

Press release

DDS and Drones: RTI Connex DDS enables Scalability, Safety and Security in Unmanned Aircraft Systems

SUNNYVALE (USA)/London, June 27, 2019 – Despite the success in technology of the Unmanned Aircraft Systems (UAS), known as drones, there are three fundamental challenges of UAS platforms that need to be solved for commercial operations: Scalability, safety and security. Real-Time Innovations (RTI) offers a proven, loosely coupled, standards-based, open communications platform.

The Data Distribution Service (DDS) standard is the proven standard that is widely used in distributed, unpredictable and mission-critical environments. It is particularly suited for highly scalable, high-security environments such as UAS. RTI Connex DDS is based on this standard and has been proven across autonomous platforms to keep the air space, and the manned and unmanned systems that use it, safe and secure.

1. Challenge: Scalability

To accommodate the predicted massive increase in uncontrolled and controlled UAS participants, the infrastructure must be a highly dynamic system that can readily adapt and grow with future systems. Traditional point-to-point, server-based architectures cannot support rapid integration of new platforms. They cannot scale from a single safety use case to a wide range of devices running on multiple, undefined data sources. RTI Connex DDS provides a loosely coupled architecture and discovery mechanisms that allow the instantaneous creation of new peer-to-peer networks that can provide highly efficient, real-time information exchange for a wide variety of use cases.

2. Challenge: Safety

Managing safety in a mixed manned and unmanned airspace is an order of magnitude greater than what is managed today. For a safe system, it is far more efficient to use proven aircraft and system certification strategies and existing safety standards. This software requires RTCA DO-178C compatibility, which has an outstanding record of safety and has a rich ecosystem of service firms that can support any type of software certification. RTI Connex DDS takes this one step above the rest with its commercial-off-the-shelf (COTS) RTCA DO-178C DAL A, the highest criticality design assurance level for software available.

3. Challenge: Security

With new, smaller and harder-to-detect UAS platforms, it will become much more challenging to detect and manage threats and incidents. Beyond the federal agency control of security, the systems operators and end users must adhere to strict data security requirements. Future UAS platforms and systems must evade a constant barrage of threats that are yet to be defined. Airborne delivery systems, for example, will be relatively lightweight, unprotected platforms that must navigate around menacing threats to securely deposit their packages into protected repositories of material. Creating a viable autonomous vehicle delivery system across the globe will be a monumental effort. This infrastructure must be built upon trusted technology building blocks to last to protect the future generations of businesses that will depend upon its reliable, safe and secure operations for the expansion of their goods and services.

Picture (source: licence-free, pexels):



###

About RTI (www.rti.com):

Real-Time Innovations (RTI) is the Industrial Internet of Things (IIoT) connectivity company. The RTI Connex[®] databus is a software framework that shares information in real time, making applications work together as one, integrated system. It connects across field, fog and cloud. Its reliability, security, performance and scalability are proven in the most demanding industrial systems. Deployed systems include medical devices and imaging; wind, hydro and solar power; autonomous planes, trains and cars; traffic control; Oil and Gas; robotics, ships and defense.

RTI lives at the intersection of functional artificial intelligence and pervasive networkingSM.

RTI is the largest vendor of products based on the Object Management Group (OMG) Data Distribution Service[™] (DDS) standard. RTI is privately held and headquartered in Sunnyvale, California.

RTI, Real-Time Innovations, RTI Data Distribution Service, Connex and 1RTI are registered trademarks or trademarks of Real-Time Innovations, Inc. All other trademarks are property of their respective companies.

Download a free 30-day trial of the latest, fully-functional Connex DDS software today: <https://www.rti.com/downloads>.

Media Contacts:

Sabrina Hausner
Agentur Lorenzoni GmbH for RTI
T: +49 8122 55917-0; F: -29
rti@lorenzoni.de

Cameron Smead
Public Relations Senior Manager, RTI
cameron@rti.com