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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603739N / <i>Navy Logistic Productivity</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	4.888	0.864	4.712	6.059	-	6.059	1.036	0.973	0.993	1.015	Continuing	Continuing
0356: <i>NADACS inventory</i>	0.000	0.000	4.000	5.000	-	5.000	0.000	0.000	0.000	0.000	0.000	9.000
3223: <i>Logistics R&D</i>	4.888	0.864	0.712	1.059	-	1.059	1.036	0.973	0.993	1.015	Continuing	Continuing

A. Mission Description and Budget Item Justification

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES because it includes all efforts necessary to evaluate integrated technologies, representative models or prototype systems in a high fidelity and realistic operating environment.

Includes development and evaluation of incentive systems for improving the productivity of civilian and military personnel. Identifies barriers to increased productivity and evaluates the effect of removing them. Develops techniques for easing the introduction of new technology to the work place. Identifies and evaluates methods for improving the quality of work-life.

Excludes civilian and military manpower and their related costs and military construction costs which are included in appropriate Management and Support elements in this program.

B. Program Change Summary (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	0.899	4.712	6.059	-	6.059
Current President's Budget	0.864	4.712	6.059	-	6.059
Total Adjustments	-0.035	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.035	0.000			
• Rate/Misc Adjustments	0.000	0.000	0.000	-	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy										Date: March 2024		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity				Project (Number/Name) 0356 / NADACS inventory			
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
0356: NADACS inventory	0.000	0.000	4.000	5.000	-	5.000	0.000	0.000	0.000	0.000	0.000	9.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Stable annual funding is required to facilitate implementation and execution of a robust, flexible Logistics R&D program that will provide the means for Naval Supply Systems Command (NAVSUP) to effectively pursue solutions to mission-related capability and technology gaps. The NAVSUP Logistics R&D program has an established infrastructure and business process for ensuring that R&D funds are applied to projects that address high priority enterprise needs established in accordance with OPNAV goals and the NAVSUP Commander's Guidance.

From a process perspective, Logistics R&D investments are governed by a NAVSUP enterprise-wide Executive Steering Group (ESG) chaired by the NAVSUP Vice Commander, and comprised of SES and Command leadership representatives. The ESG ratifies capability and technology gaps identified by all activities within the enterprise, and then assesses and prioritizes all proposed Logistics R&D initiatives in accordance with their potential for filling the established gap and generating return on investment.

The established Logistics R&D business management process has currently identified capability/technology gaps in the following general areas: 1) the need to develop formalized food service management techniques that focus on increased efficiency of new and existing systems and facilities. 2) the need to modernize quality of life (QOL) services to improve overall services, offer additional desired features and reduce total ownership costs, 3) the need to assess clothing protection for the warfighter in areas of thermal/flame threats, protective footwear, and physical (hearing, vibration, etc.) clothing/accessories, 4) the need to develop logistics data access and information sharing through enhanced Graphical User Interfaces (GUI) and web-based data services, 5) the need to develop a capability that allows Integrated Logistics Support (ILS) repair and modernization tools, 6) the need to leverage breakthrough technologies to improve supply chain processing. This modest R&D investment will establish a NAVSUP Logistics R&D Program to explore additional technologies and significantly increase potential cost savings.

The Naval Autonomous Data Collection System (NADACS) is an Enterprise level, multi-source, digital tracking tool that supports asset visibility, accountability & auditability. The system directly supports both Congressional and Departmental dictates that require Navy to improve its ability to maintain and track material, assets and equipment with a high degree of accuracy and accountability.

NADACS uses a variety of handheld readers, fixed readers, Mesh networking, and sensors to collect asset and combine data from barcoding, Radio Frequency identification (RFID) and Internet of Things (IOT) sensors to provide locational and health information of assets which can then be compared with on-hand inventory records.

NAVSUP will be employing cellular 5G capabilities with Satellite Communication (SATCOM) along with other communication transport methods to move data from point of collection to the NADACS database, and then providing end users with a 'Web Browser' picture to assess and manage the asset picture. NADACS is based on government owned software coupled with specialty and commercially available hardware to create a complete system. For commercial hardware, the system is hardware agnostic, encouraging use of available hardware while maintaining a high degree of competition.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy	Date: March 2024
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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 0356 / NADACS inventory
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
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Title: Storage Location RFID Tech Expansion	0.000	0.760	0.950	0.000	0.950
Articles:	-	-	-	-	-

Description: Warehouse and indoor/outdoor storage location RFID Technology expansion.

FY 2024 Plans:

\$0.760M to investigate robust RFID tagging material/options for tagging warehouse items as well as ground support equipment, MHE and other mobile equipment used at FLCs, Shipyards and Air Stations. Tags will include current paper to expand to rigid, encased, tamper-resistant and all-weather.

FY 2025 Base Plans:

\$0.950M to investigate robust RFID tagging material/options for tagging warehouse items as well as ground support equipment, MHE and other mobile equipment used at FLCs, Shipyards and Air Stations. Tags will include current paper to expand to rigid, encased, tamper-resistant and all-weather. Mission is the same as described for FY24, but applied to more sites in FY25.

FY 2025 OCO Plans:

N/A

FY 2024 to FY 2025 Increase/Decrease Statement:

Increased funding results from NADACS being identified as an Enterprise Solution earlier this FY. Instead of just doing a few FLC sites, NADACS will now be rolled out to shipyards and FRCs in addition. This will include four large industrial sites (Shipyards), their detachments, and 7 FRC (aircraft depots) and their detachments. Technology improvements and tech refresh must be taken into consideration, and as customer base grows, additional hardware requirements will grow with it.

Title: Alternative Data Gateway for Logistics Data	0.000	0.900	1.125	0.000	1.125
Articles:	-	-	-	-	-

Description: Alternative data gateway for logistics data.

FY 2024 Plans:

\$0.900M to explore multiple fixed and mobile gateways for data collection. Leverage emerging 5G cellular technology, Iridium SBD modems and high speed WiFi.

FY 2025 Base Plans:

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>\$1.125M to explore multiple fixed and mobile gateways for data collection. Leverage emerging 5G cellular technology, Iridium SBD modems and high speed WiFi. Initiative is the same as outlined for FY24, but will be applied to more sites in FY25.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increased funding results from NADACS being identified as an Enterprise Solution earlier this FY. Instead of just doing a few FLC sites, NADACS will now be rolled out to shipyards and FRCs in addition. This will include four large industrial sites (Shipyards), their detachments, and 7 FRC (aircraft depots) and their detachments. Technology improvements and tech refresh must be taken into consideration, and as customer base grows, additional hardware requirements will grow with it.</p>					
<p>Title: Asset Tracking in a Box</p> <p align="right">Articles:</p> <p>Description: Asset tracking in a box, addition of "Fetch Robot"</p> <p>FY 2024 Plans: \$2.100M to develop multiple types of devices: Sensors (RFID, mess tags, etc.), Collectors (readers, mesh network, Bluetooth, etc.), Communication Gateways (mesh, WiFi, Bluetooth, 5G hotspot, etc.) to connect to NADACS. Explore using "Fetch Robot" as an automated vehicle sensors for RFID tag data collection.</p> <p>FY 2025 Base Plans: \$2.625M to develop multiple types of devices: Sensors (RFID, mess tags, etc.), Collectors (readers, mesh network, Bluetooth, etc.), Communication Gateways (mesh, WiFi, Bluetooth, 5G hotspot, etc.) to connect to NADACS. Explore using "Fetch Robot" as an automated vehicle sensors for RFID tag data collection. The initiative is the same as outlined in FY24, just applied to more sites in FY25.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increased funding results from NADACS being identified as an Enterprise Solution earlier this FY. Instead of just doing a few FLC sites, NADACS will now be rolled out to shipyards and FRCs in addition. This will include four large industrial sites (Shipyards), their detachments, and 7 FRC (aircraft depots) and their detachments.</p>	0.000	2.100	2.625	0.000	2.625
	-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Technology improvements and tech refresh must be taken into consideration, and as customer base grows, additional hardware requirements will grow with it.					
<p>Title: Integrate FACET with NADACS GUI</p> <p align="right">Articles:</p> <p>Description: Integrate FACET with NADACS GUI</p> <p>FY 2024 Plans: \$0.240M to develop software integration with FACET and NADACS. This will enable users to have a centralized location for multiple warehousing processes.</p> <p>FY 2025 Base Plans: \$0.300M to develop software integration with FACET and NADACS. This will enable users to have a centralized location for multiple warehousing processes. Initiative is the same as outlined in FY24, just applied to more sites in FY25.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increased funding results from NADACS being identified as an Enterprise Solution earlier this FY. Instead of just doing a few FLC sites, NADACS will now be rolled out to shipyards and FRCs in addition. This will include four large industrial sites (Shipyards), their detachments, and 7 FRC (aircraft depots) and their detachments. Technology improvements and tech refresh must be taken into consideration, and as customer base grows, additional hardware requirements will grow with it.</p>	0.000	0.240	0.300	0.000	0.300
	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	0.000	4.000	5.000	0.000	5.000

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

Remarks

D. Acquisition Strategy
NAVSUP R&D executed through firm fixed price negotiated contracts and NAVSUP support. Performance-based reviews conducted quarterly by the Project Management Office.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 0356 / NADACS inventory
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Rapid Fielding of Naval Autonomous Data Collection System	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Warehouse and Storage Location RFID Tech Expansion																												
Contract Award						▲					▲																	
Development/Functional Testing							—				—																	
Implementation								▲				▲																
Alternative Data Gateway for Logistics Data																												
Contract Award						▲					▲																	
Development/Functional Testing							—				—																	
Implementation								▲				▲																
Asset Tracking in a Box "Fetch Robot"																												
Contract Award						▲					▲																	
Development/Functional Testing							—				—																	
Implementation								▲				▲																
Integrate FACET with NADACS GUI																												
Contract Award						▲					▲																	
Development/Functional Testing							—				—																	
Implementation								▲				▲																

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / <i>Navy Logistic Productivity</i>	Project (Number/Name) 0356 / <i>NADACS inventory</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Rapid Fielding of Naval Autonomous Data Collection System</i>				
Warehouse and Storage Location RFID Tech Expansion: Contract Award: FY2024 Contract Award	2	2024	2	2024
Warehouse and Storage Location RFID Tech Expansion: Contract Award: FY2025 Contract Award	2	2025	2	2025
Warehouse and Storage Location RFID Tech Expansion: Development/Functional Testing: FY2024 Development/Functional Testing	3	2024	3	2024
Warehouse and Storage Location RFID Tech Expansion: Development/Functional Testing: FY2025 Development/Functional Testing	3	2025	3	2025
Warehouse and Storage Location RFID Tech Expansion: Implementation: FY2024 Implementation	4	2024	4	2024
Warehouse and Storage Location RFID Tech Expansion: Implementation: FY2025 Implementation	4	2024	4	2024
Alternative Data Gateway for Logistics Data: Contract Award: FY2024 Contract Award	2	2024	2	2024
Alternative Data Gateway for Logistics Data: Contract Award: FY2025 Contract Award	2	2025	2	2025
Alternative Data Gateway for Logistics Data: Development/Functional Testing: FY2024 Development/Functional Testing	3	2024	3	2024
Alternative Data Gateway for Logistics Data: Development/Functional Testing: FY2025 Development/Functional Testing	3	2025	3	2025
Alternative Data Gateway for Logistics Data: Implementation: FY2024 Implementation	4	2024	4	2024
Alternative Data Gateway for Logistics Data: Implementation: FY2025 Implementation	4	2025	4	2025
Asset Tracking in a Box "Fetch Robot": Contract Award: FY2024 Contract Award	2	2024	2	2024
Asset Tracking in a Box "Fetch Robot": Contract Award: FY2025 Contract Award	2	2025	2	2025
Asset Tracking in a Box "Fetch Robot": Development/Functional Testing: FY2024 Development/Functional Testing	3	2024	3	2024

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 0356 / NADACS inventory
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Asset Tracking in a Box "Fetch Robot": Development/Functional Testing: FY2025 Development/Functional Testing	3	2025	3	2025
Asset Tracking in a Box "Fetch Robot": Implementation: FY2024 Implementation	4	2024	4	2024
Asset Tracking in a Box "Fetch Robot": Implementation: FY2025 Implementation	4	2025	4	2025
Integrate FACET with NADACS GUI: Contract Award: FY2024 Contract Award	2	2024	2	2024
Integrate FACET with NADACS GUI: Contract Award: FY2025 Contract Award	2	2025	2	2025
Integrate FACET with NADACS GUI: Development/Functional Testing: FY2024 Development/Functional Testing	3	2024	3	2024
Integrate FACET with NADACS GUI: Development/Functional Testing: FY2025 Development/Functional Testing	3	2025	3	2025
Integrate FACET with NADACS GUI: Implementation: FY2024 Implementation	4	2024	4	2024
Integrate FACET with NADACS GUI: Implementation: FY2025 Implementation	4	2024	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy										Date: March 2024		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity				Project (Number/Name) 3223 / Logistics R&D			
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
3223: <i>Logistics R&D</i>	4.888	0.864	0.712	1.059	-	1.059	1.036	0.973	0.993	1.015	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Digital Logistics	0.236	0.195	0.429	0.000	0.429
Articles:	-	-	-	-	-
Description: Digital Logistics					
FY 2024 Plans: Asset tracking in a box (\$79k) Multiple types of devices: Sensors (RFID, mess tags, etc.) Collectors (readers, mesh network, Bluetooth)					

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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 3223 / Logistics R&D
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Communications gateways (mesh, wifi, Bluetooth, 5G hotspot, etc.) to connect to NADACS</p> <p>Alternative data gateway for logistics data (\$52k) NADACS currently has fixed and mobile gateways that support data collection. This effort would modify the mobile gateway from GSM standard to 3GPP Ver 16, 5G US standard.</p> <p>Warehouse/Storage location RFID technology expansion (\$64k) Current RFID tagging is currently limited to paper or foam back tags. This effort would investigate the use of alternative RFID tagging for detailed asset tracking in warehouse/storage locations. Effort would include tag, tag printers, as well as S/W/data process development. Type of tags would include rigid, encased and tamper resistant.</p> <p>FY 2025 Base Plans: Total IT Asset Inventory Collection (\$120K): Annual process of confirming IT assets (external disc drives, cell phones, tablets, etc.) could be automated via a small digital app, or in combination with a RFID/barcode collection system.</p> <p>Location Beaconing Technology for Supply (\$249K): Development of location beaconing techniques (mesh/Bluetooth) to support item location management in a GPS denied environment.</p> <p>Smart Storage Aid (\$60K): Pilot evaluation of smart storage aid that calculates quantity by weight at each bin location within acceptable deviation.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase associated with automation and increased accuracy of inventory collection and location management.</p>					
<p>Title: Supply Chain Optimization</p> <p align="right">Articles:</p> <p>Description: Enable innovation in our supply chain processes in the areas of data sciences, logistics IT application development, and quality engineering through incorporation of Science, Technology, Engineering, and Math (STEM) projects performed by interns and academia.</p>	0.110 -	0.090 -	0.000 -	0.000 -	0.000 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Perform market research on emerging supply chain technologies and methods that could be adopted to support the DoN/DoD material supply chain.</p> <p>Developed a new functionality (software supporting data structure and migration of current data) within Ordinance Information System (OIS) that provides visibility of serialized assets use and requirements.</p> <p>FY 2024 Plans: Reverse Engineering (\$90k) NLP funding will support research and development related to reverse engineering Navy Supply platforms which have been identified as either unsupported (no known or available source) or current support is posing a risk to fleet readiness. Funding will be used for a small business to reverse engineer/reverse manufacture an item and develop a technical data package for future fleet requirements.</p> <p>FY 2025 Base Plans: N/A</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Resources shifted to higher priority initiatives in FY2025.</p>					
<p>Title: Clothing Protection for the Warfighter</p> <p align="right">Articles:</p> <p>Description: Identify challenges to effectively manage durability and safety aspects of common work/combat uniforms for the warfighter. Eliminate risk of hazardous factors such as fire, weather, and general wear/tear to maximize readiness and strength in Fleet uniforms. Assist with specifications associated with permanent press finish related to the rollout of the Navy's Type III uniform.</p> <p>FY 2024 Plans: Alternatives to PFAS for Water and Stain Repellent Treatments for Navy Textiles (\$67k) The NDAA for FY20 added PFAS to the toxic chemical list and the NDAA for FY22 directed a study of DoD procurement of PFAS containing items, to include shoes and clothing. There is pending federal legislation to further restrict usage of PFAS. The objective of the R&D effort is to investigate suitable PFAS alternatives for durable water repellent (DWR) and stain repellent treatments used in Navy clothing and equipment items. The NCTRF will assess PFAS-free fabric treatments by evaluating the repellency efficacy and degradative effects</p>	0.518 -	0.427 -	0.630 -	0.000 -	0.630 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>on material performance or comfort. The improved shipboard cold weather jacket is a developmental item that can be used to assess PFAS-free DWR treatment efficacy. Additionally, NCTRF will evaluate the performance of non-PFAS repellent treated chem-bio protective garment materials developed by Army DEVCOM Soldier Center. PFAS is used as abbreviation for perfluoroalkyl substances and polyfluoroalkyl substances.</p> <p>Product Lifecycle Management System (\$140k) Currently, USN uniform and material data is spread among different databases and folders creating hours of research for NCTRF employee. USMC has successfully executed a beta test of PLM system, the Navy (alongside Army and Air Force) has an opportunity to cost share and create an organized and intuitive system for tracking and comparison as well as configuration management of pattern, testing , and design to facilitate uniform development. With an overall cost savings in the millions of dollars in the long term sustainment efforts as it aligns with uniform development</p> <p>Shipboard Cold Weather Clothing (CWC) System Development Follow-On (\$79k) To address the Navy's lack of shipboard CWC system, the FY21-FY22 development effort will deliver a recommendation for the shipboard CWC system components, prototypes for system components, findings from system assessment in a laboratory environment, and a draft Operational Requirements Document (ORD). Follow-on funding is required to execute a fit evaluation for the CWC system and a wear evaluation. Using the fit evaluation data, NCTRF will finalize garment technical data and designs for a wear evaluation. A user evaluation in a relevant operational environment is needed to validate the improved shipboard cold weather jacket and the shipboard CWC system performance.</p> <p>Validating the reduction of size blur with new proposed sizing system (\$67k) The need for size standardization within the Navy and across services has led to multi-year programs focusing on developing new sizing systems and conducting fit tests. Approximately four years ago the Navy teamed up with an industry partner and is now in its final phase. The industry partner, along with NCTRF, will conduct a fit test to evaluate and rate the efficacy of their recommended female sizes, shapes and statures of key style uniforms. In order for the Navy to move forward with the new sizing system with confidence that we are optimizing the tariff and limiting the possibility of size blur additional analysis is needed. This R&D effort will utilize the of the raw data collected during the fit test and conduct our own statistical analysis to validate the results provided by industry and further develop optimized tariffs that will ensure maximum differentiation of unique sizes with minimum SKUs.</p> <p>Lifecycle of a Uniform (\$37k)</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

The lifecycle of a uniform is a frequently fielded question by NCTRF. This relates to sailor allowance as well as the overall ROI in updates or improvements of uniforms. This effort would be looking at further understanding the use of sustainable approaches with uniforms for the future but in order to do that an establish baseline on the actual service and wear of a uniform will be a necessary data point as to understand. NCTRF can simulate durability but the actual timeline of a uniform service life has yet to be captured and understood. This effort will research all the sister areas approach to service life as well and also account for an actual or estimated service life of a navy uniform.

3D Materials Library (\$37k)

Through two consecutive R&D efforts, we have been successful in acquiring a COTS 3D software that is utilized to virtually sew together patterns to create true-to-life virtual prototypes. Through our research we have found that the key factor in ensuring that the virtual prototypes are exactly comparable to physical prototypes, is the detailed fabric characteristics are necessary. The next step in implementing 3D fully to streamline the development process is to have a full 3D material library. As technology advances, having accurate 3D prototyping services is becoming more in demand than ever. Having a cross-service 3D material library will further benefit our internal and external customers by providing a more affordable and sustainable development process.

FY 2025 Base Plans:

Assessment of the Effect of Women Specific Sizing on Clothing System Performance (\$155K): Most Navy organizational and protective clothing and individual equipment items lack women specific sizes. Garment and equipment fit impact Sailors' maneuverability and comfort and the clothing system's thermoregulatory and protective performance. This effort would assess the impact of women specific sized garments, handwear, and footwear, as compared to unisex/men's sized items, on the biophysical performance and protective performance using SHEMA thermal manikin and female flame manikin, respectively.

Footwear Last Dimensions (\$50K): The need for additional footwear suppliers has become a concern over the past few years due to various factory closures etc. At this time there is limited information as to sizing differences between manufacturers. Does a size 8 in one shoe have the same fit and measurements as a size 8 in another. This effort would research and investigate last manufacturing and dimensions. The collected information will be used to communicate and establish a proposed strategy with stakeholders for a roadmap/framework in creating "last dimensions" for commercial and DLA footwear. Due out would be create a drawing that outlines Navy requirements for consistent sizing between manufacturers and footwear types.

FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy	Date: March 2024
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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 3223 / Logistics R&D
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Shipboard Cold Weather Clothing (CWC) R&D Follow-on (\$170K): To continue to address the Navy's lack of shipboard CWC system, funding has been used to establish requirements documents. Allows visibility of what is commercially available and what items we need DLA to procure for the Navy to have a cold weather ensemble for shipboard use. The follow-on development effort will deliver final patterns and product specification documents for the recommended shipboard CWC system components.</p> <p>Reusable Menstrual Product(s) Made from Textiles (\$60K): To address the Pink Tax associated with textile products required by Sailors who menstruate, NCTRF proposes to evaluate reliable, reusable, and easily replaceable menstruation product to be issued or available to Sailors. Further, minimization and reduction of menstrual product waste has environmental and logistic benefits for installations and ship platforms. There are several commercial menstruation product items on the market that are layered undergarments which NCTRF can use as a starting point to make an improved garment specific to the needs of Sailors in training and deployed environments. Emphasis will be put on material testing and research to establish the appropriate material properties. Equal emphasis will be on design and pattern development to create a comfortable and properly fit undergarment.</p> <p>Navy Organizational Clothing Size Standardization (\$145K): The Phase I effort will include (1) the creation of block prototypes, (2) the creation of the first coveralls key style, and (3) conducting a coveralls fit study to optimize the male and female fit and stature using the new Navy size standardization body measurements. Two sizing systems will be considered. The initial prototypes will be evaluated by using 3D Avital software to access the coverall's balance, fit, and ease of movement on the virtual body. The coveralls prototype will be constructed in a base size to perform the fit assessment on the standardized forms and live models. Approved base coveralls patterns will be graded to all sizes and lengths. Deliverables will include (1) block prototypes, (2) the first key style of the organizational coveralls, (3) finished measurements, and graded nest (3) the uniform key style fit study results.</p> <p>Analysis of Fiber Fragmentation (AATCC TM212) (\$50K): With the recent interest in the concern of PFAS in clothing and textiles as well as the impact of laundering items containing PFAS, NCTRF will investigate AATCC TM212 Analysis of Fiber Fragmentation. When clothing and textiles are laundered, fiber fragments come off. Most fragments are not filtered out from water effluent and end up in the water-ways and eco-systems. To reduce the negative environmental impact, NCTRF proposes to evaluate ways to quantify and minimize fiber fragmentation and improve filtration of fiber fragments from washing machine effluent. This research will look at</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy	Date: March 2024
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>which fabrics have the least fragmentation and recommend material changes for garments currently made from fabrics with high amounts of fiber fragmentation.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increased focus/priority on Sailor protection, comfort, and quality of life.</p>					
Accomplishments/Planned Programs Subtotals	0.864	0.712	1.059	0.000	1.059

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

N/A

Remarks

D. Acquisition Strategy

NAVSUP R&D executed through firm fixed price negotiated contracts and NAVSUP support. Performance-based reviews conducted quarterly by the Project Management Office.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 3223 / Logistics R&D
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Digital Logistics	C/FFP	NAVSUP AIT : Norfolk, VA	0.000	0.236	Jun 2023	0.195	Jun 2024	0.429	Jun 2025	-		0.429	Continuing	Continuing	Continuing
Readiness through Logistics Solutions	C/FFP	Various : Various	1.831	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Supply Chain Optimization	C/FFP	Various : Various	0.597	0.110	Apr 2023	0.090	Apr 2024	0.000		-		0.000	Continuing	Continuing	Continuing
Clothing Protection for the Warfighter	C/FFP	NCTRF : Natick, MA	2.460	0.518	Mar 2023	0.427	Mar 2024	0.630	Dec 2024	-		0.630	Continuing	Continuing	Continuing
Subtotal			4.888	0.864		0.712		1.059		-		1.059	Continuing	Continuing	N/A
Project Cost Totals			4.888	0.864		0.712		1.059		-		1.059	Continuing	Continuing	N/A

Remarks
 In previous plans, NAVSUP forecast budget requirements based on projections rooted in the current year's capability gaps. As our priorities and Strategic Guidance evolves so do our budget requirements. Through leveraging new technologies, NAVSUP will enhance efforts for supply ashore and distant support. We will strengthen our supply chain information technology and management solutions for supply and financial requirements. We will collaborate with partners to improve the quality-of-life experiences and expand services to deployed forces. NAVSUP will continue to build an ethical and effective workforce dedicated to the mission by developing new technological programs that are advantageous to the warfighter. We will reduce risk and minimize vulnerabilities to protect against disruptions to supply chain and business systems. All of our actions will follow a culture of moral excellence to successfully execute the current and future missions of NAVSUP.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy

Date: March 2024

Appropriation/Budget Activity
1319 / 4

R-1 Program Element (Number/Name)
PE 0603739N / Navy Logistic Productivity

Project (Number/Name)
3223 / Logistics R&D

Logistics R&D	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Supply Chain Optimization																												
Contract Award		◆				◆																						
Developmental/Functional Testing			—				—																					
Implementation				■				■																				
3D Virtual Design Software Improvement																												
Contract Award			◆				◆																					
Developmental/Functional Testing			—				—																					
Implementation				■				■																				
Digital Logistics																												
Contract Award			◆				◆				◆				◆				◆				◆				◆	
Developmental/Functional Testing			—				—				—				—				—				—				—	
Implementation				■				■				■				■				■				■				■
Clothing Protection for the Warfighter																												
Contract Award	◆					◆				◆				◆					◆				◆				◆	
Developmental/Functional Testing		—				—				—				—					—				—				—	
Implementation			■				■				■				■				■				■				■	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 3223 / Logistics R&D

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Logistics R&D				
Supply Chain Optimization: Contract Award: FY 2023 Contract Award	2	2023	2	2023
Supply Chain Optimization: Contract Award: FY 2024 Contract Award	2	2024	2	2024
Supply Chain Optimization: Developmental/Functional Testing: FY 2023 Developmental/Functional Testing	3	2023	3	2023
Supply Chain Optimization: Developmental/Functional Testing: FY 2024 Developmental/Functional Testing	3	2024	3	2024
Supply Chain Optimization: Implementation: FY 2023 Implementation	4	2023	4	2023
Supply Chain Optimization: Implementation: FY 2024 Implementation	4	2024	4	2024
3D Virtual Design Software Improvement: Contract Award: FY 2023 Contract Award	3	2023	3	2023
3D Virtual Design Software Improvement: Contract Award: FY 2024 Contract Award	3	2024	3	2024
3D Virtual Design Software Improvement: Developmental/Functional Testing: FY 2023 Developmental/Functional Testing	3	2023	3	2023
3D Virtual Design Software Improvement: Developmental/Functional Testing: FY 2024 Developmental/Functional Testing	3	2024	3	2024
3D Virtual Design Software Improvement: Implementation: FY 2023 Implementation	4	2023	4	2023
3D Virtual Design Software Improvement: Implementation: FY 2024 Implementation	4	2024	4	2024
Digital Logistics: Contract Award: FY 2023 Contract Award	3	2023	3	2023
Digital Logistics: Contract Award: FY 2024 Contract Award	3	2024	3	2024
Digital Logistics: Contract Award: FY 2025 Contract Award	3	2025	3	2025
Digital Logistics: Contract Award: FY 2026 Contract Award	3	2026	3	2026
Digital Logistics: Contract Award: FY 2027 Contract Award	3	2027	3	2027
Digital Logistics: Contract Award: FY 2028 Contract Award	3	2028	3	2028
Digital Logistics: Contract Award: FY 2029 Contract Award	3	2029	3	2029

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 3223 / Logistics R&D
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Digital Logistics: Developmental/Functional Testing: FY 2023 Developmental/Functional Testing	3	2023	3	2023
Digital Logistics: Developmental/Functional Testing: FY 2024 Developmental/Functional Testing	3	2024	3	2024
Digital Logistics: Developmental/Functional Testing: FY 2025 Developmental/Functional Testing	3	2025	3	2025
Digital Logistics: Developmental/Functional Testing: FY 2026 Developmental/Functional Testing	3	2026	3	2026
Digital Logistics: Developmental/Functional Testing: FY 2027 Developmental/Functional Testing	3	2027	3	2027
Digital Logistics: Developmental/Functional Testing: FY 2028 Developmental/Functional Testing	3	2028	3	2028
Digital Logistics: Developmental/Functional Testing: FY 2029 Developmental/Functional Testing	3	2029	3	2029
Digital Logistics: Implementation: FY 2023 Implementation	4	2023	4	2023
Digital Logistics: Implementation: FY 2024 Implementation	4	2024	4	2024
Digital Logistics: Implementation: FY 2025 Implementation	4	2025	4	2025
Digital Logistics: Implementation: FY 2026 Implementation	4	2026	4	2026
Digital Logistics: Implementation: FY 2027 Implementation	4	2027	4	2027
Digital Logistics: Implementation: FY 2028 Implementation	4	2028	4	2028
Digital Logistics: Implementation: FY 2029 Implementation	4	2029	4	2029
Clothing Protection for the Warfighter: Contract Award: FY 2023 Contract Award	1	2023	1	2023
Clothing Protection for the Warfighter: Contract Award: FY 2024 Contract Award	1	2024	1	2024
Clothing Protection for the Warfighter: Contract Award: FY 2025 Contract Award	1	2025	1	2025
Clothing Protection for the Warfighter: Contract Award: FY 2026 Contract Award	1	2026	1	2026
Clothing Protection for the Warfighter: Contract Award: FY 2027 Contract Award	1	2027	1	2027
Clothing Protection for the Warfighter: Contract Award: FY 2028 Contract Award	1	2028	1	2028
Clothing Protection for the Warfighter: Contract Award: FY 2029 Contract Award	1	2029	1	2029

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603739N / Navy Logistic Productivity	Project (Number/Name) 3223 / Logistics R&D
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Clothing Protection for the Warfighter: Developmental/Functional Testing: FY 2023 Developmental/Functional Testing	2	2023	2	2023
Clothing Protection for the Warfighter: Developmental/Functional Testing: FY 2024 Developmental/Functional Testing	2	2024	2	2024
Clothing Protection for the Warfighter: Developmental/Functional Testing: FY 2025 Developmental/Functional Testing	2	2025	2	2025
Clothing Protection for the Warfighter: Developmental/Functional Testing: FY 2026 Developmental/Functional Testing	2	2026	2	2026
Clothing Protection for the Warfighter: Developmental/Functional Testing: FY 2027 Developmental/Functional Testing	2	2027	2	2027
Clothing Protection for the Warfighter: Developmental/Functional Testing: FY 2028 Developmental/Functional Testing	2	2028	2	2028
Clothing Protection for the Warfighter: Developmental/Functional Testing: FY 2029 Developmental/Functional Testing	2	2029	2	2029
Clothing Protection for the Warfighter: Implementation: FY 2023 Implementation	3	2023	3	2023
Clothing Protection for the Warfighter: Implementation: FY 2024 Implementation	3	2024	3	2024
Clothing Protection for the Warfighter: Implementation: FY 2025 Implementation	3	2025	3	2025
Clothing Protection for the Warfighter: Implementation: FY 2026 Implementation	3	2026	3	2026
Clothing Protection for the Warfighter: Implementation: FY 2027 Implementation	3	2027	3	2027
Clothing Protection for the Warfighter: Implementation: FY 2028 Implementation	3	2028	3	2028
Clothing Protection for the Warfighter: Implementation: FY 2029 Implementation	3	2029	3	2029