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Press release

RTI Teams with Railways and Suppliers to Advance the Safe Computing Platform for Future Rail Operation

RTI and Industry Players Collaborate to Develop a Coherent, Interchangeable and Modular IT Platform Architecture for Railway Systems

SUNNYVALE (USA)/London, February 9, 2022 – The railway sector in Europe is on the verge of its largest technology leap in history, with many railways aiming to introduce large degrees of automation in rail operation in order to substantially increase the capacity, quality and efficiency of the rail system.

Real-Time Innovations (RTI), the largest software framework company for autonomous systems, brings extensive experience in communications for the rail systems market. RTI Connext®, built on the Data Distribution Service™ (DDS) standard, enables intelligent information exchange from onboard and remote applications, resulting in an efficient, scalable, and future-proof data processing infrastructure. Its standards-based data distribution infrastructure can connect thousands of onboard mobile and remote assets, transmitting data from dispersed sources, and aggregating it for real-time analysis and response.

Besides the introduction of enhanced Control Command and Signaling (CCS) approaches, and the introduction of novel technologies such as advanced sensing and artificial intelligence into the rail system, it is also necessary to design the appropriate IT platforms for future rail operation.

Safe Computing Platform Concept

In this context, the railway initiatives Reference CCS Architecture (RCA) and Open CCS Onboard Reference Architecture (OCORA) started working on a Safe Computing Platform concept in 2020, which is expected to provide the basis for safety-relevant railway applications for both onboard and trackside developments. A key design paradigm is the introduction of a standardized method for separating applications from the computing platform. This

decouples domains with very distinct life cycles and leverages advances in the IT sector, while still leaving room for vendor differentiation on the detailed computing platform implementation.

To take this work to the next stage, the railways and industry players DB Netz AG, duagon AG, Nederlandse Spoorwegen, Real-Time Innovations (RTI), SBB, Siemens Mobility GmbH, SNCF Voyageurs, SNCF Reseau, SYSGO GmbH, Thales and Wind River have now teamed up to jointly develop a first version of the possible Application Programming Interface (API) between railway applications and the Safe Computing Platform. The work is expected to be published in Spring 2022 through RCA and OCORA to serve as a basis for prototyping Safe Computing Platform implementations.

Among its contributions, RTI will focus on a safe and reliable communication architecture and API definition between railway applications and the Safe Computing Platform (SCP).

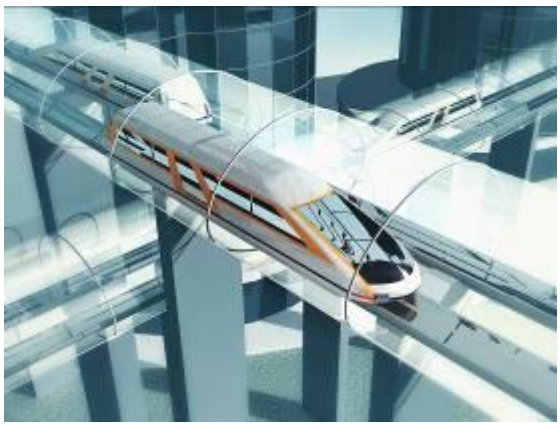
Quote

“There’s a natural fit in creating a future-proof architecture between DDS and the RCA/OCORA Safe Computing Platform initiative. RTI Connext has pioneered safety-certified, data-centric communications based on the DDS standard across the transportation sector - automotive, aviation, marine and rail - and we look forward to expanding this work to benefit next-generation railway implementations,” says Mark Hary, Market Development Director, New Markets, RTI.

Webinar

To learn more, please join RTI and SYSGO on March 15 for a webinar and demonstration on Modernizing Rail Systems for Interoperability, Scalability and Safety. Register at: https://bit.ly/3AZrzAz

Picture (source: Shutterstock 421013746 / andrey l)



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About RTI (www.rti.com)**:**
Real-Time Innovations (RTI) is the largest software framework company for autonomous systems. RTI Connext® is the world's leading architecture for developing intelligent distributed systems. Uniquely, Connext 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® (OMG®) Data Distribution Service™ (DDS) standard. RTI is privately held and headquartered in Sunnyvale, California with regional offices in Colorado, Spain and Singapore.

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