Daimler Truck, Torc kick off year 3 of industry's first OEM/tech firm collaboration on autonomous trucks

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Blacksburg, Va., USA / Portland, Or., USA/ Stuttgart, Germany - September 29, 2021 - Torc Robotics and Daimler Truck kick off their third year of partnership poised to commercialize the first scalable, profitable Level 4 autonomous truck that will help fleets improve their operations while bolstering the backbone of the U.S. economy. Torc is currently testing the Level 4 trucks on public roads in Virginia, New Mexico, and Texas, with continued route expansion in the works.

The two companies are pursuing a focused, safety-oriented approach to market that also seeks to build trust among fleets and the drivers of vehicles who will share the road.

Introducing a world-changing technology into an existing infrastructure, where human drivers will share the road with automated trucks, requires credibility and responsibility, according to Dr. Peter Vaughan Schmidt, Head of Daimler Truck's Autonomous Technology Group. "As the inventor of the truck, Daimler Truck has many decades of experience in testing and validation of commercial vehicles. Nevertheless, to develop a safe autonomous level 4 truck remains a complex task and resembles a marathon, not a sprint. Two years together with Torc Robotics, we have accomplished a lot, collaboratively pursuing a common goal of leading the logistics sector into the future and making road traffic safer for society. I am convinced that we are optimally positioned as a company and together with Torc we have the right partner at our side to achieve our goals."

Torc CEO Michael Fleming described how Torc's pure-play approach will generate trust among all parties. "We are concentrating on one OEM truck platform (Daimler Trucks North America's Freightliner Cascadia), one business case (long-haul trucking), and one environment (U.S. interstate highways). Commercializing self-driving trucks is a very complex endeavor and we are first solving the least complex use case, then expanding our product reach as the technical capabilities are proven. I am absolutely convinced that Torc will be the first company to a profitable scalable product in the autonomous truck space," Fleming said. "We move to the next level of complexity when we have proven our program," he said.

Expanded testing

Daimler Truck and Torc formed the first strategic alliance between an autonomous vehicle technology firm and a truck original equipment manufacturer (OEM) when Daimler invested in a majority share in Torc in August 2019. Torc operates as an independent subsidiary and serves as the lead for autonomous system development, innovation, and testing with Daimler Truck's internal self-driving truck efforts.

In addition to testing in other regions, Torc manages a fully operational test facility in Albuquerque, N.M., running multiple routes and shifts each day. This past year, Torc expanded on-road testing in the Southwest into Texas. Additional routes are planned, strategically based on major freight haulage.

Best-in-class partnerships

Meanwhile, Torc and Daimler Truck are building strong partnerships with other technology-forward companies. “Part of our pure-play approach is to do what we do best and work with others who bring best-in-class solutions. This helps us accelerate our development,” Fleming said. This past year, Daimler announced a strategic partnership with Luminar for collaborative development of long-range, hi-fidelity lidar for autonomous trucking and Torc selected AWS as Torc’s preferred cloud provider for data handling.

Reinventing the truck

Daimler Truck’s subsidiary in North America, DTNA, is reinventing the truck chassis, an industry leading Freightliner Cascadia, to integrate seamlessly with autonomous vehicle systems, adding redundancies for safety-critical components like steering, braking, and powernet. The Torc team continues developing software, testing, and systems integration. Developing a vehicle capable of safely and reliably executing commands given by an autonomous driving system requires a fundamentally different approach. Safety-critical components must be designed to detect a failure and invoke redundancy to safely execute its maneuvers. Should any of the most relevant systems encounter a fault, the Level 4 system needs to be able to monitor, assess and deploy backup systems to safely control the truck.

Growth

Commercializing a self-driving truck is one of the most challenging engineering feats of our generation, according to Fleming. To accomplish this, Torc has been growing since partnering with Daimler Truck and has more than doubled its workforce. Torc has also added power players to its leadership team, with the addition of NASA safety expert John Marinaro as Director of Operational Safety and Testing, veteran tech strategist Eddie Amos as Chief Transformation Officer, and technology marketer Jane Bailey as Vice President of Marketing and Communications.

“We’ve got a power team, power partners, and a clear path to commercialization,” Fleming said.

Torc Robotics, a pioneer in self-driving vehicles

Torc Robotics, headquartered in Blacksburg, Virginia, is an independent subsidiary of Daimler Truck AG, the global leader and pioneer in trucking. Founded in 2005 at the birth of the self-driving vehicle revolution, Torc has 16 years of experience in pioneering safety-critical, self-driving applications. Torc offers a complete self-driving vehicle software and integration solution and is currently focusing on commercializing self-driving trucks. “Trucking is the backbone of the U.S. economy, delivering food and products to every community in the country,” said Torc CEO Michael Fleming. “Daimler has led innovation in trucking for more than a century, from the first truck to driver assist technology. Torc is working with Daimler Truck to commercialize self-driving trucks to make our roads safer and better fulfilling our mission of saving lives.”

Daimler Truck, the pioneer of automated trucks

Daimler Truck is the pioneer of truck automation. In 2014, the world’s leading truck manufacturer presented the Mercedes-Benz Future Truck 2025, the world’s first automated truck, and was the first to demonstrate the technological opportunities and great potential that automated trucks offer customers and society. In 2015, Daimler’s Freightliner Inspiration Truck obtained the first-ever road license for a partially automated commercial vehicle demonstrating the promise of automated driving on the highways of Nevada. Today, Daimler offers partially automated driving features (SAE Level 2) with the Mercedes-Benz Actros, the Freightliner Cascadia and the FUSO Super Great.

Daimler Trucks North America develops redundant vehicle chassis and infrastructure

Portland-based Daimler Trucks North America (DTNA) is refining a truck chassis that is perfectly suited for highly automated driving as well as the redundancy of systems needed to achieve safe, reliable driving. As part of the Autonomous Technology Group, DTNA is also researching the infrastructure required for the operational testing of initial application cases. DTNA is contributing to the successful development of automated driving technology and vehicle integration for heavy-duty trucks.