

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy **Date:** May 2021

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 0604289M / <i>Expeditionary Logistics</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	5.752	18.260	5.000	1.071	-	1.071	-	-	-	-	-	-
2741: <i>Additive Manufacturing</i>	5.752	1.894	0.000	1.071	-	1.071	-	-	-	-	-	-
2743: <i>Next Generation Logistics (NexLog)</i>	0.000	1.885	0.000	0.000	-	0.000	-	-	-	-	-	-
9999: <i>Congressional Adds</i>	0.000	14.481	5.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program element supports cost associated with the research and development of Marine Corps Systems Command policy, acquisition process modifications, and prototyping to support the USMC Additive Manufacturing (AM) Initiative.

The USMC Additive Manufacturing Initiative is an initiative intended to give Marine units access to additive manufacturing techniques to allow them the opportunity to exercise innovation in the resolution of issues affecting unit combat readiness. This PE will support of the development of procedures to enable the approval and manufacturing of items requested from Marines. This involves the development of Marine Corps Policy, an approval process, engineering analysis and testing, establishment of facilities to produce prototype additive manufactured parts and development of training to support the Marine Corps use of additive manufacturing. This initiative incorporates development of strategic partnerships with other DoN Systems Commands and field activities to develop DoN standards, processes and other associated acquisition activities to support future use of additive manufacturing in DoN acquisition and readiness areas.

The Next Generation Logistics (NexLog) project supports cost associated with the research and development, experimentation and limited, rapid fielding of emerging logistics capabilities necessary to enable the Fleet Marine Forces to execute the Marine Corps Operating Concept and inform logistics policies. These emerging logistics capabilities include development of autonomous ground, surface and sub-surface materiel distribution systems; development of operational and tactical, in-field digital fabrication capabilities; and, the development of sensor-driven logistics information technology. This element also supports development of strategic partnerships with DoN Systems Commands and field activities in order to leverage their capabilities and align DoN standards and processes, while furthering the use of additive manufacturing, and other emerging logistics technologies, to increase warfighter readiness, capability, survivability and effectiveness.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy **Date:** May 2021

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 0604289M / <i>Expeditionary Logistics</i>
---	--

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	19.420	0.000	1.257	-	1.257
Current President's Budget	18.260	5.000	1.071	-	1.071
Total Adjustments	-1.160	5.000	-0.186	-	-0.186
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.470	0.000			
• SBIR/STTR Transfer	-0.690	0.000			
• Program Adjustments	0.000	0.000	-0.173	-	-0.173
• Rate/Misc Adjustments	0.000	0.000	-0.013	-	-0.013

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

Project: 9999: *Congressional Adds*

Congressional Add: *Construction robotics*

Congressional Add: *Large-scale 3D printing robotic system*

Congressional Add: *Alternative Tactical Power and Battery Research*

Congressional Add: *Automated Parts Screening and Selection Tool for Additive Manufacturing*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2020	FY 2021
	4.827	0.000
	9.654	0.000
	0.000	3.000
	0.000	2.000
	14.481	5.000
	14.481	5.000

Change Summary Explanation

The decrease of \$3.929M from FY 2021 to FY 2022 is due to the FY21 Congressional Add.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy										Date: May 2021		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>				Project (Number/Name) 2741 / <i>Additive Manufacturing</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2741: <i>Additive Manufacturing</i>	5.752	1.894	0.000	1.071	-	1.071	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project supports costs associated with the research and development of Marine Corps Systems Command policy, acquisition process modifications, prototyping, and future logistics innovations to support the USMC Additive Manufacturing (AM) Initiative under the direction of Deputy Commandant Installations & Logistics. This PE is the DoD's sole investment in the 3D printing of buildings, bridges and metal landing crafts and other large scale constructs. The USMC Additive Manufacturing Initiative is an initiative intended to give Marine units access to additive manufacturing techniques to allow them the opportunity to exercise innovation in the resolution of issues affecting unit combat readiness.

This effort supports the development of procedures to enable the approval and manufacturing of items requested from Marines. This involves the development of Marine Corps Policy, the digital data repository required to share equipment technical data and part designs, a part approval process, engineering analysis and testing, establishment of facilities to produce prototype additive manufactured parts and development of training to support the Marine Corps use of additive manufacturing. This initiative incorporates development of strategic partnerships with other DoN Systems Commands and field activities to develop DoN standards, processes and other associated acquisition activities to support future use of additive manufacturing in DoN acquisition and readiness areas.

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

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Additive Manufacturing	1.894	0.000	1.071	0.000	1.071
Articles:	-	-	-	-	-
FY 2021 Plans: No Funding in FY 2021					
FY 2022 Base Plans: - Initiate the design and development of the digital data repository that is critical to sharing technical data across the Marine Corps and with other Department of Defense (DoD) Services and the Defense Logistics Agency (DLA).					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of \$1.071M from FY 2021 to FY 2022 supports the initiation of the design and development of the digital data repository to share technical data (computer-aided design models, performance specifications, part					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy	Date: May 2021
--	-----------------------

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2741 / <i>Additive Manufacturing</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
designs) across the Marine Corps, other DoD Services, and DLA required to improve warfighting effectiveness and equipment readiness in an Expeditionary Advanced Base Operation/Distributed Operations environment.					
Accomplishments/Planned Programs Subtotals	1.894	0.000	1.071	0.000	1.071

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

N/A

Remarks

D. Acquisition Strategy

The AM program utilizes a non-traditional acquisition strategy, due to AM being a set of enabling technologies vice a conventional platform for milestone-driven acquisition. It will incorporate strategic partnerships with other DoN activities, as well as the Joint Staff and services. For that reason, these AM investments are designed to explore future capabilities where AM may resolve gaps in logistical readiness, provide a warfighting solutions, and to mitigate AM-related risk within existing programs of record.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2741 / <i>Additive Manufacturing</i>
--	--	--

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Prior Years Cumulative Funding	Various	NA : NA	1.800	0.000		0.000		0.000		-		0.000	-	-	-
AM Training Material	MIPR	NSWC-CD : Carderock, MD	0.250	0.139	Feb 2020	0.000		0.000		-		0.000	-	-	-
AM Prototype Parts and Redesign	MIPR	Army/ERDC : Vicksburg, MS	0.400	0.050	Feb 2020	0.000		0.000		-		0.000	-	-	-
AM Develop USMC Fleet Wide Repository	MIPR	NIWC-Pacific : San Diego, CA	0.250	0.100	Mar 2020	0.000		0.000		-		0.000	-	-	-
AM Structure Design	MIPR	Army/ERDC : Vicksburg, MS	0.500	0.050	Mar 2020	0.000		0.000		-		0.000	-	-	-
AM 3D printing of littoral ship to shore	RO	NIWC-Pacific : San Diego, CA	0.000	0.114	May 2020	0.000		0.000		-		0.000	-	-	-
8Wire Platform	MIPR	DARPA : Arlington, VA	0.000	0.300	Mar 2020	0.000		0.000		-		0.000	-	-	-
AM Digital Data Repository Prototype	MIPR	GSA : O'Fallon, IL	0.000	0.000		0.000		0.500	Mar 2022	-		0.500	-	-	-
Digital Manufacturing Data Vault development	WR	NIWC PAC : San Diego, CA	0.000	0.000		0.000		0.545	Mar 2022	-		0.545	-	-	-
Subtotal			3.200	0.753		0.000		1.045		-		1.045	-	-	N/A

Remarks

The AM program utilizes a non-traditional acquisition strategy, due to AM being a set of enabling technologies vice a conventional platform for milestone-driven acquisition. The funding distribution above reflects research and development efforts for additive manufacturing enabling technologies.

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
AM Identification of New Part	MIPR	NAVSEA : Navy Yard, Washington DC	0.400	0.180	Mar 2020	0.000		0.000		-		0.000	-	-	-
AM Identify Cases for Prototypes	MIPR	NSWC : Dahlgren, VA	0.300	0.100	Apr 2020	0.000		0.000		-		0.000	-	-	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2741 / <i>Additive Manufacturing</i>
--	--	--

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
AM Research Advances 3D Printer Technology	MIPR	NSWC-CD : Carderock, MD	0.250	0.280	Jan 2020	0.000		0.000		-		0.000	-	-	-
Travel	Various	Various : Various	0.050	0.031	Jan 2020	0.000		0.026	Jun 2022	-		0.026	-	-	-
AM Fleet Support	WR	NSWC-CD : NSWC-CD	0.000	0.250	Feb 2020	0.000		0.000		-		0.000	-	-	-
AM Support	WR	NIWC-Pacific : San Diego, CA	0.000	0.300	Jan 2020	0.000		0.000		-		0.000	-	-	-
Prior Years Cumulative Funding	Various	NA : NA	1.552	0.000		0.000		0.000		-		0.000	-	-	-
Subtotal			2.552	1.141		0.000		0.026		-		0.026	-	-	N/A

Remarks

The AM program utilizes a non-traditional acquisition strategy, due to AM being a set of enabling technologies vice a conventional platform for milestone-driven acquisition. The funding distribution above reflects research and development efforts for additive manufacturing enabling technologies.

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.752	1.894	0.000	1.071	-	1.071	-	-	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy **Date: May 2021**

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2741 / <i>Additive Manufacturing</i>
--	--	--

Proj 2741	FY 2020				FY 2021				FY 2022			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
		Training Material										
		Develop USMC Fleet Wide Repository										
		Structure Design										
		Research Advances 3D Printer Technology										
		AM Prototype Parts and Redesign										
			Identify Cases for Prototypes									
			AM 3D printing ship to shore connector									
			8Wire Platform									
		AM Support										
		AM Identification of new parts										
										AM Digital Data Repository Prototype		
										Digital Manufacturing Data Vault development		

2022PB - 0604289M - 2741

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2741 / <i>Additive Manufacturing</i>
--	--	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2741				
Training Material	2	2020	2	2021
Develop USMC Fleet Wide Repository	2	2020	2	2021
Structure Design	2	2020	2	2021
Research Advances 3D Printer Technology	2	2020	2	2021
AM Prototype Parts and Redesign	2	2020	2	2021
Identify Cases for Prototypes	3	2020	3	2021
AM 3D printing ship to shore connector	3	2020	3	2021
8Wire Platform	2	2020	2	2021
AM Support	2	2020	2	2021
AM Identification of new parts	2	2020	2	2021
AM Digital Data Repository Prototype	2	2022	4	2022
Digital Manufacturing Data Vault development	2	2022	4	2022

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy										Date: May 2021		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>				Project (Number/Name) 2743 / <i>Next Generation Logistics (NexLog)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2743: <i>Next Generation Logistics (NexLog)</i>	0.000	1.885	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Next Generation Logistics (NexLog) project supports costs associated with the research and development, experimentation and limited, rapid fielding of emerging logistics capabilities necessary to enable the Fleet Marine Forces to execute the Marine Corps Operating Concept and inform logistics policies. These emerging logistics capabilities include, but are not limited to, the development of intelligent distribution systems such autonomous Unmanned Logistics System (ULS) operating in the ground, air, surface and sub-surface domains. The development of enabling technologies that will increase the speed needed to detect an impending support requirement as well as the speed of response to satisfy that requirement. This involves the deployment of sensor technologies, collection of clean, properly tagged data, and the ability to electronically mine and monitor that sensor data for anomalies and micro-patterns that will provide logistics intelligence augmentation, thereby increasing Marine Air-Ground Task Force (MAGTF) lethality.

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

	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Unmanned Logistics Systems	1.650	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
<p>Description: This Unmanned Logistics System (ULS) thrust area directly supports DoD and USMC directed innovation efforts that enable critical and emerging operational efforts to include Expeditionary Advance Basing Operations (EABO) and Littoral Operations in a Constrained Environment (LOCE). The current and emerging projects in this thrust area also better enable speed and Operating Force lethality while reducing MAGTF risk and acting as a force multiplier. ULS capabilities also lightens the MAGTF loads, and allows commanders to control the timing of delivery of mission critical, time sensitive supplies and equipment. Specifically, this project thrust area explores a number of promising Joint and OSD coordinated projects to include, but not limited to Unmanned Logistics Systems in the Surface, Ground, Air and Sub-Surface domains.</p>					
<p>FY 2021 Plans: N/A</p>					
<p>FY 2022 Base Plans: N/A</p>					
<p>FY 2022 OCO Plans:</p>					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy	Date: May 2021
--	-----------------------

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2743 / <i>Next Generation Logistics (NexLog)</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
N/A					
<p>Title: Data Driven Logistics Autonomous Learning and Innovation</p> <p align="right">Articles:</p> <p>Description: This Data Driven Logistics (D2L) thrust area directly supports DoD and USMC directed innovation efforts that enable critical and emerging operational efforts to include Expeditionary Advance Basing Operations (EABO) and Littoral Operations in a Constrained Environment (LOCE). The current and emerging projects in this thrust area also better enable speed and Operating Force lethality while reducing MAGTF risk and ensuring increased artificial intelligence, augmented reality integration, improved command and control, focused analytics, greater data accuracy and more responsive processes.</p> <p>FY 2021 Plans: N/A</p> <p>FY 2022 Base Plans: N/A</p> <p>FY 2022 OCO Plans: N/A</p>	0.235	0.000	0.000	0.000	0.000
	-	-	-	-	-
Accomplishments/Planned Programs Subtotals	1.885	0.000	0.000	0.000	0.000

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

Remarks

D. Acquisition Strategy
 NexLog will incorporate strategic partnerships with other DoN activities, as well as the Joint Staff and services. For that reason, these investments are designed to explore future capabilities that may resolve gaps in logistical readiness, provide warfighting solutions, and mitigate Log-related risk within existing programs of record. Ensure the USMC can meet the logistics challenges of future operating environments.

- Accelerate measurable transition outcomes
- Grow logistics innovation network and partnerships
- Promote warfighter-driven logistics innovation
- Mature the innovation skillset

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2743 / <i>Next Generation Logistics (NexLog)</i>
--	--	--

Proj 2743	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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
NEXTLOG					Data Driven Logistics																							
					ULS Ground																							
					ULS Air																							

2022DON - 0604289M - 2743

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 2743 / <i>Next Generation Logistics (NexLog)</i>
--	--	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2743				
NEXTLOG: Data Driven Logistics	3	2020	3	2021
NEXTLOG: Unmanned Logistics Systems Ground	2	2020	2	2021
NEXTLOG: Unmanned Logistics Systems Air	2	2020	2	2021

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy										Date: May 2021		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>				Project (Number/Name) 9999 / <i>Congressional Adds</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	0.000	14.481	5.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports the costs associated with the research and development of expeditionary logistics capabilities such as the Expeditionary Fabrication (XFAB) Facility and Tactical Fabrication (TACFAB) suite in support of Expeditionary Advanced Base Operations and Distributed Operations. The project supports the investment to develop the digital infrastructure required to support the implementation of 3D printing; the 3D printing of expeditionary capabilities such as buildings, bridges, ship-to-shore landing crafts and other large scale constructs; the characterization of material that can be used for repair parts and potential feedstock to include the use of discarded materials on the battlefield; engineering analysis and testing; and innovation/problem solving training to enable Marines to leverage advanced manufacturing technologies. The Expeditionary Logistics Initiative will give Marine units access to additive manufacturing techniques to allow them the opportunity to exercise innovation to resolve issues affecting unit combat readiness in austere environments. This effort supports the development of procedures to enable the approval and manufacturing of items requested from Marines and incorporates the development of strategic partnerships with other DoN Systems Commands and field activities to exploit additive manufacturing technologies in support of our Naval Forces.

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

	FY 2020	FY 2021
Congressional Add: Construction robotics FY 2020 Accomplishments: N/A FY 2021 Plans: N/A	4.827	0.000
Congressional Add: Large-scale 3D printing robotic system FY 2020 Accomplishments: N/A FY 2021 Plans: N/A	9.654	0.000
Congressional Add: Alternative Tactical Power and Battery Research FY 2020 Accomplishments: N/A FY 2021 Plans: - Initiate the exploration and exploitation of alternative power sources, greater autonomy in the air and surface domains and seek to inject commercial logistics technologies into Force exercises for evaluation.	0.000	3.000
Congressional Add: Automated Parts Screening and Selection Tool for Additive Manufacturing	0.000	2.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy	Date: May 2021
--	-----------------------

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021
<i>FY 2020 Accomplishments:</i> N/A		
<i>FY 2021 Plans:</i> - Initiate efforts to develop software to analyze Additive Manufacturing (AM) candidate parts and screen and select viable AM candidates in an automated manner.		
Congressional Adds Subtotals	14.481	5.000

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

Remarks

D. Acquisition Strategy

The AM program utilizes a non-traditional acquisition strategy, due to AM being a set of enabling technologies vice a conventional platform for milestone-driven acquisition. It incorporates strategic partnerships with other DoN activities, as well as the Joint Staff, other Services, and government laboratories. For that reason, these AM investments are designed to explore future capabilities where AM may resolve gaps in logistical readiness, provide warfighting solutions, establish the digital infrastructure required to share the technical data required to exploit AM across the DoD, and to mitigate AM-related risk within existing programs of record.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
AM Large-Scale Expendable landing craft - CR	Reqn	NIWC PAC : San Diego, CA	0.000	2.000	Oct 2020	0.000		0.000		-		0.000	-	-	-
AM Construction Structure Design - CR	MIPR	Army / ERDC : Vicksburg, MS	0.000	0.450	Dec 2020	0.000		0.000		-		0.000	-	-	-
AM Construction Materiel Development Research - CR	MIPR	DIU / WHS : Washington, DC	0.000	0.750	Dec 2020	0.000		0.000		-		0.000	-	-	-
PTC Windchill Phase II - CR	MIPR	GSA : O'Fallon, Illinois	0.000	0.820	Feb 2021	0.000		0.000		-		0.000	-	-	-
Mobile Large-Scale Additive Manufacturing System - RS	Reqn	NIWC PAC : San Diego, CA	0.000	5.000	Jan 2021	0.000		0.000		-		0.000	-	-	-
Develop USMC Digital Repository - RS	WR	NIWC PAC : San Diego, CA	0.000	2.000	Oct 2020	0.000		0.000		-		0.000	-	-	-
Digital Repository - MBE Environment - RS	Reqn	NAWC-TSD : Orlando, FL	0.000	0.500	Jun 2021	0.000		0.000		-		0.000	-	-	-
Automated AM Part Screening and Selection Software Development	Reqn	NIWC PAC : San Diego, CA	0.000	0.000		1.072	Sep 2021	0.000		-		0.000	-	-	-
TrustedAM - Trusted Endpoint	Reqn	NIWC PAC : San Diego, CA	0.000	0.000		0.456	Aug 2021	0.000		-		0.000	-	-	-
Subtotal			0.000	11.520		1.528		0.000		-		0.000	-	-	N/A

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Ship-to-Shore landing craft modeling and simulation - CR	MIPR	DTIC : Omaha, NB	0.000	0.061	Dec 2020	0.000		0.000		-		0.000	-	-	-
Digital Repository - DLA JAMMEX - RS	MIPR	DTIC : Omaha, NB	0.000	0.250	Dec 2020	0.000		0.000		-		0.000	-	-	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
Interim Digital Repository (8Wire) - RS	Reqn	NIWC Lant : Charleston, SC	0.000	0.300	Dec 2020	0.000		0.000		-		0.000	-	-	-
AM Fleet Support - 3D printing, construction, and Ship-to-Shore connectors - RS	WR	NIWC PAC : San Diego, CA	0.000	0.250	Feb 2021	0.250	Sep 2021	0.000		-		0.000	-	-	-
AM Fleet Support - 3D printing training and integration - RS	WR	NSWC CD : Carderock, MD	0.000	0.400	Dec 2020	0.000		0.000		-		0.000	-	-	-
AM Fleet Support - Materiel characterization and prototype eval - RS	Reqn	NAVSEA : Washington, DC	0.000	0.250	Dec 2020	0.000		0.000		-		0.000	-	-	-
AM Identification Advanced Prototyping Lab/ Workspace - RS	Reqn	NAVSEA : NAVSEA	0.000	0.150	Mar 2021	0.000		0.000		-		0.000	-	-	-
CSAM CBA/CONOP/ICD/CDD	Reqn	TBD : TBD	0.000	0.600	Feb 2021	0.000		0.000		-		0.000	-	-	-
HP Parmatech	MIPR	WHS : Washington, DC	0.000	0.200	Dec 2020	0.000		0.000		-		0.000	-	-	-
RESTORE Lab	WR	NIWC PAC : San Diego, CA	0.000	0.000		0.222	Aug 2021	0.000		-		0.000	-	-	-
(LIO) Program Support	WR	NRL : Washington, DC	0.000	0.000		0.230	Mar 2021	0.000		-		0.000	-	-	-
(LIO) Capabilities Development	C/FFP	WHS : Washington, DC	0.000	0.000		2.770	Apr 2021	0.000		-		0.000	-	-	-
Subtotal			0.000	2.461		3.472		0.000		-		0.000	-	-	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
AM Large-Scale Expendable landing craft - CR	WR	NSWC-CD : Carderock, MD	0.000	0.500	Mar 2021	0.000		0.000		-		0.000	-	-	-

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy **Date: May 2021**

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
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	
Construction Robotic: Large-Scale Expendable	████████████████████
Construction Robotic: AM Construction	████████████████████
Construction Robotic: AM Ship-to-shore	████████████████████
Construction Robotic: Constructive-scale additive manufacturing (CSAM)	████████████████████
Large-scale 3D printing robotic system: AM Mobile System	████████████████████
Large-scale 3D printing robotic system: USMC Digital Repository	████████████████████
Large-scale 3D printing robotic system: AM Fleet Support	████████████████████
Large-scale 3D printing robotic system: AM Expeditionary Battlefield Decoys	████████████████████
Large-scale 3D printing robotic system: AM Identification Advanced Prototyping	████████████████████
(LIO) Capabilities Development Contract (CTMA): Contract Award	████████████████████

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy **Date:** May 2021

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604289M / <i>Expeditionary Logistics</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9999				
Construction Robotic: Large-Scale Expendable	4	2020	4	2021
Construction Robotic: AM Construction	4	2020	4	2021
Construction Robotic: AM Ship-to-shore	4	2020	4	2021
Construction Robotic: Constructive-scale additive manufacturing (CSAM)	2	2021	2	2022
Large-scale 3D printing robotic system: AM Mobile System	2	2021	2	2022
Large-scale 3D printing robotic system: USMC Digital Repository	4	2020	4	2021
Large-scale 3D printing robotic system: AM Fleet Support	1	2021	1	2022
Large-scale 3D printing robotic system: AM Expeditionary Battlefield Decoys	2	2021	2	2022
Large-scale 3D printing robotic system: AM Identification Advanced Prototyping	1	2021	1	2022
(LIO) Capabilities Development Contract (CTMA): Contract Award	3	2021	3	2022