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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	7.937	6.095	2.133	3.284	-	3.284	4.326	3.656	3.361	3.428	Continuing	Continuing
3435: <i>Advanced Shipyard Technology</i>	7.937	3.199	2.133	3.284	-	3.284	4.326	3.656	3.361	3.428	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	2.896	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.896

A. Mission Description and Budget Item Justification

The Advanced Shipyard Technology (AST) seeks to improve the productivity, quality, and reduce costs of maintenance performed by the Navy public shipyards. The resulting technologies implemented by this program benefit both the naval shipyard and the US Navy.

B. Program Change Summary (\$ in Millions)

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	6.329	2.133	4.102	-	4.102
Current President's Budget	6.095	2.133	3.284	-	3.284
Total Adjustments	-0.234	0.000	-0.818	-	-0.818
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.234	0.000			
• Program Adjustments	0.000	0.000	-0.833	-	-0.833
• Rate/Misc Adjustments	0.000	0.000	0.015	-	0.015

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Maritime technology to mitigate IoT/ICS security vulnerabilities*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2022	FY 2023
	2.896	0.000
	2.896	0.000
	2.896	0.000

Change Summary Explanation

The FY 2024 AST budget was reduced by \$821K due to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>				Project (Number/Name) 3435 / <i>Advanced Shipyard Technology</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3435: <i>Advanced Shipyard Technology</i>	7.937	3.199	2.133	3.284	-	3.284	4.326	3.656	3.361	3.428	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Shipyard Technology (AST) develops, matures, and transitions technology (production processes, human augmentation, business process, IT, tooling, etc.), into the naval shipyards. Advanced Shipyard Technology funding will facilitate collaboration between government (Naval Sea Systems Command (NAVSEA), the public naval shipyards, Navy customers, Naval Warfare Centers, and others), academia, and industry. AST is an innovative approach to leverage public/private cooperation and target technology and process solutions that build on progress made over the previous years. Funding ensures widespread adoption of innovative improvements, enhancing proficiency and productivity of the public naval shipyard workforce to achieve the continuous product and process improvements necessary for improved Navy ship repair costs, and an overall reduction in availability duration. FY23 funds will continue focus on efforts that prevent corrosion, enhance cold spray technology, laser ablation, and plasma coating removal. Additionally, our Artificial intelligence efforts will become more progressed, leading to inspections and the conduction of shipboard working paint removal and cold spray repairs.

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

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Technology Transfer	3.199	2.133	3.284	0.000	3.284
Articles:	-	-	-	-	-
FY 2023 Plans:					
Complete technology development projects in the 5 levels of effort (Digital Sustainment, Automation and Robotics, Process Modernization, Advance Manufacturing, and Surface Restoration), that will be competitively selected by sustainment and technology subject matter experts and Navy stakeholders.					
The following are priorities in Naval sustainment and repair: (1) Reduce Critical Path; (2) Reduce Cycle Times; (3) Reduce Life cycle Costs, (4) Increase throughput and, (5) Improve workforce safety and efficacy.					
It is anticipated that projects selected will continue to be focused in the following areas:					
<ul style="list-style-type: none"> - Modernizing Industrial Processes - Improving Material Availability - Increasing Workforce Capacity - New repair technologies - Reducing Re-work 					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<ul style="list-style-type: none"> - Improving Worker Efficiency - Improving Scheduling and Planning - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost - Leverage technology transfer opportunities <p>Additionally,</p> <ul style="list-style-type: none"> - Artificial Intelligence - Disrupting Corrosion - Adaption to Automated Platforms <p>FY 2024 Base Plans: FY24 projects planned in priority order: Metal 3D Printer Using Expired Weld Wire, Hull Crawler Phase III SBIR, Unmanned Aerial System Program, Topside TV - Project Team Communication, 3D Scan Server Expansion, Foreign Material Exclusion Process Upgrade, Tool Design and Prototyping, Shipboard Robotics, Motor Generation (MG) Set Commutator Refurbishment Repair System - Technology Transition Phase, Ship Hull Cleaning Investigatory Study, Tomography Paint Inspection / Ship Coat, Electro-Discharge Machining Municipal Cleaning Vehicle 3.0, Dimensional Restoration using Cold Spray, Weldability of Additively, Manufactured Parts, Thermal Modeling of Post Weld Heat Treatment (PWHT) using Induction Heating, Electrical Safety Vest SSN and VACL Hydrolancing Main Condenser, ROV: Autonomous Grit Blasting.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: In FY24 MARITECH AST increase of 1.151 is due to increased cost in projects for digital sustainment and process modernization.</p>					
Accomplishments/Planned Programs Subtotals	3.199	2.133	3.284	0.000	3.284

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

N/A

Remarks

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D. Acquisition Strategy

Technologies will be developed and fielded based on their level of maturity and measure of benefit to the public naval shipyards.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

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FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Proj 3435	
Advanced Shipyard Technologies	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / <i>Maritime Tech (MARITECH)</i>	Project (Number/Name) 3435 / <i>Advanced Shipyard Technology</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3435				
Advanced Shipyard Technologies	1	2022	4	2028

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Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0708730N / Maritime Tech (MARITECH)			Project (Number/Name) 9999 / Congressional Adds				
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	2.896	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	2.896
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Congress added funds to the FY 2022 budget for the Maritime Technology to Mitigate IoT/ICS Security Vulnerabilities program.

A. Mission Description and Budget Item Justification

FY 2022 Congressional Add for C802 - Maritime Technology to mitigate IoT/ICS security vulnerabilities.

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

	FY 2022	FY 2023
Congressional Add: Maritime technology to mitigate IoT/ICS security vulnerabilities	2.896	0.000
FY 2022 Accomplishments: Commence work on Maritime Technology to mitigate IoT/ICS security vulnerabilities.		
FY 2023 Plans: N/A		
Congressional Adds Subtotals	2.896	0.000

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

N/A

Remarks

D. Acquisition Strategy

RDTEN Contracts are Competitive Procurements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
IT Management Services Contract	TBD	Various : Various	0.000	2.896	Jul 2022	0.000		0.000		-		0.000	0.000	2.896	-
Subtotal			0.000	2.896		0.000		0.000		-		0.000	0.000	2.896	N/A

Remarks
Award IoT/ICS security vulnerabilities contract in FY22 to provide support in the areas of asset and device cataloging, vulnerability database, dashboard of the IoT technology landscape and alert reporting.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.896	0.000	0.000	-	0.000	0.000	2.896	N/A

Remarks

UNCLASSIFIED

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FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Proj 9999	
Maritime technology to mitigate IoT/ICS security vulnerabilities	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy **Date:** March 2023

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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 9999</i>				
Maritime technology to mitigate IoT/ICS security vulnerabilities	3	2022	4	2023