

Press release

Off to the Races: Indy Autonomous Challenge to Use RTI Software to Build and Race Autonomous Vehicles

RTI provides university teams with software to design, simulate and run autonomous vehicles in world's first high-speed, head-to-head autonomous race

SUNNYVALE (USA)/London, August 27, 2020 – Real-Time Innovations (RTI), the largest software framework provider for smart machines and real-world systems, announced it has joined the Indy Autonomous Challenge (IAC), the two-year, \$1.5 million university competition to advance autonomous mobility technologies and enable the next generation of mobility leaders. RTI is providing software to more than 500 students globally to design and develop the control software to autonomously race full-size, modified Dallara IL-15 racecars. The students are competing in the first-ever head-to-head, high-speed autonomous race on the world's largest racing stage, the Indianapolis Motor Speedway, in October 2021.

For this challenge, university teams from around the world will use the RTI open software framework, Connex DDS, to design, simulate and run on specially modified Dallara IL-15 racecars on the track. RTI's software framework allows applications to exchange data in real time, while providing non-stop availability and security. Connex DDS is fully compatible with ROS2, AUTOSAR and other systems, enabling more rapid prototyping and development. With car speeds expected to top 200 mph, students and their advisors can feel confident knowing that Connex DDS provides safety that is certifiable to the highest ISO-26262 standard.

“One of the IAC's primary goals is to solve ‘edge-case’ scenarios – situations that only occur at extreme operating parameters, such as avoiding unanticipated obstacles at high speeds while maintaining vehicular control,” said Matt Peak, managing director of Energy Systems Network, a primary organizer of the IAC. “Such a task would be impossible without real-time data transfer. RTI's partnership gives our teams a strong foundation for racing.”

“This race is a formidable challenge, with a required lap speed that is faster than some winning professional racers over the last decade. It will require ingenuity and making the most of every microsecond in the control system,” said Neil Puthuff, senior software integration engineer and project leader at RTI. “The students need a proven, maximum performance framework for their cars that can handle the extremes and integrate whatever software they create or select for victory – from initial prototypes and simulation, through field trials and on to race day. Great competition spawns great innovation, and we’re proud to be part of a challenge that will look to inspire the next-generation of mobility leaders - and move the industry forward.”

RTI joins an elite group of automotive and technology leaders including Ansys, Aptiv and Microsoft as official sponsors in the challenge. The IAC is supported by the RTI University Program, which enables university research and hands-on education. Universities around the world are using RTI technology to support their research in areas including robotics, autonomous vehicles, space exploration, connected healthcare and more.

For more information, please visit <https://www.rti.com/free-trial/university-program>.

About The Indy Autonomous Challenge

The [Indy Autonomous Challenge](#), organized by [Energy Systems Network](#) (ESN) and the [Indianapolis Motor Speedway](#) (IMS) is a \$1.5 million prize competition among universities to program modified Dallara IL-15 racecars and compete in the world’s first autonomous head-to-head race around the famed Indianapolis Motor Speedway on October 23, 2021. Racing at speeds of up to 200 mph, the primary goal of the Challenge is to advance technology that can speed the commercialization of fully autonomous vehicles and deployments of advanced driver-assistance systems (ADAS). These enhancements will lead to increased safety and performance in all modes of racing and commercial transportation. In addition, the competition is a platform for students to excel in Science, Technology, Engineering and Math (STEM).

To learn more about the IAC, please visit <https://www.indyautonomouschallenge.com/>.

Picture (source: RTI, Courtesy of Indy A. Challenge/Dallara):



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About RTI (www.rti.com):

Real-Time Innovations (RTI) is the largest software framework provider for smart machines and real-world systems. The company's RTI Connex® product enables intelligent architecture by sharing information in real time, making large applications work together as one.

With over 1,500 deployments, RTI software runs the largest power plants in North America, connects perception to control in vehicles, coordinates combat management on US Navy ships, drives a new generation of medical robotics, controls hyperloop and flying cars, and provides 24/7 medical intelligence for hospital patients and emergency victims.

RTI is the best in the world at connecting intelligent, distributed systems. These systems improve medical care, make our roads safer, improve energy use, and protect our freedom.

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 headquarters in Spain and Singapore.

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

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