RTI CUSTOMER SNAPSHOT

Plasan

NEXT GENERATION, NGVA-COMPLIANT ARMORED VEHICLES FOR COST-EFFECTIVE, SECURE V2V TRANSACTIONS

"We are giving our customers a complete solution of armored vehicles with integrated systems and subsystems, all based on the NATO Generic Vehicle Architecture (NGVA) and smart vehicles. We see RTI Connext DDS as an integral part of every solution that we are implementing within the next-generation armored vehicles."

Baruch Dilion
Vetronics and Integration Division Manager, Plasan

HIGHLIGHTS

- First company in Israel to build NGVA-compliant armored vehicles
- RTI Connext DDS provides core connectivity framework for interoperability between vehicles and subsystems
- Next-generation vehicles built for autonomous functionality and secure, rapid vehicle-to-vehicle (V2V) transactions

COMPANY OVERVIEW

Founded in 1985, Plasan is a global leader in vehicle protection solutions, offering safe vehicle environments and survivability solutions for defense and security forces. Its solutions provide high-end protection and mission readiness for defense and security vehicles with state-of-the-art technological systems, and modules that significantly upgrade the vehicle's operational capabilities. In 2012, the company began to develop the technology and integration capabilities that allow turning armored vehicles into mission-ready smart armored vehicles.

CHALLENGE

Next generation armored vehicles are a complex system of systems, requiring secure, rapid connectivity in the field. The NATO Generic Vehicle Architecture (NGVA — STANAG 4754) uses an open architecture approach to vehicle interfaces and protocol design based on the open Data Distribution Service (DDS) standard from the Object Management Group® (OMG). The goal is to provide commonality and interoperability within and between the systems that go into every vehicle, so that in the field, all models of vehicles — regardless of country of origin — can communicate directly, leading to rapid information exchange and safer missions. To date, most military land vehicles are not NGVA compliant.

In 2012, Plasan assigned a small engineering group to build smart vehicle technology and capabilities into its next-generation vehicles. As part of the future design, the company set a goal for all next-generation Plasan vehicles to be NGVA ready.

SOLUTION

To be compliant with NGVA, the integration platform needed to be based on DDS. After a thorough review, Plasan selected RTI Connext DDS® for two reasons: 1) the local support team, and (2) RTI's strong global reputation, which would help the company to grow the new market for NGVA-compliant vehicles.

Using RTI Connext DDS as its core connectivity framework, Plasan developed a unique infrastructure which can integrate with other vehicular systems using the NGVA data model.

It has the capabilities to integrate with any type of system or subsystem to the vehicle to make the systems – and the vehicle itself – more intelligent. "RTI has provided us with strong support, which has helped us to develop our current solutions," says Baruch Dilion, Vetronics and Integration Division Manager, Plasan. "We are the first company in Israel that actually used all the data from the vehicle and have integrated it into an open DDS architecture. This DDS architecture enables rapid and reliable information exchange, enabling safer operations and autonomous functionality."

"DDS is necessary for the integration required for NGVA," says Yuval Peissakhovitch, System Engineer, Plasan. "RTI Connext DDS handles the connectivity like magic. RTI gave us the ability to break out the geography of the vehicles without being tied to one specific operating system or any particular hardware. The initial development was easy, and integrating the RTI DDS libraries into our code was very simple. Connext DDS met all of our requirements to integrate DDS into low performance platforms. We were very happy with the support and felt that RTI was in lockstep with our direction. RTI provided a very simple approach to a complex problem we were facing."

BENEFITS

Plasan introduced its NGVA-compliant prototype vehicle in 2015 at a military exposition, where it won widespread praise for its visionary design, cutting edge technology and ability to communicate with other vehicles in the field. As the first in market with NATO-generic vehicle architecture in Israel, Plasan has drawn strong support for its vision and integrated NGVA-compliant solutions, which offer a cost-effective solution to its customers and partners. The vehicles offer secure, high-end protection and mission readiness in the field. Plasan is also growing its reputation as a vehicle integration company.

"We are giving our customers a complete solution of armored vehicles with integrated systems and subsystems, all based on an NGVA architecture and smart vehicles," says Dilion. "We see RTI DDS as an integral part of every solution that we are implementing within the next generation armored vehicles."

Looking forward, the company predicts autonomous systems will play a leading role in armored vehicles. The company has started working on vehicle power systems, using Connext DDS Micro for its smart power management solution to protect the vehicles. "We want to add the capabilities of DDS inside the power box, into the heart of the vehicle," says Dilion. "Our vision is to use this past experience and knowledge to build smart vehicles in a better way."

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> *System Engineer, Plasan*

ABOUT RTI

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 lives at the intersection of functional artificial intelligence and pervasive networking℠.

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, Calif.

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

Your systems. Working as one.

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