Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	-	293.504	257.110	-	257.110	265.225	249.315	254.531	260.077	Continuing	Continuing
730: *Concepts and Capabilities*	-	-	213.504	182.289	-	182.289	187.973	176.561	180.201	184.068	Continuing	Continuing
731: *Innovation and Modernization*	-	-	80.000	74.821	-	74.821	77.252	72.754	74.330	76.009	Continuing	Continuing

Note

In FY 2023, Congress consolidated existing prototyping program elements (PEs) into one PE, Defense Innovation Acceleration (DIA) 0603838D8Z. The Defense Modernization and Prototyping (DM&P) 0603338D8Z, the Joint Capability Technology Demonstration (JCTD) 0603648D8Z, and certain prototyping activities from the Technology Innovation program 0603375D8Z were combined to create DIA. The new integrated DIA PE provides a streamlined approach and bolsters innovation by focusing on prototyping of critical capabilities that directly support warfighter needs .

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Build a Sustainable and Long-Term Advantage, and Build a resilient Joint Force and Defense Ecosystem.

The DIA PE accelerates innovative capability prototypes (TRL 5-7) that address cross-Service/cross-domain military needs in the 24-to-36-month timeframe. Prototype projects are identified through an ideation process that involves Defense-wide participation and detailed physics-based mission analysis to identify impactful capability requirements. Operational and strategic capability gaps are identified through Joint Warfighting Concept aligned mission analysis. DIA focuses on providing prototype systems in support of multi-component experimentation, informing programs of record and validating requirements. DIA prototypes will be evaluated in operationally relevant demonstrations in conjunction with the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) Mission Capabilities' (MC) experimentation events. DIA will also harness small business and non-traditional performer innovation that creates prototypes to address DoD's modernization challenges.

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B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	293.504	257.110	-	257.110
Total Adjustments	0.000	293.504	257.110	-	257.110
• Congressional General Reductions	-	-20.187			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	23.000			
• Congressional Directed Transfers	-	290.691			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustment	-	-	-4.521	-	-4.521
• Re-alignment from DM&P 0603338D8Z, JCTD 0603648D8Z	-	-	261.631	-	261.631

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 730: *Concepts and Capabilities*		
Congressional Add: *High-Altitude Optical Reconnaissance Unit and Sensor (HORUS)*	-	20.000
Congressional Add: *Open-Source Intelligence (OSI)*	-	3.000
Congressional Add Subtotals for Project: 730	-	23.000
Congressional Add Totals for all Projects	-	23.000

Change Summary Explanation

In FY 2023, Congress consolidated existing prototyping program elements into one program element 0603838D8Z. $290.691 million reflects the transfer of the Defense Modernization and Prototyping (DM&P) 0603338D8Z, the Joint Capability Technology Demonstration (JCTD) 0603648D8Z, and certain prototyping activities from the Technology Innovation program 0603375D8Z.

FY 2024 includes funding re-alignment from DM&P and JCTD and a program adjustment reduction of $5.693 million to support the Historically Black Colleges and Universities/Minority Serving Institutions program, which is a priority of the Under Secretary of Defense for Research and Engineering (USD(R&E)), $0.273 million to support departmental priorities, and $1.445 million increase for an economic assumption inflation.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	Project (Number/Name) 730 / *Concepts and Capabilities*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
730: *Concepts and Capabilities*	-	-	213.504	182.289	-	182.289	187.973	176.561	180.201	184.068	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Concepts & Capabilities (C&C) focuses on executing advanced operational prototypes with the joint Services and CCMDs. C&C validates warfighting concepts and accelerates new capabilities faster than the traditional defense acquisition process. The uniqueness of C&C is in the joint collaboration and the funding flexibility of theTitle-10 investment. C&C emphasizes delivering major system components and/or single fieldable systems for joint warfighting application, while informing Service programs of record. The delivery of these operational prototypes are typically within 24 to 36 months.

C&C drives prototyping investments to address the joint warfighter's most pressing operational capability gaps and accelerates new capability development in conjunction with the joint Services and Combatant Commands (CCMD). Based on established needs, C&C sponsors joint efforts to mature operational prototypes through approved developmental portfolios. OUSD(R&E) portfolio managers provide government oversight and execute collective development with operational leads from the Service and CCMDs; pool technical resources from the Service research, engineering laboratories, program executive offices; leverage academia and industry expertise as needed; require Service cost-sharing partnerships; and execute the necessary planning steps for future transition early within the developmental life cycle. This execution strategy represents a time-proven catalyst for collaborative development and accelerates delivery of operational prototypes to the joint warfighter. In FY 2023, several previously approved efforts transferred from the Joint Capability Technology Demonstration (JCTD) program to the new Defense Innovation Acceleration (DIA) program, as they continue to boost innovation and increase military competitive advantage in the Indo-Pacific area of operations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Stratospheric Capability Architecture Development (SCAD)	-	3.600	-
Description: Previously approved and funded JCTD project; now aligned under C&C. SCAD supports the National Defense Strategy by delivering materiel solutions to the United States Army (USA) and United States Special Operations Command (USSOCOM) for acquisition and sustainment. SCAD develops, demonstrates, and assesses an unmanned aerial systems platform with stratospheric payloads that provide ground moving target indicator synthetic aperture radar, signals intelligence, and communications relay capabilities. In FY 2022, SCAD developed a concept of operations and conducted technical and operational demonstrations. ***FY 2023 Plans:*** SCAD plans to execute its military utility assessment and transition to the U.S. Army and USSOCOM. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** This C&C project completes in FY 2023.			
Title: Passive Optical Spectrum Control and Exploitation (POSCE)	-	4.650	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Previously approved and funded JCTD project; now aligned under C&C. POSCE uses innovative sensing methods intended to augment persistent intelligence, surveillance, and reconnaissance (ISR) in maritime environments and along terrestrial chokepoints. Additionally, novel sensing provides penetrating ISR in response to operational challenges in anti-access/area-denial environments. ***FY 2023 Plans:*** POSCE plans to conduct technical demonstrations, an operational demonstration/ military utility assessment, and transition the prototypes to Services operating in the U.S. Central Command (USCENTCOM), U.S. Indo-Pacific Command (USINDOPACOM), and U.S. European Command (USEUCOM) areas of responsibility to acquire mission data and demonstrate mission relevance. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2023.			
Title: Joint Targeting Support (JTS)	-	5.655	-
Description: Description: Previously approved and funded JCTD project; now aligned under C&C. JTS will reduce the sensor-to-shooter timeline and increase the rate of target identification and engagements by leveraging resources across services, agencies, and coalition partners. JTS will connect sensors, shooters and data across the Services to effectively support targeting cells at all echelons to provide capabilities in support of Joint All- Domain Command and Control (JADC2). JTS will automate Joint target development for deep fires missions by developing and integrating machine learning analytics with Joint- and Service-specific information systems and Intelligence, Surveillance, and Reconnaissance (ISR) networks. JTS will simultaneously build and refine numerous user- and machine-nominated target decks by employing distributed processing and fusion analytics and augmenting the Joint Automated Deep Operations Coordination System (JADOCS) to improve the target development process across echelons and services. In FY 2022, JTS further developed analytics, user interfaces, and exploitation and correlation of Joint forces data. ***FY 2023 Plans:*** In FY 2023, JTS plans to deliver a fully functioning visualization system, conduct a military utility assessment, and complete transition. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2023.			
Title: Raging Parakeet (RP)	-	5.750	-
Description: Previously approved and funded JCTD project; now aligned under C&C. Combatant Commands (CCMD) lack the ability to rapidly analyze vast amounts of Intelligence, Surveillance, and Reconnaissance (ISR) data to quickly locate hard-to-find			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
targets with a high degree of accuracy. RP utilizes advanced artificial intelligence, machine learning algorithms, and sensor fusion to decrease manpower requirements and simultaneously increase the accuracy of high-priority target identification. In FY 2022, the U.S. Air Force handed over technical lead to the Naval Research Laboratory (NRL). ***FY 2023 Plans:*** The C&C project plans to gather needed data sets, develops an initial set of algorithms, establishes open architecture standards, completes standards development, develops a prototype processor based on the project's standards, creates fusion and cross-cueing algorithms, performs integration of the payload into the host aircraft, and performs a technical demonstration. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2024.			
Title: Reliable Transmission over HF (NORTH) ***Description:*** Previously funded JCTD project; now aligned under C&C. NORTH focuses on command, control, communications, computers, intelligence, surveillance, and reconnaissance and fully-networked command, control and communications (FNC3) modernization. NORTH integrates the Navy's wideband high frequency (HF) mesh networking system and the Air Force's digital HF radios and repeaters to optimize joint information transport datalinks based on sense and respond (S&R) of the spectral environment. All three systems combined provide an enterprise solution that increases operational effectiveness of resilient command, controls and communication in anti-access/ area-denial environments. In FY 2022, NORTH conducted a technical demonstration in simulated conditions that demonstrated an ad hoc HF mesh networking system enhancing FNC3, including resilient command and control (RC2) and nuclear command, control, and communications. ***FY 2023 Plans:*** In FY 2023, NORTH plans to develop and integrate roll-on/roll-off equipment suites on joint Service fixed and mobile platforms and demonstrate the RC2 capability in contested environments. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2023.	-	3.816	-
Title: Grandstand ***Description:*** GRANDSTAND leverages recent technological advancements to provide indication and warning (I&W) to U.S. Indo-Pacific Command (INDOPACOM) Commanders and U.S Forces in a timely manner in FY2024. Additional information at higher classifications. ***FY 2023 Plans:***	-	5.500	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Develop and laboratory demonstrate persistent access to threat C5ISRT, demonstrate indication and warning capabilities, reduce latency preparatory to FY2024 near real time data processing capabilities, and identify platform capabilities to access peer competitor C5ISRT. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2023.			
Title: IRON QUEST ***Description:*** IRON QUEST leverages recent technological advancements to provide indication and warning (I&W) to U.S. Indo-Pacific Command (INDOPACOM) Commanders and U.S Forces. Additional information at higher classification ***FY 2023 Plans:*** Conduct threat analysis, testing, and operational demonstration in fiscal year 2023 and submit to Deputy's Management Action Group (DMAG). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2023.	-	4.500	-
Title: BRUTUS ***Description:*** BRUTUS leverages recent technological advancements to provide indication and warning (I&W) and to disrupt adversarial command, control, computing, communications, cyber, intelligence, surveillance, reconnaissance and targeting (C5ISRT) capabilities. This solution supports Joint Force freedom of maneuver at all echelons. ***FY 2023 Plans:*** Produce, test, and demonstrate prototype system in an operationally relevant scenario. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2023.	-	10.000	-
Title: Scout ***Description:*** This project will build attributable, long-distance, autonomous low-profile vehicles to accomplish a variety of missions. The platform will minimize detection from a variety of sensors through the use of low observable attributes. ***FY 2023 Plans:***	-	3.900	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
In FY 2023, Scout will implement hardware and software updates, while producing other key deliverables for the creation of a prototype. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Scout is planned to complete in FY 2023.			
Title: LUCAS ***Description:*** LUCAS is an cost-effective unmanned prototype in development for deployment at scale. Additional information is classified. ***FY 2023 Plans:*** Additional information is classified. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Lucas is planned to complete in FY 2023.	-	4.500	-
Title: Payload Prototypng to Support Stratospheric Experimentation ***Description:*** The Stratospheric Experimentation effort includes the development and prototyping of stratospheric payloads that can operate on a variety of high-altitude platforms. ***FY 2023 Plans:*** Develop prototype payloads to be used with stratospheric experimentation. Complete reports and work with Service leads for ultimate transition. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** This project will complete in FY 2023.	-	4.400	-
Title: Prototyping Development Efforts to Fill Identified Gaps ***Description:*** A number of projects were identified for some accelerated development in order to participate in future Rapid Defense Experimentation Reserve activities. These include Cyber Shield Coalition, Familiar Relative, Denied Area Operations, LTAMDS-V acceleration, Pacific Ecosystem for Cyber (PEcoC) Acceleration, and decoy prototypes. ***FY 2023 Plans:*** Initiate prototype development in order to participate in future experimentation venues. Additional information can be provided in a classified brief. ***FY 2023 to FY 2024 Increase/Decrease Statement:***	0.000	19.000	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
This effort completes in FY 2023.			
Title: Samurai ***Description:*** Samurai demonstrates an architecture for the Joint Force that will leverage intelligence information at the tactical edge. ***FY 2023 Plans:*** Develop prototypes, integrate with the Joint Force, and plan for demonstration and experimentation. ***FY 2024 Plans:*** Finalize planning and integration. Demonstrate and experiment with the capability, and transition to acquisition. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Not Applicable	-	8.000	8.000
Title: LOGAN ***Description:*** Project information at higher classification ***FY 2023 Plans:*** Additional information is classified. ***FY 2024 Plans:*** Additional information is classified. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Not Applicable	-	7.000	7.000
Title: Collaborative Naval Information Warfare Systems Command Cyber Operations (N-Cyber) ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. The N-Cyber C&C project is an offensive capability that enables warfighters to create non-kinetic effects (NKE) on traditionally hard-to-affect adversary systems from air, land, or sea through the integration of space, cyber, and electronic warfare. ***FY 2023 Plans:*** In FY 2023, N-Cyber plans to integrate and assess the capability against a test electronic warfare system through a technical demonstration. ***FY 2024 Plans:***	-	3.047	3.200

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
In FY 2024, N-Cyber plans to conduct operational demonstrations and a military utility assessment in an operationally-relevant environment. Transition is expected to be led by the 16th Air Force and executed through the Air Force Life Cycle Management Center (AFLCMC). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding is to deliver the capability with concept of operations, tactics, techniques, and procedures; and, to cover additional transition costs post demo and/or assessment. The C&C project completes in FY 2024.			
Title: Signal of Opportunity Receiver (SORcer) Enable Ionospheric Modeling (SEIM) ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. By fielding SORcer systems in forward operating locations, SEIM delivers necessary high frequency (HF) propagation data to enable operational awareness of the electromagnetic operating environment. Artificial intelligence (AI) and deep neural network (DNN) techniques are utilized to enable autonomous use of SORcer systems to support better targeting and decision-making for the joint warfighter. In FY 2022, SEIM deployed SORcer systems in operationally-relevant locations, connected SORcer systems to specified networks to exfiltrate near-real-time observations to a centralized location for quality control and assimilation. ***FY 2023 Plans:*** In FY 2023, SEIM plans to develop an AI DNN capable of using multiple SORcer data streams to produce data files appropriate for assimilation and demonstrate the production and delivery of a real-time regional ionospheric model via technical demonstrations. ***FY 2024 Plans:*** In FY 2024, SEIM plans to conduct an operational demonstration/military utility assessment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding is to deliver capability with concept of operations, tactics, techniques, and procedures; and, to cover additional transition costs post demo and/or assessment. The C&C project completes in FY 2024.	-	2.982	3.080
Title: Quicksink ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. Quicksink is developing technologies to reduce the number of air assets required for anti-surface warfare (ASuW) operations by increasing ASuW weapon lethality and standoff while decreasing costs. The program is also using the joint direct attack munition as an inexpensive integration and testing platform for Quicksink technologies. In FY 2022, the program successfully demonstrated Quicksink munition against stationary maritime targets.	-	6.995	5.893

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Complete laboratory and flight testing and guidance unit. ***FY 2024 Plans:*** Conduct an all-up-round (AUR) operational demonstration/military utility assessment against a target hulk. The inclusion of the seeker and guidance package within the AUR is an enabler to long-range, launch-and-leave ASuW capability. The C&C project completes in FY 2024, with transition to the Air Force Life Cycle Management Center, the explosive fill and fuzing components transitioning to Naval Surface Warfare Center (NSWC) Indian Head, and the case design transitioning to the U.S. Navy Mine Warfare program. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 funding reduction is due to planned schedule changes. The C&C project completes in FY 2024.			
Title: Turul ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. Turul provides scalable, machine learning-enabled algorithms to find and fix fleeting targets to accelerate kill chain activities against time-sensitive targets. Information from these capabilities provides situational awareness to Combatant Command (CCMD) operators and can be used to tip and cue other sensor systems. ***FY 2023 Plans:*** In FY 2023, Turul plans to execute multiple technical demonstrations and an operational demonstration ***FY 2024 Plans:*** In FY 2024, Turul plans to execute its military utility assessment and transition to a program of record under the U.S. Space Force's Space Systems Command. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in late FY 2024.	-	2.700	3.400
Title: Surface-Launched Advanced Munition Datalink (SLAMD) ***Description:*** Previously approved and funded JCTD Project; now aligned under C&C. The SLAMD C&C develops and integrates a tactical projectile data link (PDL) into a gun-launched, maneuvering projectile to enable long-range precision fires in a GPS-denied environment. The data link is also an enabler for ground-to-round and round-to-round communications for tactical applications, such as swarming. In FY 2022, SLAMD completed system and subsystem technical requirements generation, initial PDL design and development, PDL interface control document (ICD) development, radar mode design, and assessment metrics development.	-	3.793	4.900

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Conduct PDL integration into projectile airframe for initial technical demonstration. Complete PDL-to-Radar integration activities, finalize the ICD, and demonstrate Radar-to-PDL communications in a lab environment. Develop test documentation and analysis on performance expectations ***FY 2024 Plans:*** Complete the risk management framework process and obtain an authority to operate, conduct final technical demonstration, flight operational demonstration/military utility assessment. The SLAMD PDL design and ICD plans to transition to Program Executive Office (PEO) Missiles and Space and Joint Program Executive Office (JPEO) Armaments and Ammunition. The C&C project completes in FY 2024. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding delivers capability with concept of operations, tactics, techniques, and procedures; and, to cover additional transition costs post demo and/or assessment. The C&C project completes in FY 2024.			
Title: High-Frequency Silent Transmission over Optimum Delivery of Expeditionary Situational Awareness Resilient Mesh (HF STORM) ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. As a result of technical changes, this project's name changed from "High-Frequency Silent Transmission over Optimum Delivery of Expeditionary Situational Awareness Resilient Mesh" to "High-Frequency Silent Transmission over Resilient Mesh." This project refines the Department of Defense (DoD)'s Fully-networked Command, Control, and Communications (FNC3) and high frequency (HF) roadmaps to mature and layer several key technologies. These developments combine to increase transmission directivity while minimizing detection susceptibility in tactical, relocatable, and expeditionary ground and aerial nodes that link with a large ground-based array to provide global and secure reach in a contested or denied environment. In FY 2022, HF STORM conducted a technical demonstration. ***FY 2023 Plans:*** HF STORM plans to receive Interim Authority to Test (IATT), conduct Test Readiness Review (TRR), integrate feedback from operational community associated with ongoing test and refinement and conduct a second technology demonstration with fully integrated architecture. ***FY 2024 Plans:*** The C&C project plans to perform an operational demonstration and military utility assessment and transition the fieldable prototype for integration into current and next generation programs. ***FY 2023 to FY 2024 Increase/Decrease Statement:***	-	5.300	6.145

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Increased funding is to deliver capability with concept of operations, tactics, techniques, and procedures; and, to cover additional transition costs post demo and/or assessment. The C&C project completes in FY 2024.			
Title: Joint Undersea Surveillance and Targeting (JUST) ***Description:*** Previously approved and funded JCTD Project; now aligned under C&C. JUST will deliver a new capability to monitor changes to the undersea battlespace and seabed infrastructure by demonstrating intelligent autonomous unmanned undersea vehicle (UUV)-enabled target recognition and change detection capability enabling secure Joint Force offensive and defensive operations. Combatant Commands (CCMD) require JUST capabilities for force protection and operational plan execution. In FY 2022, JUST developed and tested automatic target recognition (ATR) and automatic change detection (ACD) capabilities and assessed surrogate UUVs for testing in an operationally-relevant environment. ***FY 2023 Plans:*** In FY 2023, JUST continues to develop and test the vehicle's on-board intelligence systems and capabilities, including ATR and ACD, and advanced vehicle autonomy with on-vehicle processing to meet the mission objectives. ***FY 2024 Plans:*** In FY 2024, JUST plans to conduct technical and operational demonstrations. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2024.	-	2.887	5.600
Title: Autonomous Multi-Domain Launcher (AML) ***Description:*** Previously approved and funded JCTD Project; now aligned under C&C. AML will develop and demonstrate an unmanned, cab-less, highly mobile, C-130 transportable prototype Long Range Precision Fires (LRPF) launcher. The prototype launcher will be capable of leader-follower autonomy, drive-by-wire, and remote launcher turret and fire control operation. Coalition partners is collaborating on this C&C Project. In FY 2022, AML completed its Implementation Directive and Management Plan. ***FY 2023 Plans:*** In FY 2023, AML will deliver an initial system design review as well as deliver the vehicle and launcher and conduct a technical demonstration. ***FY 2024 Plans:***	-	3.200	3.100

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
In FY 2024, AML will conduct an operational demonstration and military utility assessment and transition to Program Executive Office (PEO) Missiles and Space, Strategic and Operational Rockets and Missiles (STORM) Project Office, Field Artillery Launchers (FAL). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 funding reduction is due to planned schedule changes.			
Title: Birdseye Yonder (BEYOND) ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. BEYOND matures and integrates advanced, photonic-based radiofrequency (RF) sensors (referred to as “Wall Fly”) that generate high-quality geolocation and signal intelligence of threats far beyond current capabilities. BEYOND matures and integrates sensors into existing USEUCOM sensor networks and demonstrates signals intelligence. ***FY 2023 Plans:*** In FY 2023, BEYOND builds the integrated photonics package and tactical ground-based wall fly sensor. ***FY 2024 Plans:*** In FY 2024, BEYOND builds back-end processing, continues reducing size and weight, initiates integration at US Air Forces Europe (USAFE)’s Ramstein Air Defense Sensor Integration Laboratory (RADSIL). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding is for miniaturization and weight reduction and integration into RADSIL.	-	3.800	4.500
Title: Collaborative Artificial Intelligence (AI) for Predicting Enemy Course of Action (ECOA) (CAPE) ***Description:*** Previously approved and funded JCTD Project; now aligned under C&C. CAPE is an Artificial Intelligence (AI)-enabled decision support software for predicting enemy course of action (ECOA). CAPE introduces a unique Decision Centric Architecture (DCA) not currently found in fielded systems and advances symbolic plan recognition, semantic networks, and mixed-initiative reasoning that facilitate human- machine teaming while automating ignorance identification and request for information generation. ***FY 2023 Plans:*** In FY 2023, CAPE develops a software prototype, reusable software libraries, and a software development kit that accelerates third party artificial intelligence integration. ***FY 2024 Plans:***	-	4.500	5.200

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 730 / *Concepts and Capabilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
In FY 2024, CAPE plans to conduct a technical demonstration of a software prototype capable of operational use by the United States Space Force (USSF). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The C&C project completes in FY 2024.			
Title: Correlating Order-of-Battle (OB) Movement Patterns for Learned Event Exploitation (COMPLEX) ***Description:*** Previously approved and funded JCTD Project; now aligned under C&C. COMPLEX is artificial intelligence and machine learning software that improves our ability to predict our adversaries' movements and operational activities. COMPLEX will have two main impacts on the Joint Warfighter capability: increasing warning capability against foreign military actions and increasing knowledge of activity patterns within, across, and between foreign units. ***FY 2023 Plans:*** In FY 2023, COMPLEX expands inventory of indicators and warnings support for multiple adversaries military deployments while continuously updating knowledge databases on enemy deployment tactics, techniques, and procedures. ***FY 2024 Plans:*** In FY 2024, COMPLEX plans to perform an initial technology demonstration of its developed software. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding is due to the project ramping up to a full development team and preparation for test and evaluation activities.	-	4.200	4.750
Title: HAYFINS ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. HAYFINS is a ground-based system supporting space and autonomy modernization priorities by fusing protection technologies, artificial intelligence/machine learning, and legacy systems enabling freedom of maneuver in support of multi-domain operations. ***FY 2023 Plans:*** In FY 2023, HAYFINS initiates design and initial development of a prototype for demonstration and assembly. ***FY 2024 Plans:*** In FY 2024, HAYFINS completes its initial prototype and an initial hardware/software package to support future transition. HAYFINS also conducts an initial technology demonstration. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase in FY 2024 is to ramp up prototype manufacturing.	-	4.963	5.800
Title: Joint Radiant Touchstone (J-RTS)	-	3.900	4.195

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Previously approved and funded JCTD Project; now aligned under C&C. Joint Warfighters require a vulnerability assessment tool designed to enable warfighters with freedom of maneuver and freedom of action. The J-RTS tactical software tool will provide warfighters with freedom of maneuver, function as a key offensive warfare enabler, and provide awareness for disaggregated/disadvantaged users. J-RTS will scale into a Joint Force capability supporting warfighters across all theaters by sharing data as well as planning details once the tool is deployed to theater assets. Further technical details are classified. ***FY 2023 Plans:*** FY 2023 project schedule and deliverable are classified. ***FY 2024 Plans:*** FY 2024 project schedule and deliverable are classified. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding is to deliver capability with concept of operations, tactics, techniques, and procedures; and, to cover additional transition costs post demo and/or assessment.			
Title: Low-Altitude Future Vertical Take-off and Landing (VTOL) Long-Range Attack Missile (LRAM) ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. The LRAM C&C project builds upon L3Harris' Red Wolf air-launched unmanned air vehicle (UAV). Specifically, the C&C project develops a launcher and control interface for vertical takeoff and landing (VTOL) aircraft, kinetic payload, command and control architecture, and a seeker for autonomous over-the-horizon engagements. Most of the aforementioned is extensible to other aircraft, to include unmanned aircraft. This weapon system concept significantly extends the lethal range of VTOL-launched weapons. Moreover, outfitting the VTOL fleet of tactical aircraft (H-1, H-60 series, AH-64, and Joint Future Vertical Lift) with this weaponized UAV dramatically increases the number of aircraft available for over-the-horizon strike. ***FY 2023 Plans:*** Development of a Fire Control System for the UAV and AH-1Z interface / launcher. Captive-carry flight testing of the UAV aboard AH-1Z. ***FY 2024 Plans:*** Flight testing, operational demonstration, military utility assessment and transition to a new program of record. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase is for flight testing and operational demonstration.	-	4.491	4.500
Title: Rapid Large Area Clearance (RLAC)	-	5.300	5.900

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 730 / *Concepts and Capabilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Previously approved and funded JCTD project; now aligned under C&C. RLAC rapidly conducts large area clearance of ports and airfields from multiple explosive threats to enable access, maneuver and protection for multi-domain operations to ensure that critical air and sea ports of debarkation and ground lines of communication are tenable to support joint fires and logistics in contested environments. Specifically, RLAC will develop and integrate autonomous small Unmanned Aerial Systems (sUAS) and Unmanned Ground Vehicles (UGV) equipped with automatic target recognition to rapidly survey, detect, identify, and map both surface and buried unexploded explosive ordnance (UXO), and then use lasers to neutralize sub-munitions at stand-off distances. ***FY 2023 Plans:*** In FY 2023, RLAC builds, integrates and tests subsystem prototypes; develops standoff neutralization of sub-munitions; and, develops cooperative autonomy, target recognition and deep detection. ***FY 2024 Plans:*** In FY 2024, RLAC plans to develop surveying, detection, geolocation/mapping and identification of all surface targets and further integrate the RLAC platform with autonomy and communications. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase for integration and system testing.			
Title: Sea Archer ***Description:*** Previously approved and funded JCTD Project; now aligned under C&C. Sea Archer will hold key fixed military systems at risk at the onset of conflict. Further details of the project are classified. ***FY 2023 Plans:*** In FY 2023, Sea Archer will develop the platform hardware and software and any necessary modifications followed by an exercise demonstration on a testing range. ***FY 2024 Plans:*** In FY 2024, Sea Archer will conduct full system integration and testing, the operational demonstration (OD) in a threat-representative environment and conduct its military utility assessment (MUA) and transition. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase is for final OD and MUA.	-	3.950	4.500
Title: Shadow Cat	-	3.775	4.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 730 / *Concepts and Capabilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Previously approved and funded JCTD project; now aligned under C&C. This project is part of the fully-networked command, control, and communications problem-set. Further details and descriptions of this project are classified. ***FY 2023 Plans:*** FY 2023 project schedule and deliverable are classified. ***FY 2024 Plans:*** FY 2024 project schedule and deliverable are classified. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase of is due to an accelerated technical demonstration schedule.			
Title: Aerial Port of the Future (APoF) ***Description:*** Previously approved and funded JCTD project; now aligned under C&C. Aerial ports and air transportation expeditionary operations are constrained by poorly performing and unlinked Information Technology (IT) systems, outdated command, control, and communications networks, and physical handling of critical classes of supply. To solve these problems, APoF develops, integrates, and tests emerging capabilities at aerial ports by providing a logistics common operating picture for planning, processing, and managing joint force cargo; an integrated automated system to manage personnel, cargo, and munitions; and man/unmanned materiel handling equipment to rapidly load sustainment to global air mobility assets. In FY 2022, APoF leveraged high-impact improvements to IT infrastructure for tactical awareness of the aerial port, completed the spiral for IT infrastructure development, and started two new spirals: one for automated systems with portable computing and another for the integration of autonomy and machine learning with advanced data analytics. ***FY 2023 Plans:*** APoF plans to complete the spiral for automated systems with portable computing, advance the spiral for the integration of autonomy and machine learning with advanced data analytics, and conduct technical and operational demonstrations. ***FY 2024 Plans:*** APoF plans to conduct its military utility assessment and transition the automated infrastructure tools, hardware/software residuals and robotic material handling equipment systems through Air Mobility Force Center of Excellence to Elmendorf Air Force Base, Alaska; Joint Base McGuire-Dix, New Jersey; Pope Army Airfield, North Carolina; and USINDOPACOM expeditionary locations. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2024 funding reduction is due to planned schedule changes. This C&C project completes in FY 2024.	-	5.250	5.100
Title: Concepts & Capabilities (C&C) Portfolio Development Initiatives (PDI)	-	11.000	68.876

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Continually-funded effort. This funding allocation is to provide future funding for in- and out-year new-start C&C projects. Through the C&C PDI effort, OUSD(R&E) sponsors efforts to address the Department's most pressing operational capability gaps and accelerate new capability development in collaboration with the Joint Services and Combatant Commands (CCMD). OUSD(R&E) executive leadership will endorse and make final recommendations for Congressional approval in accordance with H.R. 2617, Consolidated Appropriations Act, Section 8061. Selected projects leverage multicomponent agencies within the global research and engineering enterprise, to include government labs and integration agents, depots, academia, and commercial defense industrial base (DIB) providers. As provided by the Deputy Chief Technology Officer for Mission Capabilities (DCTO(MC)), operational prototyping activities utilize best practices to satisfy joint and crosscutting needs and work collectively to streamline transition and scale-up into joint Service acquisition systems where appropriate. Current developmental portfolios are designed for, but are not limited to, addressing critical capabilities gaps in battle-space management; cyber; command, control, communications, computers, cyber, intelligence, surveillance, reconnaissance, and targeting (C5ISRT) and Counter-C5ISRT; resilient communications; unmanned and autonomous systems; deception and decoys; electronic warfare and sensors; weapons and platforms; space-based capabilities; and logistics and sustainment. This fiscal year's funding includes a number of projects submitted in a Congressional new-start report. Projects identified for funding this fiscal year will be included on future R2 exhibits while projects that are more than the $5M threshold will be included in congressional new start notification packages. In future fiscal years, this report will be submitted earlier in the fiscal year and include those projects. ***FY 2023 Plans:*** Develop and shape future projects into approved C&C developmental portfolios; sponsor and invest in advanced prototyping activities as new-starts that support the National Defense Strategy (NDS) and USD(R&E) priorities. ***FY 2024 Plans:*** Develop and shape future projects into approved C&C developmental portfolios; sponsor and invest in advanced prototyping activities as new-starts that support the NDS and USD(R&E) priorities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase reflects that fact that most FY 2023 projects are already identified and included as separate projects, with a few final decisions being made for prototyping projects that fill operational and strategic capability gaps. Projects that will be funded in FY 2024 are already being identified, and they will be included separately on future R-2 exhibits.			
Title: Special Access Program (SAP) Assimilation and Integrated Operational Management	-	14.200	14.650
Description: Continuously -funded effort. This effort is comprised of two execution essentials that support the entire C&C project code: (1) Special Access Program (SAP) Assimilation, and (2) Warfighter Integrated Operational Management. This effort executes a select number of highly-classified projects in areas such hypersonics and counter-hypersonics, time-sensitive targeting, electronic miniaturization, electronic countermeasures, advanced mobile / ad hoc network communications, space			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 730 / *Concepts and Capabilities*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
situational awareness, cyber, counter-ISR, decoys and deception, and persistence surveillance. This element funds SAP assimilation and synchronization across the Joint prototyping activities to ensure DIA efforts and investments remain fully SAP-informed while maintaining requisite security compliance. Liaising directly with the joint warfighter (e.g., Combatant Commands (CCMD) and Services) on prototype development is paramount to avoid unwanted duplication, propagate collaboration and achieve joint interoperability. ***FY 2023 Plans:*** Provide integrated operational management with joint Service and CCMD direct participation in shaping and executing operational prototypes. Sponsor and execute projects selected by the Deputy Chief Technology Officer for Mission Capabilities (DCTO(MC)) and OUSD(R&E) leadership that are fully SAP-informed and synchronized. ***FY 2024 Plans:*** Provide integrated operational management with joint Service and CCMD direct participation in shaping and executing operational prototypes. Sponsor and execute projects selected by the DCTO(MC) and OUSD(R&E) leadership that are fully SAP-informed and synchronized. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding accounts for a minor increase in project execution.			
Accomplishments/Planned Programs Subtotals	0.000	190.504	182.289

	FY 2022	FY 2023
Congressional Add: High-Altitude Optical Reconnaissance Unit and Sensor (HORUS)	-	20.000
FY 2023 Plans: HORUS is a prototype electro-optical/infrared system incorporating a modular open system architecture to provide an adaptable and evolvable capability. The HORUS prototype supports day or night operations providing multi-spectral, high-definition full motion video from extreme slant ranges. Specific activities and demonstrations will be finalized within the year of execution. This technology area is a Congressional interest item and additional resources were provided above the President's budget.		
Congressional Add: Open-Source Intelligence (OSI)	-	3.000
FY 2023 Plans: This project continues development and transition of the Open-Source Supply Chain Analytics Resource (OSSCAR) project. OSSCAR develops a capability that enables planners and operators to rapidly analyze and leverage open-source supply chain data to adapt to a dynamic operational environment. Quickly accessing and assessing publicly available information provides insights for developing distribution and sustainment courses of action and allows for vetting critical suppliers to U.S. or adversary supply chains.		

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 730 / *Concepts and Capabilities*

	FY 2022	FY 2023
Specific activities and demonstrations will be finalized within the year of execution. This technology area is a Congressional interest item and additional resources were provided above the President's budget.		
Congressional Adds Subtotals	-	23.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Upon project closeout, a C&C project has three possibilities:

1) Transition as Capability Delivery (Operational Prototype)
- To a new or existing Program of Record
- As a residual leave behind for immediate operational use
- Or both

2) Transition as Capability Enabler (Developmental Prototype)
- Informs further acquisition programs and/or requirements development

3) No Transition
- Requirements change or no longer valid
- Did not meet deliverables as planned

The integrated management team on a C&C project includes an operational manager from a CCMD, a technical manager from Service research and engineering labs, and a transition manager from a program executive office. This ensures that transition is planned for throughout the lifecycle of the project.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	Project (Number/Name) 731 / *Innovation and Modernization*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
731: *Innovation and Modernization*	-	-	80.000	74.821	-	74.821	77.252	72.754	74.330	76.009	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Innovation and Modernization (I&M) focuses on early-stage innovation discovery and leap-ahead efforts that expand the art-of-the-possible with a strong emphasis on small businesses and non-traditional partners. Activities within this project include early exploration of potentially game-changing technologies and concepts, harnessing small and non-traditional business innovation to address Department of Defense (DoD) modernization challenges. I&M acts as an innovation accelerator by funding discovery efforts and the development of prototypes to identify and mature solutions for joint capability gaps. Efforts support both the technology maturation and development of transition pathways through partnerships with Services, Combatant Commands (CCMDs), and other defense agencies to enable effective, affordable, and critically needed early stage “developmental” prototype technologies. I&M achieves this through a tailored execution model that:

- Leverages innovation from all sources including Service laboratories, Federally Funded Research and Development Centers (FFRDCs)/University Affiliated Research Centers (UARCs), the defense industry, small businesses, non-traditional performers, and academia;
- Responds rapidly with the ability to identify and fund prototyping efforts within the year of execution to accelerate the rate of innovation and address emerging opportunities and threats;
- Leverages Services, defense agency, and industry investments through partnerships that share risk and increase alignment with OUSD(R&E) priorities;
- Incorporates transition sponsor participation during project development, prototyping, and evaluation;
- Creates an innovation pipeline to support formalized experimentation and transition efforts, such as RDER, targeting Department priorities and capability gaps;
- Is informed by Department-level strategies and priorities, including the National Defense Strategy, OUSD(R&E) critical technology areas, and the Combatant Commands’ (CCMD) integrated priority lists ; and,
- Coordinates across the defense innovation ecosystem, including Service laboratories, FFRDCs/UARCs, academia, and the private sector, thereby increasing impact and reducing duplication.

With funds available throughout the year of execution, I&M enables the OUSD(R&E) to identify, accelerate, and rapidly transition innovation from small businesses and non-traditional performers that otherwise would not be realized through traditional research and development pathways. Accordingly, I&M can be responsive and flexible to the DoD and joint warfighter needs, supporting rapid prototyping to meet immediate capability needs or game-changing technologies that maintain technological superiority and create enduring change.

I&M’s focus on innovation discovery leads to smaller efforts supported by joint and interagency partnerships with clearly defined milestones and risk reduction. Prototyping efforts are identified throughout the year by leveraging engagements with industry, Service laboratories, FFRDCs, and other innovation centers. Individual projects generally span 12 to 24 months, typically at a cost of less than $2.000 million. In FY 2023, previously approved and funded efforts transferred from Defense Modernization and Prototyping (DM&P) 0603338D8Z to I&M for continued development and innovation discovery with small businesses and non-traditional performers.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 731 / *Innovation and Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Low-Cost Innovative Projects (Projects less than $1.000 million per phase)	-	12.250	-
Description: These projects are prototype investments with the potential to deliver rapid capabilities, and seek to mature and transition low-cost innovative technologies. ***FY 2023 Plans:*** In FY 2023, I&M intends to complete execution and transition the following low-cost projects: • Perched Mantlet: This effort developed an unattended ground sensor prototype to detect low and medium altitude threats. Additional details are classified. Development of the prototype capability continues in FY 2023 with final transition to DoD partners. In FY 2023, this effort transitioned from PE 0603338D8Z DM&P to I&M. • Arctic Grid Energy Storage (AGES): This project developed and demonstrated a battery storage and tactical generator microgrid capability that meets critical operational requirements in extreme cold weather environments; emphasizing scalable, flexible, and high-power quality for continuous and high-energy demands. Development and evaluation of the prototype continues in FY 2023 with final transition to the joint Services. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • International Security Assessment and Analytic Capability (ISAAC): This project leveraged small business innovators in the artificial intelligence/machine learning (AI/ML) space to further develop non-traditional intelligence, surveillance, and reconnaissance (ISR) collection and better understand diplomatic, informational, military, economic, financial, intelligence, and law enforcement actions. Development of the prototype capability continues in FY 2023 with final transition to U.S. Indo-Pacific Command (USINDOPACOM). In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • U.S. Special Operations Command (USSOCOM) Ignite: This annual program is a low-cost innovation accelerator that combines the ingenuity and out-of-the-box thinking of military students with real-world military problems curated by USSOCOM. Students from multiple universities worked together to develop prototype solutions to relevant challenges like drone autonomy, sensor and data fusion, and casualty care at the tactical edge. Development of prototypes continues in FY 2023 with final transition into operational capabilities. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Distributed sensing from Air, Ground, and Naval platforms (DRAGON): This project delivered a cost-effective solution for incoming threat detection by incorporating advancements across multiple technology focus areas including improved sensors, machine learning, and edge processing. Development and evaluation of the technology in a relevant environment continues in FY 2023 prior to transitioning to the U.S. Navy. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Automated Joint Terminal Attack Control Message Exchange (AJME): This project designed and developed a prototype software that automates the exchange of specific messages across joint systems, improving the clarity and speed of communications necessary for coordinated fires support. Development of the technology continues in FY 2023 with final transition to the U.S. Air Force. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • SDT: This is a classified program. Additional information is available upon request. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 731 / *Innovation and Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
• Bullseye: This project developed and demonstrated novel web-based tools to significantly reduce the targeting timeline. Development and integration of the software tool suite continues in FY 2023 with final transition to the U.S. Air Force and other interagency partners. • Jaded Unicorn: This project developed and demonstrated an innovative electronic-warfare capability extensible to existing ground and air platforms, to address modern challenges. Development of the capability continues in FY 2023 with final transition to the U.S. Army and U.S. Air Force. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Automated Network Inference and Fusion: This tool enabled more robust effects-based analysis and course of action development for selected networks and nodes that allow its customers to carry out national security and military strategies. Development of this software toolset continues in FY 2023 with final transition to the U.S. Air Force. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Tactical Microgrid Standard Environmental Control Unit (TMS ECU): This project developed a tactical microgrid standard compliant controller for environmental conditioning units enabling networked capability to optimally operate heating and cooling equipment, reducing power demand and fuel consumption. Development of the capability continues in FY 2023 with final transition to the U.S. Army. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Future Technology Threat Understanding (FTTU): This project established a metric-based analysis methodology and rapid prototyping approach to scope, prioritize, and empirically evaluate how the confluence of a wide range of advanced technologies may lead to future threats. Development of the threat prototype continues in FY 2023 with final transition to USSOCOM. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Dark Skies: This is a classified program to reduce risk for tactical aircraft in contested environments. Additional information is available upon request. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • 3D Printed Radiation Shielding of Electronic Components: This project investigated and developed a novel approach to mitigate radiation damage in extreme environments to microelectronic systems, using unique additive manufacturing techniques. Development of the prototype capability continues in FY 2023 with final transition to DoD and interagency partners. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Identity Warrior: This project leveraged advances in optics, cloud computing, and AI/ML to passively capture and analyze human signatures at a distance. Identity Warrior screened individuals against known adversaries in real-time on existing Android computing platforms located throughout the joint force. Development of the prototype capability continues in FY 2023 with final transition to the U.S. Army. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Distributed Littoral Operations Fuel Transfer System (DLOFTS): This project delivered an innovative transportable refueling system to rapidly transfer fuel to shore-based units. Development of the capability continues in FY 2023 with final transition to the U.S. Navy and U.S. Air Force. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Flying Self Emplacement Sea Glider: This project merges two distinct unmanned systems: Unmanned Undersea Vehicle (UUVs) and Unmanned Aerial Vehicles (UAVs) resulting in a hybrid unmanned system capable of autonomous flight followed by transition			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603838D8Z / *Defense Innovation Acceleration (DIA)*	**Project (Number/Name)** 731 / *Innovation and Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
to underwater operation. Development of the capability continues in FY 2023 with final transition to the U.S. Navy. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. • Next Generation Hypersonic Testing (NiGHT): This project tested and assessed the utility of a novel technology developed by an innovative start-up company that could be leveraged in DoD applications. Details of this technology and its applications are classified. Additional information is available upon request. Development of the prototype capability continues in FY 2023 with final transition to the U.S. Air Force. In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The respective projects complete in FY 2023.			
Title: Intelligence, Surveillance, Reconnaissance, and Targeting (ISRT) ***Description:*** This project develops laser target designators for integration onto a small form factor gimbal to support ISR and targeting missions. This project reduces the size, weight, and power (SWaP) of the gimbal, integrate tracking and targeting algorithms, and optimize optical and laser performance. These improvements enable precision fires while conducting ISR missions with a small unmanned aerial system (UAS). Design of the ISRT prototype initiated in FY 2022. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. ISRT development continues in FY 2023, with the prototype targeting system undergoing operational evaluation and qualification. ISRT culminates with the delivery of a prototype to the joint Service in FY 2023. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to the USSOCOM for integration.	-	1.000	-
Title: Expeditionary Accurate Tactical (EXACT) ***Description:*** This project develops a low-SWaP capability to provide accurate, robust, and reliable positioning, navigation, and timing (PNT) information. Additional details are classified. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. EXACT development continues in FY 2023 with integration of the software and hardware into a functioning prototype with developmental testing in an operational environment. The prototype is planned to transition to the Joint Program Executive Office Armaments & Ammunition (JPEO A&A) for continued maturation and integration into existing warfighter capabilities. ***FY 2023 to FY 2024 Increase/Decrease Statement:***	-	1.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Efforts conclude at the end of FY 2023 with the developed capability transitioning to the JPEO A&A for continued maturation.			
Title: Intelligent Sensing for Remote & Field Care (IS4RFC) ***Description:*** This project prototyped an innovative ultrasound imaging system to enhance small unit medical self-sufficiency at the tactical edge in support of future distributed warfighting concepts, such as the Army Multi-Domain Operations and the U.S. Marine Corps (USMC) Expeditionary Advanced Base Operations. These concepts involve units separated by large geographic distances and operating in austere environments with area denial challenges, which necessitate the need for intelligent medical devices that support trauma care in the field by overwhelmed or inexperienced care providers. Access to imaging systems at the tactical edge is a critical enabler, providing combat medical personnel with a new and more accurate tool to diagnose and triage the wounded. Prototype development initiated in FY 2022. ***FY 2023 Plans:*** The IS4RFC effort completes prototype development and software integration in FY 2023. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Army and USSOCOM for continued maturation.	-	1.000	-
Title: Autonomous Low-Profile Vessel (ALPV) Project ***Description:*** This project designs, develops, and tests an autonomous maritime surface logistics platform prototype capable of transporting up to a 10-ton payload across large distances of the ocean with minimal visibility and possibility of detection. The low profile and low-cost platform provides an innovative logistics solution to support expeditionary advanced basing operations. Prototype development initiated in FY 2022. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. Proof of concept demonstrations of the prototype occur in the second quarter of FY 2023. The USMC Warfighting Laboratory (MCWL) and Office of Naval Research (ONR) plan to lead the transition process once testing and evaluation of the prototype has concluded. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to MCWL and ONR for continued maturation.	-	1.100	-
Title: Eris	-	3.550	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Previously approved and funded DM&P project now aligned under I&M. This project rapidly prototypes and tests a novel, low-cost concept to enhance joint force resilience in the presence of modern threats. In FY 2022, technical architecture development and initial system design were completed. Additional details are classified. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. FY 2023 activities include prototype integration and system validation prior to a late FY 2023 field demonstration in an operationally relevant environment. Additional details are classified. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Air Force.			
Title: Joint All Domain Operational Tool Suite (JADOTS) ***Description:*** JADOTS develops a capability through the integration of several software tools to enable analysis and planning of kinetic and non-kinetic fires for multi-domain effects through the production and visualization of convergence packages. Prototype development initiated in FY 2022. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In FY 2023, JADOTS plans to finalize development, training, and certification before final transition to the U.S. Army. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Army for further development and integration.	-	1.300	-
Title: El Camino ***Description:*** El Camino develops a novel capability to enhance unmanned aerial systems (UAS) navigation in adverse conditions. Prototype development initiated in FY 2022. Additional details are classified. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In FY 2023, development and testing are planned to complete prior to transition to the U.S. Navy and USSOCOM. ***FY 2023 to FY 2024 Increase/Decrease Statement:***	-	1.000	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Navy and USSOCOM for continued maturation.			
Title: Kestrel ***Description:*** Kestrel develops, tests, and demonstrates several technologies that improve the warfighter's ability to execute undersea missions, bringing immediate benefit to the operational force. Previously approved and funded DM&P project now aligned under I&M. In FY 2022, the project began design and manufacturing of select components. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In FY 2023, Kestrel plans to complete prototype development and undergo field demonstration and testing before transitioning to U.S. Special Operations Command (USSOCOM). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to USSOCOM for continued maturation.	-	1.000	-
Title: Measured Threat Risk Assessment (MeTRA) ***Description:*** This small business-led effort develops a model-based systems engineering environment and knowledge management collaboration platform to reduce security vulnerabilities, increase resiliency, and to support agile analysis for making data-driven security decisions. In FY 2022, MeTRA initiated modeling and processes assessments. Previously approved and funded DM&P project now aligned under I&M. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In FY 2023, MeTRA plans to complete development and deliver the final prototype and technical data package to support transition to the U.S. Air Force. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Air Force for continued maturation	-	1.000	-
Title: Big Blue ***Description:*** This is a classified program. Additional information is available upon request. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. This is a classified program. Additional information is available upon request. ***FY 2023 to FY 2024 Increase/Decrease Statement:***	-	1.000	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Efforts conclude at the end of FY 2023 with the developed capability transitioning to classified partners.			
Title: HITS ***Description:*** This project prototypes and demonstrates a novel detection and tracking capability for military targets. Additional details are classified. ***FY 2023 Plans:*** In FY 2023, modeling and simulation (M&S) is planned to assess target detection dependent on target size, velocity, and orientation. Data collection activities in relevant environments refine M&S predications. In late FY 2023, a real-time demonstration of the prototype capability occurs in an operationally relevant environment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to a DoD partner.	-	2.500	-
Title: Low-Cost Precision Delivery ***Description:*** This project develops a low-cost precision delivery capability with a modular, multi-purpose payload carrier for a variety of applications. The project began prototype development and completed an initial demonstration in FY 2022. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In FY 2023, the project plans to complete prototype development, testing, and evaluations before transitioning to DoD partners. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to DoD partners for continued maturation.	-	1.000	-
Title: Aided Target Recognition (AiTR) ***Description:*** This project accelerates the development and demonstration of a modular processing component that enables automatic threat detection capabilities on size, weight, and power (SWaP) constrained platforms. AiTR provides embedded capabilities for existing and next-generation sensors, resulting in approximately 50 percent improvement in target identification range. Prototype development in FY 2022 ensured that AiTR met the SWaP requirements for effective use. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. FY 2023 plans include continued prototype maturation; initiating targeting algorithm development; and demonstrating the AiTR with realistic target sets in military environments. ***FY 2023 to FY 2024 Increase/Decrease Statement:***	-	1.000	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Army.			
Title: Artemis ***Description:*** Artemis develops and demonstrates a sensor package optimized for high-altitude operations. These multi-mode sensors are packaged to minimize size and power requirements, and to protect electronics from environmental interference. Design of the sensor package initiated in FY 2022, with a demonstration of the sensor package during stratospheric flight planned for FY 2024, prior to transition to the U.S. Army for qualification testing. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In FY 2023, activities include continuing the design and fabrication of the Artemis prototype. ***FY 2024 Plans:*** In FY 2024, activities include demonstration of the Artemis multi-function radio frequency (RF) sensor package on a fixed-wing aircraft prior to a performance demonstration during stratospheric flight. Following demonstration, the multi-function RF sensor package transitions to the U.S. Army for qualification testing. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** In FY 2024, funding decreases as prototype development concludes and the project enters final demonstration prior to transitioning to the U.S. Army.	-	2.600	1.350
Title: Featherweight Airlift for Denied Environments (FADE) ***Description:*** FADE assesses the potential to leverage commercial low-cost autonomous platforms for airlift resupply missions when outfitted with additional technologies and capabilities required to operate in military environments. Findings from FADE plan to transition into the decision-making process for evaluation, demonstration, and procurement of future airlift platforms. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In FY 2023, activities include validation of survivable low-cost platform concepts leveraging modeling and simulation (M&S). M&S results inform follow-on prototype development and field demonstrations. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Marine Corps for further maturation.	-	2.000	-
Title: Advanced Position, Navigation and Timing (APNT)	-	1.025	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: This project accelerates development and matures components of a modular, agile, and reprogrammable APNT capability. This system provides a robust and secure positioning, navigation, and timing (PNT) solution in GPS degraded or denied environments. ***FY 2023 Plans:*** In FY 2023, the system is to be integrated into a laboratory test architecture and assessed to verify operation in relevant environments prior to transition into a U.S. Air Force Life Cycle Management Center (AFLCMC) Program of Record. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to the U.S. Air Force.			
Title: Advanced Tactical Communications (ATC) ***Description:*** Leveraging novel technologies, the ATC project develops a low size, weight, and power (SWaP) communications capability that operates outside of the traditional RF spectrum. The developed capability provides up to a 100-fold increase in communication bandwidth enabling new and novel warfighting capabilities on SWaP constrained platforms such as tactical ground vehicles and small-unmanned aerial systems. Previously approved and funded DM&P project now aligned under I&M. In FY 2022, ATC completed the initial system design and began subcomponent development. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. FY 2023 activities include sub-component maturation and system development. An early developmental unit is planned to be prototyped leading to a field demonstration in late FY 2023 to validate performance. ***FY 2024 Plans:*** FY 2024 plans include final refinement of the prototype subsystems, followed by manufacturing, integration, and testing of the final prototype. The ATC project culminates in a final test and evaluation of the integrated prototype in an operationally relevant environment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** In FY 2024, funding decreases as prototype development concludes and the project enters its final test and evaluation phase prior to transitioning to the U.S. Army.	-	1.625	1.575
Title: Echelon ***Description:*** Previously approved and funded DM&P project now aligned under I&M. This project develops a common digital twin technical framework capable of supporting a wide variety of military radio frequency (RF) systems. Echelon supports virtual testing of digital twin prototypes in a highly-accurate, physics-based simulated operational environment, enabling the DoD to	-	6.135	3.523

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
evaluate the effectiveness of prototype systems or subsystems in realistic environments and against red threats early in the development phase. The developed high-fidelity, multi-physics framework enables Service research and acquisition programs to mature digital twin prototypes prior to purchasing extensive hardware, enabling programs to shorten the development lifecycle of current system upgrades and next generation systems. This effort includes the hardware and software implementation of the first instantiation of the Echelon technical framework. In FY 2022, the Echelon project completed development and delivery of the initial Echelon framework increment and framework validation methodology. Leveraging this initial framework, U.S. Army and U.S. Air Force transition partners began development of their respective Echelon-enabled digital twins. In late FY 2022, initial work began to validate the framework leveraging these Echelon-enabled digital twins within a simulated Echelon-enabled, high-fidelity multi-physics environment. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. Building on the first release of the Echelon framework, FY 2023 activities focus on further development and validation of the framework's extensibility to support RF-based digital twins of additional RF-based DoD missions. FY 2023 concludes with a revised Echelon framework capable of supporting the identified additional RF-based DoD missions, along with a method to validate the revised framework. ***FY 2024 Plans:*** In the first half of FY 2024, validation of the revised FY 2023 framework is planned to be completed. Efforts conclude at the end of FY 2024 with the multi-function demonstration of multiple RF digital twins performing their respective RF mission, operating simultaneously, and interacting within the same high-fidelity multi-physics environment. A successful demonstration validates Echelon's ability to support a wide variety of DoD RF missions. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** After final system development and validation occurs in FY 2023, funding decreases in FY 2024, as the project completes its final demonstration and transitions to the U.S. Air Force and U.S. Army as a developed capability.			
Title: DISARM ***Description:*** This project develops and validates a low-cost concept pairing an emerging sensing technology with an already-fielded capability to provide a novel low-cost system to intercept airborne threats in the expeditionary environment. In FY 2022, the initial modeling and simulation along with an initial physics-based assessment was complete to confirm interoperability and assess how the new capability could augment current air defense capabilities to confirm the performance and cost benefits. Additional details are classified. ***FY 2023 Plans:***	-	4.000	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. FY 2023 activities include subsystem development, modification of the already-fielded capability, and prototype integration and testing. Once integrated, the prototype is planned to be demonstrated in an operationally relevant environment in early FY 2024. Additional details are classified. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Efforts conclude at the end of FY 2023 with the developed capability transitioning to U.S. Navy and U.S. Army program management offices.			
Title: Extended Range Threat Detection ***Description:*** Leveraging novel improvements, this project rapidly prototypes and integrates new capabilities into an existing radar system to counter advanced peer threats. Once developed and tested, the capability enables a significant increase in threat detection and tracking ranges affording the joint force increased time to facilitate target engagements. In FY 2022, initial system design and operational architecture were developed. Additional details are classified. ***FY 2023 Plans:*** In FY 2023, this project transitioned from PE 0603338D8Z DM&P to I&M. In early FY 2023, hardware in the loop risk-reduction testing is planned to initiate to validate and refine the system design and architecture. Additional activities include a series of early system development and validation tests prior to integration and testing on a developmental prototype unit. In late FY 2023, a field demonstration with the developmental prototype unit is planned to be completed to validate performance. ***FY 2024 Plans:*** FY 2024 plans include final refinement of prototype subsystems, followed by a series of range tests to qualify the final prototype for operational deployment. The project culminates in a final test and evaluation in an operationally relevant environment. Efforts conclude at the end of FY 2024 with the developed capability transitioning to the U.S. Army Program Executive Office for Missiles and Space.	-	2.000	2.000
Title: Distributed Force Projection Focus Area ***Description:*** This focus area explores technologies and capability concepts that seek to cost effectively project force through platforms, command networks, soldier systems, and autonomy thereby extending the range of control and protecting our front-line warfighters and allies. Selected projects enable precision effects, reduce time to react, and provide decision support to increase operational flexibility and improve engagement outcomes. These projects leverage advances in machine learning; technology to enable training, tactics, techniques, and procedures; advanced autonomy; and distributed sensing and effects. Examples include battle management systems and common operating pictures, autonomous distributed platforms that enable asymmetric effects, assured PNT, and force protection. ***FY 2023 Plans:***	-	7.867	16.915

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting six to nine projects in FY 2023. ***FY 2024 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting fourteen to nineteen projects in FY 2024. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding for this focus area in FY 2024 increases to support acceleration of high-priority distributed force projection prototyping efforts.			
Title: Disparate Data Fusion, Analysis, and Applications for Networked Systems Focus Area ***Description:*** This focus area includes prototypes to validate new approaches that manage and capitalize on the increase of data volume, variety, variability, and velocity from our networked communications and sensors. Growth in social media, big data analytics, and large dynamic sensor networks requires new tools for aggregation, processing, exploitation, and dissemination. Projects include the development of capabilities, software, and tools to fuse, analyze, and infer information from a wide variety of structured or unstructured datasets across a broad spectrum of sources. Where possible these projects exploit advanced machine learning systems and commercial technologies to provide solutions to emerging challenges in tracking targets, big data analytics, and extracting indications and warnings. Technologies developed within this focus area reduce cost and analysis requirements to provide meaningful intelligence in support of information advantage. ***FY 2023 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting four to six projects in FY 2023. ***FY 2024 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting ten to fourteen projects in FY 2024. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding for this focus area in FY 2024 increases to support acceleration of high-priority data fusion prototyping efforts.	-	5.611	12.060
Title: Low-cost Sensing and Autonomy Focus Area ***Description:*** This focus area explores technologies and capability concepts to enhance situational awareness, reduce the time to make critical decisions, autonomously distribute tasking and orders, and protect warfighters through increased use of intelligent networks, autonomous sensing platforms, and human-machine collaborative systems. Selected projects target key capabilities that enable leap-ahead improvements in small distributed sensors and intelligent autonomous systems with cost-	-	5.950	12.800

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
effective investments. These projects leverage advances in high- performance computing, miniaturization and new sensing modalities, and low-cost or attributable autonomous platforms across all domains. Examples include agile computer vision systems, enhanced capabilities for multiple autonomous systems to cooperatively interact, autonomous task discrimination and prioritization, autonomous operation in complex terrain, unattended sensors, data preprocessing to reduce bandwidth, and human-machine collaborative decision making providing faster-than-human response to threats. These projects also examine common software platforms and modular open architecture systems to reduce development cost, increase collaboration among manned and unmanned platforms, and inform requirements. ***FY 2023 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting five to seven projects in FY 2023. ***FY 2024 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting eleven to fourteen projects in FY 2024. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding for this focus area in FY 2024 increases to support acceleration of high-priority sensing and autonomy prototyping efforts.			
Title: Distributed, Collaborative, Multi-Function Devices for Electromagnetic Spectrum Agility Focus Area	-	7.090	15.198
Description: This focus area explores integrated, multi-function, net-centric electromagnetic spectrum (EMS) concepts and technologies to enable a multi-domain, flexible, diverse, and interoperable EMS architecture. In the modern battlespace, the EMS is both a contested resource and unique domain requiring advanced maneuvers. Tactics, techniques, and procedures are necessary to maintain access to EMS and ensure maneuverability. Selected projects provide the architecture to ensure allied access, deny enemy use, and enable future capabilities for spectrum dominance. Examples include waveform agnostic apertures, amplifiers, and digital signal processing for multi-use systems (radar, communications, electronic warfare, sensing); advanced routing and artificial intelligence task and network routing for increased efficiency; and, ad hoc distributed apertures for collaborative electronic warfare (EW) distributed radar. Activities include refining software and algorithms; novel hardware and electronic components; and advanced timing and networking technologies that directly support emerging common standards for next generation distributed, collaborative, and multi-function devices. ***FY 2023 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting six to eight projects in FY 2023. ***FY 2024 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting thirteen to seventeen projects in FY 2024. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding for this focus area in FY 2024 increases to support acceleration of high-priority EMS prototyping efforts.			
Title: Conceptual Prototyping to Support DoD Modernization Needs Focus Area ***Description:*** This focus area supports in-year identification and execution of innovative prototyping for cutting-edge land, sea, undersea, air, and space capabilities critical to the National Defense Strategy and modernization needs and objectives of the Department of Defense (DoD). This effort matures key component technologies and representative prototypes to accelerate development and adoption of cost-effective and interoperable solutions for defense challenges. Selected limited duration projects design, mature, and deliver prototypes to reduce the time from idea to demonstrated capability; mitigate risk in DoD programs; and help characterize potential concepts of operations. Conceptual prototyping activities seek to rapidly develop and demonstrate capabilities that can help maintain the U.S. technological edge. Development of prototypes involve partnerships with the Services, industry, and academia, and leverage technologies and emerging products developed by small, innovative business and non-traditional partners. ***FY 2023 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting three to five projects in FY 2023. ***FY 2024 Plans:*** Innovation and Modernization investment decisions are made during the execution year in response to DoD, CCMD, Service, and other government priorities. I&M anticipates supporting eight to eleven projects in FY 2024. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding for this focus area in FY 2024 increases to support acceleration of high-priority prototyping efforts.	-	4.397	9.400
Accomplishments/Planned Programs Subtotals	-	80.000	74.821

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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D. Acquisition Strategy

Innovation and Modernization (I&M) will support FY 2024 performance metrics to transition projects to the joint warfighter and enable DoD modernization capabilities. I&M leverages the DoD's most efficient and effective acquisition approaches for rapid prototyping. This includes using Other Transaction Authorities, Broad Area Announcements, and new or existing contract vehicles.