

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense **Date:** March 2023

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 0603375D8Z I <i>Technology Innovation</i>
---	--

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	-	38.695	18.505	123.837	-	123.837	133.258	44.041	44.961	45.941	Continuing	Continuing
<i>375: Technology Innovation</i>	-	27.816	18.505	41.881	-	41.881	43.107	44.041	44.961	45.941	Continuing	Continuing
<i>376: Quantum Information Science Technology Innovation</i>	-	10.879	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	-
<i>377: Anomalous Incidents Research</i>	-	0.000	0.000	81.956	-	81.956	90.151	0.000	0.000	0.000	-	-

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Deter Strategic Attacks, Defend the Homeland, and Build a Resilient Joint Force and Defense Ecosystem.

In order to sustain technological superiority, the Department must take immediate advantage of the rapid evolution of emerging technologies that will be a source of battlefield advantage, when integrated with military systems and novel concepts of operation. This program focuses on rapidly moving these technologies to a TRL where they would then be ready to demonstrate in a prototyping or demonstration acceleration program to support warfighter needs. This funding is focused on supporting efforts within the Department's Critical Technology Areas that contribute to the broader joint mission needs.

The ability to react quickly to emerging technologies is critical to staying ahead of our adversaries. For example, from FY 2020- FY2022 this program was able to quickly take advantage of breakthroughs at DARPA in quantum technology and developed a project developing higher maturity prototypes for the Services to integrate into applications.

Leveraging these technologies from both defense and commercial sources, to include non-traditional sources such as startup companies, has the potential to rapidly address warfighter problem sets in areas where commercial innovation outstrips government investment in the same technology areas.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense **Date:** March 2023

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 0603375D8Z / <i>Technology Innovation</i>
---	--

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	39.761	109.535	42.618	-	42.618
Current President's Budget	38.695	18.505	123.837	-	123.837
Total Adjustments	-1.066	-91.030	81.219	-	81.219
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-56.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-35.030			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.059	-			
• Program Adjustments	-0.007	-	81.219	-	81.219

Change Summary Explanation

FY 2023 Appropriation included reduction of \$56.000 million for inadequate justification, and directed the realignment of \$35.030 million to line 46A, Defense Innovation Acceleration.

The FY 2023 reduction of \$91.030 million is comprised of a congressional directed realignment of \$35.030 million to line 46A, Defense Innovation Acceleration and an inadequate justification reduction of \$56.000 million.

The FY 2024 increase of \$81.219 million is comprised of a realignment of \$0.927 million to support the Historically Black Colleges and Universities/Minority Serving Institutions program, which is a priority of the Under Secretary of Defense for Research and Engineering (USD(R&E)), \$0.045 million to support departmental priorities, an economic assumption increase of \$0.235 million and an increase of \$81.956 million for support to the National Security Council-led efforts to understand the biological and physical mechanisms that may relate to emerging Anomalous Health Incidents affecting DoD and other U.S. Government personnel.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense										Date: March 2023		
Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603375D8Z / <i>Technology Innovation</i>				Project (Number/Name) 375 / <i>Technology Innovation</i>			
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
375: <i>Technology Innovation</i>	-	27.816	18.505	41.881	-	41.881	43.107	44.041	44.961	45.941	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Tech Innovation program focuses on rapid innovation and demonstration efforts to address priority warfighter problem sets and National Defense Strategy focus areas. The current effort is focused on development of atomic clocks and biotechnology to accelerate progress along these two DoD Modernization priority roadmaps. Combatant Commanders and the Intelligence Community (IC) continue to receive signals that adversaries are looking to deny access to Global Positioning System (GPS) time as a capability disrupt the common networked tactical picture. Under this program, commercial companies will mature DARPA's investment in innovative atomic clocks with tri-service technical oversight, creating a prototype Next Generation Atomic Clock (NGAC) for commercial production. This program will also demonstrate emerging biotechnology advancements to stimulate additional investment in biotechnology that can address DoD needs. The anomalous health incidents (AHI) program focuses on research and development to determine the cause of AHI affecting government personnel at locations around the world. The National Security Council led efforts include multi-Service/multi-Agency Laboratory collaboration to assess bioeffects and causes of AHI.

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

	FY 2022	FY 2023	FY 2024
Title: Technology Innovation	27.816	-	41.881
Description: The program focuses rapid innovation and demonstration in emerging defense and commercial technology areas to address the National Defense Strategy technology focus areas and priority warfighter problem sets. Prior year projects included funding of promising commercial advanced technology demonstration projects in the areas of biotechnology, quantum science, fully networked command, control, and communications, and space.			
FY 2024 Plans: Final NGAC design and critical design review will take place in FY 2024. Build of the prototype clock will commence thereafter.			
Demonstration of five biotechnology efforts started in FY 2023, including demonstration of biomagnets for low detectability of RF materials, Synbio food production at the point-of-need, biological automated collector/detector for expeditionary reconnaissance, probiotics for warfighter fatigue mitigation and biomanufacturing of synthetic proteins for non-lethal weapon applications. The program will also evaluate and select the next proposals for FY 2025 biotechnology projects.			
FY 2023 to FY 2024 Increase/Decrease Statement: The increase from FY 2023 to FY 2024 represents the realignment of the Next Generation Atomic Clock (NGAC) and Biotechnology Optimized for Operational Solutions and Tactics (BOOST) programs from the Defense Innovation Acceleration Program Element 0603838D8Z along with increased technology costs to meet emerging technologies selected to address high priority National Defense warfighter problems.			
Title: Anomalous Health Incidents (AHI)	0.000	18.505	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
--	-------------------------

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603375D8Z / <i>Technology Innovation</i>	Project (Number/Name) 375 / <i>Technology Innovation</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>Description: The National Security Council led multi-Service/multi-Agency Laboratory collaboration will conduct research and development to determine the cause of AHI, in-depth bioeffects, and countermeasures. Will be executed out of P377, changes will be reflected in R-docs and Hyperion once Hyperion reopens.</p> <p>FY 2023 Plans: Initiate R&D efforts to support the DoD aspects of the National Security Council-led efforts to understand the biological and physical mechanisms that may relate to emerging Anomalous Health Incidents affecting DoD and other U.S. Government personnel.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding has been re-aligned to Project Code 377 beginning in FY 2024.</p>			
Accomplishments/Planned Programs Subtotals	27.816	18.505	41.881

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

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense **Date:** March 2023

Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603375D8Z / <i>Technology Innovation</i>	Project (Number/Name) 376 / <i>Quantum Information Science Technology Innovation</i>
--	--	--

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
<i>376: Quantum Information Science Technology Innovation</i>	-	10.879	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Department of Defense (DoD) has pioneered and advanced quantum information science (QIS) for nearly thirty years. In order to sustain technological superiority, the Department must continue to proactively engage in QIS research and development in timing, sensing, computing, and networking applications.

Leveraging innovative technologies from both defense and commercial sources, to include non-traditional sources such as startup companies, has the potential to rapidly advance this field to address warfighter problem sets. This funding will be used to demonstrate and mature emerging QIS technologies.

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

	FY 2022	FY 2023	FY 2024
Title: Quantum Information Science Technology Innovation	10.879	-	-
Accomplishments/Planned Programs Subtotals	10.879	-	-

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

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense **Date:** March 2023

Appropriation/Budget Activity 0400 / 3					R-1 Program Element (Number/Name) PE 0603375D8Z / <i>Technology Innovation</i>				Project (Number/Name) 377 / <i>Anomalous Incidents Research</i>			
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
<i>377: Anomalous Incidents Research</i>	-	0.000	0.000	81.956	-	81.956	90.151	0.000	0.000	0.000	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The program focuses on research and development to determine the cause of anomalous health incidents (AHI) affecting government personnel at locations around the world. The National Security Council led efforts include multi-Service/multi-Agency Laboratory collaboration to assess bioeffects and causes of AHI.

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

	FY 2022	FY 2023	FY 2024
Title: AHI	-	-	81.956
Description: The National Security Council led multi-Service/multi-Agency Laboratory collaboration will conduct research and development to determine the cause of AHI, in-depth bioeffects, and countermeasures.			
FY 2024 Plans: Continue multi-Agency/multi-Laboratory efforts to determine the cause of AHI with additional bioeffects testing and development of countermeasures.			
FY 2023 to FY 2024 Increase/Decrease Statement: The increase of \$81.956 million from FY 2023 to FY 2024 is due to a transfer from project 375 and represents reprogramming of the National Security Council goals established for research and development investigating the causes and effects of AHI and is an essential element of the overall strategy established by the National Security Council to connect other activities within the DOD to work on AHI issues.			
Accomplishments/Planned Programs Subtotals	-	-	81.956

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

N/A

Remarks

D. Acquisition Strategy

N/A