Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	52.108	15.585	41.902	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
843: *DIU Prototyping*	52.108	10.585	26.689	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
844: *National Security Innovation Capital*	0.000	5.000	15.213	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Build a Sustainable and Long-Term Advantage, and Build a Resilient Joint Force and Defense Ecosystem.

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 United States in critical technology areas. Consistent with the Administration's 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*

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.
• 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	16.178	24.402	24.414	-	24.414
Current President's Budget	15.585	41.902	0.000	-	0.000
Total Adjustments	-0.593	17.500	-24.414	-	-24.414
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	17.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-0.593	-	-24.414	-	-24.414

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 843: *DIU Prototyping*		
Congressional Add: *Orbital Prototyping*	-	11.000
Congressional Add: *Visual Augmentation Technology*	-	6.500
Congressional Add Subtotals for Project: 843	-	17.500
Project: 844: *National Security Innovation Capital*		
Congressional Add: *Long Duration Energy Storage, including Lithium Batteries (also known as Jumpstart for Advanced Battery Standarization)*	5.000	-
Congressional Add Subtotals for Project: 844	5.000	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Congressional Add Totals for all Projects	5.000	17.500

Change Summary Explanation

FY 2024 funding re-aligned to new National Security Innovation Capital (NSIC) Program Element (PE) 0603021D8Z and Defense Innovation Unit PE 0603342D8Z to better align funding to the mission.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604341D8Z / *DIU Prototyping*	Project (Number/Name) 843 / *DIU Prototyping*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
843: *DIU Prototyping*	52.108	10.585	26.689	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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 United States in critical technology areas. Consistent with the Administration's 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.
• 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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*	**Project (Number/Name)** 843 / *DIU Prototyping*

• Space – Developing on-demand access to space, persistent satellite capabilities, and broadband space data transfer.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Defense Innovation Unit (DIU) Prototyping	10.585	9.189	-
Description: DIU executes its mission through partnerships with Services, combatant commands, and other DoD organizations to prototype commercial solutions and scale across the Joint Force. ***FY 2023 Plans:*** In FY 2023, DIU Prototyping funds will facilitate additional follow-on prototype contract awards of projects and scale proven solutions across the Joint Force. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding re-aligned to Defense Innovation Unit Program Element (PE) 0603342D8Z to better align the funding to the mission.			
Accomplishments/Planned Programs Subtotals	10.585	9.189	-

	FY 2022	FY 2023
Congressional Add: Orbital Prototyping ***FY 2023 Plans:*** Plan to issue a Request for Prototyping Proposal (RPP) by the end of February 2023 to obligate $1.6 million to SpaceX for the RAPID program. Obligation should occur no later than April 2023. Anticipate a number of modifications and potentially other Portal pulls (RPPs), estimated at $3.7 million, with obligation by end of June 2023.	-	11.000
Congressional Add: Visual Augmentation Technology ***FY 2023 Plans:*** Display with Digital Night Vision (DNV), Heads Up Display (HUD) to provide relevant data in the following form factors: glasses, visor/goggles, contacts. Artificial Intelligence to power augmentation reality (AR) and software to drive system gesture control Commercial network to enhance Military Tactical systems. Sensor integration to increase survivability and lethality.	-	6.500
Congressional Adds Subtotals	-	17.500

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

DIU primarily utilized Title 10 U.S. Code § 2371b authority to prototype projects to enhance military effectiveness through the Commercial Solutions Opening (CSO) process.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604341D8Z / *DIU Prototyping*	Project (Number/Name) 843 / *DIU Prototyping*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DIU Prototyping	MIPR	Various : Various	12.470	10.585		26.689		-		-		-	Continuing	Continuing	-
Autonomy	C/FFP	Various : Various	3.650	-		-		-		-		-	Continuing	Continuing	-
Cyber	C/FFP	Various : Various	3.820	-		-		-		-		-	Continuing	Continuing	-
Human System	C/FFP	Various : Various	3.491	-		-		-		-		-	Continuing	Continuing	-
Space	C/FFP	Various : Various	8.677	-		-		-		-		-	Continuing	Continuing	-
COVID	C/FFP	Various : Various	5.000	-		-		-		-		-	Continuing	Continuing	-
AE&M	C/FFP	Various : Various	0.000	-		-		-		-		-	Continuing	Continuing	-
National Security Innovation Capital	MIPR	Various : Various	15.000	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	52.108	10.585		26.689		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	52.108	10.585		26.689		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*	**Project (Number/Name)** 843 / *DIU Prototyping*

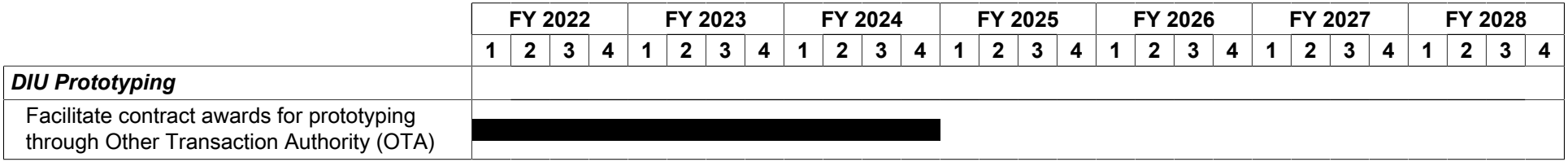

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*	**Project (Number/Name)** 843 / *DIU Prototyping*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DIU Prototyping				
Facilitate contract awards for prototyping through Other Transaction Authority (OTA)	1	2022	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604341D8Z / *DIU Prototyping*	Project (Number/Name) 844 / *National Security Innovation Capital*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
844: *National Security Innovation Capital*	0.000	5.000	15.213	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The mission of NSIC is to accelerate the development of dual-use hardware technologies critical to our national security and economic competitiveness. It is an initiative that enables dual-use hardware startups to advance key milestones in their product development by addressing the shortfall of private investment from trusted sources. NSIC's support enables companies to develop their technologies and products more rapidly. The resulting reductions in technical risk, along with the signaling of DoD interest in such dual-use companies, attracts trusted private investment that might otherwise sit on the sidelines. The overall result is more rapid and robust development of hardware in the U.S., the expansion of the defense industrial base and reduction of technology flow to adversaries.

Initial broad areas of focus are autonomy, communications, power, sensors and space.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: National Security Innovation Capital (NSIC)	-	15.213	-
Description: In FY 2021 NSIC received an appropriation of $15M from Congress. NSIC utilized that appropriation to fund contracts with nine startup companies whose technologies covered the five different Topics of Interest described above. Those technologies involved, among others: hypersonics, quantum phenomena and microelectronics. Contracts ranged from $500,000 to $3,000,000 over periods of performance between twelve and eighteen months. The companies are located across the country including TX, SC, MI, MA, CO and CA. This $15 million congressional add was executed in Project Code P843 of this Program Element. ***FY 2023 Plans:*** As in FY 2022, NSIC will continue funding dual-use hardware startups developing products in autonomy, communications, power, sensors and space. Depending on the scope of the individual projects, NSIC will support up to ten companies with the $15,000,000 budgeted. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding re-aligned to new National Security Innovation Council (NSIC) Program Element 0603021D8Z to better align the funding to the mission.			
Accomplishments/Planned Programs Subtotals	-	15.213	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*	**Project (Number/Name)** 844 / *National Security Innovation Capital*

	FY 2022	FY 2023
Congressional Add: Long Duration Energy Storage, including Lithium Batteries (also known as Jumpstart for Advanced Battery Standarization) ***FY 2022 Accomplishments:*** DIU is rapidly prototyping and will deploy Battery Energy Storage Systems (BESS) to increase the resiliency of DoD power systems. Current BESS (or generators) support resiliency up to 4 to 8 hours. By using various chemistries and configurations from commercial BESS solutions, DIU will prototype solutions with up to 100 hours of battery storage. This will increase the resiliency and readiness of multiple DoD installations that directly support military operations.	5.000	-
Congressional Adds Subtotals	5.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

NSIC primarily utilizes Title 10 U.S. Code § 2371b Other Transactions Authority to prototype projects to further develop dual-use, hardware-based technologies that are critical to the military through the Commercial Acceleration Opportunity (CAO) process.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604341D8Z / *DIU Prototyping*	Project (Number/Name) 844 / *National Security Innovation Capital*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NSIC	C/TBD	Various : Various	0.000	5.000	Mar 2022	15.213	Mar 2023	-		-		-	Continuing	Continuing	-
		Subtotal	0.000	5.000		15.213		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.000		15.213		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*	**Project (Number/Name)** 844 / *National Security Innovation Capital*

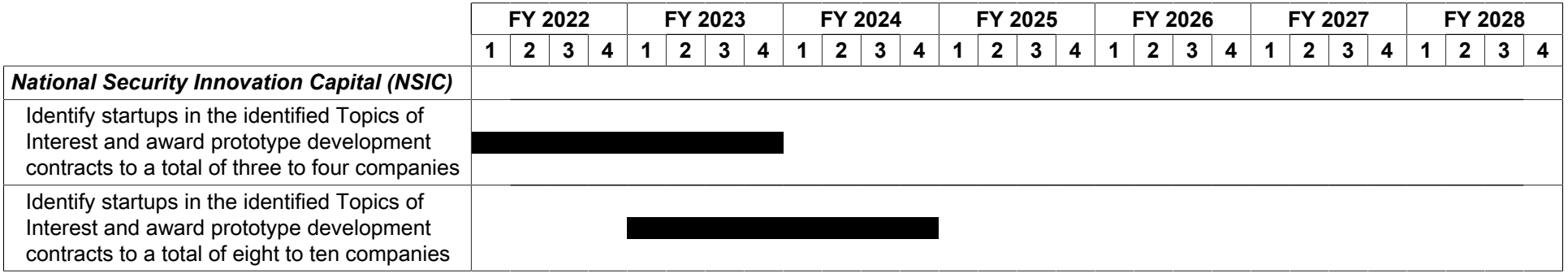

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604341D8Z / *DIU Prototyping*	**Project (Number/Name)** 844 / *National Security Innovation Capital*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
National Security Innovation Capital (NSIC)				
Identify startups in the identified Topics of Interest and award prototype development contracts to a total of three to four companies	1	2022	4	2023
Identify startups in the identified Topics of Interest and award prototype development contracts to a total of eight to ten companies	1	2023	4	2024