

UNCLASSIFIED

**Department of Defense  
Fiscal Year (FY) 2020 Budget Estimates**

March 2019



**Washington Headquarters Service**

*Defense-Wide Justification Book Volume 5 of 5*

***Research, Development, Test & Evaluation, Defense-Wide***

UNCLASSIFIED

**UNCLASSIFIED**

**THIS PAGE INTENTIONALLY LEFT BLANK**

**UNCLASSIFIED**

**UNCLASSIFIED**

Washington Headquarters Service • Budget Estimates FY 2020 • RDT&E Program

**Table of Volumes**

**Defense Advanced Research Projects Agency..... Volume 1**  
**Missile Defense Agency..... Volume 2**  
**Office of the Secretary Of Defense..... Volume 3**  
**Chemical and Biological Defense Program.....Volume 4**  
**Defense Contract Audit Agency..... Volume 5**  
**Defense Contract Management Agency..... Volume 5**  
**DoD Human Resources Activity..... Volume 5**  
**Defense Information Systems Agency.....Volume 5**  
**Defense Logistics Agency.....Volume 5**  
**Defense Security Cooperation Agency..... Volume 5**  
**Defense Security Service..... Volume 5**  
**Defense Technical Information Center.....Volume 5**  
**Defense Threat Reduction Agency.....Volume 5**  
**Space Development Agency..... Volume 5**  
**The Joint Staff..... Volume 5**  
**United States Special Operations Command.....Volume 5**

**UNCLASSIFIED**

**UNCLASSIFIED**

Washington Headquarters Service • Budget Estimates FY 2020 • RDT&E Program

**Washington Headquarters Service..... Volume 5**  
**Operational Test and Evaluation, Defense..... Volume 5**

**UNCLASSIFIED**

**UNCLASSIFIED**

Washington Headquarters Service • Budget Estimates FY 2020 • RDT&E Program

**Volume 5 Table of Contents**

**Comptroller Exhibit R-1..... Volume 5 - v**  
**Program Element Table of Contents (by Budget Activity then Line Item Number).....Volume 5 - xvii**  
**Program Element Table of Contents (Alphabetically by Program Element Title).....Volume 5 - xix**  
**Exhibit R-2s..... Volume 5 - 1**

**UNCLASSIFIED**

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Department of Defense  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

<u>Appropriation</u>	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted
Research, Development, Test & Eval, DW	23,498	30,198		30,198
Total Research, Development, Test & Evaluation	23,498	30,198		30,198

Department of Defense  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

<u>Appropriation</u>	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO	FY 2020 Total (Base + OCO)
Research, Development, Test & Eval, DW	1,000				1,000
Total Research, Development, Test & Evaluation	1,000				1,000



Department of Defense  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted
<u>Summary Recap of Budget Activities</u>				
Advanced Technology Development	23,498	29,198		29,198
Management Support		1,000		1,000
Total Research, Development, Test & Evaluation	23,498	30,198		30,198
<u>Summary Recap of FYDP Programs</u>				
Research and Development	23,498	30,198		30,198
Total Research, Development, Test & Evaluation	23,498	30,198		30,198

Department of Defense  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO	FY 2020 Total (Base + OCO)
<u>Summary Recap of Budget Activities</u>					
Advanced Technology Development					
Management Support	1,000				1,000
Total Research, Development, Test & Evaluation	1,000				1,000
<u>Summary Recap of FYDP Programs</u>					
Research and Development	1,000				1,000
Total Research, Development, Test & Evaluation	1,000				1,000

Defense-Wide  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

Summary Recap of Budget Activities	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted
Advanced Technology Development	23,498	29,198		29,198
Management Support		1,000		1,000
Total Research, Development, Test & Evaluation	23,498	30,198		30,198
Summary Recap of FYDP Programs				
Research and Development	23,498	30,198		30,198
Total Research, Development, Test & Evaluation	23,498	30,198		30,198

Defense-Wide  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO	FY 2020 Total (Base + OCO)
<u>Summary Recap of Budget Activities</u>					
Advanced Technology Development					
Management Support	1,000				1,000
Total Research, Development, Test & Evaluation	1,000				1,000
<u>Summary Recap of FYDP Programs</u>					
Research and Development					
Total Research, Development, Test & Evaluation	1,000				1,000

Defense-Wide  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

<u>Appropriation</u>	<u>FY 2018</u> <u>(Base + OCO)</u>	<u>FY 2019</u> <u>Base Enacted</u>	<u>FY 2019</u> <u>OCO Enacted</u>	<u>FY 2019</u> <u>Total Enacted</u>
Washington Headquarters Services	23,498	30,198		30,198
Total Research, Development, Test & Evaluation	23,498	30,198		30,198

Defense-Wide  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

Appropriation	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO	FY 2020 Total (Base + OCO)
Washington Headquarters Services	1,000				1,000
Total Research, Development, Test & Evaluation	1,000				1,000

Defense-Wide  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

Appropriation: 0400D Research, Development, Test &amp; Eval, DW

Line No	Program Element Number	Item	Act	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted	S e c
39	0603342D8W	Defense Innovation Unit Experimental (DIUx)	03	23,498	29,198		29,198	U
		Advanced Technology Development		23,498	29,198		29,198	
176	0606589D8W	Defense Digital Service (DDS) Development Support	06		1,000		1,000	U
		Management Support			1,000		1,000	
Total Research, Development, Test & Eval, DW				23,498	30,198		30,198	

Defense-Wide  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

Appropriation: 0400D Research, Development, Test &amp; Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO	FY 2020 Total (Base + OCO)	Se
39	0603342D8W	Defense Innovation Unit Experimental (DIUx)	03						U
		Advanced Technology Development							
176	0606589D8W	Defense Digital Service (DDS) Development Support	06	1,000				1,000	U
		Management Support		1,000				1,000	
Total Research, Development, Test & Eval, DW				1,000				1,000	



Washington Headquarters Services  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2018 (Base + OCO)	FY 2019 Base Enacted	FY 2019 OCO Enacted	FY 2019 Total Enacted	S e c
39	0603342D8W	Defense Innovation Unit Experimental (DIUx)	03	23,498	29,198		29,198	U
		Advanced Technology Development		23,498	29,198		29,198	
176	0606589D8W	Defense Digital Service (DDS) Development Support	06		1,000		1,000	U
		Management Support			1,000		1,000	
Total Washington Headquarters Services				23,498	30,198		30,198	

Washington Headquarters Services  
 FY 2020 President's Budget  
 Exhibit R-1 FY 2020 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

12 Mar 2019

Appropriation: 0400D Research, Development, Test & Eval, DW

Line No	Program Element Number	Item	Act	FY 2020 Base	FY 2020 OCO for Base Requirements	FY 2020 OCO for Direct War and Enduring Costs	FY 2020 Total OCO	FY 2020 Total (Base + OCO)	Se
39	0603342D8W	Defense Innovation Unit Experimental (DIUx)	03						U
		Advanced Technology Development							
176	0606589D8W	Defense Digital Service (DDS) Development Support	06	1,000				1,000	U
		Management Support		1,000				1,000	
Total Washington Headquarters Services				1,000				1,000	

**UNCLASSIFIED**

Washington Headquarters Service • Budget Estimates FY 2020 • RDT&E Program

**Program Element Table of Contents (by Budget Activity then Line Item Number)**

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
39	03	0603342D8W	Defense Innovation Unit (DIU).....	Volume 5 - 1

***Appropriation 0400: Research, Development, Test & Evaluation, Defense-Wide***

---

<b>Line #</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
176	06	0606589D8W	Defense Digital Service (DDS).....	Volume 5 - 7

**UNCLASSIFIED**

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

Washington Headquarters Service • Budget Estimates FY 2020 • RDT&E Program

**Program Element Table of Contents (Alphabetically by Program Element Title)**

<b>Program Element Title</b>	<b>Program Element Number</b>	<b>Line #</b>	<b>BA</b>	<b>Page</b>
Defense Digital Service (DDS)	0606589D8W	176	06.....	Volume 5 - 7
Defense Innovation Unit (DIU)	0603342D8W	39	03.....	Volume 5 - 1

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2020 Washington Headquarters Service **Date:** March 2019

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603342D8W / <i>Defense Innovation Unit (DIU)</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	0.000	23.498	29.198	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
434: <i>DIUx</i>	0.000	23.498	29.198	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**Note**

Defense Innovation Unit Experimental (DIUx) was transferred from OSD (PE 0602230D8Z) to Washington Headquarters Services (WHS) (PE 0603342D8W). In July 2018, DIUx was realigned from WHS to the Office of the Under Secretary of Defense, Research and Engineering (OUSD(R&E)). In August 2018, DIUx was re-designated the Defense Innovation Unit (DIU) to signify a permanence of the program. Effective FY2020, DIU will transfer from WHS PE 0603342D8W to OSD PE 0603342D8Z with a functional realignment across the FYDP to OUSD(R&E).

The U.S. Department of Defense (DoD) relies on innovation to maintain our nation's ability to deter, and if need be, prevail in conflict. The DIU increases the Department's access to leading-edge technologies and talent that reside in the commercial sector, with the ultimate goal of accelerating innovation into the hands of the warfighter. Working across the country, and in collaboration with allied international partners, DIU is developing new ways of doing business, growing our defense industrial base to include "non-traditional" companies that had previously not collaborated with the military, working with traditional vendors in novel ways to increase efficiency, and challenging innovators to share their knowledge and expertise in support of our nation's defense.

**A. Mission Description and Budget Item Justification**

Defense Innovation Unit Experimental (DIUx) was established in April 2015 and DIUx 2.0 in May 2016.

DIUx mission is to accelerate innovation in the commercially-focused technology sector to the warfighter. Initially, DIUx was managed by the Under Secretary of Defense Acquisition, Technology and Logistics (OUSD(AT&L)) when it was established in July 2015. In May 2016, DIUx was placed under the control of the Secretary of Defense and administratively managed by WHS. In July 2018, DIUx was realigned from WHS to the OUSD(R&E), In August 2018, DIUx was re-designated the Defense Innovation Unit (DIU) to signify a permanence of the program. Effective FY2020, DIU will transfer from WHS PE 0603342D8W to OSD PE 0603342D8Z with a functional realignment to OUSD(R&E).

The DIU program will fund the development of novel leading-edge technologies emerging from high-tech companies that are not traditional defense contractors. An objective of this program is to obtain innovative technological advancements developed in the commercial sector and integrated into the DoD technological ecosystem.

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2020 Washington Headquarters Service	<b>Date:</b> March 2019
--	-------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603342D8W / <i>Defense Innovation Unit (DIU)</i>
---	--

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Previous President's Budget	29.594	29.364	29.398	0.000	29.398
Current President's Budget	23.498	29.198	0.000	0.000	0.000
Total Adjustments	-6.096	-0.166	-29.398	0.000	-29.398
• Congressional General Reductions	-6.000	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FFRDC (General Provisions)	-0.096	-0.166	0.000	-	0.000
• Transfer of DIU from WHS to USD(R&E)	-	-	-29.398	-	-29.398

**Change Summary Explanation**

Initially, DIUx was managed by the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD(AT&L)) when it was established in July 2015. In May 2016, DIUx was placed under the operational control of the Secretary of Defense and administratively managed by Washington Headquarters Services (WHS), with functional realignment of the resources across the FYDP to Washington Headquarters Services (WHS) beginning in FY 2018. In July 2018, DIUx was realigned from WHS to the Under Secretary of Defense, Research and Engineering (R&E)). In August 2018, DIUx was re-designated the Defense Innovation Unit (DIU). Effective FY 2020, DIU will transfer from WHS PE 0603342D8W to OSD PE 0603342D8Z with a functional realignment of resources across the FYDP to OUSD(R&E). In FY 2018, Congress reduced -\$6.000 million to the DIU RDT&E program.



**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2020 Washington Headquarters Service **Date:** March 2019

<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603342D8W / Defense Innovation Unit (DIU)	<b>Project (Number/Name)</b> 434 / DIUx
--	---	--

COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
434: DIUx	0.000	23.498	29.198	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

DIUx mission is to accelerate innovation to the warfighter by leveraging commercial technology innovations. Initially, this program was managed by the Under Secretary of Defense Acquisition, Technology, and Logistics (OUSD(AT&L)) with functional realignment of \$148.8 million across the FYDP to WHS beginning in FY 2018. In July 2018, DIUx was realigned from WHS to the Under Secretary of Defense, Research and Engineering (OUSD(R&E)). In August 2018, DIUx was re-designated the Defense Innovation Unit (DIU) to signify a permanence of the program. Effective FY 2020, DIU will transfer from WHS PE 0603342D8W to OSD PE 0603342D8Z with a functional realignment to OUSD(R&E). The DIU program will fund the development of novel leading-edge technologies emerging from high-tech companies that are not traditional defense contractors. An objective of this program is to obtain innovative technological advancements developed in the commercial sector and integrated into the DoD technological ecosystem. Incoming proposals will be assessed to ensure alignment with the DoD's strategic objectives to increase and strengthen our nation's security.

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<p><b>Title:</b> Defense Innovation Unit - Experimental (DIU)</p> <p><b>Description:</b> The U.S. Department of Defense (DoD) relies on innovation to maintain our nation's ability to deter, and if need be, prevail in conflict. With outposts in Mountain View, California, Cambridge, Massachusetts, and Austin, Texas, the DIU serves as a bridge between those in the U.S. Military executing our nation's highest priority problems with companies operating at the cutting edge of technology. DIU continuously experiments on methods to identify, contract, prototype, and transition novel innovations with commercial entities that would not otherwise do work with the DoD. The end goal is to accelerate the adoption and utilization of cutting-edge technology for the warfighter.</p> <p><b>FY 2019 Plans:</b> DIU is one of the Secretary of Defense's priorities in advancing technology, especially artificial intelligence, to help the U.S. Military become more lethal and capable of defending the nation. DIU's objective is to rapidly solve the problems of our DoD customers and deploy those solutions. Accordingly, DIU requirements are driven by DoD customers in the Services, Defense Agencies, and Combatant Commands. DoD customers come to DIU with their most challenging and most compelling technological problems. DIU works to solve the challenges and issues for the Department in areas such as Artificial Intelligence and Machine Learning, Autonomy, Human Systems, Information Technology, and Space.</p> <p><b>FY 2020 Base Plans:</b></p>	23.498	29.198	0.000	0.000	0.000

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Washington Headquarters Service		Date: March 2019
<b>Appropriation/Budget Activity</b> 0400 / 3	<b>R-1 Program Element (Number/Name)</b> PE 0603342D8W / <i>Defense Innovation Unit (DIU)</i>	<b>Project (Number/Name)</b> 434 / <i>DIUx</i>

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

	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Funds were transferred to PE 0603342D8Z. DIU continues its mission to identify and deliver cutting-edge commercial innovation to the Joint Force. DIU is rapidly prototyping and deploying innovative commercial technologies to fill critical capability gaps identified by DoD customers in the Services, Defense Agencies, and Combatant Commands. DIU works to solve challenges and issues for the Department in areas such as Artificial Intelligence and Machine Learning, Autonomy, Human Systems, Information Technology, and Space. In FY2020, DIU will add a new technology focus area of Power and Energy to develop and deliver technologies within the fields of Tactical Power, Operational Power, Directed Energy, and Hypersonics. DIU has plans to expand it's presence in Austin, TX to optimize outreach with innovative commercial sources and enhance collaboration with the newly established Army Futures Command.					
<b><i>FY 2020 OCO Plans:</i></b> N/A					
<b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b> The FY 2020 funds were transferred to PE 0603342D8Z. The increase of \$0.200 thousand will result in a minor re-balance of investments across the technology focus areas of Artificial Intelligence and Machine Learning, Autonomy, Human Systems, Information Technology, Space, and Power and Energy.					
<b>Accomplishments/Planned Programs Subtotals</b>	23.498	29.198	0.000	0.000	0.000

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

Line Item	FY 2018	FY 2019	FY 2020			FY 2021	FY 2022	FY 2023	FY 2024	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PE 0901583D8W: O&M	10.690	11.384	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0901583D8Z: O&M	0.000	0.000	17.358	0.000	17.358	17.705	18.059	18.420	18.789	Continuing	Continuing

**Remarks**

DIU O&M mission support funding.

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

1. Speed - average days to award a prototype project at the close of a solicitation compared to the traditional acquisition system.
2. Cost Savings - estimated amount saved as a result of DIU-driven solutions.

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2020 Washington Headquarters Service **Date:** March 2019

<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>	<b>Project (Number/Name)</b>
0400 / 3	PE 0603342D8W / <i>Defense Innovation Unit (DIU)</i>	434 / <i>DIUx</i>

3. Scale - measures the success at transitioning successful projects or methodologies, and increasing the number / diversity of partnerships within the National Security Innovation Base.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2020 Washington Headquarters Service **Date:** February 2019

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 6:</i> <i>RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0606589D8W / <i>Defense Digital Service (DDS)</i>
--	--

COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	1.000	1.000	-	1.000	1.000	1.000	1.000	1.020	Continuing	Continuing
281: <i>DDS</i>	0.000	0.000	1.000	1.000	-	1.000	1.000	1.000	1.000	1.020	Continuing	Continuing

**Note**

The Defense Digital Service (DDS) was launched in November 2015 and was formally chartered under DoD Directive 5105.87 in January 2017 in the Office of the Secretary of Defense (OSD) of the Department of Defense (DoD). Since that time, OSD has presented over 100 potential projects to DDS, some of which would benefit significantly from the enhanced prototyping capabilities of DDS. With appropriate funding, DDS leverage, its private sector expertise to fully support the build of a system prototype / proof-of-concept. RDT&E funding is required to support the DDS mission, which includes the ability to build software prototypes to prove out concepts for mission critical projects identified by the Department.

Ensuring that DDS has RDT&E capabilities will increase DoD's ability to leverage DDS's unique technical expertise to determine which private sector software development best practices and/or technology work best for the Department. Furthermore, the development and testing of DDS prototypes, and the insight gained, would significantly lower development costs and delivery times through traditional DoD methods.

**A. Mission Description and Budget Item Justification**

DDS was created to bring private sector software development best practices, talent, and technology to the Department's hardest software and technology problems. Since its launch in November 2015, DDS has project demands from OSD that have increased exponentially; some of those requests would benefit from robust prototyping / proof-of-concept capabilities by DDS teams. The former is dependent on RDT&E funding that supports the ability to acquire the most current technological solution and/or support from vendors well versed in the most advanced technological solutions.

The requested RDT&E funds will enable DDS to build prototypes and implement proof-of-concept tests for some key OSD projects. These projects will support missions in and out of theater, as well as long term goals of the department to modernize its offensive and defensive technological capabilities. DoD interest in leveraging DDS to operate in this area to solve hard and impossible problems is persistent. With appropriate funding, DDS can use the superior technical expertise of its staff, as well as ability to quickly deliver usable products to meet demand.

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2020 Washington Headquarters Service	<b>Date:</b> February 2019
--	----------------------------

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> / BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 Program Element (Number/Name)</b> PE 0606589D8W / <i>Defense Digital Service (DDS)</i>
--	--

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Previous President's Budget	0.000	1.000	1.000	-	1.000
Current President's Budget	0.000	1.000	1.000	-	1.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2020 Washington Headquarters Service **Date:** February 2019

<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0606589D8W / <i>Defense Digital Service (DDS)</i>	<b>Project (Number/Name)</b> 281 / <i>DDS</i>
--	--	--

COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
281: <i>DDS</i>	0.000	0.000	1.000	1.000	-	1.000	1.000	1.000	1.000	1.020	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Defense Digital Service (DDS) requests \$1 million in RDT&E, DW funding in FY2020 to build prototypes / proof-of-concepts for software and hardware development efforts. DDS will leverage its expertise in private industry best practices to develop prototypes that can be scaled to production to support the overall mission of DoD. This funding will help to ensure that DDS can capitalize on its unique ability to build, and/or advise customers on how to build, prototypes and proof-of-concepts using private sector best practices.

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

	FY 2018	FY 2019	FY 2020
<b>Title:</b> Defense Digital Service (DDS)	-	1.000	1.000
<b>FY 2019 Plans:</b>			
The U.S. Department of Defense (DoD) relies on innovation to maintain our nation's ability to deter, and if necessary, defeat its adversaries, whether in conventional or unconventional environments. With a team firmly rooted in the heart of the Pentagon, Defense Digital Service (DDS) serves as a nimble unit with the ability to quickly mobilize and tackle some the DoDs toughest technological challenges. DDS's approach leverages industry best practices to efficiently navigate policy, contracts, and tech blockers to reach working and scalable solutions to hardware and software problems. The ultimate goal of the team is to support DoD in finding and implementing relevant tech solutions to hard and/or impossible problems that when solved, increase the efficiency and effectiveness of the department in carrying out its mission to defend the United States and its domestic and overseas interests. Ultimately, the purpose and goal of the team is to ensure that solutions reach the hands of end users, including warfighters, in short timelines, so that compound problems from the existing problem sets do not persist.			
<b>FY 2020 Plans:</b>			
The U.S. Department of Defense (DoD) needs on innovation to maintain our nation's ability to deter, and if need be, prevail in physical and technological conflict. With a team firmly rooted in the heart of the Pentagon, Defense Digital Service (DDS) serves as a nimble unit with the ability to quickly mobilize and tackle some the DoDs toughest technological challenges. DDS's approach leverages industry best practices to efficiently navigate policy, contracts, and tech blockers to reach working and scalable solutions to hardware and software problems. The ultimate goal of the team is to support DoD in finding and implementing relevant tech solutions to hard and/or impossible problems that when solved, increase the efficiency and effectiveness of the department in carrying out its mission to defend the United States and its domestic and overseas interests. Ultimately, the			

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Washington Headquarters Service		<b>Date:</b> February 2019
<b>Appropriation/Budget Activity</b> 0400 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0606589D8W / <i>Defense Digital Service (DDS)</i>	<b>Project (Number/Name)</b> 281 / <i>DDS</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
purpose and goal of the team is to ensure that solutions reach the hands of end users, including warfighters, in short timelines, so that compound problems from the existing problem sets do not persist.			
<b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b> DDS Research and Development is one of the Secretary of Defense's top priorities with the intent of advancing and modernizing technology, especially software systems, critical to the successful implementation of a variety of department and warfighter missions. DDS requirements are driven by challenging technical problems identified by the Secretary of Defense where technology is failing the Department of Defense mission and could impede the lethality and effectiveness of the warfighter. These problems vary in scope and complexity, but at a minimum, when resolved, have a positive impact on the warfighter's mission and capabilities. The DDS involvement may be in the development of new code, product management, advising on code development processes and releases, and hacking or re-writing existing policies or processes that are antiquated or otherwise unnecessary. The DDS engages on highly troubled projects to quickly implement fixes that ultimately reduce schedule slip, increase security, lower costs, improve user experiences, and accelerate performance. Some examples of current projects include: replacing the MEPCOM Integrated Resources System; reimagining the user interface and associated databases for the Defense Property System; devising a hard and software solution to counter Unmanned Aircraft Systems (UAS) that attack warfighters in theater; and developing a novel, modern approach to network defense. The DDS team is comprised of digital experts with backgrounds in policy, contracts, design, and engineering who collectively use their private industry and federal government experience to identify solutions to problems and rapidly devise and implement solutions.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	1.000	1.000

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• O&M: BA4, PE 0901589D8W	0.246	4.569	4.549	0.000	4.549	4.544	4.542	4.541	4.635	Continuing	Continuing
• O&M (OCO): BA4, PE 0901589D8W	0.000	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**Remarks**  
Defense Digital Service will build, or manage the build, of prototypes and proof-of-concepts that will solve hard and impossible technological problems in DoD.

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

NA