

UNCLASSIFIED

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

Appropriation/Budget Activity 0400: Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 Program Element (Number/Name) PE 0604400D8Z I Department of Defense (DoD) Unmanned Systems Common Development
---	---

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	87.959	6.825	7.762	2.691	-	2.691	2.694	2.718	2.709	2.687	-	-
440: UAS Airspace Integration	50.619	4.538	0.822	0.807	-	0.807	0.809	0.815	0.813	0.806	-	-
442: Interoperability	33.442	1.830	6.641	1.621	-	1.621	1.643	1.658	1.652	1.639	-	-
443: Unmanned Systems Roadmap	3.898	0.457	0.299	0.263	-	0.263	0.242	0.245	0.244	0.242	-	-

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Deter Aggression, and Build Sustainable and Long-Term Advantage.

The Department of Defense (DoD) Unmanned Systems (UxS) Common Development program is a joint effort to develop and demonstrate common standards, architectures, and technologies that address unmanned systems' issues across all domains and all Military Services. The intent is to increase interoperability and effectiveness by promoting cooperative development of solutions that are applicable across all unmanned systems. This effort initially focused on addressing the DoD unmanned aircraft systems (UAS), to include integration into the National Airspace System (NAS) and a common, interoperable ground station architecture and associated interface standards. While UAS initially was the primary focus, interoperability among all unmanned and manned systems is the long-term goal.

B. Program Change Summary (\$ in Millions)

	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>
Previous President's Budget	7.085	2.778	0.000	-	0.000
Current President's Budget	6.825	7.762	2.691	-	2.691
Total Adjustments	-0.260	4.984	2.691	-	2.691
• Congressional General Reductions	-	-0.016			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.260	-			
• Adjustments to Budget Year	-	-	2.691	-	2.691

Change Summary Explanation

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

UNCLASSIFIED

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 440 / UAS Airspace Integration
--	---	--

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
440: UAS Airspace Integration	50.619	4.538	0.822	0.807	-	0.807	0.809	0.815	0.813	0.806	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

The focus is on safe and secure integration into the National Airspace, which includes Ground Based Sense and Avoid (GBSAA), Airborne Based Sense and Avoid (ABSAA), and Unmanned Traffic Management interoperability and standards.

A. Mission Description and Budget Item Justification

Global Hawk and Triton, as well as other Group 3-5 UAS, require a sense-and-avoid (SAA) capability as an alternate means of compliance to Title 14 Code of Federal Regulations, Part 91.111 and Part 91.113, requirement to see and avoid other aircraft. The Air Force is leading the effort to develop an ABSAA system that is suitable to support operations within U.S. and foreign airspace. The RQ-4 Global Hawk, MQ-4C Triton, MQ-1B Predator, MQ-1C Gray Eagle, and MQ-9 Reaper all have a requirement for SAA capability and will leverage the technology being developed by the Air Force. The Army is leading the development of a GBSAA system to provide a solution for improved airspace access in terminal operations as well as operations/training within the GBSAA system's coverage area (e.g., Gray Eagle at Fort Hood and RQ-21 Blackjack operations at Cherry Point). This system provides a near-term solution and is an integral part of the long-term permanent solution. Long-term GBSAA systems and UAS Traffic Management (UTM) architectures, operating concepts, standards and technology are being developed to allow DoD, commercial, and privately manned and Group 1-5 Unmanned Aircraft to operate safely and effectively in the national airspace. The change in airspace procedures, airspace de-confliction, and Traffic Management requires new processes and procedures for safe and secure national airspace access.

This joint funding also supports development of common operating concepts, policy, standards, modeling and simulation, and technology to enable DoD UAS to routinely access the national and international airspace systems.

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

	FY 2021	FY 2022	FY 2023
Title: Unmanned Aircraft System Airspace Integration Initiatives	4.538	0.822	0.807
Description: Starting in FY 2010, the Department's sense and avoid (SAA) developmental efforts are enhanced by this defense-wide program element. This program has provided joint funding to accelerate the development of SAA technology and standards to enable UAS to routinely access the national and international airspace systems. This program also supports development of UAS airspace integration policy and standards as well as the modeling, simulation, and operational analysis needed to validate the standards. In FY 2013, ABSAA and GBSAA efforts transitioned to the Services.			
FY 2022 Plans:			

UNCLASSIFIED

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 440 / UAS Airspace Integration
--	---	--

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>-Develop policy and architectures that support the operation of the DoD and interagency Group 1-5 UAS systems in the National Airspace System (NAS) safely by developing a UTM system, Ground-Base Sense and Avoid, and Airbourne Sense and Avoid architectures.</p> <p>-Investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the national airspace with a focus on Groups 1-2 UAS by limiting Cyber security vulnerabilities.</p> <p>- Evaluate and validate identified best-candidate solutions for low size, weight, power and cost technology supporting military UAS operations in national, international and foreign national airspace with improved cyber security controls.</p> <p>- Develop quantitative safety assessment approaches that support unmanned systems operations to support emerging the DoD needs and inform rulemaking with the interagency.</p> <p>- Provide formal recommendations for safe separation standards and techniques that enable low-altitude military UAS to remain clear of other aircraft.</p> <p>- Engage in the FAA to advance the DoD UAS and Counter UAS airspace integration. Investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the national airspace.</p> <p>FY 2023 Plans:</p> <p>-Continue to develop policy and architectures that support the operation of the DoD and interagency Group 1-5 UAS systems in the National Airspace System (NAS) safely by developing a UTM system, Ground-Base Sense and Avoid, and Airbourne Sense and Avoid architectures.</p> <p>- Continue to investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the national airspace with a focus on Groups 1-2 UAS by limiting Cyber security vulnerabilities.</p> <p>- Continue to evaluate and validate identified best-candidate solutions for low size, weight, power and cost technology supporting military sUAS operations in national, international and foreign national airspace with improved cyber security controls.</p> <p>- Continue to develop quantitative safety assessment approaches that support unmanned systems operations to support emerging DoD needs and inform rulemaking with the interagency.</p>			

UNCLASSIFIED

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 440 / UAS Airspace Integration
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>-Continue to provide formal recommendations for safe separation standards and techniques that enable low-altitude military UAS to remain clear of other aircraft.</p> <p>- Continue to engage the FAA to advance DoD UAS and Counter UAS airspace integration. Investigate and draft Cyber security concept of operations for Manned and Unmanned Aircraft Systems operating in the national airspace.</p> <p><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> There is no significant change between FY 2022 and FY 2023.</p>			
Accomplishments/Planned Programs Subtotals	4.538	0.822	0.807

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

Remarks

D. Acquisition Strategy
N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 440 / UAS Airspace Integration
--	--	--

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GBSAA	MIPR	USAF A3 AFLCMC/ HBAG (VOLPE/ MITRE) : AFLCMC/ HBAG	34.652	3.341		0.041		-		-		-	-	-	-
DoD UTM	MIPR	NASA : Ames Research California	4.522	0.996		0.534		0.578		-		0.578	-	-	-
National Guard GBSAA	MIPR	Army PM UAS : Army Redstone, Alabama	5.863	-		-		-		-		-	-	-	-
DoD UxS adn C-UxS Architecture and Standards	MIPR	USAF/ARMY/ NAVY/NASA : Labs - California, NY, Alabama	2.371	0.000		-		-		-		-	-	-	-
Subtotal			47.408	4.337		0.575		0.578		-		0.578	-	-	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
USAF - A3 PBFA Support	Option/ LH	USAF A3 AFLCMC/ HBAG : AFLCMC/ HBAG	3.211	0.201		0.247		0.229		-		0.229	-	-	-
Subtotal			3.211	0.201		0.247		0.229		-		0.229	-	-	N/A

Remarks

NA

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	50.619	4.538	0.822	0.807	-	0.807	-	-	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Office of the Secretary Of Defense	Date: April 2022
---	-------------------------

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 440 / UAS Airspace Integration
--	--	--

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
--	--------------------	----------------	----------------	---------------------	--------------------	----------------------	-------------------------	-------------------	---------------------------------

Remarks
NA

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Office of the Secretary Of Defense		Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 440 / UAS Airspace Integration

FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

UAS Airspace Integration	
GBSAA Development and Integration	
Unmanned Traffic Management	
UAS Integration NAS support	

FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

UAS Airspace Integration	
GBSAA Development and Integration	
Unmanned Traffic Management	
UAS Integration NAS support	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Office of the Secretary Of Defense		Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 440 / UAS Airspace Integration

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>UAS Airspace Integration</i>				
GBSAA Development and Integration	1	2018	4	2022
Unmanned Traffic Management	2	2018	4	2022
UAS Integration NAS support	1	2018	4	2024

UNCLASSIFIED

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 442 / Interoperability
--	--	--

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
442: Interoperability	33.442	1.830	6.641	1.621	-	1.621	1.643	1.658	1.652	1.639	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Interoperability project will develop and demonstrate an interoperable, standards-based, open architecture solution for cross-domain (air, ground, maritime) unmanned systems. The intent is to improve joint and coalition interoperability and promote competition through the implementation of open standards and open architectures.

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

	FY 2021	FY 2022	FY 2023
Title: Interoperability	1.830	6.641	1.621
Description: Develop and demonstrate an interoperable, standards-based, open ground station architecture for cross-domain (air, ground, maritime) unmanned systems; improve joint and coalition interoperability; and promote competition through the implementation of open standards and open architectures.			
FY 2022 Plans:			
- Develop a UAS Architecture for Small Unmanned Systems.			
- Validate Autonomous Safety Precepts for Unmanned Systems.			
- Improve cybersecurity and communication links of UxS.			
- Integrate Cyber Security Policies and Standards into UxS Architectures.			
- Develop Safety standards and policy for Unmanned and Autonomous systems that will allow for the incorporation of AI.			
- Support for Unmanned Systems Interoperability and Integration workshop/technical exchange meeting.			
- Develop and Unmanned system autonomous test and Evaluation standards and architectures using modeling and simulation.			
-Investigate a Cyber secure solution for integrating Artificial Intelligent systems into Unmanned Systems.			

UNCLASSIFIED

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 442 / Interoperability
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p>- Maintain the Joint Robotics and Autonomous Systems Enterprise by maintaining DoD directed Interoperability standards across the service for all robotic and autonomous systems.</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Continue to develop a UAS Architecture for Small Unmanned Systems. - Continue to validate Autonomous Safety Precepts for Unmanned Systems. - Continue to improve cybersecurity and communication links of UxS. - Continue to integrate Cyber Security Policies and Standards into UxS Architectures. - Continue to develop Safety standards and policy for Unmanned and Autonomous systems that will allow for the incorporation of AI. - Continue support for Unmanned Systems Interoperability and Integration workshop/technical exchange meeting. - Continue to develop and Unmanned system autonomous test and Evaluation standards and architectures using modeling and simulation. -Continue to investigate a Cyber secure solution for integrating Artificial Intelligent systems into Unmanned Systems. - Continue to maintain the Joint Robotics and Autonomous Systems Enterprise by maintaining DoD directed Interoperability standards across the service for all robotic and autonomous systems. <p>FY 2022 to FY 2023 Increase/Decrease Statement: The significant increase from FY22 to FY23 is the congressional add in the amount of \$4.95M.</p>			
Accomplishments/Planned Programs Subtotals	1.830	6.641	1.621

C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Office of the Secretary Of Defense		Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / <i>Department of Defense (DoD) Unmanned Systems Common Development</i>	Project (Number/Name) 442 / <i>Interoperability</i>

D. Acquisition Strategy
N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 442 / Interoperability
--	--	--

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
UxS Interoperability and Architecture Development	MIPR	Labs, Warfare Centers, and DoD components and support : DoD Labs, Warfare Center, DoD and support service	33.442	1.830		6.641		1.621		-		1.621	-	-	-
Subtotal			33.442	1.830		6.641		1.621		-		1.621	-	-	N/A

Remarks
NA

Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	33.442	1.830	6.641	1.621	-	1.621	-	-	N/A

Remarks
NA

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 442 / Interoperability
--	--	--

FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

UxS Interoperability and Architecture Development	
Interoperability and Open Architecture	
UxS Safety	
UxS Development	

FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

UxS Interoperability and Architecture Development	
Interoperability and Open Architecture	
UxS Safety	
UxS Development	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Office of the Secretary Of Defense		Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 442 / Interoperability

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>UxS Interoperability and Architecture Development</i>				
Interoperability and Open Architecture	1	2018	4	2024
UxS Safety	2	2018	4	2024
UxS Development	1	2018	4	2024

UNCLASSIFIED

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 443 / Unmanned Systems Roadmap
--	---	--

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
443: Unmanned Systems Roadmap	3.898	0.457	0.299	0.263	-	0.263	0.242	0.245	0.244	0.242	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This effort supports the Department's Unmanned Systems Integrated Roadmap and updates. The roadmap provides a DoD vision for the continuing development, fielding, and employment of unmanned systems technologies; establishes the current state of unmanned systems in today's force; and outlines a strategy to address common challenges to achieve the shared vision across all unmanned domains (air, ground, and maritime).

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

	FY 2021	FY 2022	FY 2023
Title: Unmanned Systems Roadmap	0.457	0.299	0.263
<p>Description: Develops, Drafts, and Produces the Department's Unmanned Systems Integrated Roadmap. Maintains policy, standards, and interoperability of Robotic and Autonomous systems across all domains.</p> <p>FY 2020 Accomplishments:</p> <ul style="list-style-type: none"> -Established the Joint Robotics and Autonomous Systems Enterprise to further the interoperability operations. -Drafted and Staffed a completed the DoD UxS Safety issuance for Robotics and Autonomous Systems. -Analyzed the FY 2017 UxS roadmap for improved integration across the services. <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> - Update the FY 2021 Unmanned Systems Integrated Roadmap and establish the Joint Robotics and Autonomous Systems standards, policies, and interoperability requirements. - Update the Department's Unmanned Systems Integrated Roadmap and perform related studies supporting the Department's vision for unmanned systems. - Continue to integrate feedback, responses, and new technology into the FY 2021 Roadmap. - Investigate changes to concept of operations with guidance provided by Department's vision for unmanned systems. <p>FY 2023 Plans:</p>			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2023 Office of the Secretary Of Defense		Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 443 / Unmanned Systems Roadmap

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
- Update Unmanned Systems Integrated Roadmap and establish the Joint Robotics and Autonomous Systems standards, policies, and interoperability requirements.			
- Continue Update the Department's Unmanned Systems Integrated Roadmap and perform related studies supporting the Department's vision for unmanned systems.			
- Continue to integrate feedback, responses, and new technology into the Roadmap.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> There is no significant change between FY 2022 and FY 2023.			
Accomplishments/Planned Programs Subtotals	0.457	0.299	0.263

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

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 443 / Unmanned Systems Roadmap
--	--	--

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Unmanned Systems Roadmap	C/LH	Army TARDEC Unmanned System Support services : Army TARDEC	3.898	0.457		0.299		0.263		-		0.263	-	-	-
Subtotal			3.898	0.457		0.299		0.263		-		0.263	-	-	N/A

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		3.898	0.457	0.299	0.263	-	0.263	-	-	N/A

Remarks
NA

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Office of the Secretary Of Defense		Date: April 2022
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 443 / Unmanned Systems Roadmap

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Unmanned Systems Roadmap Development																												
Unmanned Systems Roadmap Development																												

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Unmanned Systems Roadmap Development																												
Unmanned Systems Roadmap Development																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Office of the Secretary Of Defense **Date:** April 2022

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604400D8Z / Department of Defense (DoD) Unmanned Systems Common Development	Project (Number/Name) 443 / Unmanned Systems Roadmap
--	--	--

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Unmanned Systems Roadmap Development</i>				
Unmanned Systems Roadmap Development	2	2018	4	2024