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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration
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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	-	-	33.386	14.892	-	14.892	15.190	15.069	17.539	12.077	0.000	108.153
CQ7: C-sUAS Joint New Capabilities	-	-	27.698	8.726	-	8.726	9.405	9.541	12.008	6.548	0.000	73.926
CQ8: C-sUAS Joint Enabling Capabilities	-	-	5.688	6.166	-	6.166	5.785	5.528	5.531	5.529	0.000	34.227

A. Mission Description and Budget Item Justification

The Secretary of Defense (SecDef) designated the Secretary of the Army (SA) as the Department of Defense's (DoD) Executive Agent (EA) for Counter-small Unmanned Aircraft Systems (C-sUAS). The EA is tasked with leading, directing, and synchronizing DoD efforts to counter small Unmanned Aircraft System (sUAS) threats while minimizing unnecessary duplication and redundancy. The C-sUAS efforts are in response to the DoD Joint Requirements Oversight Council Memorandum (JROC-M) requirement for identification, development, testing, evaluation, and integration of technologies to defeat sUAS threats across the DoD. The C-sUAS efforts provide warfighters the ability to comprehensively detect, track, identify, and defeat enemy Group 1, 2 and 3 UAS platforms. The efforts will be joint development efforts to provide integrated solutions to meet the needs of the Military Services and DoD Agencies against emerging threats.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	0.000	33.386	0.000	-	0.000
Current President's Budget	0.000	33.386	14.892	-	14.892
Total Adjustments	0.000	0.000	14.892	-	14.892
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	14.892	-	14.892

Change Summary Explanation

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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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration				Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities			
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
CQ7: C-sUAS Joint New Capabilities	-	-	27.698	8.726	-	8.726	9.405	9.541	12.008	6.548	0.000	73.926
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Counter- small Unmanned Aircraft Systems (C-sUAS) new joint capability efforts develop new technologies and programs to enable joint acquisition programs to counter Groups 1-3 s UAS threats. These developments are aligned with the Joint Requirements Oversight Council Memorandum 078-20 Operational Requirements. Joint solutions will address Fixed Site / Semi-Fixed Site, Mobile, and Dismounted required by the Joint Forces. Efforts include development, test and evaluation, and integration sufficient for transition to fieldable capabilities.

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

	FY 2021	FY 2022	FY 2023
<p>Title: Counter-small Unmanned Aircraft Development Defeat</p> <p>Description: Development, integration, and test of new technologies to defeat sUAS.</p> <p>FY 2022 Plans: Execute development, integration, and test of new technologies to defeat sUAS. Technologies such as Low Collateral Effectors, High Power Microwave technology, and other defeat mechanisms will be developed for transition into production.</p> <p>FY 2023 Plans: Continue the development, integration, and test of new technologies to defeat sUAS. Low Collateral Effects Interceptor (LCEI) Inc. 1 will complete development and testing to inform Service and DoD procurement of LCEI. USAF will begin concurrent development and testing of Increment 2 during this fiscal year. USAF is the Joint Service Lead and is responsible for ensuring production contracts are in place for DoD, Services, and OGAs for Increment 1 and later for Increment 2 into the existing C-sUAS layered defense solution.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY2023 decrease of \$13.299 million as multiple efforts are completing and final integration of Low Collateral Effects Interceptor Increment 1 into existing C-sUAS layered defense solutions.</p>	-	17.719	4.420
<p>Title: Counter-small Unmanned Aircraft Development Command and Control</p> <p>Description: Development, integration, and test of new technologies to improve command and control for C-sUAS.</p> <p>FY 2022 Plans:</p>	-	6.018	4.000

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / <i>Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration</i>	Project (Number/Name) CQ7 / <i>C-sUAS Joint New Capabilities</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
Development, integration and test of new technologies to reduce operator burden, increase situational awareness, automate/autonomy for decision making, and improve interoperability of C-sUAS system. FY 2023 Plans: Continue the development, integration and test of new technologies to reduce operator burden, increase situational awareness, automate/autonomy for decision making, and improve interoperability of C-sUAS system. High Level Data Fusion effort develops data products and standards for Data Fusion Architectures and transition to Services for use in C-sUAS C2 Systems and support ongoing assessments at the Fusion Integration and Evaluation Lab. Cross Domain Solution continues prototyping efforts, testing, and approval of the bi-directional cross domain solution. FY 2022 to FY 2023 Increase/Decrease Statement: FY2023 decrease of \$2.018 million required for Cross Domain Solution and High Level Data Fusion efforts.				
Title: Counter-small Unmanned Aircraft Development Detection and Identification Description: Development, integration, and test of new technologies to improve detection and identification of emerging C-sUAS threats. FY 2022 Plans: Development, integration and test of new technologies to detect and identify C-sUAS threats at greater distance and accuracy. FY 2023 Plans: C-sUAS Detection and Identification Enhancements efforts support the development, integration and test of emerging technologies to improve the detection and identification of current and future C-sUAS threats at greater distance and accuracy. FY 2022 to FY 2023 Increase/Decrease Statement: FY2023 decrease of \$2.644 million with the transition of Windtalker capability to Negation of Improvised Non-State Joint Aerial Threats (NINJA)		-	2.950	0.306
Title: FY22 SBIR/STTR FY 2022 Plans: Funding transferred in accordance with Title 15 USC ?638 FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC ?638		-	1.011	-
Accomplishments/Planned Programs Subtotals		-	27.698	8.726

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities

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

Remarks

D. Acquisition Strategy

The Joint C-sUAS new capability will address the Joint Requirements Oversight Council Memorandum (JROCM) 078-20 and be approved by the Department of Defense C-sUAS Executive Agent (EA) Governance. The C-sUAS EA Governance will approve the development efforts that meet identified gaps and the joint capability will be funded under this Program Element. The Joint Counter-sUAS Office will identify modifications to existing systems or identify new technologies within industry and Government S&T organization. Programs will leverage the flexibility of the Adaptive Acquisition Framework, and Service Acquisition Policies, and pursue a combination of acquisition pathways to deliver prototypes for evaluation and future decisions. Upon completion, Services will utilize a common procurement contract to meet the needs of the Military Services and DoD Agencies.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities
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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			
Low Collateral Effects Interceptor Development and Integration	TBD	Air Force Research Laboratory : Rome, NY	-	-		13.260		4.420		-		4.420	Continuing	Continuing	Continuing
High Power Microwave Development and Integration	TBD	Army Rapid Capabilities and Critical Technologies Office : Ft Belvoir, VA	-	-		1.089		-		-		-	Continuing	Continuing	Continuing
Windtalker Development and Integration	TBD	Air Force Research Laboratory : Rome, NY	-	-		2.968		-		-		-	Continuing	Continuing	Continuing
High Level Data Fusion	TBD	Naval Surface Warfare Center Crane : Crane, IN	-	-		3.000		1.000		-		1.000	Continuing	Continuing	Continuing
Cross Domain Solution	TBD	Naval Surface Warfare Center Crane : Crane, IN	-	-		2.000		3.000		-		3.000	Continuing	Continuing	Continuing
C-sUAS Detection and Identification Enhancements	TBD	Not Specified : Various	-	-		-		0.306		-		0.306	Continuing	Continuing	Continuing
FY22 SBIR/STTR	TBD	To Be Determined : To Be Determined	-	-		1.011		-		-		-	0.000	1.011	-
Subtotal			-	-		23.328		8.726		-		8.726	Continuing	Continuing	N/A

Test and Evaluation (\$ 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			
Low Collateral Effects Interceptor Capabilities and Limitations	TBD	Air Force Research Laboratory : Rome, NY	-	-		2.970		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities

Event Name	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
Low Collateral Effects Interceptor Integration and testing																												
Low Collateral Effects Interceptor Engineering and final integration																												
Low Collateral Effects Interceptor Production Transition																												
Windtalker data schema and software development																												
Windtalker Software Development Kits Delivery																												
High Power Microwave Interceptor Development																												
C2 Decision Aid - High Level Data Fusion Development																												
C2 Decision Aid - High Level Data Fusion Transition																												
C2 Decision Aid - High Level Data Fusion Integration and Lab Evaluation																												
C2 Decision Aid - Cross Domain Solutions Development																												
C2 Decision Aid -Cross Domain Solution Transition																												
C2 Decision Aids - Cross Domain Solutions Cyber / IA Updates																												
C-sUAS Detection and Identification Enhancement Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / <i>Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration</i>	Project (Number/Name) CQ7 / <i>C-sUAS Joint New Capabilities</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Low Collateral Effects Interceptor Integration and testing	2	2022	1	2023
Low Collateral Effects Interceptor Engineering and final integration	1	2023	4	2023
Low Collateral Effects Interceptor Production Transition	4	2023	4	2023
Windtalker data schema and software development	2	2022	2	2023
Windtalker Software Development Kits Delivery	2	2023	2	2023
High Power Microwave Interceptor Development	2	2022	3	2023
C2 Decision Aid - High Level Data Fusion Development	2	2022	2	2023
C2 Decision Aid - High Level Data Fusion Transition	2	2023	2	2023
C2 Decision Aid - High Level Data Fusion Integration and Lab Evaluation	1	2023	4	2027
C2 Decision Aid - Cross Domain Solutions Development	2	2022	3	2023
C2 Decision Aid -Cross Domain Solution Transition	3	2023	3	2023
C2 Decision Aids - Cross Domain Solutions Cyber / IA Updates	1	2023	4	2026
C-sUAS Detection and Identification Enhancement Development	1	2023	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration				Project (Number/Name) CQ8 / C-sUAS Joint Enabling Capabilities			
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
CQ8: C-sUAS Joint Enabling Capabilities	-	-	5.688	6.166	-	6.166	5.785	5.528	5.531	5.529	0.000	34.227
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Counter- small Unmanned Aircraft Systems (C-sUAS) effort is in response to the Department of Defense's (DoD) response to the Joint Requirements Oversight Council Memorandum (JROC-M) to support identification, development, testing, evaluation, and integration of technologies to provide capability to defeat small Unmanned Aircraft System threats across the DoD. The C-sUAS efforts provide warfighters the ability to comprehensively detect, track, identify, and defeat enemy Group 1, 2 and 3 UAS platforms. The efforts will be joint development efforts to provide integrated solutions to meet the needs of the Military Services and DoD Agencies against emerging threats.

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

	FY 2021	FY 2022	FY 2023
Title: Common Data Repository Development	-	5.480	6.166
Description: Provide a joint multi-classification platforms to provide cross collaboration C-sUAS data and analytic eco-system for Class 1-3 small Unmanned Aircraft Systems. Data repositories will consume disparate data sources across the Department of Defense to include intelligence data, commercial data, and Military Service developed data to support acquisition and deployed C-sUAS systems.			
FY 2022 Plans: Execute the development operations of Common Data Repository to address emerging requirements and maintain technology to support the data analytics and populate data repository with intelligence organization sUAS threat characterization and signature development.			
FY 2023 Plans: Continue the development of a Common Data Repository and C-sUAS databases that address emerging C-sUAS threats and requirements to maintain technology that supports analytics and populates data repository with intelligence organization sUAS threat characterization and signature development.			
FY 2022 to FY 2023 Increase/Decrease Statement: FY2023 increase of \$0.686 million as efforts increase to develop C-sUAS Databases that address emerging requirements.			
Title: FY22 SBIR/STTR	-	0.208	-
FY 2022 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC ?638				
FY 2022 to FY 2023 Increase/Decrease Statement:				
Funding transferred in accordance with Title 15 USC ?638				
Accomplishments/Planned Programs Subtotals		-	5.688	6.166
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
<p>The Joint C-sUAS enabling efforts will address the Joint Requirements Oversight Council Memorandum (JROCM) 078-20 and be approved by the Department of Defense C-sUAS Executive Agent (EA) Governance. The JCO will establish a Common Data Repository for all Military Services and DoD Agencies to access current and relevant data for future C-sUAS system development and support to currently fielded systems. The JCO will draw from the intelligence community, academia, commercial, and Military Service databases to ensure consistency in datasets. This will eliminate redundant efforts for systems specific threat databases for use by all the Military Services and DoD Agencies. The Army Rapid Capabilities and Critical Technology Office (RCCTO) will provide acquisition support to the JCO to execute these efforts.</p>				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	Project (Number/Name) CQ8 / C-sUAS Joint Enabling Capabilities
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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			
Common Data Repository Development	TBD	Army IC5ISR Center : Aberdeen Proving Ground, MD	-	-		2.792		3.386		-		3.386	Continuing	Continuing	Continuing
Electro Optical / Infrared Imagery Database	TBD	Naval Surface Warfare Center Crane : Crane, IN	-	-		1.551		1.570		-		1.570	Continuing	Continuing	Continuing
FY22 SBIR/STTR	TBD	To Be Determined : To Be Determined	-	-		0.208		-		-		-	0.000	0.208	-
Subtotal			-	-		4.551		4.956		-		4.956	Continuing	Continuing	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			
Intelligence Community Database Linkages	TBD	National Ground Intelligence Center : APG, MD	-	-		1.137		1.210		-		1.210	Continuing	Continuing	Continuing
Subtotal			-	-		1.137		1.210		-		1.210	Continuing	Continuing	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		-	-	5.688	6.166	6.166	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	Project (Number/Name) CQ8 / C-sUAS Joint Enabling Capabilities

Event Name	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				
Common Data Repository Development Operations	Common Data Repository Development Operations																															
Common Data Repository Initial Operational Capability	1																															
Common Data Repository Full Operational Capability																																
Intelligence Community Database Linkages and threat characterization																																
Electro-Optical Imagery Database Development																																
Electro-Optical Imagery Database Validation #1																																
Electro-Optical Imagery Database Validation #2																																
Electro-Optical Imagery Database Validation #3																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / <i>Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration</i>	Project (Number/Name) CQ8 / <i>C-sUAS Joint Enabling Capabilities</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Common Data Repository Development Operations	4	2020	4	2026
Common Data Repository Initial Operational Capability	3	2021	3	2021
Common Data Repository Full Operational Capability	4	2022	4	2022
Intelligence Community Database Linkages and threat characterization	2	2022	4	2025
Electro-Optical Imagery Database Development	2	2022	4	2026
Electro-Optical Imagery Database Validation #1	4	2022	4	2022
Electro-Optical Imagery Database Validation #2	2	2023	2	2023
Electro-Optical Imagery Database Validation #3	4	2023	4	2023