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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Army **Date:** May 2021

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	-	-	33.386	-	33.386	-	-	-	-	-	-
CQ7: C-sUAS Joint New Capabilities	-	-	-	27.698	-	27.698	-	-	-	-	-	-
CQ8: C-sUAS Joint Enabling Capabilities	-	-	-	5.688	-	5.688	-	-	-	-	-	-

Note

This is a new start in FY 2022.

Prior year funding executed from PE 0604741A FG5

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) Joint Requirements Oversight Council Memorandum (JROC-M) requirement for identification, development, testing, evaluation, and integration of technologies 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. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	33.386	-	33.386
Total Adjustments	0.000	0.000	33.386	-	33.386
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	33.386	-	33.386

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Army **Date:** May 2021

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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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
CQ7: C-sUAS Joint New Capabilities	-	-	-	27.698	-	27.698	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

This is a new start in FY 2022.

Prior year funding executed from PE 0604741A FG5

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 2020	FY 2021	FY 2022
<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 2021 to FY 2022 Increase/Decrease Statement: New joint program element to support joint development</p>	-	-	18.730
<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: 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.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p>	-	-	6.018

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021		
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 2020	FY 2021	FY 2022
New joint program element to support joint development				
Title: Counter-small Unmanned Aircraft Development Detection and Identification		-	-	2.950
Description: Development, integration, and test of new technologies to improve detection and identification of 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 2021 to FY 2022 Increase/Decrease Statement: New joint program element to support joint development				
Accomplishments/Planned Programs Subtotals		-	-	27.698
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
<p>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 effort to meet identified gap 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.</p>				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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		-		13.260	Continuing	Continuing	Continuing
High Power Microwave Development and Integration	TBD	Army Rapid Capabilities and Critical Technologies Office : Ft Belvoir, VA	-	-		-		1.700		-		1.700	Continuing	Continuing	Continuing
Windtalker Development and Integration	TBD	Air Force Research Laboratory : Rome, NY	-	-		-		2.968		-		2.968	Continuing	Continuing	Continuing
High Level Data Fusion	TBD	Naval Surface Warfare Center Crane : Crane, IN	-	-		-		3.000		-		3.000	Continuing	Continuing	Continuing
Cross Domain Solution	TBD	Naval Surface Warfare Center Crane : Crane, IN	-	-		-		2.000		-		2.000	Continuing	Continuing	Continuing
Subtotal			-	-		-		22.928		-		22.928	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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		-		2.970	Continuing	Continuing	Continuing
High Power Microwave Development and Integration	TBD	Army Rapid Capabilities and Critical Technologies Office : Ft. Belvoir, VA	-	-		-		0.800		-		0.800	Continuing	Continuing	Continuing
Cross Domain Solution	TBD	Naval Surface Warfare Center Crane : Crane, IN	-	-		-		1.000		-		1.000	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army		Date: May 2021
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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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 - Cross Domain Solutions Development																												
C2 Decision Aid - Cross Domain Solution Transition																												
C2 Decision Aids - Cross Domain Solutions Cyber / IA Updates																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army		Date: May 2021
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	4	2021	3	2022
Low Collateral Effects Interceptor Engineering and final integration	3	2022	1	2023
Low Collateral Effects Interceptor Production Transition	2	2023	2	2023
Windtalker data schema and software development	1	2022	4	2022
Windtalker Software Development Kits Delivery	4	2022	4	2022
High Power Microwave Interceptor Development	1	2022	1	2023
C2 Decision Aid - High Level Data Fusion Development	1	2022	4	2022
C2 Decision Aid - High Level Data Fusion Transition	4	2022	4	2022
C2 Decision Aid - Cross Domain Solutions Development	1	2022	3	2022
C2 Decision Aid -Cross Domain Solution Transition	3	2022	3	2022
C2 Decision Aids - Cross Domain Solutions Cyber / IA Updates	3	2022	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Army										Date: May 2021		
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
CQ8: C-sUAS Joint Enabling Capabilities	-	-	-	5.688	-	5.688	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This is a new start in FY 2022.

Prior year funding executed from PE 0604741A FG5

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 2020	FY 2021	FY 2022
Title: Common Data Repository Development	-	-	5.688
Description: Provide a joint multi-classification platform to provide cross collaboration C-sUAS data and analytic eco-system for Class 1-3 small Unmanned Aircraft Systems. Data repository 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: Continue 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 2021 to FY 2022 Increase/Decrease Statement: New joint program element to address joint requirements			
Accomplishments/Planned Programs Subtotals	-	-	5.688

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Army		Date: May 2021
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

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

N/A

Remarks

D. Acquisition Strategy

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. Funding for these efforts will be sourced from this line and MIPRed to Government Agencies in support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Army												Date: May 2021			
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							
Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Common Data Repository Development	TBD	Army IC5ISR Center : Aberdeen Proving Ground, MD	-	-		-		2.998		-		2.998	Continuing	Continuing	Continuing
Electro Optical / Infrared Imagery	TBD	National Ground Intelligence Center : Charlottesville, VA	-	-		-		1.610		-		1.610	Continuing	Continuing	Continuing
Subtotal			-	-		-		4.608		-		4.608	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Intelligence Community Database Linkages	TBD	Air Force Research Laboratory : Rome, NY	-	-		-		1.080		-		1.080	Continuing	Continuing	Continuing
Subtotal			-	-		-		1.080		-		1.080	Continuing	Continuing	N/A
			Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		0.000		5.688		-		5.688	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Army			Date: May 2021		
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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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 Initial Operational Capability																												
Common Data Repository Full Operational Capability																												
Intelligence Community Database Linkages and threat characterization																												
Electro-Optical Imagery development																												
Common Data Repository Development Operations																												
Common Data Repository Initial Operational Capability																												
Common Data Repository Full Operational Capability																												
Intelligence linkages and threat characterization																												
Electro-Optical Imagery development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Army		Date: May 2021
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	1	2022	1	2022
Intelligence Community Database Linkages and threat characterization	1	2022	4	2024
Electro-Optical Imagery development	1	2022	4	2026