

News Archive Transportation 2008

Road test for vehicle-to-vehicle communication

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Car-to-car communication

A large-scale demonstration of inter-vehicle communication will take place on 22 and 23 October 2008. At the Opel proving ground in Dudenhofen near Frankfurt am Main, the new car-to-car (C2C) communication technology is demonstrated in real life. The German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) is one of the parties involved in this project. On both days of the event, demonstrations will be given of the synergy between the separate technical components made by the partners in the CAR 2 CAR Communication Consortium (C2C-CC). DLR is joined in the consortium by almost all European automakers, several suppliers, and Fraunhofer and university institutes. The main contributions made by DLR scientists to this major project are the CODAR technology (Cooperative Object Detection And Ranging) and DLR's simulation expertise.



DLR operates a camera system transmitting large-scale image data

During the live demonstration, the audience, consisting of representatives from the automotive industry as well as journalists, will experience the state of the art in innovative C2C technology "live", allowing them to familiarise themselves with the new possibilities created by this technology. The demonstration will revolve around five selected case studies. DLR is responsible for one of these. The task assigned to

DLR is to create an almost real-time representation of the traffic situation at the proving ground and all the communication links involved. The idea is to consolidate all the spontaneous, self-organising and short-lived communication links between the vehicles into a traffic situation display showing their precise geographic locations in such a way as to be insightful to laypersons as well. Other case studies will show how C2C technology can be used to prevent collisions between motorcycles and cars or to warn a driver of the presence of a breakdown van hidden from their view behind a curve in the road.

The C2C technology is considered to be a key technology for preventive road safety. The DLR Institute of Communications and Navigation (DLR-Institut für Kommunikation und Navigation) and the DLR Institute of Transportation Systems (DLR-Institut für Verkehrssystemtechnik) have made important contributions to this field over the past months, for instance by developing new methods for cooperative driver assistance based on vehicle-to-vehicle communication.

DLR is using this occasion to showcase its rather unique expertise in another way as well: During several overflights of the proving ground by a specially equipped research aircraft, high-resolution aerial images are recorded and analysed practically in real time to enable large-scale traffic situation assessment. For this purpose, DLR operates a camera system capable of transmitting large-scale image data (48 megapixels per photo, five by ten kilometres in two minutes) to a ground station. This system can record several images per second, enabling observation of dynamic processes such as road traffic. Parameters such as vehicle speeds, vehicle density and length of queues can be determined in this way. The system can improve traffic management during major events and calamities.

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