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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Navy **Date:** February 2020

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 0603597N / <i>Automated Test & Analysis</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	60.830	36.563	42.653	4.797	-	4.797	9.729	9.299	8.272	8.437	Continuing	Continuing
9999: <i>Congressional Adds</i>	16.406	28.942	35.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	80.348
9B88: <i>Automated Test and Analysis</i>	44.424	7.621	7.653	4.797	-	4.797	9.729	9.299	8.272	8.437	Continuing	Continuing

A. Mission Description and Budget Item Justification

The FY 2021 funding request was reduced by \$2.978 million to account for the availability of prior year execution balances.

In FY 2016, OPNAV N94 implemented a Naval enterprise approach to Automated Test and Analysis (ATA). ATA expands the automated test methods currently in use (Automated Test and Re-Test (ATRT)), adds new methods of testing and use of automated test technologies, and standardizes automated test practices, methods and tools. Examples from FY16 include but are not limited to improvements to Link-16 Non-C2 data collection, essential Mission Planning, Service Oriented Architecture Framework, AEGIS Enterprise Solution Enhancements, Strike Force Interoperability testing and Control System Restoration and Validation. In addition, funding supports the development of enterprise level strategies to apply ATA technologies to software-intensive acquisition programs. The FY 2015 ATRT project was funded on Program Element 0603597N: "Automated Test and Re-Test". Starting in FY16 and through the out-years, the project is renamed "Automated Test and Analysis" on Program Element 0603597N.

B. Program Change Summary (\$ in Millions)

	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>
Previous President's Budget	37.931	7.653	7.775	-	7.775
Current President's Budget	36.563	42.653	4.797	-	4.797
Total Adjustments	-1.368	35.000	-2.978	-	-2.978
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	35.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.368	0.000			
• Program Adjustments	0.000	0.000	-2.975	-	-2.975
• Rate/Misc Adjustments	0.000	0.000	-0.003	-	-0.003

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

Project: 9999: *Congressional Adds*

FY 2019	FY 2020

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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 0603597N / <i>Automated Test & Analysis</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)

Congressional Add: *Program Increase (ATA)*

Congressional Add: *ONR CTE*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2019	FY 2020
Congressional Add: <i>Program Increase (ATA)</i>	28.942	0.000
Congressional Add: <i>ONR CTE</i>	0.000	35.000
Congressional Add Subtotals for Project: 9999	28.942	35.000
Congressional Add Totals for all Projects	28.942	35.000

Change Summary Explanation

FY21: Funding reduced by \$2.978 million to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>				Project (Number/Name) 9999 / <i>Congressional Adds</i>			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	16.406	28.942	35.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	80.348
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In response to CNO initiatives, NAVSEA 05H, under the sponsorship of OPNAV N96, in 2008 began developing tools and executing projects for NAVSEA programs in support of "Automated Test and Re-Test". In 2014, CNO/ASN RDA implemented an "Enterprise" approach to automated testing to foster increased automated test tool use and collaboration between Navy SYSCOMs. PE 0603582N Project 9B88, "Automated Test and Re-Test," under OPNAV N96 was modified and moved in FY2016 to "Automated Test and Analysis" (ATA) under PE 0603597N under OPNAV N94. ATA expands the automated test methods currently in use (Automated Test and Re-Test (ATRT)), adds new methods of testing and use of automated test technologies, and standardizes automated test practices, methods and tools. In addition, funding supports the development of enterprise level strategies to apply ATA technologies to Navy software-intensive acquisition programs.

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

	FY 2019	FY 2020
Congressional Add: Program Increase (ATA)	28.942	0.000
<p>FY 2019 Accomplishments: With a Program Increase to Project Unit (PU) C449 of \$30M received in FY 2019, ATA was able to provide support for the following efforts:</p> <ul style="list-style-type: none"> - Program Management - Infrastructure Development - Capability Enhancements - Tools/Product Integration - Capability Demonstrations <p>These efforts supported development of techniques/tools/solutions maturing automated test and analysis capabilities supporting NAVY Digital Transformation Initiatives. These efforts supported development of automatic techniques/tools/solutions to achieve NAVSEA Digital Transformation Initiatives to include DevSecOps, Agile software development, C2C24 (Compile to Combat in 24), System of Systems Virtualization, Digital Engineering, MBSE (Model Based System Engineering), AEGIS Virtual Twin, ONR Cloud Development Environment, and Capabilities Based/Mission Based T&E.</p> <p>*Program Management efforts established a governance process to manage the projects across the Navy SYSCOMs and provide forums for technical exchanges amongst the projects.</p> <p>*Infrastructure Development efforts established a virtual DevSecOps with automatic testing and analysis tools within a cloud environment for US Navy.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy	Date: February 2020
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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020
<p>*Capability Enhancement efforts proved the application of Automated Test and Analysis in several contexts, including Systems of Systems Analysis; Cybersecurity, and a DevSecOps environment.</p> <p>*Tools/Product Integration efforts proved out providing the Automated Test and Re-Test Tool suite as Application-As-A-Service within a cloud environment</p> <p>*Capability Demonstrations proved out the ability to use digital models and integrate in a Live, Virtual, and Constructive allowing Automated Testing and Analysis</p> <p>FY 2020 Plans: N/A</p>		
<p>Congressional Add: ONR CTE</p> <p>FY 2019 Accomplishments: N/A</p> <p>FY 2020 Plans: Planned efforts will focus on the continued develop of the Automated Test and Analysis Infrastructure within the Cloud and ensuring that processes/tools/models are interoperable with other Digital Transformation efforts and products. This will include adapting tools and processes into a common architecture and framework, demonstrating that interoperability, and finally applying and demonstrating these capabilities within Navy operational environments in systems of systems mission contexts.</p> <p>*Program Management efforts will provide governance across the Navy, technically manage the efforts, and ensure collaboration across projects and programs.</p> <p>*Infrastructure Development efforts will continue development of the virtual DevSecOps within a cloud environment and will add connecting classified nodes in a distributed environment.</p> <p>*Capability Enhancement efforts will expand the ability of Automated Test and Analysis tools to be interoperable with other digital transformation tools and products..</p> <p>*Tools/Product Integration efforts proved out providing the Automated Test and Re-Test Tool suite as Application-As-A-Service within a cloud environment</p> <p>*Capability Demonstrations will continue efforts to integrate digital models in a Live, Virtual, and Constructive environment but expand to prove interoperability of digital models developed against a common framework. These capability demonstrations will target systems of systems testing in Navy Mission environments with the goal of providing decision quality design decisions earlier in the development process.</p>	0.000	35.000
Congressional Adds Subtotals	28.942	35.000

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

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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D. Acquisition Strategy

The ATA program solicits automated test tool projects from all qualified sources that show the potential to significantly reduce the time to complete critical testing, increase productivity or system robustness, improve and speed test analysis, and identify commonalities for reuse in testing of Naval acquisition programs. All valid submitted projects will be evaluated for potential funding. Projects selected will typically be funded for one year, in which time they must demonstrate their ability to significantly reduce the time to complete critical testing, improve and speed test analysis, or find and correct critical design flaws in testing of Naval acquisition programs. Successful project artifacts will be advertised and made available across the Naval enterprise for acquisition program consideration, modification, and use.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Automated Test & Analysis	C/CPFF	Innovative Defense Technologies (IDT) : Ballston, VA	8.797	7.285	Jul 2019	19.500	May 2020	0.000		-		0.000	0.000	35.582	-
Automated Test & Analysis	WR	NIWC Pacific : San Diego, CA	4.383	0.000		0.000		0.000		-		0.000	0.000	4.383	-
Automated Test & Analysis	WR	Marine Corp : Not Specified	0.450	0.000		0.000		0.000		-		0.000	0.000	0.450	-
Automated Test & Analysis	WR	NAVAIR : Lakehurst NJ	2.095	0.267	Jun 2019	0.000		0.000		-		0.000	0.000	2.362	-
Automated Test & Analysis	WR	Various NSWCs : Various	0.000	3.328	Jan 2019	5.000	Apr 2020	0.000		-		0.000	0.000	8.328	-
Automated Test & Analysis	C/FFP	AFLCMC/AZS : Hanscomb AFB	0.478	0.000		0.000		0.000		-		0.000	0.000	0.478	-
Automated Test & Analysis	C/FFP	AFIT : Wright- : AFB, OH	0.203	0.000		0.000		0.000		-		0.000	0.000	0.203	-
Automated Test & Analysis	C/CPFF	NAVSEA HQ : Washington, DC	0.000	4.265	Jul 2019	1.000	Mar 2020	0.000		-		0.000	0.000	5.265	-
Automated Test & Analysis	TBD	ONR : VA	0.000	13.642	May 2019	5.000	Feb 2020	0.000		-		0.000	0.000	18.642	-
Automated Test & Analysis	TBD	SYSCOMS : Various	0.000	0.000		2.500	Apr 2020	0.000		-		0.000	0.000	2.500	-
Subtotal			16.406	28.787		33.000		0.000		-		0.000	0.000	78.193	N/A

Remarks
 Transfer of FY19 Automated Test and Analysis (ATA) from NAVSEA to ONR in the amount of \$13,642,000 so funding can be directly executed to focus on the development, and edge deployment, of distributed combat system capabilities enabling the CNOs concept for distributed maritime operations. The prototype Cloud-To-Edge (CTE) environment will allow for secure combat system development, automated test and analysis, scalable distributed simulation and a seamless push to afloat, and airborne, edge infrastructure allowing the Navys designated user community to make software updates while maintaining, or eliminating, the need for an Authority to Operate (ATO). The collective infrastructure includes the cloud, software development tools, curation, security management, secure vendor access, cyber security oversight, and the deployed edge infrastructure is called the CTE environment.

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / Automated Test & Analysis	Project (Number/Name) 9999 / Congressional Adds
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	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
Proj 9999																												
Automated Test and Analysis (ATA)																												
Automated Test and Analysis (ATA)																												
FY19 Project 1: SoS Virtualization (follow-on to FY18 SOS Virtualization effort)																												
FY19 Project 2: Aegis Virtual Twin																												
FY19 Project 3: ONR Cloud Development Environment																												
FY20 CTE Program Magt/ Governance Process/ Technical Exchanges																												
FY20 CTE Infrastructure Development																												
FY20 CTE Capability Enhancements																												
FY20 CTE Tools/Product Integration																												
FY20 CTE Capability Demonstrations																												
FY20 CTE / AEGIS Virtual Twin																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9999				
FY19 Project 1: SoS Virtualization (follow-on to FY18 SOS Virtualization effort):	2	2019	4	2020
FY19 Project 2: Aegis Virtual Twin:	3	2019	4	2020
FY19 Project 3: ONR Cloud Development Environment:	3	2019	4	2020
FY20 CTE Program Magt/ Governance Process/ Technical Exchanges:	1	2020	4	2021
FY20 CTE Infrastructure Development:	2	2020	4	2021
FY20 CTE Capability Enhancements:	2	2020	4	2021
FY20 CTE Tools/Product Integration:	2	2020	4	2021
FY20 CTE Capability Demonstrations:	2	2020	4	2021
FY20 CTE / AEGIS Virtual Twin:	1	2020	3	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy										Date: February 2020		
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>				Project (Number/Name) 9B88 / <i>Automated Test and Analysis</i>			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
9B88: <i>Automated Test and Analysis</i>	44.424	7.621	7.653	4.797	-	4.797	9.729	9.299	8.272	8.437	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY 2016, OPNAV N94 implemented a Naval enterprise approach to Automated Test and Analysis (ATA). ATA expands the automated test methods currently in use (Automated Test and Re-Test (ATRT)), adds new methods of testing and use of automated test technologies, and standardizes automated test practices, methods and tools. Examples from FY16 include but are not limited to improvements to Link-16 Non-C2 data collection, essential Mission Planning, Service Oriented Architecture Framework, AEGIS Enterprise Solution Enhancements, Strike Force Interoperability testing and Control System Restoration and Validation. In addition, funding supports the development of enterprise level strategies to apply ATA technology to the software-intensive acquisition programs. The FY 2015 ATRT project was funded in Program Element 0603597N under Project Unit 9B88: "Automated Test and Re-Test". Starting in FY16 and through the out-years, the project is renamed "Automated Test and Analysis" in Program Element 0603597N under Project Unit 9B88.

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

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Automated Test and Analysis	7.621	7.653	4.797	0.000	4.797
Articles:	-	-	-	-	-
FY 2020 Plans: ATA projects will be selected based on their impact towards achieving the Navy's digital transformation and digital engineering strategy goals. This will continue to improve upon and leverage previous automated test and analysis investments while also pursuing system virtualization projects similar to Aegis Virtual Twin. Project will reevaluate selected ATA FY 2019 proposals for improving technologies in FY 2020 and potential collaboration in development. FY 2020 plans will also build upon the results and lessons learned from the FY 2018 and FY 2019 selection process for improved ATA program planning, selection, execution and analysis. The Navy intends to continue improvements in the quality of end products, reducing the time to plan, evaluate, analyze and/or report testing requirements, identify cost avoidance and determine the reduction in total ownership costs for each ATA project. The Navy will also determine enterprise solutions that significantly reduce test and evaluation man-hours, positively impact fleet training, and improve test plans and procedures.					
The Navy will continue: o Assessing undersea warfare capabilities or fleet modernization and future Navy testing competencies o Evaluating best practices and research capabilities for platform network resiliency and system function validation					

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy	Date: February 2020
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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9B88 / <i>Automated Test and Analysis</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
<p>o Determining common elements through ATA analysis and reporting across multiple SYSCOMs and identifying synergies in development, implementation and training</p> <p>o Augmenting both surface and air Mission Planning for requirements traceability.</p> <p>Specific topics include but are not limited to:</p> <ul style="list-style-type: none"> o Automating Test Framework for Operations Centers or Service Oriented Architectures o Continuing advanced Combat System development/enhancements (SSDS and AEGIS) o Testing of shipboard navigation or mechanical systems and tactical data links analysis (Link-16) o Integrating test and analyses among various Strike Force Interoperability platforms o Implementing test planning/manager improvements <p>FY 2021 Base Plans:</p> <p>ATA projects will be selected based on their impact towards achieving the Navy's digital transformation and digital engineering strategy goals. This will continue to improve upon and leverage previous automated test and analysis investments while also pursuing system virtualization projects similar to Aegis Virtual Twin. Project will reevaluate selected ATA FY 2019 proposals for improving technologies in FY 2020 and potential collaboration in development. FY 2020 plans will also build upon the results and lessons learned from the FY 2018 and FY 2019 selection process for improved ATA program planning, selection, execution and analysis. The Navy intends to continue improvements in the quality of end products, reducing the time to plan, evaluate, analyze and/or report testing requirements, identify cost avoidance and determine the reduction in total ownership costs for each ATA project. The Navy will also determine enterprise solutions that significantly reduce test and evaluation man-hours, positively impact fleet training, and improve test plans and procedures.</p> <p>The Navy will continue:</p> <ul style="list-style-type: none"> o Assessing undersea warfare capabilities or fleet modernization and future Navy testing competencies o Evaluating best practices and research capabilities for platform network resiliency and system function validation o Determining common elements through ATA analysis and reporting across multiple SYSCOMs and identifying synergies in development, implementation and training o Augmenting both surface and air Mission Planning for requirements traceability. <p>Specific topics include but are not limited to:</p> <ul style="list-style-type: none"> o Automating Test Framework for Operations Centers or Service Oriented Architectures o Continuing advanced Combat System development/enhancements (SSDS and AEGIS) o Testing of shipboard navigation or mechanical systems and tactical data links analysis (Link-16) 					

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Navy	Date: February 2020
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Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9B88 / <i>Automated Test and Analysis</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
o Integrating test and analyses among various Strike Force Interoperability platforms o Implementing test planning/manager improvements FY 2021 OCO Plans: N/A FY 2020 to FY 2021 Increase/Decrease Statement: Decrease due to rate adjustments.					
Accomplishments/Planned Programs Subtotals	7.621	7.653	4.797	0.000	4.797

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

N/A

Remarks

D. Acquisition Strategy

The ATA program solicits automated test tool projects from all qualified sources that show the potential to significantly reduce the time to complete critical testing, increase productivity or system robustness, improve and speed test analysis, and identify commonalities for reuse in testing of Naval acquisition programs. All valid submitted projects will be evaluated for potential funding. Projects selected will typically be funded for one year, in which time they must demonstrate their ability to significantly reduce the time to complete critical testing, improve and speed test analysis, or find and correct critical design flaws in testing of Naval acquisition programs. Successful funded projects and artifacts will be advertised and made available across the Naval enterprise for acquisition program consideration, funding, and use.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9B88 / <i>Automated Test and Analysis</i>
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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Automated Test & Analysis	C/CPFF	Innovative Defense Technologies (IDT) : Ballston, VA	31.989	4.078	Jun 2019	3.951	Dec 2019	2.434	Dec 2020	-		2.434	0.000	42.452	-
Automated Test & Analysis	WR	SPAWAR Pacific : San Diego, CA	5.753	3.174	Jan 2019	2.070	Nov 2019	1.500	Nov 2020	-		1.500	0.000	12.497	-
Automated Test & Analysis	WR	Marine Corp : Not Specified	0.833	0.000		0.000		0.000		-		0.000	0.000	0.833	-
Automated Test & Analysis	WR	NAVAIR : Lakehurst NJ	2.669	0.000		1.003	Nov 2019	0.350	Nov 2020	-		0.350	0.000	4.022	-
Automated Test & Analysis	WR	Various NSWCs : NSWC DD	0.845	0.246	Dec 2018	0.220	Nov 2019	0.230	Nov 2020	-		0.230	0.000	1.541	-
Automated Test & Analysis	C/CPFF	AFIT : Wright-Patterson AFB, OH	0.500	0.043	Jul 2019	0.073	Nov 2019	0.040	Nov 2020	-		0.040	0.000	0.656	-
Subtotal			42.589	7.541		7.317		4.554		-		4.554	0.000	62.001	N/A

Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Automated Test & Analysis	C/CPFF	DELTA Resources, Inc. : Washington, DC	1.835	0.080	Jan 2019	0.336	Jan 2020	0.243	Jan 2021	-		0.243	Continuing	Continuing	Continuing
Subtotal			1.835	0.080		0.336		0.243		-		0.243	Continuing	Continuing	N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		44.424	7.621	7.653	4.797	4.797	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9B88 / <i>Automated Test and Analysis</i>
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	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
Proj 9B88																												
<i>Automated Test and Analysis (ATA)</i>																												
FY19 Project 1:ATA Library																												
FY19 Project 2: Collaborative Software Armory (CSA) Phase II																												
FY19 Project 3: Joint-Communications Engineering, Development, and Integration (JEDI) MUOS Automated Call System (JMACS)																												
FY19 Project 4: Common Data Link																												
FY19 Project 5: Aegis Virtual Twin																												
FY19 Project 6: STAT COE																												
Annual Startup Projects for ATA Implementation																												
FY20: Assessing undersea warfare capabilities or fleet modernization and future Navy testing competencies																												
FY20: Evaluating best practices and research capabilities for platform network resiliency and system function validation																												
FY20: Assess common architecture analysis and reporting across SYSCOMS and identify synergies in development, implementation and training																												
FY20: Augment both surface and air Mission Planning for requirements traceability																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy		Date: February 2020
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9B88 / <i>Automated Test and Analysis</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9B88				
FY19 Project 1:ATA Library:	3	2019	4	2020
FY19 Project 2: Collaborative Software Armory (CSA) Phase II:	1	2019	4	2020
FY19 Project 3: Joint-Communications Engineering, Development, and Integration (JEDI) MUOS Automated Call System (JMACS):	1	2019	4	2020
FY19 Project 4: Common Data Link:	1	2019	4	2020
FY19 Project 5: Aegis Virtual Twin:	3	2019	4	2020
FY19 Project 6: STAT COE:	3	2019	4	2020
Annual Startup Projects for ATA Implementation:	1	2019	4	2025
FY20: Assessing undersea warfare capabilities or fleet modernization and future Navy testing competencies:	1	2020	4	2020
FY20: Evaluating best practices and research capabilities for platform network resiliency and system function validation:	1	2020	4	2020
FY20: Assess common architecture analysis and reporting across SYSCOMS and identify synergies in development, implementation and training:	1	2020	4	2020
FY20: Augment both surface and air Mission Planning for requirements traceability:	1	2020	4	2020
FY21: Assessing undersea warfare capabilities or fleet modernization and future Navy testing competencies:	1	2021	4	2021
FY21: Evaluating best practices and research capabilities for platform network resiliency and system function validation:	1	2021	4	2021
FY21: Assess common architecture analysis and reporting across SYSCOMS and identify synergies in development, implementation and training:	1	2021	4	2021
Digital Transformation - Program Magt/ Governance Process/ Technical Exchanges:	1	2020	4	2025
Digital Transformation- Infrastructure Development:	2	2020	4	2025
Digital Transformation - Capability Enhancements:	2	2020	4	2025

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Navy **Date:** February 2020

Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0603597N / <i>Automated Test & Analysis</i>	Project (Number/Name) 9B88 / <i>Automated Test and Analysis</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Digital Transformation - Tools/Product Integration:	2	2020	4	2025
Digital Transformation - Capability Demonstrations:	2	2020	4	2025