



# A New Flight Plan: RTI Drone Simulation Comes to TSOA-ID

## MULTI-VENDOR INTEROPERABILITY SHOWCASING FACE, SOSA, AND DO-178C DAL A CERTIFICATION

At TSOA-ID 2022, Real-Time Innovations (RTI) demonstrated interoperability between FACE and SOSA applications, Unity® and Epic Games® Unreal Engine® gaming engines, and avionics applications using RTI ConnexT® TSS. ConnexT TSS is based on the open OMG® Data Distribution Service™ (DDS) standard, and was developed by RTI as the first certified conformant Future Airborne Capability Environment (FACE™) Transport Service Segment (TSS) solution.

Our demonstration consists of two drone simulators: one using the Unity gaming engine, and the other using the Epic Unreal Engine gaming engine. These drone flight simulators publish location, video and lidar using the Sensor Open Systems Architecture (SOSA™) Interaction Binding and publish data through a SOSA-aligned plugin. The lidar data is displayed using the RVIZ, a ROS 2 application. Location is fed into different User Interface (UI) applications and the Ansys FACE-conformant A661 server. The demonstration also highlights how ConnexT TSS can interoperate seamlessly with Ansys Cockpit Display Systems (CDS), ENSCO IData CDS, and Presagis CDS.

### ConnexT TSS: Integrated Demonstration Interoperability Checklist

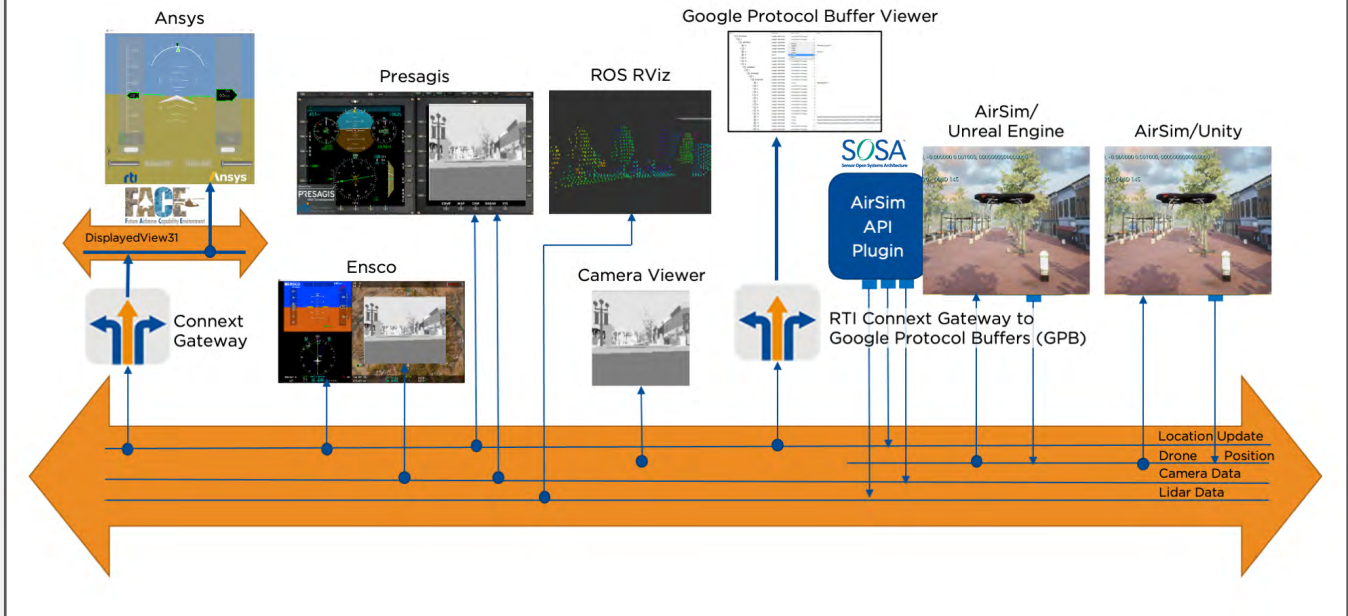
- ✓ Unity gaming engine with Microsoft AirSim drone simulator
- ✓ Epic Unreal Engine gaming engine with Microsoft AirSim drone simulator
- ✓ Video data via SOSA Interaction Binding
- ✓ Lidar data via SOSA Interaction Binding
- ✓ Lidar data displayed using RVIZ, a ROS 2 application
- ✓ ConnexT TSS drone location data to Ansys A661 server
- ✓ ConnexT TSS driving simultaneous interoperability between Ansys CDS, ENSCO IData CDS, and Presagis CDS

To offer customers greater flexibility, both RTI ConnexT and ConnexT TSS provide RTCA DO-178C DAL A certification evidence that can help accelerate mission-readiness and time-to-deployment, while reducing program cost and risk.

### Ready for a new flight plan?

Experience the unique level of interoperability that ConnexT TSS provides for flight simulators, Cockpit Display Systems, gaming engines, and more. For more information or to schedule a demo, please contact your RTI representative or visit [www.rti.com/TSS](http://www.rti.com/TSS).

# RTI TSOA-ID Demonstration Architecture



## ABOUT RTI

Real-Time Innovations (RTI) is the largest software framework company for autonomous systems. RTI Connex<sup>®</sup> is the world's leading architecture for developing intelligent distributed systems. Uniquely, Connex shares data directly, connecting AI algorithms to real-time networks of devices to build autonomous systems.

RTI is the best in the world at ensuring our customers' success in deploying production systems. With over 1,800 designs, RTI software runs over 250 autonomous vehicle programs, controls the largest power plants in North America, coordinates combat management on U.S. Navy ships, drives a new generation of medical robotics, enables flying cars, and provides 24/7 intelligence for hospital and emergency medicine. RTI runs a smarter world.

RTI is the leading vendor of products compliant with the Object Management Group<sup>®</sup> (OMG<sup>®</sup>) Data Distribution Service<sup>™</sup> (DDS) standard. RTI is privately held and headquartered in Sunnyvale, California with regional offices in Colorado, Spain and Singapore.

Download a free 30-day trial of the latest, fully-functional Connex software today: [www.rti.com/downloads](http://www.rti.com/downloads).

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