Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Office of the Secretary Of Defense	Date: March 2024
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603183D8Z / *Joint Hypersonic Technology Development & Transition*

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	65.706	52.292	51.941	-	51.941	52.004	55.047	55.102	56.205	Continuing	Continuing
066: *Joint Hypersonic Transition Office (JHTO)*	-	65.706	52.292	51.941	-	51.941	52.004	55.047	55.102	56.205	Continuing	Continuing

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

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

The Joint Hypersonics Transition Office (JHTO), within the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)), was created to establish a university consortium for hypersonics research; support workforce development; expedite testing, evaluation, and acquisition of hypersonic technologies to meet the stated needs of the warfighter, including flight testing, ground-based-testing, and underwater launch testing; ensure that prototyping demonstration programs on hypersonic systems integrate advanced technologies to speed the maturation and deployment of future hypersonic systems; develop strategies and roadmaps for hypersonic technologies to enable the transition of such technologies to future operational capabilities for the warfighter; and, develop and implement a strategy for enhancing the current and future hypersonics workforce.

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	60.156	52.292	52.360	0.000	52.360
Current President's Budget	65.706	52.292	51.941	0.000	51.941
Total Adjustments	5.550	0.000	-0.419	0.000	-0.419
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	7.049	-			
• SBIR/STTR Transfer	-1.493	-			
• Program Adjustments	-0.006	-	-0.524	-	-0.524
• Economic Assumptions	-	-	0.105	-	0.105

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2023	FY 2024
Project: 066: *Joint Hypersonic Transition Office (JHTO)*		

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Office of the Secretary Of Defense	Date: March 2024
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603183D8Z *I Joint Hypersonic Technology Development & Transition*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2023	FY 2024
Congressional Add: *Program Increase*	3.000	-
Congressional Add: *University Research*	5.000	-
Congressional Add Subtotals for Project: 066	8.000	-
Congressional Add Totals for all Projects	8.000	-

Change Summary Explanation

A reduction of $ 0.524 million in FY 2025 was applied to meet DoD overall funding reductions, which were spread to mitigate impact. Funding increase of $0.105 million in FY 2025 for Economic Assumptions.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Office of the Secretary Of Defense			Date: March 2024
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603183D8Z / *Joint Hypersonic Technology Development & Transition*	Project (Number/Name) 066 / *Joint Hypersonic Transition Office (JHTO)*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
066: *Joint Hypersonic Transition Office (JHTO)*	-	65.706	52.292	51.941	-	51.941	52.004	55.047	55.102	56.205	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

The Joint Hypersonics Transition Office (JHTO), within the Office of the Under Secretary of Defense for Research and Engineering (OUSD(R&E)), was created to establish a university consortium for hypersonics research and support workforce development; expedite testing, evaluation, and acquisition of hypersonic technologies to meet the stated needs of the warfighter, including flight testing, ground-based-testing, and underwater launch testing; ensure that prototyping demonstration programs on hypersonic systems integrate advanced technologies to speed the maturation and deployment of future hypersonic systems; develop strategies and roadmaps for hypersonic technologies to enable the transition of such technologies to future operational capabilities for the warfighter; and develop and implement a strategy for enhancing the current and future hypersonics workforce.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: University Consortium for Applied Hypersonics (UCAH)	28.333	27.823	27.107
Description: The Joint Hypersonics Transition Office (JHTO) established the University Consortium for Applied Hypersonics and plans to solicit research projects through the Consortium that address priorities and gaps identified by the JHTO Hypersonics Science and Technology (S&T) Roadmap, focusing on workforce development, applied research and advanced technology development related to the hypersonics mission. To facilitate development of the next generation hypersonics workforce, the JHTO intends to leverage the Consortium to award scholarships to graduate students who are focusing on key hypersonic development areas. Additionally, the Consortium will host Consortium Industry Days, Project Industry Days, and participate in career/internship fairs to cross-level information and enhance workforce development.			
FY 2024 Plans: FY 2024 base plans for the UCAH are a continuation of the path identified for FY 2023, to include continued execution of research projects through the Consortium with the planned expansion of scope of the projects to further address priorities and gaps identified by the JHTO Hypersonics Science and Technology (S&T) Roadmap.			
FY 2025 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Office of the Secretary Of Defense		Date: March 2024
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603183D8Z / *Joint Hypersonic Technology Development & Transition*	**Project (Number/Name)** 066 / *Joint Hypersonic Transition Office (JHTO)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
FY 2025 base plans for the UCAH are a continuation of the path identified in the S&T roadmap for FY 2024. UCAH will continue to execute research projects through the Consortium; in addition, the scope of the projects will be increased to focus more on workforce development and applied research as identified by the S&T roadmap. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** The decrease of $0.556 million between FY 2024 and FY 2025 supports the planned scope of projects within the Consortium. A decrease of $ 0.210 million in FY 2025 was applied to meet DoD overall funding reductions, which were spread to mitigate impact. Funding increase of $0.050 million in FY 2025 for Economic Assumptions.			
Title: Navigation, Guidance and Controls (NGC) Science and Technology (S&T) Development ***Description:*** In alignment with the jointly-developed Hypersonics Science and Technology (S&T) Roadmap, the Joint Hypersonics Transition Office (JHTO) funds NGC S&T projects to improve the operational capabilities of both offensive and defensive hypersonic systems. These projects focus on navigation in contested environments, on-vehicle trajectory generation, communications risk reduction, guidance electronics, and conformal antenna development. Additional details regarding these projects are sensitive and/or classified and can be be provided upon request. ***FY 2024 Plans:*** Continue activities from FY 2023. Additional details regarding FY 2024 NGC projects are sensitive and/or classified. ***FY 2025 Plans:*** Continue activities from FY 2024. Additional details regarding FY 2025 NGC projects are sensitive and/or classified. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** The increase of $0.010 million between FY 2024 and FY 2025 reflects minor budget fluctuations. Funding increase of $0.055 million in FY 2025 for Economic Assumptions.	10.367	4.721	4.786
Title: Propulsion Science and Technology (S&T) Development ***Description:*** In alignment with the jointly-developed Hypersonics S&T Roadmap, the Joint Hypersonics Transition Office (JHTO) funds propulsion S&T projects designed to enhance propulsion capabilities for both offensive and defensive hypersonic systems. These efforts will close critical gaps in the development of hypersonic cruise missiles and enhance range and/or payload capacity of boost-glide systems. Focus areas for these projects include solid rocket motor component technologies, expanding the operating envelope of Dual-Mode Ramjet/Scramjet propulsion systems, developing new actuator technologies for axial thrusters, and establishing a proof-of-principle for an improved endothermic fuel for hypersonic applications. Additional details regarding these projects are sensitive and/or classified and can be provided upon request. ***FY 2024 Plans:***	3.317	3.004	3.104

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Continue activities from FY 2023. Additional details regarding FY 2024 propulsion projects are sensitive and/or classified. ***FY 2025 Plans:*** Continue activities from FY 2024. Additional details regarding FY 2025 propulsion projects are sensitive and/or classified. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** The increase of $0.100 million between FY 2024 and FY 2025 reflects minor budget fluctuations.			
Title: Systems Engineering, Design and Analysis (SEDA) Science and Technology (S&T) Development ***Description:*** In alignment with the Hypersonics S&T Roadmap continue to improve the modeling and prediction of hypersonic vehicle plumes, wakes, and signatures in addition to providing performance baselines for offensive and defensive systems. Additional details regarding SEDA projects are sensitive and/or classified. ***FY 2024 Plans:*** Continue activities from FY 2023. Additional details regarding FY 2024 SEDA projects are sensitive and/or classified. ***FY 2025 Plans:*** Continue activities from FY 2024. Additional details regarding FY 2025 SEDA projects are sensitive and/or classified. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** The increase of $0.036 million between FY 2024 and FY 2025 reflects minor budget fluctuations.	1.817	1.796	1.832
Title: Materials, Structures and Manufacturing (MSM) Science and Technology (S&T) Development ***Description:*** In alignment with the jointly-developed Hypersonics S&T Roadmap, the Joint Hypersonic Transition Office (JHTO) funds MSM S&T projects essential to develop new high-temperature materials for hypersonic applications and to design more efficient and effective manufacturing methods for hypersonic structural components. Specific projects seek to characterize alternative ceramic matrix composites for hypersonics, improve the ability to produce multi-phase monolithic ceramic dielectric materials, test and characterize the performance of leading edge coatings, and improve manufacturing processes to build cruiser fins. Additional details regarding these projects are sensitive and/or classified and can be provided upon request. ***FY 2024 Plans:*** Continue activities from FY 2023. Additional details regarding FY 2024 MSM projects are sensitive and/or classified. ***FY 2025 Plans:*** Continue activities from FY 2024. Additional details regarding FY 2025 MSM projects are sensitive and/or classified. ***FY 2024 to FY 2025 Increase/Decrease Statement:***	1.817	1.546	1.577

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
The increase of $0.031 million between FY 2024 and FY 2025 represents minor budget fluctuations.			
Title: Ordnance Science and Technology (S&T) Development ***Description:*** In alignment with the jointly-developed Hypersonics S&T Roadmap, the Joint Hypersonics Transition Office (JHTO) funds ordnance S&T projects to better understand hypersonic ordnance effects and improve those effects across a broad range of target sets. Projects will develop and demonstrate a survivable fuze system designed to function under extreme hypersonic terminal conditions, model shock loads associated with a multi-mission warhead, and conduct high-fidelity modeling to analyze and optimize the effects of hypersonic munitions. Additional details regarding these projects are sensitive and/or classified. ***FY 2024 Plans:*** Continue activities from FY 2023. Additional details regarding FY 2024 Ordinance projects are sensitive and/or classified. ***FY 2025 Plans:*** Continue activities from FY 2024. Additional details regarding FY 2025 Ordinance projects are sensitive and/or classified. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** The increase of $0.095 million between FY 2024 and FY 2025 represents minor budget fluctuations. A decrease of $ 0.020 million in FY 2025 was applied to meet DoD overall funding reductions, which were spread to mitigate impact.	4.353	4.760	4.645
Title: Aerodynamics and Aerothermodynamics Science and Technology (S&T) Development ***Description:*** In alignment with the jointly-developed Hypersonics S&T Roadmap, the Joint Hypersonics Transition Office (JHTO) funds aerodynamics and aerothermal S&T projects to enhance aero optics modeling and simulation testing. This project seeks to increase the fidelity of infrared aero optics modeling and simulation data while driving down man-hours through creation/validation of a more useful and collaborative collection format. Additional details are sensitive and/or classified. ***FY 2024 Plans:*** Continue activities from FY 2023. Additional details regarding FY 2024 aerodynamics and aerothermal projects are sensitive and/or classified. ***FY 2025 Plans:*** Continue activities from FY 2024. Additional details regarding FY 2025 aerodynamics and aerothermal projects are sensitive and/or classified. ***FY 2024 to FY 2025 Increase/Decrease Statement:***	3.017	3.957	4.036

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
The increase of $0.079 million between FY 2024 and FY 2025 reflects minor fluctuations.			
Title: Joint Hypersonics Transition Office (JHTO) Systems Engineering Field Activity at Naval Surface Warfare Center Crane Division (NSWC Crane) ***Description:*** Supports systems engineering and integration for hypersonics development to generate efficiencies and facilitate technology transition. Support will include coordinating with systems engineering teams across the Services and programs; negotiating more modular Government Reference Architectures to support individual programs; define and execute system on-ramping plans, and guide accelerated development plans. Additionally, the activity will represent the Joint Hypersonics Transition Office (JHTO) as a technical execution area co-lead for workforce development. ***FY 2024 Plans:*** Continue cross-service systems engineering, technology transition, and workforce development initiatives. ***FY 2025 Plans:*** Continue cross-service systems engineering, technology transition, and workforce development initiatives. Continue to develop and transition advanced technologies to services and agencies; Performers in services/agencies, FFRDCs, and industry. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** The increase of $0.273 million between FY 2024 and FY 2025 reflects an increase in support of cross-service systems engineering, technology transition, finance and workforce development areas. A decrease of $ 0.104 million in FY 2025 was applied to meet DoD overall funding reductions, which were spread to mitigate impact.	4.685	4.685	4.854
Accomplishments/Planned Programs Subtotals	57.706	52.292	51.941

	FY 2023	FY 2024
Congressional Add: Program Increase ***FY 2023 Accomplishments:*** Gather multi-fidelity data and data analysis for future demonstration projects, validate, and refine surrogate applications.	3.000	-
Congressional Add: University Research ***FY 2023 Accomplishments:*** Use existing digital tools to design, validate, and test existing surrogate applications with a reduction in time to design, provide a case study for the application for model-	5.000	-

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	FY 2023	FY 2024
based engineering, and reduce the time to modeling and simulation at all levels of fidelity.		
Congressional Adds Subtotals	8.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A