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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 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603260F / <i>Intelligence Advanced Development</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	-	7.401	6.237	3.820	0.000	3.820	3.914	3.996	4.141	4.222	Continuing	Continuing
64536A: <i>INTELLIGENCE EXPLOITATION TOOLS (IET)</i>	-	4.842	4.950	2.500	0.000	2.500	2.562	2.616	2.711	2.764	Continuing	Continuing
64537A: <i>INTELLIGENCE ANALYSIS CAPABILITIES (IAC)</i>	-	2.559	1.287	1.320	0.000	1.320	1.352	1.380	1.430	1.458	Continuing	Continuing

A. Mission Description and Budget Item Justification

Intelligence Advanced Development (IAD) develops and demonstrates technology required to support warfighter needs for timely all source intelligence information. IAD supports global awareness, consistent battlespace knowledge, precision information, and the execution of time critical missions. IAD focuses on enhancing defense intelligence capabilities through exploration and development of innovative tools including data analytics for mining and exploitation, machine-learning, and software automation. IAD projects provide improved on-time information to the warfighter using new and existing data sources, streamlining data analysis, thus reducing the footprint required, and enhancing performance.

IAD requirements reflect specific warfighter and intelligence organization deficiencies at the tactical and operational levels as identified and prioritized by Air Combat Command (ACC). The Air Force Research Lab, Rome Research Site, Information Intelligence Systems and Analysis Division (AFRL/RIE), then works directly with users to meet the requirements, employing evolutionary approaches and integrating finished modules directly into the field. This PE expedites technology transition from the laboratory to operational users via rapid prototyping. IAD may also reallocate existing resources to support out-of-cycle new/updated warfighter requirements.

This program element received \$1.300M Ukraine Supplemental Funds in FY23.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$00.451M was expended for civilian pay expenses in this program element, and in FY24 \$00.466M is forecasted for civilian pay expenses in this program element.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	7.401	6.237	3.813	0.000	3.813
Current President's Budget	7.401	6.237	3.820	0.000	3.820
Total Adjustments	0.000	0.000	0.007	0.000	0.007
• 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	0.007	0.000	0.007

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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
64536A: <i>INTELLIGENCE EXPLOITATION TOOLS (IET)</i>	-	4.842	4.950	2.500	0.000	2.500	2.562	2.616	2.711	2.764	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The mission is to develop prototypes which encompass several areas of intelligence exploitation including the advancement of all source correlation and fusion for the intelligence analyst. Projects include development of innovative data analytics, machine-learning, and automated software tools. The intent is to enhance the overall situational awareness for Air Force, DoD, and Coalition groups which have requirements to correlate various sources of intelligence information, including Communications Intelligence (COMINT), Electronics Intelligence (ELINT), Imagery Intelligence (IMINT), Geospatial Intelligence (GEOINT), Measurement and Signature Intelligence (MASINT), Signals Intelligence (SIGINT), Publicly Available Information (PAI) and others, in a timely manner. IET may reallocate existing resources to support out-of-cycle new/updated warfighter requirements.

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

	FY 2023	FY 2024	FY 2025
Title: Intelligence Exploitation Tools (IET)	4.842	4.950	2.500
<p>Description: IET addresses the accurate and timely interpretation of various Intelligence data sources (such as digital imagery, video, documents, signals) by developing and evaluating methods to index, exploit, and manipulate disparate data products using analytics, machine-learning, and software automation. This provides the analyst with the ability to rapidly search and fuse multiple intelligence sources for improved situational awareness and to better detect anomalies. Cross domain tools enable data exploitation at multiple classification levels. In addition, methods to improve analysis of current and future foreign weapon systems are developed. IET provides enhanced warning and accuracy to allow national and military authorities a greater range of options to avert, diminish or control a crisis.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Completes tools to enhance, automate, correlate, & fuse multi-source, multi-domain intelligence, surveillance, and reconnaissance (ISR) data for National Air and Space Intelligence System (NASIC) situational awareness & threat assessment - Continues development of knowledge representation and reasoning tools for intelligent systems to gain ability to solve complex tasks associated with audio/video (A/V) data clustering/filtering using semantic embedding techniques - Continues development of the prediction of aircraft trajectory and behavior w/out real-time positioning information while assessing future behavior based on complex models derived from training data <p>FY 2025 Plans:</p>			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>- Will complete the development and demonstration of the knowledge representation and reasoning tools for intelligent systems to gain ability to solve complex tasks associated with A/V data clustering/filtering using semantic embedding techniques</p> <p>- Will complete the development and demonstration of the prediction of aircraft trajectory and behavior w/out real-time positioning information while assessing future behavior based on complex models derived from training data</p> <p>- Will develop and integrate modernized, automated Battle Damage Assessment processes to rapidly collate data for intel analyst physical and functional damage assessment</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding decreased due to FY24 completion of one project and due to lifecycle transition of two projects from development to demonstration and transition.</p>				
Accomplishments/Planned Programs Subtotals		4.842	4.950	2.500
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
Requirements for new/improved techniques for operational employment of simulation models are identified and prioritized by ACC. Development of the new/improved capabilities to meet these requirements is managed by Air Force Research Laboratory (AFRL) Rome Research Site. Prototype products (usually software), once evaluated by the users, are transitioned from the laboratory to the operational community in spirals. All major contracts within this project are awarded after full and open competition.				

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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

IET	
Multi-source, multi-domain info fusion tool	
Audio/video exploitation enhancements	
Air traffic behavior prediction	
Rapid Battle Damage Assessment	
FY24 IET Development, Evaluation & Prototype Release	
FY25 IET Development, Evaluation & Prototype Release	
FY26 IET Development, Evaluation & Prototype Release	
FY27 IET Development, Evaluation & Prototype Release	
FY28 IET Development, Evaluation & Prototype Release	
FY29 IET Development, Evaluation & Prototype Release	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0603260F / <i>Intelligence Advanced Development</i>	Project (Number/Name) 64536A / <i>INTELLIGENCE EXPLOITATION TOOLS (IET)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>IET</i>				
Multi-source, multi-domain info fusion tool	1	2023	4	2024
Audio/video exploitation enhancements	2	2023	4	2025
Air traffic behavior prediction	2	2023	4	2025
Rapid Battle Damage Assessment	2	2025	2	2026
FY24 IET Development, Evaluation & Prototype Release	1	2024	1	2026
FY25 IET Development, Evaluation & Prototype Release	1	2025	1	2027
FY26 IET Development, Evaluation & Prototype Release	1	2026	1	2028
FY27 IET Development, Evaluation & Prototype Release	1	2027	1	2029
FY28 IET Development, Evaluation & Prototype Release	1	2028	4	2029
FY29 IET Development, Evaluation & Prototype Release	1	2029	4	2029

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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
64537A: <i>INTELLIGENCE ANALYSIS CAPABILITIES (IAC)</i>	-	2.559	1.287	1.320	0.000	1.320	1.352	1.380	1.430	1.458	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The mission is to provide continuing development and upgrades of threat analysis capabilities to produce integrated, predictive air and space intelligence to enable military operations, force modernization decisions, and policy making. Products from IAC allow the Intelligence Analyst to accelerate and increase the accuracy of threat estimates and system descriptions to deployed operational forces. Each of the development projects within the IAC program portfolio transition technologies to the operational communities through the incremental release of upgraded versions over a period of years as development projects progress towards the final configuration. IAC may reallocate existing resources to support out-of-cycle new/ updated warfighter requirements.

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

	FY 2023	FY 2024	FY 2025
Title: Intelligence Analysis Capabilities (IAC) Development	2.559	1.287	1.320
Description: IAC develops tools and algorithms for Intelligence Analysts with the ability to produce accurate, predictive, relevant, and timely intelligence that supports client processes, operational planning, and mission execution. Methods include data analytics techniques, machine-learning, and software automation. IAC develops new and upgraded analysis, modeling and simulation tools focused on intelligence production supporting AF operational and developmental all source analysis functions.			
FY 2024 Plans:			
- Continues development of analysis of geospatial features for DCGS making AI/ML models, datasets, predictions geospatially discoverable			
- Continues development of object detection algorithms within AI collaboration environment (Red Force) and enabling models on ground and aerial-based software platforms			
- Continues development of the NASIC C4ISR intel database w/ graphical visualization, discovery, and editing capabilities, to facilitate volume, quality, and timeliness of C4ISR support			
FY 2025 Plans:			
- Will complete development of analysis of geospatial features for DCGS making AI/ML models, datasets, predictions geospatially discoverable			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>- Will complete object detection algorithms within AI collaboration environment (Red Force) and enabling models on ground and aerial-based software platforms</p> <p>- Will continue development of NASIC C4ISR intel database w/ graphical visualization, discovery, and editing capabilities, to facilitate volume, quality, and timeliness of C4ISR support.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflation.</p>				
Accomplishments/Planned Programs Subtotals		2.559	1.287	1.320
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
Requirements of new/upgraded intelligence analysis tools are identified and prioritized by the ACC. Development of capabilities to meet these requirements is managed by AFRL Rome Research Site. Prototype products (usually software), once evaluated by the users, are fielded in incremental capability spirals. All major contracts within this project are awarded after full and open competition.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
IAC	Various	Various : Various	-	2.459	Mar 2023	1.174	Dec 2023	1.203	Dec 2024	-		1.203	Continuing	Continuing	-
Subtotal			-	2.459		1.174		1.203		-		1.203	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Program Support Costs	Various	AFRL - Information Directorate : Rome, NY	-	0.100	Nov 2022	0.113	Nov 2023	0.117	Nov 2024	-		0.117	Continuing	Continuing	-
Subtotal			-	0.100		0.113		0.117		-		0.117	Continuing	Continuing	N/A
Project Cost Totals			-	2.559		1.287		1.320		-		1.320	Continuing	Continuing	N/A
Remarks															

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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

IAC	
Tools to make AI/ML models, datasets, and predictions geospatially discoverable	
RedForce-compatible obj detection	
C4ISR intel database w/advanced capabilities	
Development and Integration of GMTI-related applications with NRO's Thresher	
FY24 IAC Development, Evaluation & Prototype Release	
FY25 IAC Development, Evaluation & Prototype Release	
FY26 IAC Development, Evaluation & Prototype Release	
FY27 IAC Development, Evaluation & Prototype Release	
FY28 IAC Development, Evaluation & Prototype Release	
FY29 IAC Development, Evaluation & Prototype Release	

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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
IAC				
Tools to make AI/ML models, datasets, and predictions geospatially discoverable	2	2023	4	2025
RedForce-compatible obj detection	2	2023	4	2025
C4ISR intel database w/advanced capabilities	2	2023	4	2025
Development and Integration of GMTI-related applications with NRO's Thresher	2	2023	4	2024
FY24 IAC Development, Evaluation & Prototype Release	1	2024	1	2026
FY25 IAC Development, Evaluation & Prototype Release	1	2025	1	2027
FY26 IAC Development, Evaluation & Prototype Release	1	2026	1	2028
FY27 IAC Development, Evaluation & Prototype Release	1	2027	1	2029
FY28 IAC Development, Evaluation & Prototype Release	1	2028	4	2029
FY29 IAC Development, Evaluation & Prototype Release	1	2029	4	2029