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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 8: Software and Digital Technology Pilot Programs</i>	R-1 Program Element (Number/Name) PE 0308607F / <i>Air Force Weather Programs - Software Pilot Program</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	-	0.000	0.000	58.063	0.000	58.063	60.468	63.029	69.041	70.458	0.000	321.059
682035: <i>Weather Data Analysis Inc 5</i>	-	0.000	0.000	58.063	0.000	58.063	60.468	63.029	69.041	70.458	0.000	321.059
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
 PBES BPAC created (682035) instead of the 2 from the SAF/OSD guidance (683511 & 683512). WDA Inc 5 & WARPSpeed are both combined into this BPAC under the new PE until next round the change can occur due to PRCP lockout.

A. Mission Description and Budget Item Justification

1. Weather Data Analysis and Dissemination provides a cybersecure cloud computing-based platform supporting large-scale environmental data ingest, processing, and product generation, Continuous Integration/Continuous Delivery (CI/CD) and AI/ML environments for AFWS software development and deployment, and machine-to-machine dissemination of specific, mission-tailored weather data on-demand to support warfighter operations, weapon system interoperability, rapidly integrating into C2 nodes, and shortening the Combatant Commander kill chain. The Weather Data Analysis and Dissemination capability area includes activities for Weather Data Analysis Increment 5 (WDA Inc 5).

2. Product Tailoring Warfighter Applications (PTWA) provides software applications that provide and enhance environmental information to support rapid warfighter decision-making. PTWA includes the program, Weather Applications Rapid Production (WARPSpeed), which is a suite of software applications developed and delivered across multiple security classification levels. WARPSpeed encompasses weather workflow tools and decision aids used to tailor terrestrial and space environmental information, which include both Forecaster-in-the-Loop (FITL) and automated machine-to-machine processes enhanced by AI/ML. WARPSpeed leverages the WDA Inc 5 cloud computing, data processing, and CI/CD and AI/ML platforms to rapidly develop, deliver, and sustain software capabilities, whether deployed into the AF Weather Virtual Private Cloud (AFW-VPC) or to warfighter processing nodes at the edge. The PTWA program Joint Environmental Toolkit (JET) subsumed several software and web development efforts previously aligned under the Weather Data Analysis and Dissemination capability area in FY 2021 and was renamed to WARPSpeed. (NOTE: JET is not the same as WARPSpeed. JET was renamed as EWA and is not a component of WARPSpeed). PTWA and WARPSpeed also include the machine learning Global Synthetic Weather Radar (GSWR) capabilities, which were previously aligned under Weather Forecasting.

This program is in Budget Activity 8, Software and Digital Technology Pilot Program because this budget activity includes funding provided for expenses necessary for agile development, test and evaluation, procurement, production and modification, and the operation and maintenance of these programs.

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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	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	58.063	0.000	58.063
Total Adjustments	0.000	0.000	58.063	0.000	58.063
• 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	58.063	0.000	58.063
C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: WDA Inc 5	0.000	0.000	39.493	0.000	39.493
Description: WDA Inc 5 institutes a cloud computing-based platform enabling a transition from agile development to a CI/CD pipeline for software development and deployment efforts which will enable rapid updates to functionality and security measures. The WDA Inc 5 cloud computing platform will also provide an enterprise big data analytics capability and AI/ML platform, as well as supporting and funding development and deployment of web services, data management, platform monitoring, application on-boarding, and platform user management. Finally, the program will provide both classified and unclassified cloud computing platforms that communicate directly with C2 customers.					
FY 2022 Plans: FY 2022 funding will support the CI/CD pipeline modernization for weather software and applications and will further AI/ML platform integration and data integration to the AFW-VPC platform.					
FY 2023 Base Plans: Funding will support the CI/CD pipeline modernization for weather software and applications and will further AI/ML platform integration and new satellite data integration to the AFW-VPC platform.					
FY 2023 OCO Plans: N/A					
FY 2022 to FY 2023 Increase/Decrease Statement:					

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
New PE transfer of funds and re-alignment of 3600 and 3400 appropriations caused increase of funding amounts.					
<p>Title: WARPSpeed</p> <p>Description: WARPSpeed develops and delivers a suite of software applications across multiple security classification levels to provide and enhance environmental intelligence to support rapid warfighter decision making. Major software developments include: the BIFROST Portal (formally Enterprise Environmental Platform (E2P)), Mission Services, Global Synthetic Weather Radar (GSRW), weather C2 visualization plug-ins and integration, and other forecast and climatology applications.</p> <p>FY 2022 Plans: Develop BIFROST Portal which will provide a single front entry point into the Air Force Weather Enterprise for all html-based capabilities for environmental content and services on all classification enclaves. Continue to enhance Mission Services, to include the continued development of environmental impacts web services. Continue to develop weather C2 visualization plug-ins to integrate weather data and software applications with various C2 systems. Continue BIFROST which will provide a single front entry point into the Air Force Weather Enterprise for all html-based capabilities for environmental content and services on all classification enclaves.</p> <p>FY 2023 Base Plans: Continue to enhance Mission Services, to include integration of contrails and cloud-free line of sight machine learning-based forecasts into environmental impacts web services. Continue to develop weather C2 visualization plug-ins to integrate weather data and software applications with various C2 systems.</p> <p>FY 2023 OCO Plans: N/A</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: New PE transfer of funds and re-alignment of 3600 & 3400 appropriations caused increase of funding amounts for FY23.</p>	0.000	0.000	18.570	0.000	18.570
Accomplishments/Planned Programs Subtotals	0.000	0.000	58.063	0.000	58.063

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D. 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>
• RDTE 07 0305111F: <i>WEATHER SERVICE</i>	9.317	11.661	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.978

Remarks

E. Acquisition Strategy

WDA Inc 5: Sole Source, Small Business Innovation Research (SBIR) Phase III contract as primary contract activity, with augmenting pre-competed IDIQ contracts for specialized technical and software services.

WAPRSPEED: Multiple Firm Fixed Price and Cost Plus contracts procuring software development and sustainment services.

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 8	R-1 Program Element (Number/Name) PE 0308607F / Air Force Weather Programs - Software Pilot Program	Project (Number/Name) 682035 / Weather Data Analysis Inc 5

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

Weather Data Analysis	
WDA Inc 5	████████████████████
WARPSpeed	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Weather Data Analysis				
WDA Inc 5	1	2023	3	2024
WARPSpeed	1	2023	3	2024