

Consortium of DAF Trucks, TNO, NXP and Ricardo:

‘EcoTwin’ participating in the European Truck Platooning Challenge

A consortium of DAF Trucks, TNO, NXP and Ricardo is uniting under the name EcoTwin to participate in the European Truck Platooning Challenge that is being organised by the Dutch Ministry of Infrastructure and the Environment on Wednesday 6 April. The objective of the Challenge is to obtain permission from governments to perform large-scale, pan-European testing of truck combinations that are linked wirelessly (‘ platoons’). This enables truck combinations to drive very close to each other, which presents benefits in terms of fuel consumption and therefore CO₂ emissions, safety and the flow of traffic.

Truck Platooning involves trucks driving a short distance apart using automated driving technology. The Truck Platooning Challenge will demonstrate that a second vehicle is technically capable of automatically following the combination ahead using *Wifi-P*, radar and cameras. Within the context of the ‘EcoTwin’ project, it has already been demonstrated that the second vehicle is also capable of steering automatically. However, the emphasis during the Truck Platooning Challenge will be on autonomous acceleration and braking. In this regard, the planned distance between both combinations is 0.5 seconds, which at a speed of 80 kph approximates to a distance of 10 metres.

Trucks linked using Wifi-P

One unique aspect of the ‘EcoTwin’ combination is the advanced *Wifi-P* connection, developed by NXP and specially designed for automotive applications. The rapid speed of the communication enables both DAF trucks to drive even closer together.

Furthermore, Wifi-P allows the drivers of the 'EcoTwin' combinations to communicate with each other while driving. Everything that the driver in the first truck sees in front of him is projected onto a screen in the second truck (*'See Through'*).

CO₂ reduction, enhanced safety and improved flow of traffic

By reducing the gap between truck combinations as far as possible and making the most of slipstreaming, fuel savings of up to 10% can be achieved in future, along with equivalent reductions in CO₂ emissions. Furthermore, Truck Platooning will further enhance traffic safety, thanks to the combination of Wifi, radar and camera systems. Another benefit is the further improvement to the flow of traffic, because 'platooning' trucks will not overtake each other. Moreover, technologies are being developed that will enable passenger vehicles to join the traffic or leave the motorway safely and responsibly.

Platooning technically possible

"It goes without saying that there is still a lot of continued development required before we can introduce platooning as a new technology on the market", says Ron Borsboom, member of DAF Trucks' Board of Management and responsible for product development. "This is definitely not a process that will be complete before 2020. There is still a great deal that has to be sorted out in terms of legislation, liability and acceptance. In conjunction with TNO, NXP and Ricardo, we will be demonstrating during the European Truck Platooning Challenge that truck platooning is technically possible. This demonstration should pave the way for truck manufacturers to be allowed to carry out further testing of the technology on public roads in order to acquire even more experience. It is now up to politicians to make this possible."

'EcoTwin' is a consortium comprising DAF Trucks, TNO, NXP and Ricardo, with each party contributing its own specific knowledge and experience. NXP is taking care of the wireless, state-of-the-art communication system between both vehicles through the use of cameras, sensors, radar and Wifi-P. As a leading consultancy firm, Ricardo is providing advice in terms of the functional safety of the systems. TNO is contributing to the complete concept, the software and the synergy of all new technologies. In addition to the integration of all systems in the vehicles, DAF Trucks is taking care of all testing activities.

DAF Trucks N.V. — a subsidiary of the US-based PACCAR Inc.—is a leading manufacturer of light, medium and heavy-duty trucks. DAF is also a leading provider of services: MultiSupport repair and maintenance contracts, financial services from PACCAR Financial and a first-class parts supply by PACCAR Parts. DAF Trucks N.V. has production facilities in Eindhoven in the Netherlands, Westerlo in Belgium, Leyland in the United Kingdom and Ponta Grossa in Brazil, and over 1,000 dealers and service points in Europe and beyond.

Ricardo plc — a consultancy firm active throughout the world in the fields of strategy, technology, environment and safety. Ricardo is also a specialist niche manufacturer of high-performance products. The firm has in excess of 2,900 expert engineers, consultants and scientists working in its core areas of engines, gearboxes, vehicles, hybrid and electrical systems, and environmental forecasting and impact analyses. Ricardo plc is active in a wide array of market sectors, including automotive, rail, defence and energy.

NXP — an international player in the field of developing and manufacturing semiconductors focusing on "secure connections and infrastructure for a smarter world". From chips for wireless infrastructure to energy-efficient and safe systems, NXP's innovative products are used in the automotive sector, industry, consumer electronics and computer technology, and are geared towards making life safer, easier and better. NXP has locations in 35 countries and 45,000 staff. The company's turnover in 2015 amounted to \$6.1 billion US dollars.

TNO — TNO has over 3000 professionals who put their knowledge and experience to work in creating smart solutions to complex issues. These innovations help to sustainably strengthen industrial competitiveness and social wellbeing. We are partnered by some 3000 companies and organisations, including SMEs, in the Netherlands and around the world. On the topic of Transport and Mobility we create breakthroughs through technological innovation, influencing of human behaviour, and more intelligent organisation for safer, cleaner and more reliable mobility.

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Note to editors:

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