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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force **Date:** March 2023

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 0305240F / <i>Support to DCGS Enterprise</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	40.421	28.774	31.589	0.000	31.589	30.878	31.341	31.950	33.068	Continuing	Continuing
674826: <i>Common Imagery Ground / Surface Systems</i>	-	2.330	2.389	2.400	0.000	2.400	2.405	2.462	2.510	2.598	Continuing	Continuing
675265: <i>Common Imagery Processor (CIP)</i>	-	38.091	26.385	29.189	0.000	29.189	28.473	28.879	29.440	30.470	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element funds the Imagery Processing effort which consists of the Virtual Imagery Processing Capability (VIP-C) program and associated Imagery Processing Research and Development.

1) The Imagery Processing effort develops the Virtual Imagery Processing Capability (VIP-C) and the High Performance Compute (HPC) Environment within the DCGS architecture. The VIP-C and HPC environment provides end-to-end image processing to include raw data ingest, data format standardization to facilitate exploitation, secondary image processing, metadata conditioning, and image quality enhancements. It also covers a comprehensive plan to employ advanced technologies, automation, and augmentation at speed and scale to close the gap between image collection and actionable intelligence. Current efforts are focused on 1) ensuring new sensors being fielded and associated data types can be processed and normalized 2) improving the Machine Assisted Geospatial Intelligence (GEOINT) Exploitation (MAGE) capability.

2)The DCGS Enterprise Interoperability and Cyber Defense efforts provide support to the Office of the Under Secretary of Defense for Intelligence and Security (OUSD(I&S)), AF DCGS and NATO interoperability efforts. This includes the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver 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 FY22 \$0.075M was expended for civilian pay expenses in this program element, and in FY23 \$0.561M is forecasted for civilian pay expenses in this program element.

The BY funding request was reduced by 1.961 million to account for the availability of prior year execution balances.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	40.421	28.774	33.550	0.000	33.550
Current President's Budget	40.421	28.774	31.589	0.000	31.589
Total Adjustments	0.000	0.000	-1.961	0.000	-1.961
• 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	0.000	0.000			
• Other Adjustments	0.000	0.000	-1.961	0.000	-1.961

Change Summary Explanation

In FY2024, \$1.961M was redistributed for higher AF priorities due to prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force										Date: March 2023		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305240F / Support to DCGS Enterprise				Project (Number/Name) 674826 / Common Imagery Ground / Surface Systems			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674826: Common Imagery Ground / Surface Systems	-	2.330	2.389	2.400	0.000	2.400	2.405	2.462	2.510	2.598	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project element funds the Common Imagery Ground / Surface Systems enterprise support capabilities. This includes support to OUSD(I&S) and AF DCGS priority efforts.

The funding provides support to OUSD(I&S), AF DCGS and NATO interoperability efforts. This includes the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

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

	FY 2022	FY 2023	FY 2024
Title: DCGS Enterprise Interoperability	2.330	2.389	2.400
Description: Provide support to OUSD(I&S), AF DCGS and NATO Interoperability Enterprise efforts.			
FY 2023 Plans: Continue to support OUSD(I&S), AF DCGS and NATO Interoperability Enterprise efforts.			
FY 2024 Plans: Will continue to support OUSD(I&S), AF DCGS and NATO Interoperability Enterprise efforts.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase is an adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	2.330	2.389	2.400

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

N/A

Remarks

D. Acquisition Strategy

The Air Force uses an evolutionary, incremental acquisition approach with development cycles and sprints to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible. Additionally, strategic partnerships and agreements with National Laboratories and other agencies will be utilized.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305240F / Support to DCGS Enterprise	Project (Number/Name) 674826 / Common Imagery Ground / Surface Systems

FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
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

DCGS Enterprise Interoperability	
Support to OUSD(I&S), AF DCGS and NATO Interoperability Enterprise	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>DCGS Enterprise Interoperability</i>				
Support to OUSD(I&S), AF DCGS and NATO Interoperability Enterprise	1	2022	4	2028

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Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305240F / Support to DCGS Enterprise				Project (Number/Name) 675265 / Common Imagery Processor (CIP)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675265: Common Imagery Processor (CIP)	-	38.091	26.385	29.189	0.000	29.189	28.473	28.879	29.440	30.470	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Imagery Processing effort develops the Virtual Imagery Processing Capability (VIP-C) within the DCGS architecture. VIP-C accepts airborne imagery data, processes it into an exploitable format, and provides it to other elements within the weapon system and/or the DCGS Enterprise. Current efforts include further developing the virtual software capability to improve processing across the enterprise and testing, development, and demonstrations integrating updated and new/emerging sensors into DCGS. In addition, the project involves improving the Machine Assisted Geospatial Intelligence (GEOINT) Exploitation (MAGE) capability to employ advanced technologies, automation, and augmentation at speed and scale to close the gap between image collection and actionable intelligence.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver 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 FY22 \$0.075M was expended for civilian pay expenses in this program element, and in FY23 \$0.561M is forecasted for civilian pay expenses in this program element.

The BY funding request was reduced by 1.961 million to account for the availability of prior year execution balances.

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

	FY 2022	FY 2023	FY 2024
Title: Imagery Processor	38.091	26.385	29.189
Description: Continue developing VIP-C to keep pace with growing sensor baseline and enhance imagery data quality.			
FY 2023 Plans: Continue to upgrade and improve VIP-C to enable better geo-coordinate accuracy, facilitate automated intelligence discovery and integrate new algorithms. This includes developing and integrating into a Cloud infrastructure and cyber defense.			
Will refine and scale foundational components and begin developing more advanced technologies (e.g. automated site monitoring, explainable AI/ML, adversarial attack detection/mitigation, etc.). Integration of these advanced technologies will prove critical in a high-end fight.			
FY 2024 Plans: Will continue to upgrade and improve VIP-C to enable better geo-coordinate accuracy, facilitate automated intelligence discovery and integrate new algorithms. This includes developing and integrating into a Cloud infrastructure and cyber defense.			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Will continue to refine and scale foundational components and begin developing more advanced technologies (e.g. automated site monitoring, explainable AI/ML, adversarial attack detection/mitigation, etc.). Integration of these advanced technologies will prove critical in a high-end fight.			
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Funding increased for development of additional advanced technologies.			
Accomplishments/Planned Programs Subtotals	38.091	26.385	29.189

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 04 Line Item 846080: DCGS-AF	124.774	79.742	73.326	-	73.326	33.318	29.844	30.959	31.617	Continuing	Continuing

Remarks

D. Acquisition Strategy
For imagery processing the Air Force uses an evolutionary acquisition approach with increments and spirals to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible. In terms of management, Air Force leads the Cross Service Working Group that aligns imagery processing capabilities across the Joint Services in support of USD(I) direction.

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FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
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

VIP-C/ MAGE	
Machine Assisted GEOINT Exploitation Investment	
SW Release 3.62	
SW Release 3.64	
SW Release 3x- consists of 2-3 fieldings throughout FY23	
SW Release 3x consists of 2-3 fieldings throughout FY24	
SW Release 3x consists of 2-3 fieldings throughout FY25	
SW Release 3x consists of 2-3 fieldings throughout FY26	
SW release 3x consists of 2-3 fieldings throughout FY27	
SW release 3x consists of 2-3 fieldings throughout FY28	

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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
VIP-C/ MAGE				
Machine Assisted GEOINT Exploitation Investment	1	2022	4	2028
SW Release 3.62	1	2022	3	2022
SW Release 3.64	3	2022	1	2023
SW Release 3x- consists of 2-3 fieldings throughout FY23	1	2023	1	2024
SW Release 3x consists of 2-3 fieldings throughout FY24	1	2024	1	2025
SW Release 3x consists of 2-3 fieldings throughout FY25	1	2025	1	2026
SW Release 3x consists of 2-3 fieldings throughout FY26	1	2026	1	2027
SW release 3x consists of 2-3 fieldings throughout FY27	1	2027	1	2028
SW release 3x consists of 2-3 fieldings throughout FY28	1	2028	4	2028