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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

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 0305022F / <i>ISR Modernization & Automation Dvmt (IMAD)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	15.138	18.680	22.909	0.000	22.909	23.533	24.032	24.875	25.388	Continuing	Continuing
675197: <i>Core Technology</i>	-	11.781	15.214	19.371	0.000	19.371	19.911	20.339	21.053	21.490	Continuing	Continuing
675306: <i>Analysis Enterprise</i>	-	3.357	3.466	3.538	0.000	3.538	3.622	3.693	3.822	3.898	Continuing	Continuing

A. Mission Description and Budget Item Justification

AF ISR Modernization, Automation and Development (IMAD) program develops and demonstrates technology required to implement Machine Learning (ML), Artificial Intelligence (AI), Cloud Computing Environment, Automation and machine intelligence on ISR systems. SECAF directed the Air Force to invest in a more automated environment to relieve strain on manpower in the out years. IMAD was started in calendar year (CY) 2020 to create ISR enterprise-wide effects using machine intelligence (AI, ML, Cloud) as described in the Next Generation ISR Dominance Flight Plan. IMAD consist of:

(1) Core Technologies in support of Algorithmic Warfare: technologies using algorithms to support USAF ISR, Joint, and the Intelligence Community (IC) operations at the scale and speed required in modern warfare against our adversaries and supports the National Defense Strategy (NDS) priority of operating at the "speed of relevance." Algorithmic technologies such as Machine Learning (ML) and Artificial Intelligence (AI) continues to reshape current sense, identify, attribute, and share Processing, Exploitation and Dissemination (PED) models to meet sustainable and effective ISR digital solutions while identifying efficiencies and thrive in a complex operating environment.

(2) Analysis Enterprise in support of Kill Chain Automation: USAF ISR must adapt large data sets and condition it into mission ready data sets, allowing personnel to discover, manage, and analyze data and transform it into real-time intelligence products. ISR Modernization, Automation and Development (IMAD) is an Air Force program managed by Air Combat Command (ACC) that funds investment in digital innovation projects submitted by the field and ISR enterprise partners. Investment funds are programmed to deliver machine learning capabilities (AI/ML). Replace manpower-intensive approaches which cannot keep pace with the future speed and volume of data. In addition, IMAD answers field ISR technologies that shift to a common cloud environment and operate at the tactical edge which applies new methodologies; advanced artificial intelligence and machine learning; ensures data is accessible, discoverable, and interoperable; and delivers decision advantage from detection to mission execution.

IMAD Supports National Defense Strategy priority of operating at the "speed of relevance."

IMAD supports Next Generation ISR Dominance Flight Plan.

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 FY23 0.00M was expended for civilian pay expenses in this program element, and in FY24 0.00M is forecasted for civilian pay expenses in this program element.

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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.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	13.138	18.680	23.869	0.000	23.869
Current President's Budget	15.138	18.680	22.909	0.000	22.909
Total Adjustments	2.000	0.000	-0.960	0.000	-0.960
• 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	2.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.960	0.000	-0.960

Change Summary Explanation

The funding increase to BPAC 675197 Core Technology is the result of the two following actions. First, starting in FY24 the portfolio requested a re-alignment of 4.2M in Procurement funding to RDT&E to meet increasing requirements in the program. Additionally the service lowered 3600 funding in the portfolio in FY23/24 to ensure the new start was meeting execution goals. This accounts for an additional increase to the portfolio of 4M in FY25. The increase in funding will meeting growing requirements to modernize and integrate ISR competencies across the kill web delivering relevant and viable ISR and automation solutions to warfighters quickly. As time is of the essence, specifically in the INDOPACOM region, an increase in IMAD RDT&E funding now will help us move faster to get after the seven DAF operational imperatives and prepare our Airmen for peer competition, modernize and integrate our ISR competencies and posture intelligence capabilities for agile combat employment.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305022F / <i>ISR Modernization & Automation Dvmt (IMAD)</i>				Project (Number/Name) 675197 / <i>Core Technology</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675197: <i>Core Technology</i>	-	11.781	15.214	19.371	0.000	19.371	19.911	20.339	21.053	21.490	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Core Technologies in support of Algorithmic Warfare: technologies using algorithms to support USAF ISR, Joint, and the Intelligence Community (IC) operations at the scale and speed required in modern warfare against our adversaries and supports the National Defense Strategy (NDS) priority of operating at the "speed of relevance." Algorithmic technologies such as Machine Learning (ML) and Artificial Intelligence (AI) continues to reshape current sense, identify, attribute, and share Processing, Exploitation and Dissemination (PED) models to meet sustainable and effective ISR digital solutions while identifying efficiencies and thrive in a complex operating environment.

Supports National Defense Strategy priority of operating at the "speed of relevance."

Supports Next Generation ISR Dominance Flight Plan.

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 FY23 0.00M was expended for civilian pay expenses in this program element, and in FY24 0.00M is forecasted for civilian pay expenses in this program element.

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

	FY 2023	FY 2024	FY 2025
Title: Algorithmic Warfare	11.781	15.214	19.371
Description: SECAF directed the AF to invest in a more automated environment to relieve strain on manpower in the out years. Algorithmic Warfare can provide world-class ISR support to Joint Operations at the scale and speed required in modern warfare against our adversaries. This effort supports National Defense Strategy of operating at the "speed of relevance."			
FY 2024 Plans: Continue to develop ISR algorithmic Warfare - automation of tools and machine learning algorithms. Continue to investigate AI methods.			
FY 2025 Plans: Continue to develop ISR algorithmic Warfare - automation of tools and machine learning algorithms. Continue to investigate AI methods.			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Funding increased due to increase in emerging requirements to ensure automation tools and machine learning algorithms meet the needs of the force as new technologies are brought on-line.			
Accomplishments/Planned Programs Subtotals	11.781	15.214	19.371

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

N/A

Remarks

The funding increase to BPAC 675197 Core Technology is the result of the two following actions. First, starting in FY24 the portfolio requested a re-alignment of 4.2M in Procurement funding to RDT&E to meet increasing requirements in the program. Additionally the service lowered 3600 funding in the portfolio in FY23/24 to ensure the new start was meeting execution goals. This accounts for an additional increase to the portfolio of 4M in FY25. The increase in funding will meeting growing requirements to modernize and integrate ISR competencies across the kill web delivering relevant and viable ISR and automation solutions to warfighters quickly. As time is of the essence, specifically in the INDOPACOM region, an increase in IMAD RDT&E funding now will help us move faster to get after the seven DAF operational imperatives and prepare our Airmen for peer competition, modernize and integrate our ISR competencies and posture intelligence capabilities for agile combat employment.

D. Acquisition Strategy

All contracts funded in this program will be awarded using competitive procedures to the maximum extent possible.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
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

<i>Algorithmic Warfare</i>	
Begin Algorithm Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Algorithmic Warfare</i>				
Begin Algorithm Development	1	2023	4	2028

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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675306: <i>Analysis Enterprise</i>	-	3.357	3.466	3.538	0.000	3.538	3.622	3.693	3.822	3.898	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

AF ISR must adapt large data sets and condition it into mission sets, allowing personnel to discover, manage, and analyze data and transform it into living intelligence. Kill Chain Automation applies new methodologies; advances automation and machine learning algorithms; ensures data is accessible, agreeable, and interoperable; and delivers decision advantage.

Supports National Defense Strategy priority of operating at the "speed of relevance."

Supports Next Generation ISR Dominance Flight Plan.

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 FY23 0.00M was expended for civilian pay expenses in this program element, and in FY24 0.00M is forecasted for civilian pay expenses in this program element.

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

	FY 2023	FY 2024	FY 2025
Title: Kill Chain Automation	3.357	3.466	3.538
Description: AF's first ISR investment to work large data sets, automation, COTS IT tolls, and data aggregation.			
FY 2024 Plans: Continue to fund software development to automate ISR analyst workflows; analysts currently spend 80 percent of their time searching for data and 20 percent of their time making sense of information. Human-machine teaming allows humans and machines to focus on activities they each do best			
FY 2025 Plans: Continue to fund software development to automate ISR analyst workflows			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflation.			
Accomplishments/Planned Programs Subtotals	3.357	3.466	3.538

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

N/A

Remarks

D. Acquisition Strategy

All contracts funded in this program will be awarded using competitive procedures to the maximum extent possible.

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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
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

<i>Kill Chain Automation</i>	
Begin automation development	

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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Kill Chain Automation</i>				
Begin automation development	1	2023	4	2028