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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 3: Advanced Technology Development (ATD)</i>	R-1 Program Element (Number/Name) PE 0603342D8Z / <i>Defense Innovation Unit (DIU)</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	29.268	34.401	26.749	42.925	-	42.925	58.838	62.422	30.028	30.628	-	-
434: <i>DIU</i>	29.268	34.401	26.749	42.925	-	42.925	58.838	62.422	30.028	30.628	-	-

Note

New Start (Y/N): Partial - \$15M Defense Advanced Battery Supply Chain Program

A. Mission Description and Budget Item Justification

The Defense Innovation Unit (DIU) mission is to strengthen U.S. national security by accelerating the adoption of commercial technology throughout the military and growing the national security innovation base. DIU partners with organizations across the DoD and the interagency to rapidly prototype, field, and scale commercial solutions that can save lives, lead to new operational concepts, increase efficiencies, and save taxpayer dollars. With offices in Silicon Valley, Boston, Austin, Chicago, and in the Pentagon, DIU is able to attract the best and brightest talent and cutting-edge solutions.

The National Defense Strategy for FY 2022 asserts that we have returned to an era of inter-state strategic competition with Russia and China, heightening the sense of urgency with which the nation, and Department of Defense (DoD), must reform our acquisition policies and approach to sustaining military-technical superiority. Notably, 11 of the 14 critical technology focus areas are dual use and rapidly developed by the commercial sector. While adversaries are challenging the U.S. across several dimensions, most importantly, our near peer competitors are at par or ahead of the U.S. in critical technology areas. Consistent with the FY 2023 Office of Management and Budget (OMB)/Office of Science and Technology Policy (OSTP) research and development budget priorities, this new era of competition requires technological superiority to ensure the United States' ability to project power, maintain international norms and rule of law, provide credible deterrence, and prevail in conflict.

DIU increases the Department's access to commercial technologies and talent, with the ultimate goal of fielding leading-edge technology to warfighters at the speed of relevance. Working across the country, and in collaboration with our allies and partners, DIU is developing new ways of doing business, growing our national security innovation base to include more "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.

Through a competitive prototype process, DIU identifies and provides access to technology companies and products on behalf of DoD organizations. Additionally, DIU executes projects to leverage commercial sector technology analogous to military applications thereby increasing dual-use technology agility for the DoD. DIU Prototyping funds facilitate the award of projects that can augment commercial technologies, existing government-owned capabilities, or concepts for defense application.

DIU focuses on six technology areas where commercial industry is the lead:

- Artificial Intelligence (AI)/ Machine Learning (ML) – Applying AI/ML learning to accelerate critical decision making and operational impact.

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- Autonomy – Adopting and countering autonomous systems with a focus on human-machine interaction and scalable teaming.
- Cyber – Making enterprise combat information open, accessible, and secure for defense personnel across the globe.
- Energy - Leveraging proven advancement in energy and materials technology to enhance capabilities and strengthen resilience across installation and distributed operations.
- Human Systems – Optimizing the human system and its enabling platforms through enhanced equipment, innovative training, and novel health applications.
- Space – Developing on-demand access to space, persistent satellite capabilities, and broadband space data transfer.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	34.401	31.873	0.000	-	0.000
Current President's Budget	34.401	26.749	42.925	-	42.925
Total Adjustments	0.000	-5.124	42.925	-	42.925
• Congressional General Reductions	-	-5.024			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FFRDC	-	-0.100	-	-	-
• Adjustments to Budget Year	-	-	26.962	-	26.962
• Economic Assumption	-	-	0.963	-	0.963
• Defense Advanced Battery Supply Chain	-	-	15.000	-	15.000

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

Project: 434: *DIU*

Congressional Add: *Multi Orbital Platform*

Congressional Add: *Small Tactical Imagery Satellites*

Congressional Add Subtotals for Project: 434

Congressional Add Totals for all Projects

	FY 2021	FY 2022
	4.500	-
	5.000	-
Congressional Add Subtotals for Project: 434	9.500	-
Congressional Add Totals for all Projects	9.500	-

Change Summary Explanation

In FY 2022, program reduced by -\$5.024 million for unjustified increase.

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
434: <i>DIU</i>	29.268	34.401	26.749	42.925	-	42.925	58.838	62.422	30.028	30.628	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

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Consistent with the FY 2023 Office of Management and Budget (OMB)/Office of Science and Technology Policy (OSTP) research and development budget priorities, this new era of competition requires technological superiority to ensure the United States' ability to project power, maintain international norms and rule of law, provide credible deterrence, and prevail in conflict.

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- Cyber – Making enterprise combat information open, accessible, and secure for defense personnel across the globe.
- Energy - Leveraging proven advancement in energy and materials technology to enhance capabilities and strengthen resilience across installation and distributed operations.
- Human Systems – Optimizing the human system and its enabling platforms through enhanced equipment, innovative training, and novel health applications.
- Space – Developing on-demand access to space, persistent satellite capabilities, and broadband space data transfer.

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

	FY 2021	FY 2022	FY 2023
<p>Title: Defense Innovation Unit (DIU)</p> <p>Description: The U.S. 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; Washington, D.C.; Austin, Texas; and Chicago, Illinois, DIU serves as a bridge between those in the U.S. Military executing national security and defense missions with companies developing cutting-edge commercial technology. DIU continuously experiments with methods to identify, contract, prototype, and transition novel commercial solutions from leading companies to the warfighter for applications in headquarters or operational environments and transfer technology with commercial entities that would not otherwise do work with the DoD. The end goal is to accelerate DoD adoption of cutting-edge technology and grow the national security innovation base to support U.S. military-technical superiority.</p> <p>FY 2022 Plans: DIU will continue 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, components, 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, cyber, energy, human systems, cyber, and space.</p> <p>FY 2023 Plans: DIU will continue 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, components, 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, cyber, space, and advanced energy and materials.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: The decrease from FY 2022 to FY 2023 is due to a one-time increase in FY 2022 to support a requirement for the Artificial Intelligence (AI) portfolio.</p>	24.901	26.749	27.925
Title: Defense Advanced Battery Supply Chain	-	-	15.000

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>Description: DIU will rapidly prototype and deploy Battery Energy Storage Systems (BESS) to support long duration energy storage needs for the supports the long duration storage focus on resiliency for 4 to 8 hours. The Defense Innovation Unit (DIU) will prototype commercial BESS solutions that are demonstrating up to 100 hours of battery storage for resiliency on multiple DoD installations that directly support military operations such as data centers, hospitals, or mission support equipment.</p> <p>FY 2023 Plans: Align the Department’s battery requirements to commercial battery standards currently being used by the electric vehicle (EV) market by:</p> <ul style="list-style-type: none"> - Testing EV batteries to DoD standards. - Prototyping EV batteries to meet DoD standards. - Investing in domestic EV battery production to ensure security of supply for DoD needs. <p>Matching the alignment of DoD battery requirements to commercial battery standards currently being used by the EV market allows the Department access to more advanced batteries at reduced costs.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: New effort beginning in FY 2023.</p>			
Accomplishments/Planned Programs Subtotals	24.901	26.749	42.925

	FY 2021	FY 2022
<p>Congressional Add: Multi Orbital Platform</p> <p>FY 2021 Accomplishments: These funds support ongoing work to create multi-orbit platforms in order to enable the establishment of an in-space logistics network. In particular, the funds will accelerate current DIU efforts related to orbital transfer and hosting platforms, in-space refueling, and supporting interfaces. These efforts take place primarily during preliminary and critical design review, which include some initial assembly integration and testing activities.</p>	4.500	-
<p>Congressional Add: Small Tactical Imagery Satellites</p> <p>FY 2021 Accomplishments: These funds support multiple tactical imagery efforts, to include the U.S. Army Tactical GEOINT ("TacGEO") project requirements for satellite shipment and storage review and on-orbit checkout; the joint-sponsored "Peacetime Indications & Warnings" project requirement for preliminary and critical design reviews; assembly integration & test, flight readiness review, system checkout; and a new U.S. Army</p>	5.000	-

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	FY 2021	FY 2022
unmanned stratospheric systems project requirements for replicating space-based imagery capabilities from high altitude.		
Congressional Adds Subtotals	9.500	-

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

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• BA 04; O&M: <i>PE 0901583D8Z</i>	12.397	16.659	17.561	-	17.561	17.960	18.322	18.687	19.063	-	-

Remarks

NA

D. Acquisition Strategy

N/A