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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Office of the Secretary Of Defense **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6:</i> <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605798D8Z / <i>Defense Technology Analysis</i>
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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	-	15.334	23.341	39.774	-	39.774	-	-	-	-	-	-
<i>796: Laboratory Resource Management</i>	-	8.136	5.355	18.248	-	18.248	-	-	-	-	-	-
<i>797: Defense Technology Analysis</i>	-	4.715	5.282	10.717	-	10.717	-	-	-	-	-	-
<i>798: Defense Support Teams</i>	-	2.483	9.204	8.369	-	8.369	-	-	-	-	-	-
<i>728: Homeland Defense Capability Development</i>	-	0.000	3.500	2.440	-	2.440	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Under Secretary of Defense for Research and Engineering (USD(R&E)) is the principal staff advisor to the Secretary and Deputy Secretary of Defense, responsible for the research, development, and prototyping activities across the DoD enterprise. In this capacity, OUSD(R&E) conducts analyses and studies; develops policies; provides technical leadership, oversight and advice; and issues guidance for Department of Defense (DoD) RDT&E programs. This program element (PE) provides mission support to the Office of the USD(R&E) (OUSD(R&E)) covering a wide range of studies and analysis in support of the R&E program and its impacts to the Department's decision to fund Research, Development, Test and Evaluation (RDT&E) efforts. Such activities include: (1) identification and development of new technological opportunities; (2) insertion of new technologies into warfighting systems and operations; and (3) management and evaluation of the effectiveness of technology programs.

The PE provides funding for the Defense Laboratory Office within the USD(R&E). The Defense Laboratory Office mission is to craft policy and provide the oversight necessary to both preserve current and develop future DoD in-house laboratory capability such that they continue to generate mission-critical innovations that increase the U.S. military advantage and enhance U.S. national security. The Defense Laboratory Office advocates and supports the DoD laboratory system in three areas: (1) facilities and infrastructure; (2) personnel and quality of workforce; and (3) technology transfer.

The PE provides funding for engineering, scientific, and analytical support to the USD(R&E) in its responsibility for direction, overall quality, and content of the science and technology (S&T) program and to ensure that the technology being developed is affordable and helps minimize system development risk.

The PE funds research and technical analysis and management, under the direction of the Director of Defense Research and Engineering for Modernization. These investments will promote further prioritization and targeting of the Department's key investments across the modernization efforts.

This PE also funds Homeland Defense Capabilities Development Initiatives to address technology application in support of homeland defense of our military installations and the surrounding areas.

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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	15.875	29.059	28.185	-	28.185
Current President's Budget	15.334	23.341	39.774	-	39.774
Total Adjustments	-0.541	-5.718	11.589	-	11.589
• Congressional General Reductions	-	-5.718			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.538	-			
• Cancelled Account	-0.003	-	-	-	-
• Program Adjustments	-	-	11.589	-	11.589

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

Project: 796: *Laboratory Resource Management*

Congressional Add: *Program Increase - Defense Technology Transfer*

	FY 2020	FY 2021
Congressional Add Subtotals for Project: 796	3.000	0.000
Congressional Add Totals for all Projects	3.000	0.000

Change Summary Explanation

The FY 2022 funding increase to support LabCon / Defense Laboratory Enhancement Fund.

The FY 2022 funding request was reduced by \$2.065 million to account for the availability of prior year execution balances.

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Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605798D8Z / Defense Technology Analysis				Project (Number/Name) 796 / Laboratory Resource Management			
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
796: Laboratory Resource Management	-	8.136	5.355	18.248	-	18.248	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2021 \$3.000 million congressional add funding will be realigned to Project Code 796 within the Program Element for execution to meet congressional intent.

A. Mission Description and Budget Item Justification

The Laboratories & Personnel Office (L&PO) provides advocacy, strategic planning, and policy for the DoD's laboratories. The DoD Laboratory Enterprise consists of more than 60 laboratories with approximately 67,000 employees (approximately 50,000 of whom are scientists and engineers. L&PO develops proposals and investment strategies for laboratory infrastructure, technology transfer programs, and personnel development. Section 211 of the FY 2017 National Defense Authorization Act (NDAA) also transferred the management of the laboratory demonstration program at Science and Technology Reinvention Laboratories (STRs) from the Under Secretary of Defense for Personnel and Readiness (USD(P&R)) to the Under Secretary of Defense for Research and Engineering (USD(R&E)). Section 218 of the FY 2018 NDAA amended the authority by re-designating management to the Under Secretary of Defense for Research and Engineering (USD(R&E)).

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

	FY 2020	FY 2021	FY 2022
Title: Laboratories and Personnel Office	5.136	5.355	3.248
Description: Provides advocacy, strategic planning, and policy for the DoD's laboratories. Develops proposals and investment strategies for laboratory infrastructure, technology transfer programs, and personnel development.			
FY 2021 Plans:			
<ul style="list-style-type: none"> • The L&PO will continue to develop plans, policies and investment strategies for laboratory infrastructure, technology transfer programs, personnel development, and the Laboratory Quality Enhancement Program Panels that support the Defense Laboratory Enterprise. • The L&PO will establish a T2 professional development program, pilot a common T2 intellectual property docketing and agreement management system, and train for partnership intermediaries and technology transition. • The L&PO will continue to identify best practices and business models to refine policy as well as share across the DoD enterprise through the DoD Partnership Intermediary Agreement study. 			
FY 2022 Plans:			
<ul style="list-style-type: none"> • The L&PO will continue to develop plans, policies and investment strategies for laboratory infrastructure, technology transfer programs, personnel development, and the Laboratory Quality Enhancement Program Panels that support the Defense Laboratory Enterprise. 			

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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605798D8Z / Defense Technology Analysis	Project (Number/Name) 796 / Laboratory Resource Management

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
<ul style="list-style-type: none"> From the completed Partnership Intermediary Agreement study identify best practices and value/impact to laboratory and/or service mission, and understand the various business models implemented across the DoD T2 community. <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease in funding is due to re-alignment of funds for higher priority DoD missions.</p>			
<p>Title: Central Lab Investment Program (CLIP)</p> <p>Description: This effort seeks to address infrastructure gaps within the Department’s Laboratory community by establishing a dedicated funding stream for laboratory components to address the laboratory infrastructure issues, including facility planning, design, construction, sustainment repair and/or modernization. In addition, CLIP could be used to acquire advanced equipment and tools, enabling the labs to devote their RDT&E funding to critical R&D and offset their sustainment, repair and modernization (SRM) funding gap.</p> <p>FY 2022 Plans: The L&PO will establish and execute policy and a program to solicit and select laboratory infrastructure and equipment projects executable within a year of award.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The FY 2022 funds represent a new start for this program. The DoD Laboratories have annually presented an unfunded MilCon request to Congress and this fund will begin to address the challenges that the Service laboratories face in their attempts to fund laboratory and equipment capability improvements.</p>	-	-	15.000
Accomplishments/Planned Programs Subtotals	5.136	5.355	18.248

	FY 2020	FY 2021
<p>Congressional Add: Program Increase - Defense Technology Transfer</p> <p>FY 2020 Accomplishments: - Funding was sent to AFRL to support MilTech technology transition program, which has assisted DoD laboratories and programs as follows: - Assisted private sector partners who have licensed DoD laboratory innovation to take products to market and/or to the US warfighter. - Supported DoD programs’ requirements generation and product designs to reduce development time and product costs. - Continued maturing technology scouting processes and virtual platform.</p> <p>FY 2021 Plans: - Funding will be sent to AFRL to support MilTech technology transition program, which will: - Provide technology transition expert support to DoD labs and Programs.</p>	3.000	0.000

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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605798D8Z / <i>Defense Technology Analysis</i>	Project (Number/Name) 796 / <i>Laboratory Resource Management</i>
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	FY 2020	FY 2021
- Develop and provide technology transition training to DoD T2 professionals.		
- Identify and share best practices of DoD technology transition activities and programs.		
Congressional Adds Subtotals	3.000	0.000

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Office of the Secretary Of Defense										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605798D8Z / Defense Technology Analysis				Project (Number/Name) 797 / Defense Technology Analysis			
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
797: Defense Technology Analysis	-	4.715	5.282	10.717	-	10.717	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Defense Technology Analysis (DTA) project funds engineering, scientific, and analytical support for the Office of the Under Secretary of Defense for Research and Engineering (OUSDR&E) and specifically the office of the Director of Defense Research and Engineering for Modernization (DDRE(M)) starting in FY 2021. The DDRE(M) supports the OUSDR&E by prioritizing the National Defense Strategy modernization lines of effort in order to maintain competitive advantage against adversaries. The efforts funded in this project code directly support and are critical to developing and continuously updating research and technology development roadmaps as required by FY21 NDAA section 217.

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

	FY 2020	FY 2021	FY 2022
Title: Defense Technology Analysis	4.715	5.282	10.717
Description: The DDRE(M) is responsible for developing the Department's roadmap efforts in the eleven modernization priorities areas: 5G; Artificial Intelligence; Autonomy; Biotechnology; Cyber; Directed Energy; Fully Networked Command, Control, and Communication; Hypersonics; Microelectronics; Quantum Science; and Space. Identification of leading edge technology is critical in delivering capability to the warfighter and maintaining the competitive advantage. Funding for research, technical analysis and management, and other advanced research methods will allow for success in identifying game changing technology investments for the Department's modernization efforts.			
FY 2021 Plans: Conduct analysis and research studies to support updates and advancement of modernization roadmaps to reflect emerging trends in the modernization field and enable the transition of capabilities from basic and applied research to prototypes and demonstrations. Continue analysis in defense modernization efforts while coordinating with Service leads to identify Military Department capability needs aligned with Joint Warfighting Concepts.			
FY 2022 Plans: Leverage strategic partnerships to ensure the Department's investments are appropriately focused on the modernization priorities and address issues to close remaining investment gaps. While continuing to conduct analysis and research studies to support updates and advancements of modernization roadmaps to reflect emerging trends ensuring the Department's competitiveness.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Office of the Secretary Of Defense		Date: May 2021
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605798D8Z / <i>Defense Technology Analysis</i>	Project (Number/Name) 797 / <i>Defense Technology Analysis</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
The increase from FY 2021 to FY 2022 provides critical funding needed to conduct crucial research studies in direct support of the advancement of modernization roadmaps and adds significant risk to ensuring the Department’s competitiveness now and in the future.			
Accomplishments/Planned Programs Subtotals	4.715	5.282	10.717

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Office of the Secretary Of Defense **Date:** May 2021

Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605798D8Z / Defense Technology Analysis	Project (Number/Name) 798 / Defense Support Teams
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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
798: Defense Support Teams	-	2.483	9.204	8.369	-	8.369	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

In FY 2021, funding re-aligned from Project Code 797 to accurately reflect support to mission.

A. Mission Description and Budget Item Justification

The Department's key expertise for reviewing and guiding research and engineering (R&E) programs resides in the Office of the Under Secretary of Defense for Research and Engineering (OUSDR&E). The OUSDR&E staff augment their responsibilities through connections to technology experts in various fields throughout academia, industry, and government.

This project code continues to provide engineering, scientific, and analytical support to the Office of the Under Secretary of Defense for Research and Engineering (OUSDR&E) in its responsibility for direction, overall quality, and content of the science and technology (S&T) program. This activity conducts assessments and analyses to ensure maximum utilization of research and development funds to accomplish the overall objectives of the S&T program and that the technology being developed is affordable and minimizes system development risk. Funds are required for technical, analytical, management support, travel, and publications.

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

	FY 2020	FY 2021	FY 2022
Title: Defense Support Teams	2.483	9.204	8.369
Description: This project provides engineering, scientific, and analytical support to the OUSDR&E in its responsibility for direction, overall quality, and content of the S&T program. Furthermore, it ensures that the technology being developed is affordable and minimizes system development risk.			
FY 2021 Plans: This project provides engineering, scientific, analytical, and managerial support to the OUSDR&E in developing strategies, plans, and policies to develop and exploit technology; conducting technology analyses, making recommendations, and developing guidance for S&T plans and programs; reviewing acquisition programs and making recommendations to optimize effectiveness of the DoD investments; and oversight of S&T issues and initiatives and responding to Congressional special interests.			
The program also conducts technology analyses to support R&E program investment decisions. For selected acquisition programs and efforts, respective program issues will be reviewed and technical solutions will be offered to program managers. The maturity of technologies that are candidates for transition to acquisition programs will also be assessed.			
FY 2022 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
Continue to provide engineering, scientific, analytical, and managerial support to the OUSD(R&E) in developing strategies, plans, and policies to develop and exploit technology; conduct technology analyses, make recommendations, and develop guidance for S&T plans and programs; review acquisition programs and make recommendations to optimize effectiveness of the DoD investments; and oversight of S&T issues and initiatives and respond to Congressional special interests.				
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease in funding due to other DoD priorities.				
Accomplishments/Planned Programs Subtotals		2.483	9.204	8.369
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0605798D8Z / Defense Technology Analysis				Project (Number/Name) 728 / Homeland Defense Capability Development			
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
728: Homeland Defense Capability Development	-	0.000	3.500	2.440	-	2.440	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2021 funding re-aligned from Project Code 797 to establish new Pcode in support of Homeland Defense Capability Development efforts.

A. Mission Description and Budget Item Justification

The Homeland Defense Capability Development Initiatives project uniquely engages with the Services, Combatant Commands, and our federal partners on critical Science and Technology (S&T) initiatives to address technology application in support of countering small Unmanned Aircraft System (sUAS) threats to our military forces and installations both domestically and abroad. Work in this project explores and identifies critical technology needs and enables development of synergistic science and technology strategies across for platforms and weapons systems, including unmanned systems technologies, directed energy, materials, munitions, power and energy across the domains of Air, Land, Sea and Space and their applications to future force projection and protection capabilities as identified in the National Defense Strategy.

Key technology applications complement the Office of the Under Secretary of Defense for Research and Engineering's modernization priorities: Fully Networked Command, Control, and Communications; Directed Energy, Cyber, Autonomy, and Machine Learning/Artificial Intelligence.

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

	FY 2020	FY 2021	FY 2022
Title: Homeland Defense Capability Development Initiatives	-	3.500	2.440
FY 2021 Plans: Provide S&T and research, development, test and evaluation (RDT&E) support from FY 2020 Cruise Missile Defense (CMD)/Homeland Defense Design, Humanitarian Assistance/Disaster Relief (HADR) Enabling Commercial Technologies, and Sustainable Microgrid Technologies to Defend Key Locations/Assets against Powergrid Attacks efforts; Support analysis to include the discrimination of 5G-enabled autonomous threats, interagency Unmanned Aircraft Systems (UAS) technology projects, defense against autonomous systems, and defense against projected homeland air threats, supporting NDS global trends on technology; establish baseline of science and technology strategies for platforms and weapons system critical technology needs in the near-, mid-, and far-terms required to mitigate advanced threats to military forces and installations.			
FY 2022 Plans: Continue to provide S&T and RDT&E support from FY 2020 Cruise Missile Defense (CMD)/Homeland Defense Design, Humanitarian Assistance/Disaster Relief (HADR) Enabling Commercial Technologies, and Sustainable Microgrid Technologies to Defend Key Locations/Assets against Powergrid Attacks efforts; Continue to support analysis to include the discrimination of 5G-			

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Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0605798D8Z / <i>Defense Technology Analysis</i>	Project (Number/Name) 728 / <i>Homeland Defense Capability Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>enabled autonomous threats, interagency Unmanned Aircraft Systems (UAS) technology projects, defense against autonomous systems, and defense against projected homeland air threats, supporting NDS global trends on technology; conduct strategic studies, analyses and modeling to identify critical technologies required to enable advanced force projection and protection capabilities such as the ability to mitigate adversary large- scale collaborative engagement and swarming of munitions and unmanned systems.</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decrease in funding due to other DoD priorities.</p>				
Accomplishments/Planned Programs Subtotals		-	3.500	2.440
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				