NXP and DAF Trucks Commit to Set New Benchmark in Truck Platooning: 30 Times Faster than Human Reaction Time

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NXP, DAF Trucks, Siemens and Honda push the boundaries of secure V2X with live road demonstrations at electronica 2016

- NXP and DAF Trucks will showcase truck platooning in the city of Munich with the inclusion of intelligent traffic lights (Siemens) that automatically adapt traffic signaling based on the truck convoy's location, thus significantly improving the traffic flow.
- Ricardo, TNO, NXP and DAF Trucks, members of the EcoTwin Truck Platooning Project, are in the research phase aiming to reduce the distance between platooning trucks by another 40 percent in 2017.
- Platooning promises to increase fuel efficiency up to 10 percent, improve road safety and reduce exhaust emissions like CO_2, PM and NO_x.
- Together with Honda, Siemens, Marben, Cohda Wireless and Chemtronics, other live demonstrations in Munich will include secure V2X use cases, such as the detection/warning of motorcycles for improved safety. An autonomous car built by the University of Eindhoven using NXP sensor fusion will also be at the event.

Platooning: trucks electronically linked for synchronized braking and acceleration

MUNICH, Germany, Nov. 07, 2016 (GLOBE NEWSWIRE) -- NXP Semiconductors N.V. (NASDAQ:NXPI) and its partners are showcasing the progress of secure intelligent transport systems in advance of this year's electronica show in Munich. The demonstrations include platooning live on Munich roads, traffic signal and vehicle synchronization, and technology that protects vulnerable road users based on secure vehicle-to-everything technology (V2X). NXP and DAF Trucks have also announced plans to empower truck platoons to react 30 times faster than humans in 2017. Achieving this goal would mark a significant milestone in the introduction of platooning to fleet operators who expect considerable efficiency and safety gains while maintaining a maximum level of data security.

A photo accompanying this announcement is available at http://www.globenewswire.com/NewsRoom/AttachmentNg/276b5158-2648-468e-a58d-d165bacac801

NXP, DAF Trucks, TNO and Ricardo previously achieved a breakthrough truck platooning distance of 0.5 seconds between trucks. While platooning at 80 km per hour, trucks that were linked wirelessly via V2X technology, along with high-performance camera and radar systems, were able to maintain a distance of 11 meters flawlessly. The consortium is now cooperating to further bring down the minimum distance between trucks by another 40 percent (to 0.3 seconds which equals 7 meters at 80 km/h). In this new context, the platooning system will need to reliably react 30 times faster than a human driver. This requires the wireless communication between trucks to take place in the timeframe of milliseconds.

This breakthrough will be achieved through a variety of technology enhancements that improve safety:

- The integration of a powerful Sensor Fusion and Control System that can create, monitor and maintain platooning and driving modes in a functionally safe way, even with the occurrence of external hazards or internal malfunctioning system-behavior. Even in the latter situations, the convoy will operate fail-safe.
- The system will need to operate at a high functional safety level to enable the shorter driving distance safely. This will be accomplished by using ASIL ("functional safety") qualified components from NXP such as microcontrollers, microprocessors, power management ICs, and networking components. The basis for the system development is the NXP BlueBox platform that incorporates most of the aforementioned components.
- Enhanced radar will detect road interferences (such as cars cutting in) faster and more accurately to seamlessly adjust the distance between the trucks. For this purpose, NXP is also announcing a new, high-performance radar microcontroller (LINK) at Electronica 2016.

Quotes:

"Helping platoons react 30 times faster than humans is a tall order that we are not taking lightly," said Ron Borsboom, Director Product Development at DAF Trucks. "While there is still a lot of research and development required to make this a reality, we are working with NXP on an ambitious plan to demonstrate the improved response time in 2017."

"Together with our smart transportation partners we have completed more than one million test days globally in secure vehicle-to-x communications based on NXP's RoadLINK™ solution," said Kurt Sievers, General Manager NXP Automotive. "Our tests have shown the maturity and strong security levels of RoadLINK, which is being deployed in its first production cars. Today's demonstrations with DAF Trucks, Siemens, Honda and other partners underscore the power of ultra-fast, secure and direct communication between traffic participants."

About NXP

NXP Semiconductors N.V. (NASDAQ:NXPI) enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security & privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has 44,000 employees in more than 35 countries and posted revenue of $6.1 billion in 2015. Find out more at www.nxp.com.

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