Autonomy Association International Announces NASA Data & Reasoning Fabric (DRF) Milestone and Outreach Plans for 2024

Autonomy Association International (AAI) celebrates DRF milestone commemorating momentous year on 6 month anniversary of historic AAI DRF flight test in Arizona

MOUNTAIN VIEW, CA, US, January 16, 2024 /EINPresswire.com/ -- Autonomy Association International Inc. (AAI), a public benefit corporation whose mission is to support individuals, businesses, and communities with cutting edge technology research, solutions, and by supporting open source software initiatives, recently gathered their teams in Arizona, Silicon Valley and across the country to celebrate a momentous year, and commemorate the 6 month anniversary of AAI's historic NASA Data Reasoning Fabric (DRF) Arizona flight tests. Following that milestone, AAI has announced plans for a series of webinars and symposiums focusing on Data Reasoning Fabric architecture, including research outcomes and results of AAI's Data Reasoning Fabric flight tests.

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> *Industry Principal Investigator, NASA Data & Reasoning Fabric Project*

Since being selected as the industry lead on the project, and executing their Space Act Agreement with NASA in 2022, the Autonomy Association International (AAI) and NASA teams met weekly, working toward the successful development and eventual AAI Data Reasoning Fabric flight test milestone. The teams worked for several years to develop the NASA and AAI use case evolutions, testing for years in simulation to evaluate a system that many at NASA believe will enable the future of true advanced air ecosystems, including the future of drone delivery and advanced air mobility (AAM). These futuristic vehicles are being designed and certified for airworthiness, but the roads in the sky they require, and the complex communications and real time data requirements that must support these vehicles, must be realized and validated first.

Data Reasoning Fabric (DRF) is a technology conceptualized by teams at NASA ARC intended to create equity in aeronautics for businesses and contributors by facilitating a trusted service discovery and exchange backbone for the benefit of future airspace ecosystems.

Autonomy Association and NASA DRF teams realized the vision to create an open aeronautical commercial and open source marketplace, a first in the world laying the ground work for next generation flight operations. Together these teams were able to confirm assumptions about using open source data, utilization of multiple data sources in-flight to initiate actions like re-routing, and to realize better outcomes and increased safety.

The flight test, observed by NASA and performed by the Autonomy Association team in Arizona, was a first of its kind field test of the NASA core and represents a 1 of 1 in the world. Not only was AAI the first to take the platform out of simulation and do a real world flight test of the AAI DRF commercial platform in beta, but the project itself was remarkable in the speed at which it was accomplished.

In January 2023 AAI hosted their One Giant Leap for Machine Kind© workshop series with NASA on the campus of ASU, focused on educating academia about DRF, gathering students and faculty to engage the AAI and NASA teams. With support of faculty, staff and student Veteran organizations, students engaged with a full day of programming to understand the importance of AAI and NASA's DRF project.

The Arizona flight test was a great success for both NASA and AAI teams. With cooperation from Universities, student veteran interns and global stakeholders like Verizon, MongoDB and Seagate, the first commercial implementation of NASA's DRF was flown across stakeholder cities in multiple counties and tribal nations.

The Autonomy Association International (AAI) team perfected services from the NASA DRF design and performed the world's first 4 airborne missions flown using DRF in the National Airspace. AAI developed a flight test comprised of 4 separate evolutions flown across complex airspace with cooperation of tribal leaders, and mayors from more than 22 cities across 3 counties.

These AAI real world flight tests with NASA using DRF included medical delivery from an urban to rural environment with an on demand re-tasking from the rural back to an urban environment - a highly complex operation. The flight test also included re-tasking a contracted flight as first responder, which included multi-modal life saving multi-party teaming in an urban environment bordering military restricted airspace. The final evolution was a passenger flight using DRF, flying from an airport on the West side of Phoenix to Scottsdale on the Eastern side of the metro area. The result is a first in the world for aviation by utilizing NASA technology and services developed by the AAI team and re-tasking airborne aircraft in real-time through machine-to-machine communication.

Autonomy Association International Inc. (AAI), founded by leading aeronautics technologists and change makers, is a public benefit corporation founded in 2021. In early 2022, after providing a complex proposal which included key use-cases used to establish a standards based approach and identify means of performance issues, the AAI team won the confidence of NASA to embark on their historic partnership when a NASA committee selected AAI from a group of organizations

in regions across the United States, including Austin, Texas and upstate New York.

As part of this shared mission, AAI and NASA teams jointly worked to develop the software ecosystem. Uniquely, AAI gathered local stakeholders and global powerhouses to support the Arizona field test. This consortium of thought leaders and technology experts, along with the deep technical experience of the AAI team, enabled AAI and NASA to fly the first mission ready version of DRF.

AAI delivered to the NASA research team solutions including a working model to solve non repudiation, which establishes key trust requirements, in aeronautics using DRF. By providing this working model, AAI built a roadmap for complex airspace operations outcomes needed for new research efforts, community acceptance, industry stability and growth for next generation aviation efforts.

According to AAI's Industry Principal Investigator on the NASA DRF project, the "Right Data, Right Time, Right Place" model represents the future of successful aeronautics operations.

"The success of this important project was made possible by our NASA and AAI teams coming together to invest years of thoughtful planning and collaboration between our two organizations. AAI is proud to have been given this trust by NASA and selected to pave the way for commercializing and scaling DRF to enable the future of flight."

AAI will begin licensing their commercial DRF As-A-Service Platform (DRFaaS©) for aeronautics January 2024.

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