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Press release

OpenROV Selects RTI's Technology for its High-Performing, Commercially Available Underwater Drone

RTI Connext DDS Meets Advanced Connectivity Requirements of OpenROV's Telerobotic Systems

SUNNYVALE (USA)/London, August 16, 2017 – Real-Time Innovations (RTI), the Industrial Internet of Things (IoT) connectivity company, announced that OpenROV, a leading developer of powerful tools for marine intelligence and exploration, has selected RTI Connext DDS as the connectivity platform for its commercially available underwater drone, Trident. Historically, advanced underwater drone technology was only available to the military and Oil & Gas industries. OpenROV is launching this out-of-the-box, advanced underwater drone, built on RTI's connectivity software, to unlock access to the ocean for consumers, marine exploration, industry researchers and more.

The OpenROV team first heard of RTI and the Data Distribution Service (DDS) standard in the context of a successful NASA implementation with Connext DDS. It was about implementing a solid platform where all of NASA's complex systems were interoperable, reliable and secure. They recognized similar challenges at OpenROV and recommended implementing RTI Connext DDS.

Each OpenROV Trident is equipped with a built-in camera that produces multiple video streams, which are transmitted through a tether and bridged to a user's device via Wi-Fi. The vehicle's software is tasked with maintaining the balance between delivering low-latency, high-quality video and dealing with the realistic bandwidth and reliability constraints that the physical network imposes on the system. Connext DDS enables OpenROV to ensure that all videos are both streamed live and recorded (in case the Wi-Fi connection is ever interrupted), while delivering low-latency, high-resolution video to customer devices as they pilot the

vehicle. Connext DDS also connects all of these systems automatically, enabling multiple streams to run at once without manual configuration.

The OpenROV team successfully completed their initial video streaming implementation using Connext DDS in just two days. They immediately realized the benefits of the framework, as the engineering team could now focus on their application data and business logic, without worrying about connectivity and performance.

“The Connext DDS framework enables us to rapidly enhance interoperability between the technical aspects of our products, improving the way we utilize multiple vehicles at once and the way we expand the capabilities of each individual vehicle. Additionally, it allows us keep track of where and when connectivity issues arise, so we can both solve the issues at hand and learn from them to improve future developments,” said Charles Cross, software engineer at OpenROV.

RTI will support OpenROV as it expands into larger, industrial markets, such as shipping and inspection, aquaculture, environmental monitoring, marine construction, and search and rescue. OpenROV will continue to rely on Connext DDS as the backbone for supporting the development of their platform on this broader scale.

“From NASA autonomous systems to underwater drones, RTI Connext DDS continues to solve a wide range of connectivity challenges in the IIoT with proven experience in meeting demanding reliability requirements,” said David Barnett, vice president of products and markets at RTI. “Together, OpenROV and RTI are enabling the development and widespread expansion of technologically advanced underwater drones via enhanced and reliable connectivity solutions. We look forward to continuing our work together to develop these systems across industries, deploying them for the intelligent Industrial IoT systems of the future.”

Pictures (source: OpenROV):

OpenROV's Trident underwater drone with RTI Connext DDS.

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About Real-Time Innovations, Inc. (RTI) (www.rti.com)**:**
Real-Time Innovations (RTI) is the Industrial Internet of Things (IIoT) connectivity company. The RTI Connext® 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 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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