

## PRESS RELEASE

# Self-driving vehicles on the A58: cars automatically respond to one another and the traffic situation kilometres down the road

**In a recent demonstration, a convoy of self-driving vehicles proved able to respond to traffic a few kilometres farther down the road. This demonstration was conducted at the request of the *Beter Benutten* (Optimising Use) programme of the Ministry of Infrastructure and the Environment by TNO and the partners<sup>1</sup> in the Shockwave Traffic Jams A58 project in an actual traffic situation on the A58.**

**Earlier, the three vehicles had demonstrated their ability to respond to one another. By simultaneously braking and accelerating, the convoy travels more smoothly. In the demonstration, these vehicles also automatically adjusted their speed based on speed advice that was derived from the traffic situation farther down the road and transmitted by means of roadside communication. The demonstration was a successful step forward in the development of self-driving vehicles. The vehicles can respond not only to their immediate environment by means of their own sensors, but also to what is happening at a farther distance, amply beyond the reach of the traffic sensors. In the future, this can improve the flow of traffic and traffic safety and ensure that people can travel increasingly faster and safer, as well as more comfortably and reliably.**

TNO and the Shockwave Traffic Jams partners held the demonstration on the A58 motorway, one of the busiest motorways in the Netherlands. The road section between Tilburg and Eindhoven is a testing ground for a variety of ITS applications. With 34 roadside beacons, this section of the motorway is equipped with a rapid data infrastructure with WiFi for traffic applications.

### **In-car speed advice**

The connected vehicles use the shockwave traffic jam service that is now running on this infrastructure. Via the WiFi beacons along the side of the road and the underlying technical infrastructure, the shockwave traffic jam service collects precise information about traffic congestion and tailbacks. The service immediately converts these data into personalised, in-car speed advice that is dependent on the traffic situation. During the test, the first vehicle received this advice and automatically adjusted its speed, with the other vehicles automatically following suit. The connected vehicles also received speed advice when leaving the congested traffic, which was automatically followed.

It was the first time that self-driving vehicles interacted not only with one another, but also with the roadside that generated data from an actual traffic situation. The demonstration gives new meaning to preventative driving. Data about what is happening farther along the route, which cannot be seen by the vehicle, is processed in real time into current and accurate information to the vehicle. The vehicle responds to that information automatically and safely, while the other vehicles in the convoy respond automatically, as well. All in all a unique accomplishment that provides valuable insight into the near future.

### **Test possibilities on the A58**

The A58 is suitable for testing new mobility services. The motorway between Tilburg and Eindhoven is equipped with infrastructure that is independent of the services, with strictly specified interfaces and based on European standards where these are already available (ETSI, CEN). The shockwave traffic

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<sup>1</sup> The companies Be-Mobile, Innovactory, Siemens, Technolution, Vialis and V-tron.

services provided by ZOOFF and FlowPatrol, which warn for threatening tailbacks and provide current and reliable speed advice, are being tested there by regular drivers in a test project that has been ongoing for some time now. In December 2015, roadwork warnings from ITS Corridor were already successfully displayed on dashboards, using the same infrastructure. The test involving connected passenger vehicles that utilise communication with the roadside is therefore the third application to be tested. Many more tests and applications will follow.

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## **Background information**

### **Shockwave Traffic Jams A58 project**

The Province of Noord-Brabant and the Ministry of Infrastructure and the Environment's programme *Beter Benutten* (Optimising Use) are the joint contracting authority for the project Shockwave Traffic Jams A58. The market, the government and knowledge institutions work closely together to improve the accessibility of the country's busiest regions, in part by using intelligent transport services. With the shockwave tailback service as a basis, the project partners are developing the building blocks for new mobility services in the vehicle. The architecture and infrastructure on the A58 are such building blocks; others could be a system for data security and protocols for their interaction.

For images and more information about the test, please visit [www.spookfiles.nl](http://www.spookfiles.nl) or [www.beterbenutten.nl/eng/its](http://www.beterbenutten.nl/eng/its) and take a look at our special channel on YouTube for footage of the demo: <https://www.youtube.com/channel/UCjvjWTPAUCnVkgJ4uwox5iA>.