

Press release

RTI Unveils Connex Drive: The First Complete Automotive-Grade Connectivity Solution for Autonomous Vehicle Development

Connex Drive is the first integrated Framework to bridge all automotive ecosystems including DDS, ROS2, AUTOSAR Classic and AUTOSAR Adaptive

SUNNYVALE (USA)/London, November 13, 2019 – Real-Time Innovations (RTI), the Industrial Internet of Things (IIoT) connectivity company, today unveiled Connex Drive – a complete solution that provides automotive manufacturers with the software and tools they need to build highly autonomous vehicles and fleets. Now, autonomous vehicle makers can innovate and build vehicles without the high risk and cost of in house solutions, nor the difficulty of adapting legacy connectivity. It bridges both research and production technologies, thus supporting development from prototype to end use.

Connex Drive builds on RTI's proven technology already used in over 200 autonomous vehicle programs around the world, as well as over 1,000 other demanding, real-time, intelligent distributed systems.

RTI Connex Drive includes a native Software Development Kit (SDK) for developing and integrating vehicle applications. Because it is built on the open Data Distribution Service™ (DDS) standard, it implements data-centric connectivity that offers a virtual distributed shared memory. This lets advanced algorithms get all the data they need while reducing in-vehicle wiring.

The DDS standard is specified by all the important automotive ecosystems, including ROS2, AUTOSAR, and several commercial designs. This lets Connex Drive be the first – and only – platform that can integrate DDS, ROS2, AUTOSAR Classic, and AUTOSAR Adaptive, letting OEMs work with the standard (or standards) that best meets their needs at different points in the innovation cycle. Connex Drive is the only proven, standards-based

solution specifically built for current and future development of intelligent, autonomous vehicles.

Connex Drive offers

Unique security, evolution management, redundancy, safety and unique system development tools. These address many challenges, including:

- Vehicles increasingly demand security. Connex Drive is the only design that directly enforces data integrity through the underlying protocol. It authenticates participants to ensure that applications talk only to trusted remote applications. It encrypts flows to protect the privacy of data. Uniquely, Connex Drive offers flexibility, allowing designers to optimize performance and security by choosing which parts of the system, and even which individual dataflows, must be protected.
- Distributed systems evolve, and as they do often need to incorporate many components that change over time. As they change, component interfaces and data structures evolve and differ. Connex Drive can match these slightly-different data structures. This allows systems to add new capabilities over time. Thus, autonomous vehicle systems in development will maintain relevancy as the market advances over the next decade.
- Vehicles must operate non-stop. Even a short “downtime” threatens safety and reliability. To address this, Connex Drive supports full redundancy. Any sensor, data source, algorithm, compute platform, or even network can be easily duplicated to provide higher reliability. The data-centric design allows the system to resolve this redundancy naturally.
- Future updates to Connex Drive will include reference architectures and data models, development and integration guides and optional ISO 26262 ASIL D safety-certified libraries. These will reduce the risk of deploying autonomous vehicles in safety-critical applications.
- Finally, autonomous systems are challenging to develop. Connex Drive offers unique tools and services, including the ability to collect data to control the vehicle remotely, record data for debugging and simulation, build larger systems including V2X and easily troubleshoot technical issues.

Connex Drive offers automakers the software they need to operate in diverse real-time environments, interoperate with other systems within the vehicle, connect to off-vehicle systems, evolve systems over time, develop reliable and high-performance systems and build in top security.

For a live demonstration, RTI will be exhibiting at CES 2020 in Las Vegas, Nev. at booth #713 in the Westgate Convention Center.

Packaging and Availability: Connex Drive is currently available.

Quotes

“In the automotive industry we are seeing an unprecedented pace of innovation, with fierce competition for investment dollars and the creation of entirely new business models,” said **KT Neumann**, Automotive Advisory Board Member at RTI. “It is critical to establish partnerships and select market-proven technology that interoperates between all components of the architecture. RTI Connex Drive offers a complete solution for autonomous vehicle development and will help OEMs and suppliers accelerate their time to production.”

“We created Connex Drive to give our customers the tools they need right from the start. Building autonomous vehicles is challenging. Selecting the best framework should be the easiest decision they make,” said **Bob Leigh**, Senior Director of Market Development, Autonomous Systems at RTI. “We are dedicated to helping our customers solve complex challenges in autonomy with our proven solutions. Our top priority is to provide customers with innovative technology that allows them to build highly autonomous systems, without suffering the high costs, steep time commitment and overall risk of building solutions in-house.”

Picture (source: iStock 865205856):



RTI Connex Drive offers a new solution for Autonomous Vehicle Development.

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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.

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

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