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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>
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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	-	16.534	17.863	23.504	0.000	23.504	20.397	11.592	11.836	12.097	Continuing	Continuing
675307: <i>TARGETING ENTERPRISE RESEARCH</i>	-	15.775	17.100	22.699	0.000	22.699	19.575	10.755	10.982	11.225	Continuing	Continuing
675309: <i>GEO Info & Serv Software</i>	-	0.759	0.763	0.805	0.000	0.805	0.822	0.837	0.854	0.872	Continuing	Continuing

A. Mission Description and Budget Item Justification

The mission of Combat Air Intelligence Systems (CAIS) is to process, analyze, and disseminate intelligence for air component and unit operations worldwide by providing key intelligence infrastructure and production capabilities for the supported and supporting forces with true backbone type of intelligence support for air operations and air support to joint operations. CAIS is focused on providing the intelligence infrastructure and funding to Air Force Major Commands, Intelligence, Cyber and Space Squadrons, Field Operating Agencies, and subordinate units.

Modernizations utilize Section 804, Middle Tier of Acquisitions as a rapid fielding effort to provide required modernization to remain interoperable, certified, supportable, and compliant through software engineering solutions, integration, testing, fielding, and sustainment of new capabilities and upgrades. This includes the utilization of Agile software engineering methodologies and managed cloud infrastructure and platform services. Modernizations are required for the CAIS enterprise capabilities, inside and outside AOCs to keep pace with evolving Government Off the Shelf (GOTS) components, integrated Commercial Off the Shelf (COTS) components, Department of Defense (DoD) directives, and changes in the underlying Information Technology (IT) environment, as well as to deliver effective operational capabilities for the user. In Summer of FY20, the decision was made to transition from MTA, Sec 804 Rapid Prototyping/Fielding to the new NDAA FY20 - Software Acquisition Pathway, which is the preferred path for acquisition and development of software-intensive systems.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Targeting and Geospatial Intelligence weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY \$2.688M was expended for civilian pay expenses in this program element, and in CY \$2.761M is forecasted for civilian pay expenses in this program element.

This program is part of the overarching Kessel Run portfolio.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	16.534	21.863	0.000	0.000	0.000
Current President's Budget	16.534	17.863	23.504	0.000	23.504
Total Adjustments	0.000	-4.000	23.504	0.000	23.504
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-4.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	23.504	0.000	23.504

Change Summary Explanation

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY 2023 cannot be made in a relevant manner.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>				Project (Number/Name) 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>			
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
675307: <i>TARGETING ENTERPRISE RESEARCH</i>	-	15.775	17.100	22.699	0.000	22.699	19.575	10.755	10.982	11.225	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides support to personnel utilizing Target Development, Planning, and Execution applications; Unit Level Intelligence; Tactical Intelligence Applications; and direct support to national, combatant command, and Air Force intelligence missions.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Targeting for weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY \$2.475M was expended for civilian pay expenses in this program element, and in CY \$2.565M is forecasted for civilian pay expenses in this program element.

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

	FY 2021	FY 2022	FY 2023
Title: Targeting Enterprise Research	15.775	17.100	22.699
Description: Conduct Targeting Enterprise research and advancement for projects such as Joint Targeting Toolbox (JTT) [In both the Global Command and Control System Joint (GCCS-J) and Stand-alone configurations-JTT-Capability Package (JTT-CP)] and the Unit Level Intelligence (ULI) systems Toolkit for Intelligence Targeting Analysis (TITAN) and Targeting Application Workstation (TAW.) This budget item also funds emerging targeting capabilities (such as Target System Analysis, 4D visualization, etc.) and Targeting Enterprise software application modernization efforts.			
FY 2022 Plans: Continue the phased modernization of capabilities within the T&G portfolio, expand test automation, and migrate to a true Continuous Integration/DevOps environment to support continuous delivery to the warfighter.			
FY 2023 Plans: Continue the phased modernization of capabilities within the T&G portfolio, expand test automation, and migrate to a true Continuous Integration/DevOps environment to support continuous delivery to the warfighter.			
FY 2022 to FY 2023 Increase/Decrease Statement: Increase attributed to FTEs supporting Targeting modernization efforts for different product teams.			
Accomplishments/Planned Programs Subtotals	15.775	17.100	22.699

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force	Date: April 2022
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>	Project (Number/Name) 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 Line Item 832070: <i>Intelligence Comm Equipment</i>	2.550	2.720	3.185	-	3.185	2.822	5.907	6.083	6.217	Continuing	Continuing
• O&M 27431F: <i>Combat Air Intelligence System (CAIS)</i>	5.197	6.413	6.070	-	6.070	6.184	6.297	6.422	6.551	Continuing	Continuing

Remarks

Combat Air Intelligence System (CAIS) procurement funds.

D. Acquisition Strategy

The acquisition strategy builds on agile software engineering methodologies and modernization of existing capabilities utilizing evolutionary acquisition. Using Section 804, timelines are reduced by modularizing both software engineering solutions and the associated contracting and funding strategies. This enables dynamic resource allocation based on current warfighter needs. The desired end state is continuous delivery of Software. In Summer of FY20, the decision was made to transition from MTA, Sec 804 Rapid Prototyping/Fielding to the new NDAA FY20 - Software Acquisition Pathway, which is the preferred path for acquisition and development of software-intensive systems. This program is part of the overarching Kessel Run portfolio and is dependent on the All Domain Common Platform (ADCP). The ADCP provides an extensible cloud-based Infrastructure and Platform as a Service (IaaS/PaaS) hosting platform built to deliver highly resilient mission applications and data to Airmen deployed around the world.

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

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>	Project (Number/Name) 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>
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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			
Targeting Enterprise Research	Various	Various : TBD	-	4.676	Jan 2021	6.393	Jan 2022	6.918	Jan 2023	-		6.918	Continuing	Continuing	-
JTT-CP Legacy	SS/CPFF	BAE Systems : Rockville, MD	-	2.857	Jun 2021	0.905	Jun 2022	0.990	Jun 2023	-		0.990	Continuing	Continuing	-
JTT-CP Modernization	C/TBD	TBD : Hanscom AFB, MA	-	-		1.998	Aug 2022	3.186	Aug 2023	-		3.186	Continuing	Continuing	-
Software Development (ENDOR)	C/T&M	Various : Boston, MA	-	2.898	Jan 2021	2.403	Jan 2022	5.263	Jan 2023	-		5.263	Continuing	Continuing	-
Unit Level Intelligence Software Development	C/FFP	Booker Dimaio, LLC : Sykesville, MD	-	0.450	Dec 2020	-		-		-		-	0.000	0.450	-
Software Development (Radiance)	MIPR	NIWC Pacific : San Diego, CA	-	-		1.035	Dec 2021	1.101	Oct 2022	-		1.101	Continuing	Continuing	-
Development Enablement (OTA)	C/T&M	Pivotal Software, Inc : San Francisco, CA	-	0.285	Sep 2021	-		-		-		-	0.000	0.285	-
Subtotal			-	11.166		12.734		17.458		-		17.458	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			
Civilian Direct Cite Authority	Reqn	AFLCMC : WPAFB, OH	-	1.892	Oct 2020	2.970	Oct 2021	2.933	Oct 2022	-		2.933	Continuing	Continuing	-
Federally Funded Research & Development Center (FFRDC) Engineers	C/CPFF	MITRE : Hanscom AFB, MA	-	1.413	Oct 2020	0.859	Oct 2021	1.378	Oct 2022	-		1.378	Continuing	Continuing	-
Advisory & Assistance Services	C/CPFF	Oasis Systems, LLC : Boston, MA	-	0.507	Jul 2021	0.079	Jul 2022	0.245	Jul 2023	-		0.245	Continuing	Continuing	-
Subtotal			-	3.812		3.908		4.556		-		4.556	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force			Date: April 2022		
Appropriation/Budget Activity 3600 / 7		R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>		Project (Number/Name) 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>	

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

Targeting	
Software/Hardware Development	
Test and Evaluation	

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>	Project (Number/Name) 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Targeting				
Software/Hardware Development	1	2021	4	2027
Test and Evaluation	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>				Project (Number/Name) 675309 / <i>GEO Info & Serv Software</i>			
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
675309: <i>GEO Info & Serv Software</i>	-	0.759	0.763	0.805	0.000	0.805	0.822	0.837	0.854	0.872	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides support to personnel using Geospatial resources utilized in Geospatial Intelligence (GEOINT) databasing applications, technology exploration and refresh initiatives, geospatial imagery data management and dissemination architecture, geospatial information and services modernization, and enablers for intel and targeting capabilities. Provides support to the MAJCOMs to ensure requisite and available target intelligence and GEOINT tools for information directly available to warfighters.

The GEOINT information and service software program funds the Air Force Enhanced Geospatial Product Library (EGPL) which is currently fielded to all combatant command air components and subordinate units supporting global air operations. The EGPL provides digital GEOINT data to support mission planning, targeting & intelligence in support of mission objectives.

The Enhanced Geospatial Product Library (EGPL) is world-wide distributed United States Air Force (USAF) repository for geospatial products from the National Geospatial Intelligence Agency (NGA) and other government sources. Its purpose is to provide the Geospatial Intelligence (GEOINT) information needed by the Air Force (AF) and other DoD command and control systems. EGPL is on premise, continuously updated, NGA Foundational GEOINT data seamlessly accessible via shared drive or browser.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Geospatial Intelligence weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY \$0.213M was expended for civilian pay expenses in this program element, and in CY \$0.196M is forecasted for civilian pay expenses in this program element.

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

	FY 2021	FY 2022	FY 2023
Title: Enhanced Geospatial Product Library (EGPL)	0.759	0.763	0.805
Description: Provide continuing support for EGPL software and storage to meet future and evolving IT and GEOINT standards and support.			
FY 2022 Plans: Continue to develop EGPL software and continue modernization efforts utilizing Agile Methodologies.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>	Project (Number/Name) 675309 / <i>GEO Info & Serv Software</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Continue to develop EGPL software and continue modernization efforts utilizing Agile Methodologies.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Increase attributed to FTEs supporting EGPL product team.			
Accomplishments/Planned Programs Subtotals	0.759	0.763	0.805

C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• OPAF 03 Line Item 832070: <i>Intelligence Comm Equipment</i>	14.535	0.000	-	-	-	-	-	-	-	-	Continuing Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy builds on agile software engineering methodologies and modernization of existing capabilities utilizing evolutionary acquisition. Using section 804, timelines are reduced by modularizing both software engineering solutions and the associated contracting and funding strategies. This enables dynamic resource allocation based on current warfighter needs. The desired end state is continuous delivery of Software. In Summer of FY20, the decision was made to transition from MTA, Sec 804 Rapid Prototyping/Fielding to the new NDAA FY20 - Software Acquisition Pathway, which is the preferred path for acquisition and development of software-intensive systems. This program is part of the overarching Kessel Run portfolio and is dependent on the All Domain Common Platform (ADCP). The ADCP provides an extensible cloud-based Infrastructure and Platform as a Service (IaaS/PaaS) hosting platform built to deliver highly resilient mission applications and data to Airmen deployed around the world.

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

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>	Project (Number/Name) 675309 / <i>GEO Info & Serv Software</i>
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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			
Enhance Geospatial Product Library (eGPL)	C/T&M	Charles Stark Draper Lab : Cambridge, MA	-	0.533	Oct 2020	0.126	Oct 2021	-		-		-	0.000	0.659	-
eGPL Software Development (ENDOR)	C/T&M	Various : Boston, MA	-	-		0.445	Jan 2022	0.606	Jan 2023	-		0.606	Continuing	Continuing	-
Subtotal			-	0.533		0.571		0.606		-		0.606	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			
Civilian Direct Cite Authority	Reqn	AFLCMC : WPAFB, OH	-	0.226	Oct 2020	0.181	Oct 2021	0.187	Oct 2022	-		0.187	Continuing	Continuing	-
Subtotal			-	0.226		0.181		0.187		-		0.187	Continuing	Continuing	N/A

Management Services (\$ 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			
Program Office Support	Reqn	Various : Hanscom, MA	-	0.000	Oct 2020	0.011	Oct 2021	0.012	Oct 2022	-		0.012	Continuing	Continuing	-
Subtotal			-	0.000		0.011		0.012		-		0.012	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		-	0.759	0.763	0.805	-	0.805	Continuing	Continuing	N/A

Remarks
 Realigned \$100K from BPAC 675307 to BPAC 675309 for EGPL follow-on contract.

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>	Project (Number/Name) 675309 / <i>GEO Info & Serv Software</i>

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

Geoint	
Software Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / <i>Combat Air Intelligence System Activities</i>	Project (Number/Name) 675309 / <i>GEO Info & Serv Software</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Geoint				
Software Development	1	2021	4	2026