

RAPID SUSTAINMENT OFFICE

Quarterly Report
July - September 2021

RSO



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VISION

**MODERNIZE THE MAINTENANCE OPERATIONS
AND SUSTAINMENT ENTERPRISE VITAL TO THE
WORLD'S MOST ADVANCED AIR FORCE**

OBJECTIVE

**INCREASE MISSION READINESS AND CAPABILITIES
BY IDENTIFYING, APPLYING AND SCALING
TECHNOLOGY AND INNOVATIVE SOLUTIONS TO
ADVANCE AND MODERNIZE SUSTAINMENT
OPERATIONS OF THE UNITED STATES AIR FORCE**

RSO TECHNOLOGY FOCUS AREAS



ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

We apply machine learning and artificial intelligence to optimize fleet maintenance, increase aircraft availability, and minimize aircraft downtime.

The Condition-Based Maintenance Plus (CBM+) Program Office is RSO's AI-powered solution for the maintenance needs of the entire Air Force. We're able to improve maintenance data quality and evaluate large sets of aircraft sensor data in order to predict and prevent component failures before they happen. CBM+ already saves thousands of maintenance hours each year.



ADVANCED MANUFACTURING

The RSO Advanced Manufacturing (AM) Program Office (AMPO) works to identify, develop, transition, and scale AM technology to the entire Air Force. The AM Program Office will leverage both emerging and mature technology to reduce operations and support costs and improve readiness.



AUTOMATION & ROBOTICS

The RSO applies automation and robotics to eliminate maintenance tasks that are repetitive, labor-intensive, or hazardous, making it possible to accomplish these tasks safely and efficiently with a high degree of accuracy.



DATA & DIGITAL ENVIRONMENTS

We are standardizing maintenance and sustainment data collection to serve as a connector of data sources across the Air Force. Our process is to collect the data, identify what's useful, turn it into a functional format, and then leverage it to inform smart and proactive decisions.



AUGMENTED & VIRTUAL REALITY

Augmented and Virtual Reality (AR/VR) technology creates an immersive environment for Airmen to train and execute more efficiently and effectively. The immersive access to digital resources allows the Air Force to predict, analyze, and solve problems faster, leading to a decrease in sustainment costs and increase in Airmen readiness. The AR/VR Product Team aims to continuously collaborate with users, characterize problems, and design and scale turn-key technological solutions that benefit the entire sustainment enterprise.



RAPID & AUSTERE MAINTENANCE ENVIRONMENTS

The RSO provides Airmen with effective tools, leveraging modern, cross-cutting technologies to reduce the Air Force's logistical footprint and enhance mission capability. We want to be the Air Force's leading office for rapidly implementing emerging and solution-oriented technologies in austere environments.





KEY ENGAGEMENTS

22 JULY 2021
Lighthouse
Integrator Kickoff

LIGHTHOUSE **RSO**

19 AUGUST 2021
RSO Quarterly PMR

20-22 SEPTEMBER 2021
AFA Convention

7-9

22

27-28

19

13-15

20-22

7-9 JULY 2021
SBIR 20.3 Phase II
Pitch Day

27-28 JULY 2021
Defense Strategies Institute's
(DSI) 5th Annual Military
Additive Manufacturing Summit

13-15 SEPTEMBER 2021
Rapid + TCT Conference

RSO



RSO SPOTLIGHT

RSO WELCOMES OUR NEW DEPUTY PROGRAM EXECUTIVE OFFICER

Mr. Rodney Stevens has assumed the helm as Deputy Program Executive Officer (DPEO) of the RSO. As the mission-critical organization's second DPEO, he will lead the RSO to deliver world-class technologies and processes to the Air Force sustainment enterprise.

Stevens comes to the RSO after serving two years as Director of Staff for the Air Force Life Cycle Management Center Fighters and Advanced Aircraft Directorate. During his Air Force career, Mr. Stevens attained a diverse background in acquisition, aircraft maintenance, and staff experience. He was a Materiel Leader for F-22 Sustainment, a National Defense Fellow to a US Senator, Chief of the Congressional Operations Branch, and an F-15E Maintenance Operations Officer. Mr. Stevens retired from active duty as the Chief of the Development and Integration Division of the Fighters and Bombers Directorate.

"The RSO is an amazing organization dedicated to developing revolutionary sustainment technologies that keep our fleet flying," said Stevens. "I'm excited to come onboard and get to work to further propel the RSO into the future of Air Force sustainment."



BY THE NUMBERS



AM

Total parts delivered

3,066

Individual AM part numbers flying

84

Individual part numbers delivered

401

Total AM parts flying

250

Completed Technical Data Packages

273



CBM+

Aircraft platforms fielded

15

(C-5, KC-135, C-130, C-17, B-1, B-2, B-52, AC/MC-130, F-15, RC-135, HH-60, F-16, A-10, EC/HC-130, CV-22)

Maintenance units trained

562

Aircraft platforms on-boarding

7

(KC-46, ICBM, T-6, MQ-9, RQ-4, U-2, F-22)

Aircraft actively monitored across the USAF

3,258

Troubleshooting hours saved

5,000+

eRCM removals since implementation (April 2019)

719

Sensor Based Algorithm maintenance alerts issued since implementation (October 2018)

328

DELIVERING CAPABILITIES



The RSO Innovation and Integration (i2) team continues to identify small businesses to execute prototype contract efforts addressing RSO Focus Areas and the RSO's objective of increasing mission readiness and decreasing sustainment costs.

The RSO Innovation & Integration (i2) team has a total of 22 Small Business Innovation Research (SBIR) projects being prototyped and evaluated in the Apply phase as 14 SBIR Phase II projects were awarded this quarter.

HIGHLIGHTS FROM 3 OF OUR 32 PARTNER COMPANIES

This report highlights three of those recent 20.3 SBIR Phase II awardees:



Electroninks, Inc. is a diverse manufacturing team headquartered in Austin TX. The company supports two RSO Focus Areas – Rapid & Austere Maintenance Environments and Advanced Manufacturing – providing an agile manufacturing solution for particle-free conductive inks for printed circuit boards on demand and at the point of use.



Parcell develops smart products to track and secure items as they are transferred from one location to another. The project team's strengths include deep subject matter expertise in aircraft maintenance operations, a track record of developing and commercializing new products, and technical skills in RFID, smart locks, military UX/UI, and systems integration. Their tools allow Air Force maintainers to dedicate their time and attention toward more productive maintenance tasks.



Space Sciences Corp's Smart AI Automated Toolbox is designed to ensure the technician or Air Force end-user spends more time on the aircraft turning wrenches, instead of wasting time transferring toolbox possession or locating lost or misplaced tools. The end-user will gain more confidence and become a qualified maintainer faster, while aircraft readiness and mission capability increase.



RSO PITCH DAY

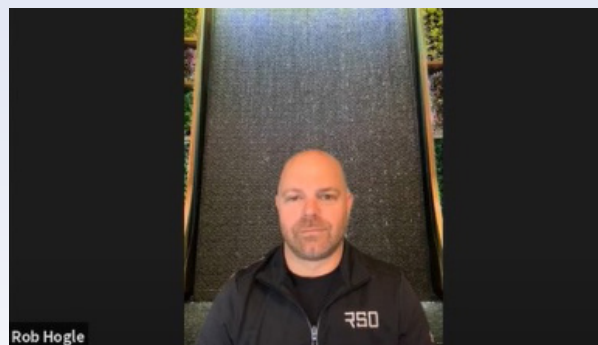
18 companies. 27 million dollars. 2 exciting days. The RSO held our Small Business Innovation Research (SBIR) Pitch Day 7-8 July, where companies from across the country visited Hangar 01 to pitch their sustainment technology's viability for continuing development with SBIR Phase II funding from the RSO.

Congratulations to the following companies who were selected to further development of revolutionary technologies for Air Force sustainment:

- RE2 Robotics
- Beacon Interactive Systems
- Parcell Company
- Space Sciences Corp
- IoT/AI
- Southie Autonomy
- Wilder Systems Robots
- Kalscott Engineering
- Disruptiv Technologies
- Figure Engineering
- Electroninks Inc.
- Aging Aircraft Solutions
- The Albers Group
- Trac9

Learn more about RSO Pitch Days

Rob Hogle, RSO Innovation & Integration (i2) Chief Engineer, was a featured guest on the Air Force Life Cycle Management Center's video podcast, "Leadership Log." Click the image below to listen to Rob discuss the importance of Pitch Days in the RSO sustainment mission and how companies can learn more and potentially get involved.



PARTNERSHIPS & CUSTOMERS









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