

# Smart car gets real

**In order to make cars more fuel-efficient and safer – and keep them mobile in reality – cooperative vehicle-road systems are required. In other words, linking smart cars to intelligent infrastructure. TNO has been involved in cooperative traffic management studies for years and at the end of March will be co-hosting a trade fair, conference and live demonstration – the showcase – to reveal the progress made in Europe with cooperative traffic management.**

If you are driving along the motorway connecting Amsterdam-RAI and Amsterdam Schiphol international airport between 23 and 29 March you can't miss them: ten colourfully decorated Volkswagen vans, the mobile laboratories for the *Cooperative Mobility Showcase 2010*, which demonstrates the state-of-the-art in cooperative traffic management. Like how smart cars can 'talk' to each other and to the road (infrastructure). 'We also make the DRIP (Dynamic Route Information Panels) information above the road visible in the car, on the dashboard,' says TNO's Frans Op de Beek, who is coordinating the technical demonstrations at the end of March.

## MULTIMODAL TRAVEL INFORMATION

The information will be connected to all kinds of other systems. 'An example? A travel-and-park system where you reserve and pay for a parking place at the airport in advance and are conducted all the way to it. If there's a sharp bend you are warned of it or you get a speed warning if you enter a green wave zone. Everything in the car.'

Another new innovation is the navigation system that not only tells you to go left or right but even recommends that you 'move to the outer lane'. Op de Beek: 'The driver can also be informed of multimodal travel options during his journey – like the better option of taking a train at a particular moment.' Or the twenty-five V2I, vehicle-to-infrastructure, applications that can be used in existing navigation units? 'Absolutely, but while we can demonstrate the individual applications, suppliers and service providers have to pick up baton.'

## TRAFFIC CENTRE

A closed safety demo site, where P4 at Schiphol will be vacated, will be the venue for the very latest safety gadgets to be demonstrated. 'We have twenty cars equipped with V2V (vehicle-to-vehicle) applications and we will be simulating near collisions.' Over the three days Op de Beek hopes to pick up around 2,000 visitors to Intertraffic and the conference in the buses that drive between the RAI and Schiphol. Every

Intertraffic visitor will be able to witness the demonstrations live on giant screens in the cooperative traffic centre in the RAI thanks to the videocameras in the buses. The traffic centre will be linked directly to the real traffic centre for the Noord-Holland and Flevoland provinces in Velsen. 'Quite unique,' emphasises Op de Beek. 'For cooperative traffic management the role of the traffic centre operator is crucial. TNO is undertaking an extensive study of this.'

The success of the whole event will be measured, according to Op de Beek, by the extent to which the results of the three European research projects presented catch on among the road authorities and car industry. These projects are CVIS (Cooperative Vehicle-Infrastructure Systems), which aims to create a universal platform and architecture for diverse applications and so arrive at an open, integrated cooperative V2I system, SAFESPOT, which focuses on the safety of the driver and his surroundings through V2V and V2I communication, and COOPERS.

## COOPERATIVE DRIVING ROADMAP

TNO is involved in many initiatives regarding cooperative driving, e.g., CVIS, SAFESPOT and SPITS. Op de Beek: 'Our stand offers an overview of the development of cooperative driving, a roadmap, that shows both the technical and non-technical issues like human factors and business models that have to be taken into account. We can demonstrate everything but it has to be taken on board in real life.'

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Photo: Marco Okhuizen / HH



Section of the demonstration route.