organizations collectively form the C3BM Enterprise. These programs represent an evolving collection of systems that, when integrated together, are pivotal in contributing to the development of the DAF BATTLE NETWORK. Collaborating closely with the PEOs overseeing these core programs, DAF PEO C3BM will orchestrate technical integration of the DAF BATTLE NETWORK. This integration is essential to achieve the requisite operational decision advantage crucial for the triumph of the USAF, USSF, joint, and coalition forces in the face of evolving challenges. These inter-PEO initiatives encompass a spectrum of activities, such as technical and programmatic cooperation, comprehensive reporting, and seamless integration. With authority over technical architectures spanning the C3BM enterprise, DAF PEO C3BM will deliver C2 capabilities.

To provide a "best of breed” capability across the DAF and facilitate accelerated delivery of the DAF BATTLE NETWORK, DAF PEO C3BM has aligned activities within the ABMS PE portfolio with four major thrust areas:

Thrust Area 1 - "Architecture and Systems Engineering (ASE)” will 1) conduct Digital Engineering to support technical development activities, 2) conduct mission domain architecture development and analysis and perform enterprise integration through domain-specific Mission Integration Teams (MITs), 3) leverage an Operational Response Team (ORT) to facilitate quick reaction prototyping and experimentation in response to warfighter-led efforts and new relevant technologies. The culmination of these activities will entail the identification, capture, refinement, and formalization of capability gaps, requirements, standards, and interface specifications, as well as potentially novel technologies, collectively paving the way for a blueprint to successfully deliver an all-encompassing integrated DAF BATTLE NETWORK architecture that informs execution of the following 3 thrust areas listed below.

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Thrust Area 2: "C3BM Digital Infrastructure (DI)" leverages the analysis, technical specifications and associated standards/formats produced by ASE to deliver a suite of fixed and deployable digital infrastructure solutions to enable global C2 and Battle Management (BM). To accomplish this, the following tasks are performed: 1) The Enterprise Systems Engineering Team (ESET) manages the ABMS Consortium to define the technical implementation of network architectures, style guides and standards that will facilitate integration of the larger DAF BATTLE NETWORK with ABMS (and vice versa); 2) build out of the physical DI Processing Nodes and DI Network (Software Defined Wide Area Network (SD-WAN), Tactical and Enterprise Cross Domain Solutions (CDS), and other similar requirements) that will enable the operational use of data and software to perform modern C2 functions at scale. DI activities include the Distributed Battle Management Node (DBMN), and support for DAF enterprise solutions; and 3) the ABMS Battle Lab to allow warfighters direct interaction with ABMS software development teams and prototypes in development, speeding up the feedback loop and product maturity.

Thrust Area 3: "C3BM Software and Applications" provides a suite of battle management command and control (BMC2) applications and tools, conducted via two categories of activity. 1) Cloud-Based Command and Control (CBC2) is a suite of BMC2 applications and microservices in development for NORAD and USNORTHCOM & PACAF. CBC2 efforts include line of effort (LOE) #1 for a SW Integrator, LOE #2 for Agile Software Development at scale with an Integrated Digital Environment (IDE) for Model-based systems engineering (MBSE), and LOE #3 for Continuous Integration and Continuous Deployment (CI/CD) software pipelines, platform, data ingest, fusion, transport, storage, and access. CBC2 depends on the fixed DI activities of Thrust Area #2 and expects to begin scaling to support additional combatant commanders in FY24. 2) Distributed Battle Management Applications (DBMA) will continue development and extension of CBC2 functionality to other DAF BATTLE NETWORK entities (e.g. the Tactical Operations Center Family of Systems, or TOC FoS) in line with Air Combat Command's (ACC) Common BMC2 Interface (CBI) concept. Integral to the C3BM Software and Applications Thrust Area is the imperative to seamlessly align and integrate with various efforts, including multiple DoD & DAF software factories, centers of excellence dedicated to artificial intelligence and machine learning, and the DAF data fabric.

Thrust Area 4: "C3BM Aerial Networking" will develop key technologies for the "final leg" connection of C3BM DI and Software/Applications to DAF platforms. Aerial Networking activities include: 1) the ongoing work for Capability Release #1 (CR #1) which is the first prototype effort for C3BM Aerial Networking to inform both future design and fielding decisions for other platforms and C2 functions to connect to C3BM DI. CR #1 includes platform integration and onboard tactical edge node capabilities for secure compute, and storage to host mission applications that increase aircrew situational awareness. 2) Following CR #1 is Phalanx Griffon (PG), a strategic aerial networks roadmap and acquisition strategy that will be codified in FY24, to extend C3BM aerial networking capabilities to tactically relevant aircraft. Phalanx Griffon will include continued development and maturation of multi-function processors, multi-function arrays, edge node hardware and software to host mission applications, and platform integration options to ease implementation and scaling.

To ensure delivery of projects in each Thrust Area, and to ensure alignment of the broader DAF from a battle management perspective, ABMS PE funding provides for program management support, operational concept development in collaboration with the ABMS Cross-Functional Team, and portfolio integration to orchestrate delivery of the DAF BATTLE NETWORK.

Investments in the ABMS portfolio of programs aligns USAF investment with USSF investment (e.g., Space Command and Control (C2) Program Element PE (1208248SF) and the MeshOne-T PE (1206760SF)) to eliminate duplication of effort while optimizing capability delivery to create the DAF BATTLE NETWORK deliverable.

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ABMS DI aligns with CAIS PE (0207431F) to provide a consistent set of capabilities, services and customer experience across all classification levels, and meets DAF requirements while ensuring compliance with Director of National Intelligence (DNI) requirements and minimizing duplication of effort.

The total cost of the ABMS Capability Release #1: Airborne Edge Node Rapid Prototyping Middle Tier of Acquisition effort is 155.0 million, including RDT&E and procurement of prototype units. The CR1 AEN RP program is fully funded across the Future Years Defense Program.

The total cost of the Distributable Battle Management Node (DBMN) Phase II Tactical Operations Center-Light Rapid Prototyping Middle Tier of Acquisition effort is 201.1 million, including RDT&E and procurement of prototype units. The DBMN Phase 2 TOC-L RP program is fully funded across the Future Years Defense Program.

The total cost of the Deployable Digital Infrastructure Rapid Prototyping Middle Tier of Acquisition effort is 94.8 million, including RDT&E and procurement of prototype units. The DDI RP program is fully funded across the Future Years Defense Program.

The total cost of the Digital Infrastructure Network Major Release #1 Rapid Prototyping Middle Tier of Acquisition effort is 287.3 million, including RDT&E and procurement of prototype units. The DI MR#1 RP program is fully funded across the Future Years Defense Program.

The total cost of the Software Defined Wide Area Network Rapid Prototyping Middle Tier of Acquisition effort is 145.9 million, including RDT&E and procurement of prototype units. The SD-WAN RP program is fully funded across the Future Years Defense Program.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY 0.000M was expended for civilian pay expenses in this program element, and in CY 4.292M is forecasted for civilian pay expenses in this program element.

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.

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B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	237.332	500.575	815.046	0.000	815.046
Current President's Budget	229.842	500.575	743.842	0.000	743.842
Total Adjustments	-7.490	0.000	-71.204	0.000	-71.204
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-7.490	0.000			
• Other Adjustments	0.000	0.000	-71.204	0.000	-71.204

Change Summary Explanation

FY 2023: Program reduced -7.490 million in total due to SBIR/STTR transfer in the year of execution.

FY 2025: The BY funding request was reduced by -71.204 million from previous PB to account for the availability of prior year execution balances.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Architecture and Systems Engineering (ASE)	0.000	80.000	100.000
Description: Architecture and Systems Engineering (ASE) office is responsible for the technical integrity of the DAF BATTLE NETWORK as we integrate ABMS capabilities, the rest of the DAF's C2 systems, and other Services' capabilities under CJADC2. Architecture integration in system-of-systems mission threads and environments is critical to deliberately advancing the DAF's technological edge by informing architecture design, acquisition investments, system requirements for future capabilities, and acquisition baseline updates for current systems. ***FY 2024 Plans:*** Digital Engineering (DE): -Leverage, or create as necessary, a common DE approach and methodology for all the Mission Integration Teams to aggregate and analyze various cross-functional and cross-domain data products, and to then make them available to the C3BM Enterprise. Fund Model-Based Systems Engineering at the TS/SCI and SAP level for all ASE and DAF/OSD/Joint partners. This environment supports government sensitive C3BM and Joint partner planning and integration efforts. This DE environment is fully complementary to analogous contractor-led ABMS DE efforts. -Develop Modeling & Simulation capabilities to enable evaluation of C3BM systems virtually via software digital twins.			

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Mission Domain Architectures (MDA) and Mission Integration Team (MITs): -Through MDA and MIT activities, ASE will perform the following functions in support of the broader success of the C3BM Enterprise. -Operational Analysis: Build models and provide mission value metrics for C3BM decisions. Invest in longer-lead modeling to enable rapid responsiveness to Mission Integration Team priorities set annually in consultation with C3BM Enterprise stakeholders. Fiscal Year 2023 initiated the build out of MIT capabilities spanning the air, space and maritime domains. Fiscal Year 2024 will complete this work and will scale out capability for land and homeland defense. -Architecture Modeling: Model interfaces and interactions for specified mission areas. Build team to support DAF programs, and OSD/Joint Staff on standards for integration. -System Engineering: Build team to manage artifacts in the DE environment related to tracking interfaces, roadmaps and progress. -Risk Reduction: Hold community-wide enterprise risk reviews yearly with different communities (operators, S&T, Tech Advisors, cyber) and manage enduring risk register and provide senior leader products. -Test and Evaluation: Build team to analyze artifacts to test mission area architecture. Operational Response Team (ORT): -Prototype Integration and Experimentation: Continue operational integration and experimentation of the initial Digital tactical edge connectivity prototype as it transitions to C3BM Digital Infrastructure for further development. -Continue to prototype and experiment Deployable DI mobile solutions that provide multi-level security compute and storage able to host mission data, data management software, and mission applications at deployed C2 nodes. Support identification, orchestration, "shepherding" and potential investment in emergent C3BM technologies. Rapidly develop and execute experimentation and prototyping activities in support of ASE findings to mitigate risks or exploit opportunity identified during mission engineering or architecture development work. -C3BM Vignette Analysis: Continue Counter-C5ISRT (Command and Control, Communications, Computers, Cyber, Intelligence, Surveillance, Reconnaissance, Targeting) numerical analysis, modeling, and simulation to assess impact of specific capabilities on the ability to protect US assets and achieve mission success to prioritize DAF investments and modernization.			
FY 2025 Plans: Digital Engineering (DE): -Continue to leverage, or create as necessary, a common DE approach and methodology for all the Mission Integration Teams to aggregate and analyze various cross-functional and cross-domain data products, and to then make them available to the C3BM Enterprise. Fund Model-Based Systems Engineering at the TS/SCI and SAP level for all ASE and DAF/OSD/Joint partners. This environment supports government sensitive C3BM and Joint partner planning and integration efforts. This DE environment is fully complementary to analogous contractor-led ABMS DE efforts.			

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
-Continue to develop Modeling & Simulation capabilities to enable evaluation of C3BM systems virtually via software digital twins. Mission Domain Architectures (MDA) and Mission Integration Team (MITs): -Operational Analysis: Continue to build models and provide mission value metrics for C3BM decisions. Invest in longer-lead modeling to enable rapid responsiveness to Mission Integration Team priorities set annually in consultation with C3BM Enterprise stakeholders. -Architecture Modeling: Continue to model interfaces and interactions for specified mission areas. Build team to support DAF programs, and OSD/Joint Staff on standards for integration. -System Engineering: Continue to develop and manage artifacts in the DE environment related to tracking interfaces, roadmaps and progress. -Risk Reduction: Continue to hold community-wide enterprise risk reviews yearly with different communities (operators, S&T, Tech Advisors, cyber) and manage enduring risk register and provide senior leader products. -Test and Evaluation: Continue to analyze artifacts to test mission area architecture. Operational Response Team (ORT): -Prototype Integration and Experimentation: Continue operational integration and experimentation of the initial Digital tactical edge connectivity prototype as it transitions to C3BM Digital Infrastructure for further development. -Continue to prototype and experiment Deployable DI mobile solutions that provide multi-level security compute and storage able to host mission data, data management software, and mission applications at deployed C2 nodes. Support identification, orchestration, "shepherding" and potential investment in emergent C3BM technologies. Rapidly develop and execute experimentation and prototyping activities in support of ASE findings to mitigate risks or exploit opportunity identified during mission engineering or architecture development work. -C3BM Vignette Analysis: Continue Counter-C5ISRT (Command and Control, Communications, Computers, Cyber, Intelligence, Surveillance, Reconnaissance, Targeting) numerical analysis, modeling, and simulation to assess impact of specific capabilities on the ability to protect US assets and achieve mission success to prioritize DAF investments and modernization. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Fiscal Year 2025 budget increased due to adding architecture development to ensure the technical integrity of the system of systems integration across air, space, maritime, land, and homeland defense domains to integrate the DAF BATTLE NETWORK. Furthermore, integrated digital environment (IDE) efforts which started in FY24 are expected to scale across all 5 MITs in FY25 to provide a consistent engineering authoritative source of truth across all five MITs to enable development of C2 modeling and simulation (M&S) frameworks to support integrated modeling and test in FY26 and beyond.			
Title: C3BM Digital Infrastructure (DI)	97.923	258.721	376.405

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Description: The C3BM DI effort reflects a composite of activities to deliver secure processing, connectivity and data management to the DAF BATTLE NETWORK. The ABMS DI activity orchestrates ongoing digital infrastructure activities to provide a multi-level security (i.e. unclassified to top secret) environment as a foundation for battle management C2 (BMC2) data and software across the space, airborne, and terrestrial domains. C3BM DI investments ensure the ability to connect the joint force and allow decision advantage at the tactical, operational, and strategic levels. In Fiscal Year 2024, C3BM DI started the initial phase of physical infrastructure procurement. Investments focus on hybrid commercial and tactical edge multi-level security, multi-cloud environments resulting in secure compute and storage capability. Solutions will provide tactical edge secure processing environments and tools to enable both "remote operations" and "on the move" operations when disconnected from the broader network and global environment. These secure processing solutions will host critical services such as robust data management solutions, zero-trust multi-level security applications, Artificial Intelligence (AI) algorithms and Machine Learning (ML) capabilities. ***FY 2024 Plans:*** Beginning in FY 2024, there are 3 major efforts within Thrust Area #2 - "C3BM Digital Infrastructure": 1. ABMS Digital Infrastructure (DI) 2. ABMS Consortium 3. ABMS Battle Lab ABMS Digital Infrastructure (DI): -ABMS DI invests in technologies and solutions to expose, transport, and host data and mission/infrastructure software through widely used commercial best practices and techniques such as Application Program Interfaces (APIs) and standardized data fabric solutions. This capability includes the capability for machine-assisted tagging of data across the DAF to enable rapid exploitation and processing. These techniques enable data to rapidly and securely move across multiple security levels and support decision making. High priority data management solutions include critical investments in zero-trust multi-level security applications, CDS, as well as AI/ML capabilities. -ABMS DI connectivity-related focus areas include SD-WAN solutions, which will deliver capabilities to enable resilient, robust, communications and the transport of data globally, to the edge, and through space. This will include the software-defined networking and routing layer to enable content routing across connected nodes through both government and commercial communication paths. SD-WAN will integrate into existing and future connectivity solution efforts in order to bridge gaps across existing and future platforms. In partnership with ongoing USSF satellite communication efforts, ABMS will also leverage the rapidly advancing commercial satellite ecosystem to provide SD-WAN solutions that will ensure robust and resilient connectivity for the Joint Force.			

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
-ABMS will also develop Deployable DI solutions that provide a multi-level security compute and storage environment able to host mission data, data management software, and mission applications at deployed C2 nodes. Initial deployment locations include Wing Operations Centers (WOC) and Mission Generation Operations Centers (MGOC) supporting the Lead Wing concept for Agile Combat Employment (ACE). Deployable DI will include an interface to connect with ABMS SD-WAN and/or existing communications infrastructure, as needed. -The ABMS DI portfolio includes the ABMS Distributable Battle Management Node (DBMN), an edge instance of ABMS DI, aligned to the Tactical Operations Center-Light (TOC-L) concept for tactical C2 and a key part of ACC's BMC2 Roadmap. This effort provisions lightweight, scalable connectivity, data management, and edge compute/store for tactical edge BMC2. -ABMS DI will fund efforts related to content delivery, datalink integration, and scalable transport in tight partnership with operational MAJCOMs, Air Combat Command, the ABMS CFT, and C3BM ASE. As operational and technical requirements are refined, ABMS DI will look to accelerate development of acquisition strategies and propel additional efforts into execution. -ABMS DI will provide funding to the Space Systems Command MeshOne-T program and Space Data Fusion programs to provide resilient long-haul terrestrial data transport capacity for ABMS solutions delivered under the larger DAF PEO C3BM architecture and to facilitate the integration and processing of space data for the broader set of C3BM requirements. Space Data Fusion efforts are consistent with the scope of ABMS data-related efforts (see below for more details) by exposing and processing key data sets as needed. ABMS Consortium: -Continue ABMS Consortium activity comprised of industry partners, federally funded research and development centers (FFRDC), and USG stakeholders performing operational analysis, mission analysis, Systems Engineering, and integration of ABMS Digital Infrastructure. -Continue data architecture, data tagging, and data orchestration design solutions and prototypes that enable available data to be exposed, processed, and transferred within multi-level security ABMS cloud environments. -Continue maturing the extension of the ABMS DI to the tactical edge based on operator and ABMS CFT input. -Continue maturing CONUS and OCONUS clouds by adding more data types, data transfers across classification levels, establishing data and network management standards and tools (e.g., SD-WAN), and developing and hosting cloud-native applications (e.g., Cloud-Based C2, advanced targeting tools, air base air defense applications). ABMS Battle Lab: -Support experimentation efforts within the Battle Lab construct to accelerate requirements development. -Integrate with and expand Battle Lab connections to Joint Partners. -Begin deployment of ABMS Digital Infrastructure to the Battle Lab.			

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
-Integrate with Airborne Edge Node (Tactical Edge Node Situational Awareness and Edge Processing) and Cloud-Based C2. ***FY 2025 Plans:*** Beginning in FY 2024, there are three major efforts within Thrust Area #2 - "C3BM Digital Infrastructure": - Enterprise Systems Engineering Team (ESET, encompasses ABMS Consortium activities and other portfolio-level systems engineering activities) - ABMS Digital Infrastructure (DI) - ABMS Battle Lab Enterprise Systems Engineering Team (ESET): -Continue management of the ABMS Consortium activity comprised of industry partners, FFRDC, and USG stakeholders performing operational analysis, mission analysis, Systems Engineering, and integration of ABMS Digital Infrastructure. -Continue data architecture, data tagging, and data orchestration design solutions and prototypes that enable available data to be exposed, processed, and transferred within multi-level security ABMS cloud environments. -Continue maturing the extension of the ABMS DI to the tactical edge based on operator and ABMS CFT input. -Continue maturing CONUS and OCONUS clouds by adding more data types, data transfers across classification levels, establishing data and network management standards and tools (e.g., SD-WAN), and developing and hosting cloud-native applications (e.g., Cloud-Based C2, advanced targeting tools, air base air defense applications). -Expand locations and content in the collaborative, multi-security-level, enterprise systems engineering ecosystem for architecture and modeling development. ABMS Digital Infrastructure (DI): -Continue to invest in technologies and solutions to expose, transport, and host data and mission/infrastructure software through widely used commercial best practices and techniques such as Application Program Interfaces (APIs) and standardized data fabric solutions. -Continue development and implementation of DI Network Major Releases 1 and 2, including SD-WAN, content delivery, network monitoring and security solutions, data link integration, scalable transport, cross domain solutions, and others. -Continue to develop and implement Deployable, Fixed, and Mobile DI Node solutions that provide a multi-level security compute and storage environment able to host mission data, data management software, and mission applications at multiple echelons of command, including tactical and operational C2 nodes. -Continue rapid prototyping and prepare for rapid fielding of the ABMS Distributable Battle Management Node (DBMN), an edge instance of ABMS DI, aligned to the Tactical Operations Center-Light (TOC-L) concept for tactical C2 and a key contributor to ACC's BMC2 Roadmap. DBMN will conduct experimentation and testing at several developmental and operational exercises,			

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
including Emerald Flag and Northern Edge. Integrate CBC2 Common Battle Management Interface into TOC-L system to maximize future interoperability. -Continue to fund efforts related to DI Network and DI nodes in collaboration with Major Commands, Combatant Commands, Component Major Commands, the ABMS CFT, and C3BM ASE. As operational and technical requirements are refined, ABMS DI will look to accelerate development of acquisition strategies and propel additional efforts into execution. ABMS Battle Lab: -Continue experimentation efforts within the Battle Lab construct to accelerate requirements development. -Continue to integrate with and expand Battle Lab connections to Joint Partners. -Continue deployment of ABMS Digital Infrastructure to the Battle Lab. -Prepare to support experimentation for Distributed Battle Management Applications (DBMA) and CBI. -Will expand coordination pathways between the collaborative, enterprise systems engineering ecosystem for the sharing of models between ABMS DI and the Battle Lab. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding will increase significantly due to several acquisitions efforts that will be in development and fielding throughout Fiscal Year 2025, including DI Networks and DI Processing Nodes programs that planned to ramp up development activities from acquisition strategies and contracts awarded in FY 2024 and will have increasing cloud services and hardware expenses as a result. Additionally, DBMN will deliver 20 TOC-L prototype systems in FY 2025.			
Title: C3BM Software and Applications	75.174	85.022	120.372
Description: Under Thrust Area #3, the C3BM Software and Applications effort encompasses ABMS portfolio activities that deliver applications to facilitate sensor and effects integration. These applications comprise front end (e.g., User Interface and User Experience, or UI/UX, Course of Action Recommendation tools, etc.) and back end microservices (data fusion, data brokering, track management, etc.). C3BM Software and Applications leverage current DAF enterprise solutions (e.g. Cloud One, Platform One, etc.), as well as ABMS DI solutions as they become available. C3BM Software and Applications develops C2 applications and integrates with DoD & DAF Software Factories (e.g. Kessel Run, Kobayashi Maru, etc.) to eliminate duplicative development. These software efforts are complementary and are working to facilitate sharing of data and products from multiple domains and echelons of command to provide decision advantage. C3BM Software development activities are executed with a continuous integration/continuous delivery (CI/CD) model that places operators as a critical member of the team via MAJCOM-approved user agreements and drives agile software development activities to generate user feedback and consistent, high frequency product improvement. Cloud-Based C2 (CBC2):			

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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 0604003F / *Advanced Battle Management System (ABMS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
CBC2 modernizes battle management and command and control functions by replacing four existing C2 systems with modern Cloud-Based applications, enhanced by AI/ML, to create a common operating picture and decision aids. Initial development efforts are focused on delivery to Air Defense Sectors (ADS) in NORAD and USNORTHCOM (N&NC) as well as Pacific Air Defense Sector (PADS) and Alaska ADS (AADS) in INDOPACOM; however, CBC2 is also working to provide hardware and software solutions that are extensible to additional Combatant Commands (COCOMs). This software suite equips operators executing tactical C2 in CONUS and OCONUS ADS with modernized applications to ingest data from civilian and military sensors, fuse it with additional sources of data, conduct mission planning with machine-to-machine ingest of higher echelon tasking products, apply force accountability and risk assessments to a dynamic air picture with thousands of tracks, facilitate real time computing and scoring of Courses of Action (CoA) in order to speed F2T2EA timelines, and provide a UI/UX for battlespace awareness. CBC2 development follows commercial best practices for agile software development with an industry software integrator driving warfighter delivery across several independently contracted microservice developers. Distributed Battle Management Apps (DBMA): -The extensibility of CBC2 aligns to Operational Imperative #2 initiatives associated with distributed battle management and ACC's Common BMC2 Interface (CBI). Additional software development teams will be established to increase the number of C2 services that the core CBC2 applications for N&NC provide. Requirements currently under development for joint tactical integrated fire control and long range kill chains will trigger development activities for applications and advanced targeting tools development for maturing operational concepts including those that are needed at the Tactical Operations Center Family of Systems (TOC FoS) and other maturing operational concepts. DBMA work will also encompass coalition agreements, partnerships and data sharing for enhanced battle management activities. ***FY 2024 Plans:*** Cloud-Based C2 (CBC2): -Continue design /development activities focused on developing a scalable and extensible data-cloud architecture that leverages AI/ML applications and produces a common operating picture. -Continue developing shared visualization of multiple sources, automated and fused representation of air domain. -Ingest, fuse, and analyze data from military, government, and commercial sources to multi-classification cloud environments. -Continue to develop automated and operator-selectable tasking of assets, voice, data and C2. -Continue integrating new and existing development teams with ABMS Software Integrator to create a micro-services CBC2 system that is fully government owned. -Continue building micro-services-based software applications that will enable distributed battle management. -Continue efforts to design and build infrastructure to support CBC2 to include but not limited to: platform, cloud, cloud outposts, data transport, tactical data bus, identity management, zero trust network, cyber defense and data storage solutions.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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 0604003F / *Advanced Battle Management System (ABMS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
-Continue quarterly minimum viable product (MVP) releases, iteratively building out the Cloud-Based C2 application/software baseline and addressing product backlogs associated with N&NC deliveries in pursuit of full operational capability (FOC). Distributed Battle Management Apps: -Continue development based on core CBC2 tactical C2 software suite to extend microservices functionality to support distributed BMC2 operational concepts and CBI requirements and associated capability needs. -Build microservices consistent with CBC2 development approach and in response to capability needs associated with joint tactical integrated fire control, long range kill chains, and other BMC2 functions. -Continue developing shared visualization consistent with CBC2 with automated and fused representation of multiple domains. -Continue integrating new and existing development teams with ABMS Software Integrator to create a microservices CBC2 system that is fully government owned. -Continue quarterly minimum viable product (MVP) releases, iteratively building out extensibility to additional distributed battle management operational concepts (e.g. Tactical Operations Center Family of Systems). -Facilitate transition of advanced targeting tools (e.g. developed under the Hawkeye program) by ensuring compatibility with ABMS digital infrastructure and battle management software. ***FY 2025 Plans:*** CBC2: -Continue design/development activities focused on developing a scalable and extensible data-cloud architecture at multiple classification levels and different REL environments in partnership with ABMS Digital Infrastructure, and other DAF enterprise solutions that leverages AI/ML applications and produces a common operating picture. -Continue developing shared visualization of multiple sources, automated and fused representation of air domain. -Ingest, fuse, and analyze data from military, government, and commercial sources to multi-classification cloud environments. -Continue to develop automated and operator-selectable tasking of assets, voice, data and C2. -Continue integrating new and existing development teams with ABMS Software Integrator to create a micro-services CBC2 system that is fully government owned. -Continue building micro-services-based software applications that will enable distributed battle management. -Continue efforts to design and build infrastructure to support CBC2 in partnership with ABMS DI to include but not limited to: platform, cloud, cloud outposts, data transport, tactical data bus, identity management, zero trust network, cyber defense and data storage solutions. -Continue quarterly minimum viable capability (MVCR) releases, iteratively building out the Cloud-Based C2 application/software baseline and addressing product backlogs associated with N&NC deliveries. Distributed Battle Management Apps:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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 0604003F / *Advanced Battle Management System (ABMS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
-Continue development based on core CBC2 tactical C2 software suite to extend microservices functionality to support distributed BMC2 operational concepts and CBI requirements and associated capability needs. -Continue to build microservices consistent with CBC2 development approach and in response to capability needs associated with joint tactical integrated fire control, long range kill chains, and other BMC2 functions. -Continue developing shared visualization consistent with CBC2 with automated and fused representation of multiple domains. -Continue integrating new and existing development teams with ABMS Software Integrator to create a microservices system that is fully government owned. -Continue quarterly MVCR, iteratively building out extensibility to additional distributed battle management operational concepts (e.g. Tactical Operations Center Family of Systems). -Continue facilitation of transition of advanced targeting tools (e.g. developed under the Hawkeye program) by ensuring compatibility with ABMS digital infrastructure and battle management software. -Facilitate data sharing and collaboration with foreign coalition partners in delivering battle management capabilities. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding increase in FY25 to support fielding to NORAD, NORTHCOM, and INDOPACOM simultaneously. C3BM applications activities continue to focus on delivering for CBC2 applications by the end of FY25. Software teams will contribute to DBMA activities during FY25 as defined by FY24 acquisition strategy development, with existing software teams transitioning from CBC2 as needed and new developer teams being added to support follow-on integration activities for distributed battle management operational concepts and ACC's CBI with the Tactical Operations Center Family of Systems throughout FY25.			
Title: C3BM Aerial Networking	56.745	76.832	147.065
Description: Under Thrust Area #4, the C3BM Aerial Networking efforts encompass two efforts to deliver secure processing and connectivity architecture solutions that will enable sensor and effects integration with DAF platforms. Aerial Networking leverages government reference architecture and the ongoing ABMS DI investments to connect select Tac Air assets and C2 functions to the ABMS cloud at the tactical edge, enhancing Situational Awareness and decision making at multiple echelons. Aerial Networking's first implementation, known as Capability Release #1 (CR #1), is a prototype communications subsystem, platform integration, and a tactical edge node planned to be demonstrated on a KC-46 in FY24. Onboard secure compute/storage infrastructure will host mission-relevant applications and be developed as a roll-on/roll-off capability using commercial solutions. C3BM Aerial Networking includes a follow-on effort, known as Phalanx Griffon (PG), which will extend AN architecture and capabilities to tactically relevant aircraft based on maturing operational concepts and aerial network road mapping activities. This capability will be targeted toward tactical aircraft such as the F-15E/EX, which can be traced back to Operational Imperative #2 operational analysis and ACC input. Aerial Networking prototype efforts will inform future design and fielding activities for platforms and C2 functions.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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 0604003F / *Advanced Battle Management System (ABMS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
FY 2024 Plans: Capability Release #1: -Continue development and test activities associated with the CR #1 communications subsystem, including test and demonstration of skill development (e.g. MADL, DLOS, etc.) and preparations for security certifications. -Complete integration of Tactical Edge Node capability on the KC-46 and conduct planning for flights for test, military utility assessments, and Concept of Operations experimentation. -Complete development of a palletized compute and store enclave with local cloud storage, cloud synchronization, and network management functions. -Maximize use of digital engineering, modern software development practices, and open architecture principles; develop Technical Data Package to enable potential follow-on development and integration activities. -Demonstrate fieldable KC-46 capability in FY24 via Tactical Edge Node hardware and organic KC-46A communications capabilities. Phalanx Griffon: -Execute EF 24-3 testing event (1QFY25) to demonstrate CR #1 capabilities and establish lessons learned to transition technologies and architectures to Phalanx Griffon. -Initiate contract awards to support development, testing and application of Phalanx Griffon Nomad, Watch and Smith features. -Continue development of content routing, next-generation security solutions, and communications software to support Aerial Network implementation across target platforms. -Implement Phalanx Griffon architecture within Government-owned and vendor-supported Software and Hardware Integration Labs (SILs/HILs) to validate, update, and optimize overarching architecture execution. -Stand up and implement DevSecOp Pipeline in support of Aerial Networking as well as ABMS initiatives. -Gain 'early adopter' feedback on Phalanx Griffon features and capabilities to drive decisions for platform integration and implementation. -Continue to develop a Technical Data Package, leveraging digital engineering, modern software development practices, and open architecture principles to enable follow-on development and integration activities on other operationally relevant platforms.			
FY 2025 Plans: CR #1: -Complete final demonstration event of the prototype subsystem on a KC-46. -Complete integration of Tactical Edge Node capability on the KC-46 and flights for test, military utility assessments, and Concept of Operations experimentation. -Complete development of a palletized compute and store enclave with local cloud storage, cloud synchronization, and network management functions.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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 0604003F / *Advanced Battle Management System (ABMS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
-Deliver Technical Data Package and Study results to enable potential follow-on development and integration activities. -Demonstrate fieldable KC-46 capability via Tactical Edge Node hardware and organic KC-46A communications capabilities. Phalanx Griffon: -Develop/Integrate hardware architecture solutions, leverage CR#1 capabilities as applicable (e.g. security cryptographic module, or SCM) to continue development of open architecture multi-function processor tailored for hosting on tactical aircraft (e.g., F-15E/EX). -Conduct planning for test and demonstration activities associated with Phalanx Griffon. -Continue development of content routing and communications software. -Continue to develop a Technical Data Package, leveraging digital engineering, modern software development practices, and open architecture principles to enable follow-on development and integration activities on other operationally relevant platforms. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding increases in FY25 to support hardware, software and architecture development activities and contract awards for PG, which are planned to be in execution after acquisition strategy approvals in FY24. Prototype hardware builds and integration activities are planned for in FY25.			
Accomplishments/Planned Programs Subtotals	229.842	500.575	743.842

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

ABMS is a portfolio of acquisition efforts and should not be viewed as a monolithic program. The first acquisition effort, referred to as AN CR#1 under the C3BM Aerial Networking Thrust Area, is an ACAT II effort. The CR#1 acquisition strategy was approved by the Service Acquisition Executive (SAE) on 15 Jun 21. Cloud-Based C2 (CBC2) is Software Pathway program, and its acquisition strategy was approved by the SAE in May 2022. ABMS DI consists of multiple acquisition efforts, including an acquisition strategy approved by the SAE in Nov 21 to initiate development of the ABMS Consortium, which provides critical early industry involvement in architecture and requirements refinement, prototyping, and technical strategy development for a complex systems of systems acquisition portfolio. Follow-on DI acquisition plans for Distributable Battle Management Node (DBMN), Software Defined Wide Area Networking (SD-WAN), and Deployable Digital Infrastructure leveraged the Middle Tier of Acquisition Rapid Prototyping Acquisition Pathway and were approved by DAF PEO C3BM in October 2022 and January 2023. Two additional acquisitions strategies for DI Networks and DI Nodes are planned for early FY24.

The ABMS agile acquisition strategy and development approach is modeled after the path of commercial innovation and internet of things technology practices. The acquisition strategy develops capabilities - that might traditionally be delivered as a monolith in the Government - via modular components and then integrates them

through open standards and an open architecture derived from ASE driven analysis. Modularity and openness enable consistent competition and continuous innovation, as well as more rapid upgrade of product capabilities. Software development and hardware development can both follow this path—a proven, successful model that is employed in the commercial world as well as in agile government entities.

The iterative nature of technology and speed of technical obsolescence in the 21st century digital age mandate an agile approach to capability development, integration, and delivery that is both rapid and continuous. DAF PEO C3BM will make targeted investments in select areas and technologies to stabilize and integrate core operational capabilities, expedite the delivery of warfighter capability, and close operational gaps. This model continues to be matured in FY2024, as a number of digital infrastructure and software development efforts are in execution deploying minimum viable products across the DAF in keeping with a continuous integration/ continuous delivery mindset where operators are involved in regular feedback loops and a variety of traditional and non-traditional defense contractors are involved in delivery.

To enable the speed and agility required by this acquisition strategy, the ABMS acquisition efforts have developed a contracting strategy that is highly flexible. Though the program employs the full range of contracting authorities, ABMS is currently utilizing, at a minimum, the following contracting vehicles to execute requirements: 1) JADC2 Multiple-Award, Multi-Level Security (MA-MLS) Indefinite Delivery/Indefinite Quantity (ID/IQ) vehicle; 2) JADC2 Broad Agency Announcement with Calls to include a Call soliciting sources to participate in Cooperative Research and Development Agreements (CRADAs); 3) JADC2 Commercial Solutions Opening; 4) Small Business Innovation Research Phase III efforts; and 5) already existing contract vehicles where ABMS acquisition efforts are within scope. Additional vehicles will be considered on an as-needed basis.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604003F / *Advanced Battle Management System (ABMS)*	**Project (Number/Name)** 640141 / *Advanced Battle Management System (ABMS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASE: Digital Engineering	Various	DAF PEO C3BM: Multiple : TBD	-	0.000	Oct 2022	3.732	Oct 2023	5.920	Oct 2024	-		5.920	Continuing	Continuing	-
ASE: Mission Domain Architecture & Mission Integration Team	Various	DAF PEO C3BM: Multiple : TBD	-	0.000	Oct 2022	65.239	Oct 2023	81.504	Oct 2024	-		81.504	Continuing	Continuing	-
ASE: Operational Response Team	Various	DAF PEO C3BM: Multiple : TBD	-	0.000	Oct 2022	11.029	Oct 2023	12.576	Oct 2024	-		12.576	Continuing	Continuing	-
DI: ABMS Digital Infrastructure	Various	DAF PEO C3BM: Multiple : TBD	-	68.262	Jun 2023	215.923	Jun 2024	279.525	Oct 2024	-		279.525	Continuing	Continuing	-
DI: Enterprise Systems Engineering Team (ESET)	C/FP	DAF PEO C3BM: Multiple : TBD	-	27.915	Jun 2023	39.573	Jun 2024	90.131	Oct 2024	-		90.131	Continuing	Continuing	-
DI: ABMS Battle Lab	Various	DAF PEO C3BM: Various : TBD	-	0.000	Jun 2023	0.000	Jun 2024	10.300	Oct 2024	-		10.300	Continuing	Continuing	-
Software/Apps: Cloud-Based Command and Control (CBC2)	Various	DAF PEO C3BM: Multiple : TBD	-	73.342	Sep 2023	82.576	Sep 2024	87.215	Oct 2024	-		87.215	Continuing	Continuing	-
Software/Apps: Distributed Battle Management Applications (DBMA)	Various	DAF PEO C3BM: Multiple : TBD	-	0.000	Sep 2023	0.000	Sep 2024	24.584	Oct 2024	-		24.584	Continuing	Continuing	-
Software & Apps: DAF Orchestration Tool	Various	DAF PEO C3BM: Multiple : TBD	-	0.000	Oct 2022	0.000	Oct 2023	8.000	Oct 2024	-		8.000	Continuing	Continuing	-
Aerial Networking: Airborne Edge Node (AEN) CR#1	Various	DAF PEO C3BM: Multiple : TBD	-	21.592	Sep 2023	23.856	Sep 2024	11.601	Oct 2024	-		11.601	Continuing	Continuing	-
Aerial Networking: Phalanx Griffon	Various	DAF PEO C3BM: Multiple : TBD	-	1.828	Jun 2023	6.500	Sep 2024	72.500	Oct 2024	-		72.500	Continuing	Continuing	-
SBIR/STTR	TBD	TBD : TBD : TBD	-	0.000	Oct 2022	14.088	Oct 2023	27.225	Oct 2024	-		27.225	Continuing	Continuing	-
		Subtotal	-	192.939		462.516		711.081		-		711.081	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604003F / *Advanced Battle Management System (ABMS)*	**Project (Number/Name)** 640141 / *Advanced Battle Management System (ABMS)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Authority: Civilian Pay	TBD	DAF PEO C3BM: Multiple : TBD	-	0.000	Oct 2022	2.877	Oct 2023	6.741	Oct 2024	-		6.741	Continuing	Continuing	-
FFRDC	Various	DAF PEO C3BM: Multiple : TBD	-	-		-		-		-		-	Continuing	Continuing	-
A&AS	Various	DAF PEO C3BM: Multiple : TBD	-	-		-		0.000	Oct 2024	-		0.000	Continuing	Continuing	-
		Subtotal	-	0.000		2.877		6.741		-		6.741	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DI: Test	Various	Various : TBD	-	8.110	Jan 2023	8.159	Jan 2024	5.315	Jan 2025	-		5.315	Continuing	Continuing	-
Software/Apps: Test	Various	Various : TBD	-	1.832	Jan 2023	2.446	Jan 2024	1.988	Jan 2025	-		1.988	Continuing	Continuing	-
Aerial Networking: Test	Various	Various : TBD	-	1.310	Jan 2023	2.163	Jan 2024	2.600	Jan 2025	-		2.600	Continuing	Continuing	-
		Subtotal	-	11.252		12.768		9.903		-		9.903	Continuing	Continuing	N/A

Remarks

Aligned all test activities to thrust areas.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC	Various	Various : TBD	-	6.597	Oct 2022	9.822	Oct 2023	0.000	Oct 2024	-		0.000	Continuing	Continuing	-
A&AS	Various	Various : TBD	-	5.010	Oct 2022	9.483	Oct 2023	9.767	Oct 2024	-		9.767	Continuing	Continuing	-
Other Support	Various	Various : TBD	-	14.044	Oct 2022	3.109	Oct 2023	6.350	Oct 2024	-		6.350	Continuing	Continuing	-
		Subtotal	-	25.651		22.414		16.117		-		16.117	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604003F / *Advanced Battle Management System (ABMS)*	Project (Number/Name) 640141 / *Advanced Battle Management System (ABMS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Moved FFRDC to Product Development category starting in FY2025 to reflect that personnel are performing technical/engineering developmental support to each of the four thrust areas program activities.

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	229.842		500.575		743.842		-		743.842	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604003F / *Advanced Battle Management System (ABMS)*	**Project (Number/Name)** 640141 / *Advanced Battle Management System (ABMS)*

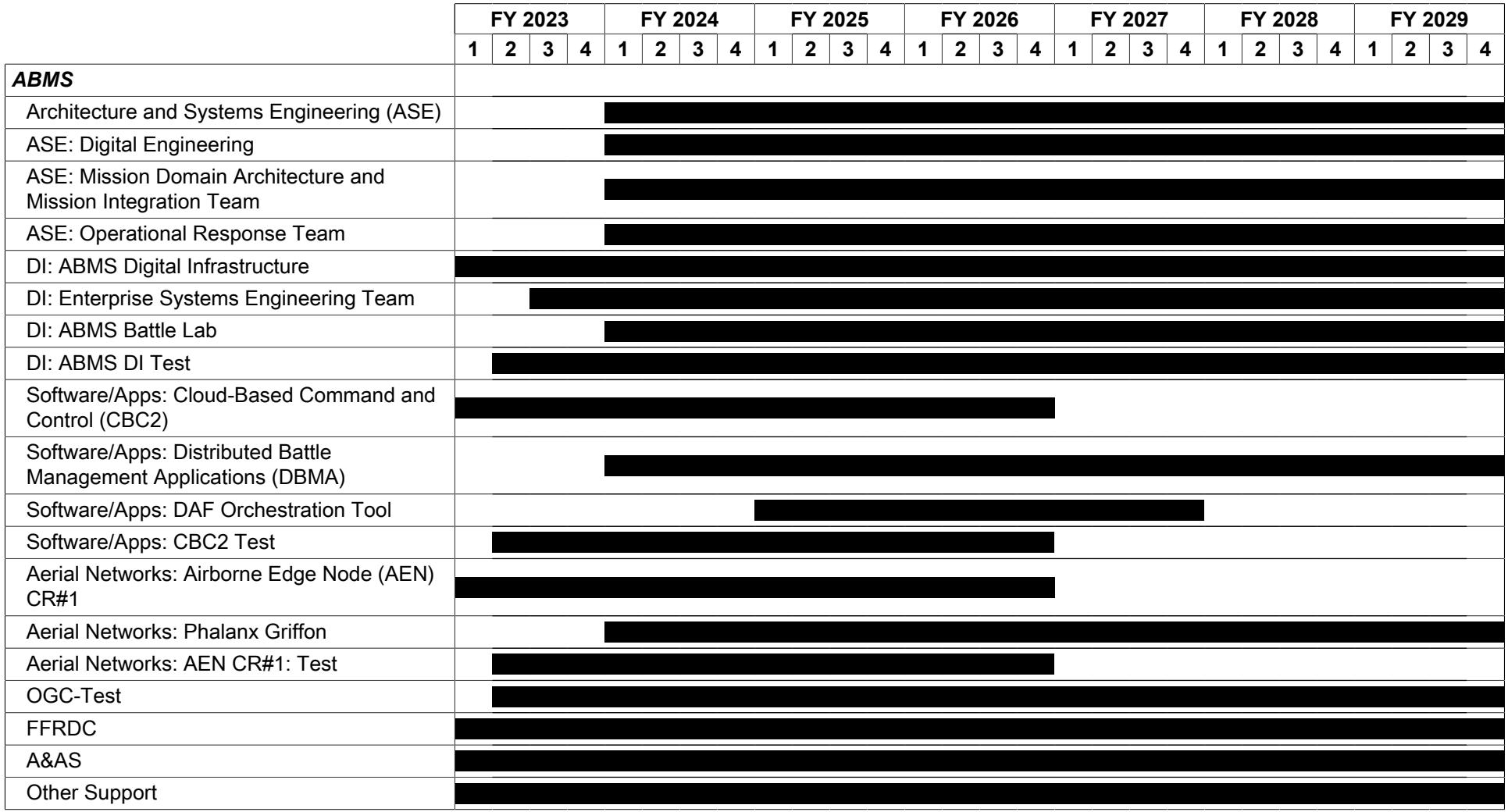

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0604003F / *Advanced Battle Management System (ABMS)*	**Project (Number/Name)** 640141 / *Advanced Battle Management System (ABMS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ABMS				
Architecture and Systems Engineering (ASE)	1	2024	4	2029
ASE: Digital Engineering	1	2024	4	2029
ASE: Mission Domain Architecture and Mission Integration Team	1	2024	4	2029
ASE: Operational Response Team	1	2024	4	2029
DI: ABMS Digital Infrastructure	1	2023	4	2029
DI: Enterprise Systems Engineering Team	3	2023	4	2029
DI: ABMS Battle Lab	1	2024	4	2029
DI: ABMS DI Test	2	2023	4	2029
Software/Apps: Cloud-Based Command and Control (CBC2)	1	2023	4	2026
Software/Apps: Distributed Battle Management Applications (DBMA)	1	2024	4	2029
Software/Apps: DAF Orchestration Tool	1	2025	4	2027
Software/Apps: CBC2 Test	2	2023	4	2026
Aerial Networks: Airborne Edge Node (AEN) CR#1	1	2023	4	2026
Aerial Networks: Phalanx Griffon	1	2024	4	2029
Aerial Networks: AEN CR#1: Test	2	2023	4	2026
OGC-Test	2	2023	4	2029
FFRDC	1	2023	4	2029
A&AS	1	2023	4	2029
Other Support	1	2023	4	2029