Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Office of the Secretary Of Defense	Date: March 2024
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603133D8Z / *Foreign Comparative Testing*

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	183.128	26.310	27.078	30.007	-	30.007	51.891	44.007	45.346	47.109	-	-
313: *Foreign Comparative Testing*	183.128	26.310	27.078	30.007	-	30.007	51.891	44.007	45.346	47.109	-	-

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Defend the Homeland, Deter Strategic and Regional Aggression, and Build a Resilient Joint Force and Defense Ecosystem.

The Foreign Comparative Testing (FCT) Program increases Joint Force readiness and lethality by providing near-term solutions to existing and future Department of Defense (DoD) capability gaps by leveraging the Research & Development (R&D) investments of allied nations and coalition partners. The FCT Program Element (PE) evaluates prototypes derived from allied and partner nation technologies to provide the U.S. Armed Services, U.S. Special Operations Command (USSOCOM), and Defense Agencies capabilities to counter emerging threats.

In FY 2025, the FCT Program will expand with a campaign of cooperative/collaborative experimentation with allies and partners to evaluate applications of innovative foreign capabilities in response to changes in the global security environment. The focus and intent of these cooperative/collaborative efforts is to develop flexible deterrent options that prioritize interoperability while increasing resiliency in the defense ecosystem by working even more closely with our network of allies and partners around the globe. The FCT Program’s broad reach across our allies and friendly foreign countries enables development of innovative, cost effective, and interoperable solutions to meet needs communicated by the Joint Chiefs of Staff and the Combatant Commanders. FCT strengthens alliances by facilitating international collaboration and evaluating technologies that increase interoperability while serving as a catalyst for teaming and other business relationships between international and domestic industries.

Partner Nations recognize the long-term value of the "two-way street" for Defense procurements for which FCT provides an avenue. Numerous successful projects have resulted in the licensed production of a qualified foreign item in the United States, including the creation of jobs and contributions to local economies. To date, companies from 34 states have benefited from FCT projects. FCT supports DoD best practices by incentivizing the use of prototyping and experimentation in advancing technological solutions to warfighter problems and acts as a hedge against threat developments. FCT enhances affordability by reducing development costs and risk, accelerating acquisition timelines, and increasing competition. Through increasing joint lethality and readiness, strengthening alliances, and delivering affordable performance on accelerated timelines, FCT supports the National Defense Strategy and the Under Secretary of Defense for Research and Engineering (OUSD R&E) Critical Technology Areas. Authorized by Title 10, U.S. Code, Section 2350a (g), the FCT program is managed by the Office of the Under Secretary of Defense for Research and Engineering (OUSD R&E), International Prototypes and Experiments (IP&E) Office and projects are jointly conducted by the Military Services and USSOCOM.

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Measurable Outcomes:
Over its 43-year history, FCT has a transition rate of 52 percent (399 out of 774) for completed projects. Of the 399 projects that tested successful, 306 or 77 percent resulted in follow-on procurements of over $12.625 billion.

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	26.802	27.078	27.612	-	27.612
Current President's Budget	26.310	27.078	30.007	-	30.007
Total Adjustments	-0.492	0.000	2.395	-	2.395
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.489	-			
• Cancelled Account	-0.003	-	-	-	-
• Program Adjustment - FCT Increase	-	-	2.395	-	2.395

Change Summary Explanation

FY 2023 change in Current President's Budget from Previous President's Budget is due to SBIR/STTR (-$0.489 million) and Cancelled Accounts (-$0.003 million) reductions.

A planned funding increase of $23.806 million in FY 2025 has been reduced by $21.000 million and realigned to Service RDT&E and Procurement PEs to fund DoD selected efforts needed to meet operational needs. A reduction of (-$0.514 million) was applied to meet DoD overall funding reductions, which were spread to mitigate impact. A funding increase of $0.103 million for Economic Assumptions was applied.

Remaining $2.395M increase advances the National Defense Strategy goal of Building Enduring Advantages by bolstering international engagement and collaboration with allies and partners to fortify our defense ecosystem (funding realigned from Technology Innovation Program Element 0603375D8Z and Trusted & Assured Microelectronics Program Element 0605294D8Z).

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COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
313: *Foreign Comparative Testing*	183.128	26.310	27.078	30.007	-	30.007	51.891	44.007	45.346	47.109	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Foreign Comparative Testing (FCT) Program Element funding supports projects that test and evaluate innovative technologies already developed by Partner Nations, and in doing so, directly aligns to the National Defense Strategy through increasing joint lethality in contested environments, strengthening partnerships, and fostering reform through delivery of capability at the speed of relevance. Beginning in FY 2025, the FCT Program will also embark on cooperative/collaborative experimentation with allies and partners to evaluate applications of innovative foreign capabilities in response to changes in the global security environment. The focus and intent of these cooperative/collaborative efforts is to develop flexible deterrent options and increase resiliency in the defense ecosystem by working even more closely with our network of allies and partners around the globe. FCT individual projects typically average less than $1.000 million each and complete within 12-36 months. Cooperative/collaborative experimentation projects typically will average between $1.000 and $3.000 million each and complete within 24 – 36 months. Projects are proposed by the Military Services and U.S. Special Operations Command (USSOCOM) and are selected using a merit-based process that identifies the most promising, innovative, and cost-effective solutions to validate warfighter requirements, with an emphasis on transitioning technologies into current or future programs of record. Project selection is based on potential to yield cost, schedule, or performance improvements over the status quo.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Norwegian Advanced Surface to Air Missile System (NASAMS) Operational Assessment (Air Force/Space Force)	0.000	-	-
Description: This project conducts an operational assessment of the NASAMS fire distribution center integrated with the Combined Joint Task Force Horn of Africa Integrated Air and Missile Defense architecture. NASAMS provides a more affordable air and missile defense capability option against emerging unmanned aerial vehicles and land attack cruise missile threats. NASAMS initiated the project and test article contract in FY 2022, awarded the test article contract and conducted test planning in 1Q FY 2023, conducted operational simulations and evaluations in 2/3Q FY 2023, and will complete final integration and closeout reports in 4Q FY 2023. This project continued in FY 2023 with FY 2022 funds. This technology will be available for rapid transition to regional Combatant Commands as required.			
Title: Semi-Autonomous Devices for Medical Care (Army)	0.000	-	-
Description: This project evaluates commercially available interoperable medical devices such as ventilators and intravenous pumps that are remotely controlled. These devices provide improvements in the quality and safety of patient care by enabling immediate adjustment of device settings without requiring a human to physically be present. This project completed phase I			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
laboratory testing in FY 2022, phase II non-clinical device interoperability testing in 2Q FY 2023, and final test and closeout reports in 3Q FY 2023. This project continued in FY 2023 with FY 2022 funding. This technology will transition to the Army's Military Medical Development Activity for follow-on specific operational testing and requesting Food and Drug Administration clearance prior to procurement and fielding.			
Title: Skywall Auto Response (Army) ***Description:*** This project evaluates a non-kinetic counter unmanned aerial system for vehicles and fixed site configurations. This technology increases the probability of defeat while reducing collateral damage. This technology is of interest to all Services and other government agencies. Test articles were received in FY 2022, completed test and demonstration events in 1Q to 3Q FY 2023, and will complete final test and closeout reports in 4Q FY 2023. This project continued in FY 2023 with FY 2022 funding This technology will transition to the Army's Program Manager for Soldier Lethality and the Air Force Life Cycle Management Center for follow-on procurement and fielding.	0.000	-	-
Title: Advanced Closed Cycle Hull Cleaning (Navy/USMC) ***Description:*** This project comparatively tests robotic systems that capture and treat marine biofouling collected during underwater hull cleaning operations. This will improve the DoD's global environmental compliance posture and increase operational readiness as existing methods of hull cleaning do not comply with new environmental regulations (particularly on the west coast of the United States) due to the creation of biofouling. Comparative testing initiated during FY 2022 and was completed during 2Q FY 2023. Final test and closeout reports will be completed during 3/4Q FY 2023. This project continued in FY 2023 with FY 2022 funding. This effort drives an update to the Naval Sea Systems Command's Salvage and Diving office's hull-cleaning specifications and the technology will transition to hull cleaning service providers as required to meet the new specifications.	0.000	-	-
Title: Cold-Weather All-Terrain Vehicle (Army) ***Description:*** This project comparatively tests off-the-shelf cold weather capable tracked vehicles with enhanced off-road mobility. This accelerates the fielding of a replacement for an obsolete system and enables logistics support in austere conditions. Test articles were received, and initial testing was completed in FY 2022. First article production and testing completed in 1-3Q FY 2023, and final test and closeout reports will be produced in 4Q FY 2023. This project continued in FY 2023 with FY 2022 funding.	0.000	-	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
This technology will transition to the Army's Program Executive Office for Combat Support and Combat Service Support for follow-on procurement and fielding through an Other Transaction Agreement.			
Title: Software Defined Acoustic Modem Evaluation (Navy/USMC) ***Description:*** This project comparatively tests commercial software-defined radios in underwater acoustic environments. This technology enables interoperable, reliable, and secure communication between surface and subsurface platforms and sensors. Phase I testing was completed in FY 2022, Phase II in-water testing completed in 1Q FY 2023, and the Phase III final demonstration was conducted in 2Q FY 2023. The final test and closeout reports are expected to complete in 3/4Q FY 2023. This project continued in FY 2023 with FY 2022 funding. This technology will transition to Naval Undersea Warfare Center, Newport Division, for inclusion in follow-on large-scale prototype undersea network demonstration programs and additional evaluation.	0.000	-	-
Title: Individual Assault Munition (Army) ***Description:*** This project evaluates a multi-purpose shoulder fired munition with a tandem warhead capable of defeating both armored vehicles and structures. This technology replaces two weapon systems and provides lethality overmatch in urban environments by enabling fire from enclosed spaces. Performance testing completed in FY 2022, environmental testing was conducted in 1/2Q FY 2023, and final test and closeout reports were completed in 3Q FY 2023. This project continued in FY 2023 with FY 2022 funding. This technology will transition to the Army's Product Director for Combat Armaments and Protection Systems for follow-on procurement and fielding.	0.000	-	-
Title: Lightweight Short Range Guided Missile (USSOCOM) ***Description:*** This project comparatively tests man-portable, shoulder-fired missile systems that utilize seeker technology for engaging static or moving targets at extended ranges. This capability is compared to existing unguided weapons systems within the USSOCOM inventory and provides a more affordable guided munition than the FGM-148 Javelin weapon system. Live-Fire testing was completed in 4Q FY 2022 and final test and closeout reports were completed in 1Q FY 2023. This project continued in FY 2023 with FY 2022 funding. This technology will transition to USSOCOM's Program Executive Office, Special Operations Forces Warrior for follow-on procurement.	0.000	-	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Hybrid Vertical Takeoff and Landing (VTOL)/Fixed Wing Unmanned Aerial System (UAS) (Navy/USMC) ***Description:*** This project comparatively tests hybrid VTOL/Fixed Wing UAS to enable increased mission endurance/range, deployment from small boats and vehicles, and significant reduction in ground support footprint and manpower. Performance testing and demonstrations were completed in FY 2022 and final test and closeout reports were completed in 1Q FY 2023. This project continued in FY 2023 with FY 2022 funding. This technology will transition to the Navy's Battlespace Awareness and Information Operations Program Office for follow-on testing and demonstrations to inform future procurement decisions.	0.000	-	-
Title: Low-Cost Vertical Take-Off and Landing Precision Strike System (USSOCOM) ***Description:*** This project evaluates a small, agile loitering munition that can serve as both an Intelligence, Surveillance, and Reconnaissance (ISR) asset and a highly lethal munition, improving operational flexibility and effectiveness. This technology reduces the logistics burden by providing a reusable capability not available with existing loitering munitions. If successful, this technology will transition to USSOCOM's Precision Strike Systems Program of Record for follow-on procurement and fielding.	1.000	-	-
Title: Autonomous Wide Area Surveillance Sensor on small Unmanned Aerial Systems (sUAS) (Navy/USMC) ***Description:*** This project tests a video detection and ranging sensor on a small Group 1 UAS optimized for Maritime Wide-Area Surveillance in support of Naval and Marine Forces in the Littoral Battlespace. This technology autonomously detects small objects on the sea surface over very wide areas, during day and night, and in conditions up to Sea State 6. If successful, this technology will transition to the Navy and Marine Corps Small Tactical UAS Program Office (PMA-263) for follow-on procurement and fielding.	0.175	-	-
Title: Civil Affairs Solution - Army (CAS-A) Analytics with Synthetic Aperture Radar (SAR) Change Detection (USSOCOM) ***Description:*** This project tests intelligence software that fuses imagery from unmanned aerial systems and satellites with other sensor data and uses artificial intelligence and machine learning (AI/ML) to rapidly provide actionable analytics. This technology supports Department of Defense Civil Affairs operations by analyzing population migration caused by conflict or natural disasters to enable dynamic planning for large-scale operations. This project enhances the DoD capabilities in the AI/ML focus area. If successful, this technology will be available for transition to the Army’s Distributed Common Ground System Program of Record.	1.310	-	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Precision Strike Indoor/Outdoor small Unmanned Aerial System (sUAS) (USSOCOM) ***Description:*** This project evaluates an sUAS for use during operations conducted in complex urban terrain, in both indoor and outdoor environments. This technology provides an affordable day/night reconnaissance, surveillance, and target acquisition capability with an optional lethal payload. If successful, this technology will transition to USSOCOM's Ground Organic Precision Strike Systems Program of Record for follow-on procurement and fielding.	0.600	-	-
Title: Comparative Test of 1000 volt Direct Current (DC) Power Systems for Directed Energy (Navy/USMC) ***Description:*** This project comparatively tests a Norwegian off-the-shelf large-scale energy storage system designed for maritime use against a comparable domestic product. This supports development of next generation directed-energy weapon systems for naval platforms. If successful, this technology will transition to the Navy's Guided Missile Destroyer program office to inform requirements for next generation platform development.	0.162	-	-
Title: Future Aviation Ground Power Unit (Army) ***Description:*** This project evaluates a modern, off-the-shelf aviation support system for military rotary wing aircraft. This technology improves aviation maintenance efficiency and reduces aircraft downtime. If successful, this technology will transition to the Army's Product Director for Aviation Ground Support Equipment for follow-on procurement and fielding.	0.040	-	-
Title: Sappheiros Three-Dimensional Unattended Ground Sensors (Army) ***Description:*** This project evaluates a multi-modal sensor system that simultaneously provides terrestrial and subterranean perimeter surveillance. This technology offers increased operational capabilities over existing systems and addresses the associated gaps related to perimeter surveillance. If successful, this technology will transition to the Army's Advanced Unit Perimeter Security System and Marine Corps Tactical Remote Sensor Systems Programs of Record for follow-on procurement and fielding.	0.600	-	-
Title: Target Detection Modernization for Mines (Navy/USMC)	0.500	-	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Description: This project evaluates a modern target detection device for application to existing Naval Mines. The device utilizes a multi-sensor suite (inertial, acoustic, photonic, and underwater electric) as well as sensor fusion to better detect, classify, and identify naval target vessels. This effort provides an affordable option to deliver improved performance of naval mines and replaces 20-year-old technology. If successful, the Navy's Mine Warfare Program Office (PMS 495) will transition the technology into the Quickstrike family of shallow-water, air delivered mines through an Engineering Change Proposal (ECP) in collaboration with the Air Force.			
Title: Active Protection System, Hard-Kill (Navy/USMC) ***Description:*** This project evaluates a vehicle mounted system that autonomously detects, tracks, and engages threats with both Hard and Soft Kill countermeasures. This technology increases combat capabilities of light armored vehicles against rocket propelled grenades and anti-tank missiles. If successful, this technology will transition to Marine Corps Program Executive Office for Land Systems for follow-on procurement and fielding on the Amphibious Combat Vehicle through an Engineering Change Proposal.	0.985	-	-
Title: Airborne Threat Discrimination Sensors For Land and Ship Platforms (Navy/USMC) ***Description:*** This project comparatively tests wide-field-of-view electro-optic and infrared sensors for land and ship platforms as a complement to radar. This enables passive detection and tracking of challenging airborne threats. If successful, this technology will transition into relevant programs of record within the Navy's Program Executive Office for Integrated Warfare Systems and the Army's Program Executive Office for Ground Combat Systems.	0.050	-	-
Title: Bridge Connector (Army) ***Description:*** This project evaluates an adapter that allows a floating bridge used by the U.S. Army to be used by German and British amphibious bridging systems. This technology enables enhanced joint multinational bridge operations in the European theatre to maximize limited resources. If successful, this technology will be transferred to U.S. Multi-Role Bridging Companies in Europe for immediate operational use as needed and will be available for additional follow-on procurements to support future operational needs. ***FY 2024 Plans:***	0.400	0.300	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Testing expected to complete in 2Q FY 2024 and final test and closeout reports anticipated in 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as testing concludes and project closes out.			
Title: 2.75" Guided Rocket for Multi-Domain Fast In-shore Attack Craft (FIAC) Engagement (Navy/USMC) ***Description:*** This project evaluates the capabilities of a “fire and forget” 2.75-inch rocket with an advanced Imaging Infrared seeker on an Unmanned Surface Vehicle (USV). This technology provides an effective asymmetric capability against FIAC swarms. If successful, this technology will transition to the Navy's Littoral Combat Ship Mission Modules Program Office for fielding on USVs. ***FY 2024 Plans:*** Test article delivery expected to occur in 2Q FY 2024, Live-Fire testing to occur in 3Q FY 2024, and final test and closeout reports anticipated in 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as testing concludes and project closes out.	0.795	0.500	-
Title: Anti-Submarine Warfare Sensor (ASW) for Unmanned Surface Vehicles (USVs) (Navy/USMC) ***Description:*** This project tests compact sonar sensors from Canada and Norway for potential application on U.S. Navy Unmanned Surface Vehicles (USVs). This project provides new capabilities for USVs to conduct ASW operations which are currently conducted by manned platforms. This project addresses the Autonomous Systems Critical Technology Area. A Successful demonstration of the towed sensor was completed at NATO’s Robotic Experimentation and Prototyping using Maritime Uncrewed Systems (REPMUS) annual military exercise in Portugal during 4Q FY 2022. The Hull mounted sensor test article contract was awarded in 1Q FY 2023, test planning occurred in 2/3Q FY 2023, and the test article is expected to be delivered in 4Q FY 2023. If successful, this technology transitions to the Navy’s Unmanned Maritime Systems Program Office for follow on acquisition and fielding. ***FY 2024 Plans:***	-	0.150	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Hull mounted sensor test article integration planned for 1Q FY 2024. Conduct at-sea testing and demonstration at Exercise Solid Curtain during 2Q FY 2024. Complete final test and closeout reports during 3Q to 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as testing concludes and project closes out.			
Title: Autonomous Anti-Submarine Warfare (ASW) Training Target (Navy/USMC) ***Description:*** This project evaluates an off-the-shelf autonomous mobile unmanned underwater vehicle that replicates the passive and active acoustic signatures of submarines. This technology provides enhanced ASW training effectiveness over current targets in U.S. Navy inventory and enables torpedo testing capability. If successful, this technology will transition to the Navy's Undersea Weapons Program Office for follow-on procurement and fielding.	0.600	-	-
Title: M213 Fuse / Insensitive Munitions (IM) Hand Grenade (Army) ***Description:*** This project comparatively tests off-the-shelf foreign fuses for the M67 fragmentation hand grenade that exhibit reduced sensitivity to IM stimuli to increase warfighter safety. The legacy M67 was originally developed in the 1960s and does not meet today's IM safety requirements. If successful, this technology will transition to the Army’s Program Executive Office for Ammunition for follow-on procurement and fielding.	0.400	-	-
Title: Lightweight Expeditionary Airfield Surfacing System (Navy/USMC) ***Description:*** This project will evaluate a lightweight aircraft landing mat to replace legacy matting. This technology reduces the logistical footprint and increases installation efficiency for rapid deployment in austere locations. If successful, this technology will transition to the Navy and Marine Corps' Expeditionary Airfields program office for follow-on procurement and fielding. ***FY 2024 Plans:*** Phase I testing expected to complete in 1Q FY 2024. Phase II aircraft trafficking testing expected to complete in 2Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:***	0.800	0.800	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Funding decreases to zero in FY 2025 as testing concludes and project closes out.			
Title: Enhanced Integrated Fire Control System for M3E1 (Army) ***Description:*** This project comparatively tests advanced fire control systems for the 84-millimeter shoulder fired reloadable recoilless M3E1 Multi-purpose Anti-armor Anti-personnel Weapon System. This technology provides enhanced targeting in both day and night operations at extended ranges. If successful, this technology will transition to the Army's Program Manager for Soldier Lethality for follow-on procurement and fielding. ***FY 2024 Plans:*** Receive phase II test articles in 1Q FY 2024. Conduct phase II testing in 2Q to 3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as testing concludes and project closes out.	0.370	1.550	-
Title: High Power Electrical Isolation (Navy/USMC) ***Description:*** This project tests high power electrical disconnect switches to isolate next generation carrier-based aircraft launch and recovery equipment for maintenance and repairs. This technology increases readiness by enabling concurrent operations and maintenance on complex mission critical systems. If successful, this technology will transition the Navy's Aircraft Launch and Recovery Equipment program office for follow-on procurement and fielding through an Engineering Change Proposal to the Electromagnetic Aircraft Launch System and Advanced Arresting Gear programs of record. ***FY 2024 Plans:*** Phase III testing expected to occur in 1Q FY 2024. Phase IV and V testing expected to occur during 2Q to 3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as testing concludes and project closes out.	0.402	0.656	-
Title: 6T Lithium-Ion Batteries (Army) ***Description:*** This project comparatively tests foreign lithium-ion 6T batteries with increased energy capacity and longer cycle life against similar domestic products. This technology improves the mission capabilities and availability of military ground vehicles.	0.500	0.500	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
If successful, this technology will be available as an option for procurement through the Defense Logistics Agency. ***FY 2024 Plans:*** Phase III testing expected to occur in 1Q FY 2024. Phase IV and V testing expected to occur during 2Q to 3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as testing concludes and project closes out.			
Title: Advanced Compact Unmanned Aerial Vehicle (UAV)-based Radar for All-visibility Targeting (Army) ***Description:*** This project evaluates a sensor system that fuses a compact digital beam forming radar with electro-optic and infrared sensors on Group 2 UAVs. This technology provides a persistent all-weather airborne reconnaissance capability. If successful, this technology will transition to the Army's Program Manager for Terrestrial Sensors for follow-on procurement and fielding. This technology is also of interest to various sensor programs across the DoD. ***FY 2024 Plans:*** Conduct initial performance testing and demonstrations in 1Q FY 2024. Developmental testing expected to occur in 2Q FY 2024. Operational testing and final demonstrations expected to occur in 3Q FY 2024. Final test and closeout reports anticipated in 4Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as testing concludes and project is closed out.	0.622	0.435	-
Title: Dual-mode Precision Guided 120-millimeter Mortar (USSOCOM) ***Description:*** This project evaluates a precision mortar round with both laser and Global Positioning System (GPS) guidance capabilities. This technology provides a tactical indirect fires system to defeat material and armored vehicles with pinpoint accuracy in contested environments. If successful, this technology will transition to USSOCOM's Program Manager for Special Operations Forces Lethality as well as service guided mortar programs for follow-on procurement and fielding. ***FY 2024 Plans:***	0.750	0.500	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Limited User Assessment anticipated for 1Q FY 2024. Final test and closeout reports expected in 2Q FY 2024. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero in FY 2025 as test article procurements and major test events are completed in FY 2024.			
Title: Alternate At-Sea Refueling (Navy/USMC) ***Description:*** This project evaluates a dual-fuel astern hose reel system installed on a commercial Offshore Support Vessel for underway replenishment. This technology provides an expanded logistics capability in contested maritime environments. If successful, the test article will be used for training and the technology will be available for follow-on procurement and fielding by Combatant Commanders to support operational needs.	1.350	-	-
Title: Low-Cost Innovative Projects (Projects Less Than One Million Dollars Each): ***Description:*** The Office of the Under Secretary of Defense for Research and Engineering (OUSD R&E), International Prototypes and Experiments (IP&E) Office, selects multiple low-cost projects in the areas of Force Application, Force Protection, Force Support, Logistics, Artificial Intelligence and Machine Learning, Robotics and Autonomous Systems, Interoperability, and Countering Unmanned Systems. These projects were selected to deliver prototypes for evaluation, assessment, and Service adoption within 12 to 36 months. Soldier Borne Sensor System (Army): This project evaluates next-generation micro unmanned aerial systems with improved sensor capabilities and flight performance characteristics to enable enhanced situational awareness at the squad level. If successful, this technology will transition to the Army's Program Executive Office Soldier for follow-on procurement and fielding through the Soldier Borne Sensor Program of Record. Top Attack Armor (Army): This project comparatively tests improved vehicle protection technology for defeating overhead threats to Armored Fighting Vehicles. This provides protection against modern anti-tank threats while minimizing negative mobility impact. If successful, this technology will transition to the Army's Product Manager for Vehicle Protection Systems for integration into Ground Combat Systems and Next Generation Combat Vehicle Cross Functional Team programs for fielding through an engineering change proposal. Vehicle Mounted Camouflage System (Army): This project comparatively tests vehicle coverings that reduce detection across multiple spectrum bands including infrared, microwave, and radar to increase survivability in contested environments. If successful, this technology will transition to the Army's Product Manager for Vehicle Protection Systems for integration into	13.051	9.485	-

Exhibit R-2A, RDT&E Project Justification: PB 2025 Office of the Secretary Of Defense		Date: March 2024
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603133D8Z / *Foreign Comparative Testing*	**Project (Number/Name)** 313 / *Foreign Comparative Testing*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Ground Combat Systems and Next Generation Combat Vehicle Cross Functional Team programs for fielding through an engineering change proposal. Water Free Chemical Decontaminant System (Army): This project evaluates a portable decontamination system that does not require water. This technology enables the thorough decontamination of sensitive equipment in forward environments, a capability that does not exist within the DoD today. If successful, this technology will transition to the Joint Program Manager for Chemical, Biological, Radiological, Nuclear Protection for follow-on procurement and fielding. Bacteriophage (Army): This project evaluates commercial phage mixtures for incorporation into a feminine hygiene wipe to selectively kill microbes that cause urinary tract infections (UTIs). Use of phage technology is also potentially applicable to numerous other medical issues and is an approach for combating multidrug resistant microbes. If successful, this technology will transition to a follow-on human study field trial prior to a fielding decision. Nanostructured Graphene Composites for Microwave Attenuation (Army): This project evaluates graphene-based composites for lightweight, low-cost, printable coatings to electromagnetically harden Joint lethality assets against detection and interdiction by enemy Integrated Air Defense Systems. If successful, this technology will transition to the Army's Long Range Precision Fires Cross Functional Team for integration with XM1155 Extended Range Artillery and other related munitions programs. Long Run-Time Thermal Batteries for Long Range Munitions (Army): This project comparatively tests novel electrolyte materials with low-melting temperature to increase thermal battery run time. Longer battery run time is required to support precision guidance capabilities for new rockets and missiles with longer range than legacy munitions. If successful, this technology will be transitioned to domestic thermal reserve battery manufacturers for incorporation into munitions procured by the Joint Program Executive Office for Armaments and Ammunition. Spectrometric Gamma Camera (Army): This project evaluates a portable gamma camera that enables localization, identification, and quantification of the threat coming from a radioactive source at a distance to increase detection performance and operator safety. If successful, this technology will transition to the Mounted Enhanced Radiac Long-Range Imaging Networkable vehicle mounted system by the Joint Program Executive Office for Chemical Biological Radiological Nuclear Defense. Unmanned Military Vehicle Mobility in Arctic Environments (Army): This project evaluates the mobility of a foreign Unmanned Ground Vehicle (UGV) for use on common Arctic surfaces such as snow, packed snow, and ice. This vehicle addresses Arctic mobility needs as described in the U.S. Army’s 2021 Arctic Strategy. If successful, this technology will transition to the Army's Robotic Combat Vehicle Program of Record for follow-on procurement and fielding.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Three-Dimensional Printed Metal Parts (Army): This project comparatively tests foreign and domestic materials for printing three-dimensional metal parts using Fused Filament Fabrication methods as an alternative to traditional manufacturing and laser-based printing methods that are not suitable for use in forward deployed locations. This enables rapid manufacture of metal parts at the tactical point of need and significantly reduces the logistical burden. If successful, best performing materials will transition to various DoD programs for follow-on parts qualification testing and fielding to include the Army's Infantry Battalion Mortar System, the Air Force's M137A1 cannon for the AC-130 gunship, and the Marine Corps' Expeditionary Fabrication laboratory Program of Record. Artificial Intelligence for Off-Road Autonomy (Army): This project evaluates artificial intelligence capabilities through a series of operational challenges, utilizing vision and proprioceptive sensing, machine learning, and intelligence navigation to increase survivability and readiness of current systems. This technology enables navigation in complex military scenarios, providing increased tactical advantage through terrain sensing and increased mobility. If successful, this technology will transition to the Army's Next Generation Combat Vehicle Cross Functional Team for integration into the XM30 Mechanized Infantry Combat Vehicle and Robotic Combat Vehicle programs. Warfighter Water Purification (Army): This project evaluates a man-portable water purification unit that relies on low-temperature plasma to eliminate all microbiological threats from indigenous water to provide potable drinking water at a rate of 5 thousand liters per day. There are currently no fielded devices at this small scale that are able to destroy all microbiological threats in water. If successful, this technology will transition to the Army's Product Manager for Soldier Clothing and Individual Equipment for follow-on procurement and fielding through the Individual Water Treatment Device Program of Record. Space Qualification Testing of Event Based Sensors (Air Force/Space Force): This project comparatively tests neuromorphic imaging sensors and algorithms for potential application to space-based surveillance platforms. This novel sensor technology provides benefits over legacy sensors for size, weight, and power constrained platforms such as small satellites. Results will inform various DoD Missile Warning and Intelligence, Surveillance, and Reconnaissance programs. If successful follow-on application specific technology demonstrations will be developed and explored prior to a fielding decision. Comparative Real Time Air Quality Sensing of Pilot Breathing Lines in High-Performance Aircraft (Air Force/Space Force): This project evaluates an active in-line pilot breathing air monitoring capability in high performance military aircraft. This technology accelerates the delivery of technology that addresses an urgent operational need for the Air Force. If successful, this technology will transition to platform programs of record through the Air Force Life Cycle Management Center Human Systems Office. Event Based Sensing for Moving Target Indication (Air Force/Space Force): This project comparatively tests commercial event-based cameras for intelligence, surveillance, and reconnaissance applications to enable new approaches for affordable,			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
long dwell early warning and moving target detection. This innovative technology could provide an affordable, rapid response surveillance capability. If successful, results will inform various DoD Intelligence, Surveillance, and Reconnaissance programs. Follow-on application specific technology demonstrations will be explored prior to a fielding decision. Air Launched small Unmanned Aerial System (sUAS) for Kinetic Engagement (Air Force/Space Force): This project evaluates the performance of new low-cost, air launched sUAS for multiple, simultaneous kinetic engagements. The air launched sUAS will be integrated into a Common Launch Tube (CLT) (found on numerous AFSOC and USSOCOM platforms) and equipped with Electro-Optic (EO) and kinetic payloads for target acquisition and engagement. This technology provides an affordable precision standoff strike capability with minimal risk to large conventional aircraft or ground forces. If successful, this technology will transition to Air Force Special Operations Command MQ-9 Reaper Medium Altitude Long Endurance-Tactical Unmanned Aerial Vehicle Program of Record through the Air Force Life Cycle Management Center. Low-Cost Supersonic Turbojet (Air Force/Space Force): This project tests an affordable commercially available turbojet engine for supersonic performance at high altitudes. This technology is not currently available from domestic manufacturers and enables swarms of very inexpensive unmanned aerial platforms that can operate at supersonic speeds. If successful, this technology will transition to on-going air launched unmanned aerial vehicle development programs. Precision Vertical Takeoff and Landing Unmanned Aerial System (VTUAS) Recovery (Navy/USMC): This project evaluates a pilot-free, autonomous recovery of Vertical Take-Off and Landing Unmanned Aerial Systems (VTUAS). This technology provides autonomous deployment, operation and recovery of VTUAS while reducing warfighter threat exposure and increasing survivability. If successful, this technology will transition to follow-on demonstration events prior to follow-on procurement and fielding recommendations. Extended Reality (XR) Helmet Mounted Display (HMD) (Navy/USMC): This project comparatively tests commercially available XR HMDs for T-45 operational flight training simulators. This technology provides advantages over virtual reality headsets by allowing users to see and interact with mock cockpits in the real world while simultaneously conducting flight training in a virtual environment. If successful, this technology will transition to Undergraduate Flight Training Systems and Naval Aviation Training Systems and Ranges Program Offices for follow-on procurement and fielding. Organic Precision Fires – Infantry, Light (Navy/USMC): This project comparatively tests Group 1 loitering munitions to provide an organic asset with precise kinetic effects within a Marine Infantry Company. If successful, this technology will transition to the Marine Corps Infantry Battalion Experimentation office for follow-on user evaluations through the Marine Corps Rapid Capabilities Office prior to follow-on procurement and fielding.			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Office of the Secretary Of Defense		Date: March 2024
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Portable High Power Directed Energy Systems for Aviation Support (Navy/USMC): This project evaluates a portable high power laser system capable of removing aircraft corrosion and coatings in operational environments. This technology reduces the health risk to maintenance personnel and increases maintenance efficiency. If successful, this technology will transition to the Navy's Common Aviation Support Equipment Program Office for follow-on procurement and fielding. Beyond Lithium-ion Battery for Expeditionary Warfare Support (Navy/USMC): This project evaluates next generation Lithium-Sulfur battery cells for various military applications including ground vehicles. Lithium-Sulfur batteries provide up to double the energy storage as existing Lithium-ion batteries while also improving safety. If successful, this technology will transition to battery manufacturers as DoD customers such as the Army's Ground Vehicle Systems Center, publish new battery specifications in future solicitations. Micro-Remotely Operated Vehicle (ROV) Rapid Response Underwater Incidents and Threats (Navy/USMC): This project comparatively tests low cost, man portable, micro-ROVs as a rapid response platform for inspection and preparation for neutralization of threat objects in the undersea environment. This technology provides an expeditionary capability to rapidly respond to asymmetric threats. If successful, this technology will transition to the Navy's Maritime Expeditionary Standoff Response (MESR) Program through an Engineering Change Proposal. Minimizing Electromagnetic Emissions Switched Beam Antenna (Navy/USMC): This project evaluates a novel antenna design that combines both omnidirectional and electronically steerable directional beamforms in a single system. This provides increased range and throughput for line-of-sight communications while decreasing risk of detection. If successful, this technology will transition to the Navy's Amphibious Tactical Communication System as well as other applicable service communications programs of record for follow-on procurement and fielding. Fast Rope Insertion/Extraction System (USSOCOM): This project comparatively tests different fast rope designs used by foreign militaries to address domestic production supply chain issues. Fast rope provides a critical capability enabling rapid deployment of personnel from helicopters where aircraft cannot touch down. If successful, new fast ropes will be purchased directly from manufacturers by the Army's Integrated Logistics Support Center. Green Pulsed Lasers for Optical Communications (Navy/USMC): This project comparatively tests compact, high-energy, air-cooled pulsed green lasers to increase the performance of air-to-underwater optical communications. This technology enables secure communications from aircraft to underwater vessels at operationally relevant depths with data rates 100 times higher than existing radio frequency communications. If successful, this technology will transition to the Navy's Undersea Communications and Integration Program Office for insertion into future optical communications programs of record.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Limit of Detection of Rapid Response Fentanyl Strips (Army): This project seeks to determine the precise limit of detection of commercial off the shelf fentanyl test strips. This data is necessary to inform end user requirements prior to field user evaluations and wider military adoption. This technology provides a capability for trace detection of fentanyl in the field to counter emerging threats to military forces. If successful, this technology will transition to the Army's Dismounted Reconnaissance Sets, Kits, and Outfits modernization program for follow-on procurement and fielding. The technology will also be available for purchase by individual units for immediate use as needed. Vehicle Filtration Systems (Army): This project comparatively tests modern NATO approved air filtration systems with unique design attributes against inefficient legacy domestic filters. This technology provides enhanced protection from damaging particles associated with chemical, biological, radiological, and nuclear (CBRN) weapons for military vehicles. If successful, this technology will transition to the Army's XM30 Mechanized Infantry Combat Vehicle Program of Record for follow-on procurement and fielding. Additionally, this technology has applicability to several existing and future planned DoD vehicle programs. Foreign Object Damage Barrier (Navy/USMC): This project evaluates an innovative barrier system to prevent Foreign Object Debris from (FOD) entering paved runways and airfields. This technology reduces FOD incidents by up to 80% which reduces the likelihood of damage to aircraft engines and increases readiness. If successful, this technology will transition to the Navy and Marine Corps Common Aviation Support Equipment program office for follow-on procurement and fielding at tactical land-based airfields. Naval Enhanced Global Positioning System (GPS) Antenna System (Navy/USMC): This project comparatively tests foreign GPS Anti-Jam antennas against existing domestic systems. Foreign technology provides new capabilities such as GPS interference signal direction finding and reduces procurement costs by over eighty percent. If successful, this technology will transition to the Global Positioning System (GPS) Based Positioning Navigation and Timing Service Program of Record for follow-on procurement and fielding on various DoD vehicle platforms. Intelligent Unmanned Ground Vehicle (UGV) for Contested Environments (Navy/USMC): This project will demonstrate the expeditionary utility of an advanced logistics UGV that leverages Artificial Intelligence and Machine Learning to integrate and fuse sensor inputs. This technology provides fully autonomous navigation capabilities during operations in contested environments. If successful, the results of this effort will inform future UGV acquisition requirements including the Marine Corps' Expeditionary Modular Autonomous Vehicle and Army's Robotic Combat Vehicle-Light development programs. High Durability Armor Steel (Navy/USMC): This project comparatively tests the environmental toughness of foreign high hard steels used for ballistic protection in armored vehicle applications. This effort addresses domestic supply chain deficiencies and significantly reduces sustainment costs by providing better quality, more durable, and longer lasting materials. If successful,			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
the Army Research Laboratory will modify existing armor steel specifications and this technology will be adopted by vehicle manufacturers. Ration Heater (Army): This project comparatively tests foreign exothermic ration heater performance, shelf life and safety characteristics. This technology provides a heat source without generation of hydrogen by-product that is potentially flammable or explosive if used in confined spaces. If successful, this technology will transition to the Army's Combat Feeding Directorate for follow-on procurement and fielding through the Meal, Ready-to-Eat Improvement program. Joint Light Tactical Vehicle (JLTV) Force Protection (Army): This project evaluates a novel, medium-hardness steel alloy underbody armor add-on kit for the JLTV. This technology provides a relatively lightweight force protection capability to counter anti-vehicle mines and improvised explosive threats. If successful, this technology will transition to the JLTV Joint Program Office for follow-on procurement and fielding. ***FY 2024 Plans:*** Description: The Office of the Under Secretary of Defense for Research and Engineering (OUSD R&E), International Prototypes and Experiments (IP&E) Office, selects multiple low-cost projects in the areas of Force Application, Force Protection, Force Support, Logistics, Artificial Intelligence and Machine Learning, Robotics and Autonomous Systems, Interoperability, and Countering Unmanned Systems. These projects will be selected to deliver prototypes for evaluation, assessment, and Service adoption within 12 to 36 months. Soldier Borne Sensor System (Army): Operational evaluation expected to occur in 2Q FY 2024. Final test and closeout reports expected in 3Q FY 2024. If successful, this technology will transition to the Army's Program Executive Office Soldier for follow-on procurement and fielding through the Soldier Borne Sensor Program of Record. Long Run-Time Thermal Batteries for Long Range Munitions (Army): Optimized phase II test articles to be received in 1Q FY 2024. Phase II testing anticipated to occur in 1Q FY 2024. Final test and closeout reports expected to complete in 2Q FY 2024. If successful, this technology will be transitioned to domestic thermal reserve battery manufacturers for incorporation into munitions procured by the Joint Program Executive Office for Armaments and Ammunition. Spectrometric Gamma Camera (Army): Operational assessment expected to occur in 1-2Q FY 2024. Final test and closeout reports completed in 3Q FY 2024. If successful, this technology will transition to the Mounted Enhanced Radiac Long-Range Imaging Networkable vehicle mounted system by the Joint Program Executive Office for Chemical Biological Radiological Nuclear Defense.			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Office of the Secretary Of Defense		Date: March 2024
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Three-Dimensional Printed Metal Parts (Army): Phase II field demonstrations expected to occur in 2-3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. If successful, best performing materials will transition to various DoD programs for follow-on parts qualification testing and fielding to include the Army's Infantry Battalion Mortar System, the Air Force's M137A1 cannon for the AC-130 gunship, and the Marine Corps' Expeditionary Fabrication laboratory Program of Record. Artificial Intelligence for Off-Road Autonomy (Army): Phase I testing to occur in 1Q FY 2024. Phase II testing to occur in 2Q FY 2024. Phase III testing to occur in 3Q FY 2024. Initiate Phase IV testing in 4Q FY 2024. This project continues in FY 2025 with FY 2024 funding. If successful, this technology will transition to the Army's Next Generation Combat Vehicle Cross Functional Team for integration into the XM30 Mechanized Infantry Combat Vehicle and Robotic Combat Vehicle programs. Warfighter Water Purification (Army): Device validation expected to complete in 1Q FY 2024. Field demonstrations expected to complete in 3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. If successful, this technology will transition to the Army's Product Manager for Soldier Clothing and Individual Equipment for follow-on procurement and fielding through the Individual Water Treatment Device Program of Record. Air Launched small Unmanned Aerial System (sUAS) for Kinetic Engagement (Air Force/Space Force): Phase II Common Launch Tube integration and ejection testing planned for 1Q FY 2024. Phase III surrogate aircraft and live testing planned for 2-3Q FY 2024. Final test and closeout reports expected 4Q FY 2024. If successful, this technology will transition to Air Force Special Operations Command MQ-9 Reaper Medium Altitude Long Endurance-Tactical Unmanned Aerial Vehicle Program of Record through the Air Force Life Cycle Management Center. Low-Cost Supersonic Turbojet (Air Force/Space Force): Final test and closeout reports expected to complete in 1Q FY 2024. If successful, this technology will transition to on-going air launched unmanned aerial vehicle development programs. Minimizing Electromagnetic Emissions Switched Beam Antenna (Navy/USMC): Phase II environmental testing expected to complete in 1Q FY 2024. Phase II environmental testing expected to complete in 1Q FY 2024. Phase III operational demo anticipated for 3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. If successful, this technology will transition to the Navy's Amphibious Tactical Communication System as well as other applicable service communications programs of record for follow-on procurement and fielding. Green Pulsed Lasers for Optical Communications (Navy/USMC): Phase II testing expected to occur in 1Q FY 2024. Phase III testing expected to occur in 2-3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. If successful, this technology will transition to the Navy's Undersea Communications and Integration Program Office for insertion into future optical communications programs of record.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Limit of Detection of Rapid Response Fentanyl Strips (Army): Conduct field demonstration and experimentation in 1-2Q FY 2024. Final test and closeout report expected in 3Q FY 2024. If successful, this technology will transition to the Army's Dismounted Reconnaissance Sets, Kits, and Outfits modernization program for follow-on procurement and fielding. The technology will also be available for purchase by individual units for immediate use as needed.			
Vehicle Filtration Systems (Army): Receive phase II test articles in 1Q FY 2024. Initiate phase II environmental testing in 2Q FY 2024. This project continues in FY 2025 with FY 2024 funding. If successful, this technology will transition to the Army's XM30 Mechanized Infantry Combat Vehicle of Record for follow-on procurement and fielding. Additionally, this technology has applicability to several existing and future planned DoD vehicle programs.			
Foreign Object Damage Barrier (Navy/USMC): Testing expected to occur in 1-3Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. If successful, this technology will transition to the Navy and Marine Corps Common Aviation Support Equipment program office for follow-on procurement and fielding at tactical land-based airfields.			
Naval Enhanced Global Positioning System (GPS) Antenna System (Navy/USMC): Field testing expected to occur in 2-3Q FY 2024. Final test and closeout reports expected to complete in 4Q FY 2024. If successful, this technology will transition to the Global Positioning System (GPS) Based Positioning Navigation and Timing Service Program of Record for follow-on procurement and fielding on various DoD vehicle platforms.			
Intelligent Unmanned Ground Vehicle (UGV) for Contested Environments (Navy/USMC): Conduct testing in 1-3Q FY 2024. Complete final test and closeout reports in 4Q FY 2024. If successful, the results of this effort will inform future UGV acquisition requirements including the Marine Corps' Expeditionary Modular Autonomous Vehicle and Army's Robotic Combat Vehicle-Light development programs.			
High Durability Armor Steel (Navy/USMC): Complete phase I and II testing in 1Q FY 2024. Conduct phase III operational testing in 2-3Q FY 2024. Final test and closeout reports are expected in 4Q FY 2024. If successful, the Army Research Laboratory will modify existing armor steel specifications and this technology will be adopted by vehicle manufacturers.			
Ration Heater (Army): Complete laboratory testing in 1Q FY 2024. Conduct operational testing in 2-3 Q FY 2024. Final test and closeout reports expected in 4Q FY 2024. If successful, this technology will transition to the Army's Combat Feeding Directorate for follow-on procurement and fielding through the Meal, Ready-to-Eat Improvement program.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Joint Light Tactical Vehicle (JLTV) Force Protection (Army): Limited efficacy and equipment compatibility testing expected to occur in 1Q FY 2024. Live fire testing expected to occur in 2Q FY 2024. Final test and closeout reports expected in 3Q FY 2024. If successful, this technology will transition to the JLTV Joint Program Office for follow-on procurement and fielding. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreases to zero from FY 2024 to FY 2025 as major test events occur and several on-going projects complete in FY 2024. Successful projects will be transitioned via the Military Services project sponsors for procurement.			
Title: Foreign Comparative Testing Prototyping & Experimentation Focus Areas	0.848	12.202	27.612
Description: Previously funded effort. The FCT program will select new projects to evaluate allied/partner nation technologies that address emerging DoD capability gaps and provide substantial cost, schedule, and/or performance benefit to the warfighter. As projects are selected, they will be reported individually. Evaluation will be aligned to the National Defense Strategy (NDS) and the Office of the Under Secretary of Defense, Research and Engineering Critical Technology Areas, to deliver increased readiness and a more lethal Joint Force while strengthening alliances, attracting new partners, and achieving greater performance and affordability. ***FY 2024 Plans:*** The FCT Program anticipates selecting eight to fifteen new projects spread across the Office of the Under Secretary of Defense, Research and Engineering (OUSD R&E) Critical Technology Areas and Service readiness requirements in support of Joint Warfighting Concepts in FY 2024 and continued support to active FY 2022 and FY 2023 projects. Deliverables will include integrated products and software that enhances warfighting capabilities across multi-domain battlefield environments. This will be accomplished through the test and evaluation of prototypes in coordination with the Services and United States Special Operations Command and other DoD Agencies. ***FY 2025 Plans:*** The FCT Program anticipates supporting eight to fifteen ew projects spread across the Office of the Under Secretary of Defense, Research and Engineering (OUSD R&E) Critical Technology Areas and Service readiness requirements in support of Joint Warfighting Concepts in FY 2025. FCT will provide continued support to active FY 2023 and FY 2024 projects. Deliverables will include integrated products and software that enhance warfighting capabilities across multi-domain battlefield environments. This will be accomplished through test and evaluation of prototypes in coordination with the Services and United States Special Operations Command and other DoD Agencies. ***FY 2024 to FY 2025 Increase/Decrease Statement:***			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
This increase in funding will be allocated for the selection of new projects that will commence in FY 2025. Projects will be selected through a merit-based process and will address current Office of the Under Secretary of Defense, Research and Engineering (OUSD R&E) Critical Technology Areas and Service readiness requirements.			
Title: International Collaboration and Experimentation (ICE) Focus Areas	0.000	-	2.395
Description: In FY 2025, the FCT program will expand with a campaign of cooperative + collaborative experimentation with allies and partners to evaluate applications of innovative foreign capabilities in response to changes in the global security environment. The focus and intent of these cooperative + collaborative efforts is to develop flexible deterrent options and increase resiliency in the defense ecosystem by working even more closely with our network of allies and partners around the globe. The ICE effort will evaluate allied/partner nation technologies that address emerging DoD capability gaps and provide substantial cost, schedule, and/or performance benefit to the warfighter. Cooperative + collaborative experimentation will be aligned to the National Defense Strategy (NDS) and the Office of the Under Secretary of Defense, Research and Engineering (OUSD R&E) Critical Technology Areas. Initial ICE engagement efforts will concentrate on the NDS and Combatant Command priority nations to deliver increased readiness and a more lethal Joint Force while strengthening alliances, attracting new partners, and achieving greater performance and affordability. ***FY 2025 Plans:*** The ICE anticipates supporting one to two new projects spread across the OUSD R&E Critical Technology Areas and Service readiness requirements in support of Joint Warfighting Concepts in FY 2025. Deliverables will include integrated products and software that enhance warfighting capabilities across multi-domain battlefield environments. This will be accomplished through test and evaluation of prototypes, demonstrations, and concept experimentation in coordination with the Services, United States Special Operations Command, Combatant Command and other DoD Agencies. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** The increase in FY 2025 supports additional Foreign Comparative Testing (FCT) projects and enhanced cooperative + collaborative experimentation with allies and partners to evaluate applications of innovative foreign capabilities in response to changes in the global security environment.			
Accomplishments/Planned Programs Subtotals	26.310	27.078	30.007

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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D. Acquisition Strategy

Successful FCT/ICE projects support capability acquisition in several ways: technology upgrade insertion into a current platform or program providing greater capability or prolonging the life of the weapon system, informed/refined requirements for planned systems, or direct transition/procurement. FCT/ICE leverages the Services' and Defense Agencies' most efficient and effective acquisition approaches for rapid prototyping. This includes using Other Transaction Authorities and new or existing contract vehicles using the middle-tier acquisition strategy. The FCT Program supports the Service Executive Acquisition strategies and works with each Service, U.S. Special Operation Command, and Combatant Commands to enhance the speed of new technology infusion to maintain overmatch on tomorrow's battlefield.