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

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>
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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	-	13.547	16.534	21.863	0.000	21.863	-	-	-	-	-	-
675307: <i>TARGETING ENTERPRISE RESEARCH</i>	-	12.801	15.775	21.100	0.000	21.100	-	-	-	-	-	-
675309: <i>GEO Info &amp; Serv Software</i>	-	0.746	0.759	0.763	0.000	0.763	-	-	-	-	-	-

**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 program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F. In FY19 \$0.000M and in FY20 \$0.000M was expended 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>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>
Previous President's Budget	13.668	16.564	23.358	0.000	23.358
Current President's Budget	13.547	16.534	21.863	0.000	21.863
Total Adjustments	-0.121	-0.030	-1.495	0.000	-1.495
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• 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	-0.121	0.000			
• Other Adjustments	0.000	-0.030	-1.495	0.000	-1.495

**Change Summary Explanation**

FY22 funding decreased to address other Air Force requirements.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2022 Air Force										<b>Date:</b> May 2021		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>				<b>Project (Number/Name)</b> 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
675307: <i>TARGETING ENTERPRISE RESEARCH</i>	-	12.801	15.775	21.100	0.000	21.100	-	-	-	-	-	-
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 program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F. In FY19 \$0.000M and in FY20 \$0.000M was expended for civilian pay expenses in this program element.

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

	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
<b>Title:</b> Targeting Enterprise Research	12.801	15.775	21.100
<b>Description:</b> 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.			
<b>FY 2021 Plans:</b> 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.			
<b>FY 2022 Plans:</b> 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.			
<b>FY 2021 to FY 2022 Increase/Decrease Statement:</b> Increase attributed to 14 FTEs supporting Targeting modernization efforts for different product teams.			
<b>Accomplishments/Planned Programs Subtotals</b>	12.801	15.775	21.100

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2022 Air Force		<b>Date:</b> May 2021
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>	<b>Project (Number/Name)</b> 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>

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

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 Line Item 832070: <i>Intelligence Comm Equipment</i>	5.363	14.535	-	-	-	-	-	-	-	-	-

**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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force												Date: May 2021			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 7				PE 0207431F / Combat Air Intelligence System Activities				675307 / TARGETING ENTERPRISE RESEARCH							
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			
Targeting Enterprise Research	Various	TBD : TBD	-	9.539	Jan 2020	10.831	Jan 2021	16.400	Jan 2022	-		16.400	-	-	-
<b>Subtotal</b>			-	9.539		10.831		16.400		-		16.400	-	-	N/A
Support (\$ 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			
DMS, MilCloud	Various	Various : TBD	-	0.012	Jun 2020	-		-		-		-	-	-	-
Targeting Civilian Direct Cite Authorizations for Product Development	Reqn	AFLCMC : WPAFB, OH	-	-		2.501	Oct 2020	-		-		-	-	-	-
<b>Subtotal</b>			-	0.012		2.501		-		-		-	-	-	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			
45th Test Squadron	PO	45th Test Squadron : Eglin, FL	-	0.268	Dec 2019	0.474	Dec 2020	0.581	Dec 2021	-		0.581	-	-	-
<b>Subtotal</b>			-	0.268		0.474		0.581		-		0.581	-	-	N/A
Management Services (\$ 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			
Targeting Research Enterprise	Various	Program Management Office : Hanscom, MA	-	2.982	Nov 2019	1.969	Nov 2020	4.119	Nov 2021	-		4.119	-	-	-
<b>Subtotal</b>			-	2.982		1.969		4.119		-		4.119	-	-	N/A



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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2022 Air Force		<b>Date:</b> May 2021
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>	<b>Project (Number/Name)</b> 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>

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

<b>Targeting</b>	
Software/Hardware Development	
Test and Evaluation	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2022 Air Force		<b>Date:</b> May 2021
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>	<b>Project (Number/Name)</b> 675307 / <i>TARGETING ENTERPRISE RESEARCH</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Targeting</b>				
Software/Hardware Development	1	2020	4	2025
Test and Evaluation	1	2020	4	2025

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2022 Air Force										<b>Date:</b> May 2021		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>				<b>Project (Number/Name)</b> 675309 / <i>GEO Info &amp; Serv Software</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
675309: <i>GEO Info &amp; Serv Software</i>	-	0.746	0.759	0.763	0.000	0.763	-	-	-	-	-	-
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 program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F. In FY19 \$0.000M and in FY20 \$0.000M was expended for civilian pay expenses in this program element.

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

	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
<b>Title:</b> Enhanced Geospatial Product Library (EGPL)	0.746	0.759	0.763
<b>Description:</b> Provide continuing support for EGPL software and storage to meet future and evolving IT and GEOINT standards and support.			
<b>FY 2021 Plans:</b> Continue to develop EGPL software and continue modernization efforts utilizing Agile Methodologies.			
<b>FY 2022 Plans:</b> Continue to develop EGPL software and continue modernization efforts utilizing Agile Methodologies.			
<b>FY 2021 to FY 2022 Increase/Decrease Statement:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2022 Air Force		<b>Date:</b> May 2021
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>	<b>Project (Number/Name)</b> 675309 / <i>GEO Info &amp; Serv Software</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>
Increase in requirements			
<b>Accomplishments/Planned Programs Subtotals</b>	0.746	0.759	0.763

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

<b>Line Item</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPAF 03 Line Item 832070: <i>Intelligence Comm Equipment</i>	5.363	14.535	-	-	-	-	-	-	-	-	-

**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.

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

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>	<b>Project (Number/Name)</b> 675309 / <i>GEO Info &amp; Serv Software</i>
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<b>Product Development (\$ in Millions)</b>				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			
EGPL	SS/T&M	Charles Stark Draper Lab : Cambridge, MA	-	0.746	Sep 2020	0.430	Oct 2020	0.416	Oct 2021	-		0.416	-	-	-
<b>Subtotal</b>			-	0.746		0.430		0.416		-		0.416	-	-	N/A

<b>Support (\$ in Millions)</b>				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			
GEOINT Civilian Direct Cite Authorizations for Product Development	Reqn	AFLCMC : WPAFB, OH	-	-		0.305	Oct 2020	-		-		-	-	-	-
<b>Subtotal</b>			-	-		0.305		-		-		-	-	-	N/A

<b>Management Services (\$ in Millions)</b>				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			
Program Office Support	Reqn	Various : Hanscom, MA	-	-		0.024	Oct 2020	0.347	Oct 2021	-		0.347	-	-	-
<b>Subtotal</b>			-	-		0.024		0.347		-		0.347	-	-	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	
<b>Project Cost Totals</b>		-	0.746	0.759	0.763	-	0.763	-	-	N/A

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

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2022 Air Force</b>		<b>Date: May 2021</b>
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>	<b>Project (Number/Name)</b> 675309 / <i>GEO Info &amp; Serv Software</i>

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

<b>Geoint</b>	
Software Development	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2022 Air Force		<b>Date:</b> May 2021
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0207431F / <i>Combat Air Intelligence System Activities</i>	<b>Project (Number/Name)</b> 675309 / <i>GEO Info &amp; Serv Software</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Geoint</b>				
Software Development	1	2020	4	2025