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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Defense Advanced Research Projects Agency **Date:** March 2024

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS</i>
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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	-	291.580	321.591	336.542	-	336.542	302.926	290.888	259.512	254.401	-	-
CCC-02: <i>INFORMATION INTEGRATION SYSTEMS</i>	-	139.262	160.191	75.273	-	75.273	108.852	114.799	110.015	105.930	-	-
CCC-05: <i>CYBER SYSTEMS</i>	-	2.000	40.000	108.689	-	108.689	121.883	135.149	143.602	148.471	-	-
CCC-06: <i>COMMAND, CONTROL AND COMMUNICATION SYSTEMS</i>	-	150.318	121.400	152.580	-	152.580	72.191	40.940	5.895	0.000	-	-

A. Mission Description and Budget Item Justification

The efforts described in this Program Element (PE) address the Advanced Technology Development associated with the Command, Control and Communications Systems Program focused on demonstrating and evaluating advanced information systems research and development concepts.

The Information Integration Systems project develops and demonstrates technologies that will provide effective communications to U.S. forces. The success of military operations depends on timely, reliable, secure, and synchronized dissemination of command and control and relevant situational awareness information to every military echelon. While wired communications and networks are fairly well developed, providing assured high-bandwidth mobile wireless capabilities that match or exceed commercial wired infrastructure is needed to meet the demands of military users. Approaches to this goal include developing technologies in these areas:

- High-Capacity Links technologies - enables greater back-haul capability.
- Advanced Networking technologies - supports resilience, adaptability, scalability, and composable systems to enable adaptive effects webs.
- Low Probability of Detection and Anti-Jam (LPD/AJ) technologies - provides assured communications in very high-threat environments.
- Novel Radio Frequency and Spectral Sensing (RF/SS) - supports efficient spectrum management in congested environments and detection of electromagnetic threats.

The Cyber Systems project develops, implements, and demonstrates techniques, tools, and frameworks for the full range of cyber operations. Cyber is now ubiquitous to warfighting. For non-kinetic operations in advance of lethal conflict, cyber can be a powerful enabler of information operations that limit adversary options and deter adversary actions. For kinetic operations during lethal conflict, cyber can be a force multiplier and provide an asymmetric advantage. The Cyber Systems project aims to create operational prototypes based on the cyber technology developed in applied research programs (budgeted in PE 0602303E, Project IT-03), in the private sector, and in academia. The utility of the operational prototypes that are developed in this project will be assessed, and improvements made, based on demonstrations and evaluations conducted in collaboration with warfighters, acquisition programs, and combatant commands.

PE 0603760E: *COMMAND, CONTROL AND COMMUNICATIONS SYST..*

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Defense Advanced Research Projects Agency **Date:** March 2024

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS</i>
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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	298.050	321.591	242.909	-	242.909
Current President's Budget	291.580	321.591	336.542	-	336.542
Total Adjustments	-6.470	0.000	93.633	-	93.633
• 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	3.127	0.000			
• SBIR/STTR Transfer	-9.597	0.000			
• TotalOtherAdjustments	-	-	93.633	-	93.633

Change Summary Explanation

FY 2023: Decrease reflects SBIR/STTR transfer offset by reprogrammings.

FY 2024: N/A

FY 2025: Increase reflects initiation of the Access in Information Integration Systems and Access in Cyber Systems thrusts, as well as the ramping up of efforts in the Constellation and classified programs.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Defense Advanced Research Projects Agency										Date: March 2024		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS</i>				Project (Number/Name) CCC-02 / <i>INFORMATION INTEGRATION SYSTEMS</i>			
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
CCC-02: <i>INFORMATION INTEGRATION SYSTEMS</i>	-	139.262	160.191	75.273	-	75.273	108.852	114.799	110.015	105.930	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Information Integration Systems project develops and demonstrates technologies that will provide effective communications to U.S. forces. The success of military operations depends on timely, reliable, secure, and synchronized dissemination of command and control and relevant situational awareness information to every military echelon. While wired communications and networks are fairly well developed, providing assured high-bandwidth mobile wireless capabilities that match or exceed commercial wired infrastructure is needed to meet the demands of military users. Approaches to this goal include developing technologies in these areas:

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

	FY 2023	FY 2024	FY 2025
Title: Space-Based Adaptive Communications Node (Space-BACN)	35.031	32.104	7.175
<p>Description: The Space-Based Adaptive Communications Node (Space-BACN) program seeks to create a reconfigurable intersatellite optical communications terminal that has low size, weight, power, and cost (SWaP-C) and easily integrates onto small satellites, as well as a methodology for cross-constellation command and control (C2). Space-BACN will enable on-orbit communications and data relay between heterogeneous satellite constellations that operate on different optical intersatellite link (OISL) specifications. Today's government and commercial OISL-equipped satellites are unable to communicate with each other due to reliance on single-waveform terminals and a lack of standardization for waveform specifications. Space-BACN will overcome this challenge by developing a modular, reconfigurable optical terminal that is standard-agnostic and able to support most current and future OISL protocols. Space-BACN will also develop a C2 system that controls access and configures connectivity between constellations based on availability and mission requirements. Technology developed under this program will transition to the Services and the Space Development Agency (SDA).</p>			
<p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Implement cyber hardening plan for communications terminal electronics, operating system, and C2. - Demonstrate connectivity between optical aperture and reconfigurable modem designs. - Test and evaluate application programming interfaces (APIs) and connectivity plan for different scenarios. - Conduct evaluation of cyber hardening measures. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Defense Advanced Research Projects Agency		Date: March 2024		
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS</i>	Project (Number/Name) CCC-02 / <i>INFORMATION INTEGRATION SYSTEMS</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Develop low SWaP-C, space qualifiable design of optical aperture. - Develop low SWaP-C, space qualifiable design of reconfigurable modem. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Conduct full interoperability demonstration. - Collaborate with transition partners to develop cross-constellation surge capacity scenarios. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 decrease reflects a shift from design, evaluation, and development activities to full demonstration.</p>				
<p>Title: Mission Integrated Network Control (MINC)</p> <p>Description: The goal of the Mission Integrated Network Control (MINC) program is to develop networking resource management technology to enable agile, self-healing, heterogeneous communications that adapt autonomously to battlefield situations and information needs. Technology developed by MINC will translate warfighter information needs and mission applications into requests for communication services and will autonomously discover and configure communications nodes and pathways to form and execute adaptive effects chains and move information where it is needed the most. MINC supports applications that will provide up-to-date information to support warfighter situational awareness, a customized common operating picture, and adaptive effects chains across joint all-domain operations in a highly contested environment. Technology from this program will transition to the Services.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Demonstrate integration of resource modeling and forecasting into network discovery. - Demonstrate network orchestration across multiple heterogeneous networks and control decisions aligned with mission objectives. - Conduct Government-led code reviews and evaluate cybersecurity of the MINC system. - Collaborate with transition partners to integrate MINC into transition-oriented applications. - Analyze concepts of employment and coordinate with key transition partners to inform operational deployment. - Demonstrate mission-driven networking paradigm to dynamically manage networks aligned with mission objectives. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Demonstrate MINC capabilities and value in a relevant field exercise. - Collaborate with operational partners to develop a clear path to accreditation of the MINC solution. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 decrease reflects a shift from system integration to capability demonstration.</p>		26.022	25.035	6.238
Title: Generating Communications Channels to Operate (GeCCO)		19.000	16.695	15.010

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The Generating Communications Channels to Operate (GeCCO) program will enable secure communications for military operations in contested environments by creating communications paths that assure privacy and availability. This effort will develop advanced and flexible communication architectures that employ new virtual network services. GeCCO will enable communications by leveraging commercial networks. Future distributed operations across the globe will require a small logistical footprint and the flexibility to adapt to the available communication environments (commercial and military). GeCCO will address the secure use of already widespread advanced cellular networks to preserve privacy of communications by preventing pattern-of-life analysis. Technology developed under this program will transition to the Services.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Research privacy-preserving techniques aligned with operational requirements. - Initiate pattern-of life analysis of network traffic. - Begin integration of network services with the network architecture through Government-led integration events. - Develop framework to deploy and manage software services. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Begin development, security, and operations (DevSecOps) with operational partners. - Test integrated network services and network architecture with transition partners in a controlled field environment. - Use framework to develop and deploy advanced network services. - Conduct experiments with services developed by third parties. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 decrease reflects a shift from development and integration to testing and experimentation.</p>			
<p>Title: Strategic Chaos Engine for Planning, Tactics, Experimentation and Resiliency (SCEPTER)</p> <p>Description: The Strategic Chaos Engine for Planning, Tactics, Experimentation and Resiliency (SCEPTER) program will develop machine-generated strategies for strategic planning. SCEPTER will discover novel and surprising Courses of Action (CoAs) by exploring the high complexity state-action space of military engagements at high machine speeds. High CoA exploration speed is enabled by tailorable abstraction of trusted, expert informed models. A few of the highest performing CoAs will be validated in higher fidelity simulators along with a thorough human review. Initially, SCEPTER will generate synthetic CoAs to identify vulnerabilities in human generated plans. In later stages of the program, SCEPTER will be applied in developing novel plans. Ultimately, SCEPTER will continually evaluate war plans as changes in theater occur (blue and/or red force laydowns, new equipment, etc.) to find new opportunities and weaknesses and help prevent surprise from competitors. Technology developed under this program will transition to the Services.</p> <p>FY 2024 Plans:</p>	18.000	20.020	12.023

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Develop advanced methods of incorporating unscripted goal-oriented agents into CoA generation and evaluation. - Develop advanced methods for managing and controlling the exponential growth of the global state-action space. - Demonstrate advanced performance of machine-derived plans against three or more military scenarios. - Compare machine-derived planning against human-derived planning. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Refine performance of machine-derived plans against military scenarios. - Demonstrate advanced performance of updated machine-derived plans against military scenarios. - Transition program to Armed Forces warfighter planning organizations. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 decrease reflects a shift from development to demonstration and transition.</p>			
<p>Title: Space domain Wide Area Tracking & Characterization (Space-WATCH)</p> <p>Description: The Space domain Wide Area Tracking & Characterization (Space-WATCH) program will enable real-time persistent tracking of objects in low earth orbit (LEO) and provide actionable intelligence on tactical timescales. Space-WATCH will enable detection and tracking of objects orbiting the Earth on much faster timescales than current ground-based sensors are capable of by combining proliferated, on-orbit sensors with automated data fusion. By working with commercial companies operating in LEO to host low-cost sensors on their space platforms, Space-WATCH will employ thousands of sensors on orbit to continuously gather data. Space-WATCH will utilize automated algorithms to process and fuse all the collected data for anomaly detection and false alarm reduction, making the data useful and actionable to ground-based operators. This comprehensive data set of objects in LEO and real-time information on anomalies will greatly increase the accuracy of the Department of Defense's space situational awareness, as well as enable appropriate responses to anomalies, such as maneuvering space assets out of the way of orbital debris. Technology developed under this program will transition to the U.S. Space Force and Space Development Agency.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Develop initial as-a-service market structure. - Develop and build sensors. - Conduct system integration and software testing. - Launch sensors on host platforms. - Develop sensor fusion and anomaly detection algorithms. - Conduct data fusion testing with simulated data. - Instantiate functional marketplace. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Collect on-orbit data. 	9.500	30.000	22.827

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Conduct data fusion testing with live data. - Update data fusion algorithms. - Test and evaluate market place with live data. - Update market place incentive structure based on as-a-service feedback. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 decrease reflects a shift from building and launching hardware to on-orbit data collections.</p>				
<p>Title: Access in Information Integration Systems</p> <p>Description: The Access in Information Integration Systems thrust will design and demonstrate advanced communications systems and information systems technology to provide novel concepts and advanced capabilities to access challenging new environments and overcome contested domains. Emphasis will be on concepts and approaches that increase situational awareness, command and control, communications, information infrastructure, cyber operations, information operations, artificial intelligence, and autonomous capabilities at the tactical edge. Technology advancements will support interoperability, security, and resilience.</p> <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Develop algorithms to allow for secure computation over untrusted hardware. - Develop distributed algorithms to take advantage of new compute capabilities. - Design a testbed and model performance over commercial systems. - Demonstrate edge computing approaches capable of increasing service availability. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 increase reflects program initiation.</p>		-	-	12.000
<p>Title: Resilient Networked Distributed Mosaic Communications (RNDMC)</p> <p>Description: Resilient Networked Distributed Mosaic Communications (RNDMC) aims to provide Beyond-Line-Of-Sight (BLOS) tactical communications for an Anti-Access/Area Denial (A2/AD) environment by developing low-cost expendable transceivers that may be hand carried or hosted on ground platforms, autonomous air vehicles, high altitude platforms, and low-cost/low earth orbit satellites. RNDMC plans to use a combination of synchronized transceivers and tactical radios to enhance desired signals and reject intentional and unintentional interference. RNDMC will design, develop, and demonstrate a distributed field of expendable transceivers, providing a robust, low-cost, BLOS tactical communications system that degrades gracefully as transceiver nodes become unavailable. The RNDMC goal is a demonstration on ground and air platforms and will not be reliant on Global Positioning System (GPS). Technologies from this program will transition to the Services.</p> <p>FY 2024 Plans:</p>		18.762	17.263	-

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Conduct field exercise to validate RNDMC approach in a multi-hop relay and multipoint-to-multipoint configuration. - Determine airborne platform for hosting RNDMC relay nodes. - Integrate RNDMC payload onto unmanned airborne platform to support long-range relay testing. - Transition RNDMC technology to the Office of Naval Research. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 decrease reflects program completion.</p>				
<p>Title: Air Space Total Awareness for Rapid Tactical Execution (ASTARTE)</p> <p>Description: The Air Space Total Awareness for Rapid Tactical Execution (ASTARTE) program will develop and demonstrate innovative approaches to create a joint, regional (covering the span of an Army division) airspace picture and dynamically managing local airspace operations in an Anti-Access/Area Denial (A2/AD) environment without requiring conventional high-power radars or communications. This capability will support airspace dynamic planning and real-time re-planning and deconfliction of a wide array of airborne systems and long-range fires. ASTARTE will identify and deconflict operational missions in a complicated environment filled with ground and airborne threats, friendly fires, precision guided munitions, manned and unmanned aircraft, and civilian aviation. ASTARTE will develop a virtual and live testbed for airspace management systems, a series of algorithms for airspace planning and operations, and a collection of sensors, leveraging existing and novel sensors for real-time spatial and temporal tracking of airborne platforms. ASTARTE will be compatible with legacy command and control (C2) airspace management tools to take advantage of prior investments in technologies, such as human-machine interfaces, and to minimize costs and the impact on training. Technologies from this program will transition to the Army.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Conduct additional live experimentation to assess operational use of ASTARTE technology in joint exercises. - Integrate ASTARTE microservices in Army command and control software. - Develop software documentation and package system for technology transition. - Investigate techniques to increase confidence in system output. - Transition ASTARTE capability to the Army. <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY 2025 decrease reflects program completion.</p>		12.947	19.074	-
Accomplishments/Planned Programs Subtotals		139.262	160.191	75.273
C. Other Program Funding Summary (\$ in Millions)				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Defense Advanced Research Projects Agency		Date: March 2024
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL A ND COMMUNICATIONS SYSTEMS</i>	Project (Number/Name) CCC-02 / <i>INFORMATION INTEGRATION SYSTEMS</i>

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

Remarks

D. Acquisition Strategy

N/A

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Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS</i>	Project (Number/Name) CCC-05 / <i>CYBER SYSTEMS</i>
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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
CCC-05: <i>CYBER SYSTEMS</i>	-	2.000	40.000	108.689	-	108.689	121.883	135.149	143.602	148.471	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Cyber Systems project develops, implements, and demonstrates techniques, tools, and frameworks for the full range of cyber operations. Cyber is now ubiquitous to warfighting. For non-kinetic operations in advance of lethal conflict, cyber can be a powerful enabler of information operations that limit adversary options and deter adversary actions. For kinetic operations during lethal conflict, cyber can be a force multiplier and provide an asymmetric advantage. The Cyber Systems project aims to create operational prototypes based on the cyber technology developed in applied research programs (budgeted in PE 0602303E, Project IT-03), in the private sector, and in academia. The utility of the operational prototypes that are developed in this project will be assessed, and improvements made, based on demonstrations and evaluations conducted in collaboration with warfighters, acquisition programs, and combatant commands.

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

	FY 2023	FY 2024	FY 2025
<p>Title: Carcosa</p> <p>Description: The Carcosa program is developing and demonstrating cyber technologies for use by warfighters during tactical operations. Carcosa cyber technology aims to provide warfighters in the field with enhanced situational awareness of their immediate battlespace. Carcosa technologies are being integrated in prototype tools suitable for use by warfighters with a range of cyber knowledge and skills, including both cyber novices and advanced cyber practitioners.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Collaborate with military stakeholders and explore cyber technology to provide warfighters in the field with enhanced situational awareness of the immediate battlespace. - Collaborate with operational units to develop new tactics, techniques, and procedures (TTPs) enabled by organic cyber capabilities. - Collaborate with potential transition partners to formulate proof-of-concept demonstrations of organic cyber in support of tactical operations. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Iteratively improve user interface to minimize cognitive burden on tactical cyber operators. - Develop improved form factor for optimized integration with existing equipment. - Evaluate and demonstrate technologies to military stakeholders and potential transition partners. <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	2.000	35.000	41.500

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
The FY 2025 increase reflects continued technology development and ramping up of evaluation and demonstration activities.			
<p>Title: Constellation</p> <p>Description: The Constellation program is developing technologies, capabilities, and prototype systems to enable full spectrum military cyberspace operations to deter, disrupt, and defeat adversary cyber actors and to defend the U.S. Technologies of interest include but are not limited to artificial intelligence (AI), machine learning (ML), and data science (DS); resilient software, networking, and computing systems; data and information assurance; and cyber threat intelligence. The work achieves high relevance through close coordination with U.S. cyber operators and the use of development, security, and operations (DevSecOps) and other collaborative development processes. The work achieves high velocity through streamlined acquisition, assessment, approval, and deployment processes. Constellation development and deployment pipelines enable the rapid and continuous delivery of cyber technologies, capabilities, and prototype systems into operational use for the DoD. The Constellation program is funded in PE 0603760E, Project CCC-05 and PE 0602303E, Project IT-03 to facilitate rapid transition of cyber technologies and laboratory prototypes from applied research to operational prototypes.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Establish a working group with cyber operators from Commands and Services to prioritize cyber technologies and capabilities and initiate technology adaptation and maturation, and collaborative development of operational prototypes. - Coordinate with systems owners to understand the advantages of pipeline and continuous/incremental integration/delivery development models as a means to achieve rapid deployment to operations. - Develop a continuous integration/continuous development pipeline to achieve rapid deployment to operations through continuous authority to operate (cATO). - Conduct operational test, evaluation, and readiness assessments for operational prototypes in coordination with product owners and approval authorities. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Coordinate with cyber operators from Commands and Services to understand evolving needs, prioritize cyber technologies and capabilities, and accelerate technology adaptation and maturation, and collaborative development of operational prototypes. - Assess development pipeline and continuous/incremental integration/delivery processes as a means to achieve rapid deployment to operations. - Assess and refine the continuous integration/continuous development pipeline as a means to achieve rapid deployment to operations through continuous authority to operate (cATO). - Conduct operational test, evaluation, and readiness assessments for operational prototypes in coordination with product owners and approval authorities. <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	-	5.000	27.000

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
The FY 2025 increase reflects the expansion of efforts to mature, integrate, assess, and transition cyber technologies and laboratory prototypes from applied research to operational prototypes.				
Title: Cyber Defense of Critical Infrastructure		-	-	20.189
<p>Description: Efforts conducted under this thrust feature engagement with strategic partners at Combatant Commands (COCOMs) to identify capability gaps and generate strategic impact in an accelerated timeline. U.S. national security is reliant upon COCOM mission success, which in turn depends on effective collaboration and coordination with partner nations. This thrust will enhance COCOM partnership, presence, and readiness capabilities and position the U.S. and partners to defeat competitor and adversary nations as the need arises.</p> <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Improve resiliency of critical infrastructure in the digital domain throughout the area of responsibility (AOR). - Ensure persistent and robust communication systems in contested environments. - Improve ability to conduct assured joint operations with partner nations. - Engage directly with U.S. and partner services to identify and address capability gaps. <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p> <p>The FY 2025 increase reflects initiation of collaborative efforts with partner nations to ensure resilient cyber, robust communication, and assured joint operations capabilities across multiple COCOMs.</p>				
Title: Access in Cyber Systems		-	-	20.000
<p>Description: Efforts conducted under this thrust aim to develop, implement, and demonstrate techniques, tools, and frameworks to ensure physical or virtual presence where and when necessary to provide knowledge and/or achieve desired effects. Cyber access is critical to ensure the U.S. can maintain a continuous virtual presence on adversary networks and systems. An at-will cyber access capability will be created to undermine adversary confidence in their combat, information, and weapon systems.</p> <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Initiate alternative frameworks for cyber access with specified operational characteristics. - Initiate artificial intelligence (AI) and machine learning (ML)-based access techniques. - Initiate access simulation environments having realistic adversary networks and defenses. <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p> <p>FY 2025 increase reflects program initiation.</p>				
Accomplishments/Planned Programs Subtotals		2.000	40.000	108.689

PE 0603760E: *COMMAND, CONTROL AND COMMUNICATIONS SYST..*

Defense Advanced Research Projects Agency

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Defense Advanced Research Projects Agency		Date: March 2024
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL A ND COMMUNICATIONS SYSTEMS</i>	Project (Number/Name) CCC-05 / <i>CYBER SYSTEMS</i>

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

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Defense Advanced Research Projects Agency **Date:** March 2024

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603760E / <i>COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS</i>	Project (Number/Name) CCC-06 / <i>COMMAND, CONTROL AND COMMUNICATION SYSTEMS</i>
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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
CCC-06: <i>COMMAND, CONTROL AND COMMUNICATION SYSTEMS</i>	-	150.318	121.400	152.580	-	152.580	72.191	40.940	5.895	0.000	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project funds classified DARPA programs that are reported in accordance with Title 10, United States Code, Section 119(a)(1) or its successor.

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

	FY 2023	FY 2024	FY 2025
Title: Classified DARPA Program	150.318	121.400	152.580
Description: This project funds Classified DARPA Programs. Details of this submission are classified.			
FY 2024 Plans: Details will be provided under separate cover.			
FY 2025 Plans: Details will be provided under separate cover.			
FY 2024 to FY 2025 Increase/Decrease Statement: Details will be provided under separate cover.			
Accomplishments/Planned Programs Subtotals			152.580

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

N/A

Remarks

D. Acquisition Strategy

N/A