



## CVIS: connected vehicles for next-generation mobility

Press Release

*Helmond, 12 May 2009.*

CVIS, European flagship project for Cooperative Vehicle-Infrastructure Systems, today co-organises the first on-road demonstrations of core technologies and applications developed for Europe's universal platform for vehicle-to-vehicle and vehicle-to-infrastructure communication and services.

Connected vehicles and infrastructure can produce and share real-time traffic and environment information, which, when processed and delivered to drivers, will improve mobility efficiency, lead to fewer traffic accidents and reduce road congestion, fuel consumption, CO<sup>2</sup> emissions and driver frustration.

The CVIS technologies and applications developed over the last years are now moving out of the laboratory and onto the road. At its first European test site to go live, CVIS is showing real-life applications using 5.9 GHz wireless LAN and cellular 3G communication media.

The first demonstration will show how specific types of vehicles such as emergency vehicles, public transport vehicles or trucks with dangerous goods can actively communicate with roadside equipment such as traffic lights. An emergency vehicle informs a traffic light of its approach, is identified and is given green priority, while other road users are warned against potential collisions.

A second application will demonstrate how drivers receive recommendations on the best route to their destination as well as predicted travel time for alternative routes. The journey time estimation takes into consideration the detailed traffic signal plan rather than average traffic flows. Vehicle-infrastructure communication also allows traffic signals to be synchronised with vehicles, sending to drivers a recommended speed to pass through the next traffic lights during the green phase, leading to significant fuel savings.

Another demonstration features enhanced (sub-1 metre) positioning, digital maps and location referencing, able to help a driver stay in lane by use of driver assistance systems such as lane departure warning.

Also demonstrated is a safety application where a vehicle broadcasts a hazard warning when its driver is detected to enter a one-way road in the wrong direction. Roadside and on-board equipment will immediately inform all vehicles in the vicinity, while the traffic centre will send radio warnings and use variable message signs to warn vehicles of the approaching "ghost-driver".

CVIS also includes a number of innovative cooperative applications for commercial freight and fleet vehicles. In this demonstration a fleet operator or goods delivery vehicle can request a reservation of a parking space (e.g. at a motorway service area) or a roadside delivery location and time slot. A central booking system processes the reservation and sends a confirmation to

the vehicle. If needed, due to e.g. traffic delays, the vehicle will update the centre of its progress and will receive an updated booking.

In the city, truck drivers need to be informed when approaching a zone where access is restricted (e.g. truck-free zone, weight limit, time-specific access bans...). A CVIS application provides appropriate driving recommendations to the driver when approaching the area and allows the vehicle to negotiate favourable treatment through the traffic control system in return for making the journey at the optimum time for the road network operator.

As well as preparing the technologies and applications for demonstrations during 2010, the CVIS consortium has also been taking first steps to prepare the way for deployment. At this stage the pathway to rolling out products is still unclear, as is the business model for successful services. CVIS is also addressing potential deployment barriers such as technical, service and information content interoperability, data security and privacy, product and service liability, government policy and user acceptability.

*"The deployment of cooperative mobility technologies holds the promise of many new benefits, but we also need to ensure that potential privacy issues are seriously considered and public acceptance ensured before these new technologies will come into the market"*, says ERTICO's Paul Kompfner, CVIS Project Manager.

The universal platform developed by the CVIS project connects vehicles and roadside systems continuously and seamlessly using a wide range of communication media, including mobile cellular and wireless local area networks, short-range microwave or infrared. The public demonstration of the CVIS platform is a major step towards mature vehicle-to-vehicle and vehicle-to-infrastructure communication and services.

Presented today to potential users beyond the CVIS consortium, this platform will be available for any current or future project needing a development prototype readily adaptable for both vehicle-to-vehicle (V2V) and/or vehicle-to-infrastructure (V2I) applications. *"The availability of this platform is expected to lead to the development of many new and enhanced in-vehicle and cooperative services for increased road safety, efficiency, and traveller convenience"* comments Hermann Meyer, CEO of ERTICO-ITS Europe.

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Notes to the editor

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[About ERTICO - ITS Europe](#)

ERTICO - ITS Europe, a multi-sector partnership dedicated to the development and deployment of intelligent transportation systems and services (ITS). ERTICO supports the implementation of ITS solutions to achieve safe, efficient, clean, secure and affordable cooperative mobility in the EU and beyond.

### [About the CVIS \(Cooperative Vehicle-Infrastructure System\) project](#)

CVIS is an integrated R&D project co-funded by the European Union under the ICT (Information and Communication Technologies) priority of the 6th Framework Programme for Research. With a budget of over €40 million and a consortium of over 60 leading industrial, public and academic organisations, CVIS will complete its 4-year programme in early 2010. CVIS is coordinated by ERTICO-ITS Europe.

The CVIS project has designed and developed, and will now test the technologies that enable vehicles to communicate directly with other vehicles and with local traffic management systems. CVIS has created a mobile router with multiple communication interfaces, innovative positioning techniques and supporting services for the deployment of application. CVIS' achievements will be applied in test sites in seven countries across Europe, to increase road safety and efficiency and reduce the environmental impact of road transport.

[WLAN 802.11p](#) provides wireless access for vehicles, trucks and trains and was developed to support intelligent transport systems. This includes data exchange between high-speed vehicles and between the vehicles and the roadside infrastructure in the licensed ITS band of 5.9 GHz (5.85-5.925 GHz).

### [European Commission decision on ITS radio frequency allocation](#)

The EU Commission decided last August 2008 to allocate a single radio frequency band for vehicle communication systems across Europe (5.9 GHz). They are based on wireless communication technology and allow vehicles to 'talk' to other vehicles and to the road infrastructure providers.

[Dedicated short-range communications \(DSRC\)](#) are one-way or two-way short- to medium-range wireless communication channels specifically designed for automotive use and a corresponding set of protocols and standards. It offers communication between the vehicle and roadside equipment. It is a sub-set of the RFID-technology. This technology for ITS applications is working in the 5.9 GHz band (U.S.) or 5.8 GHz band (Japan, Europe). Former standard used the 915 MHz band. Currently its main use in Europe and Japan is in electronic toll collection. DSRC systems in Europe, Japan and U.S. are not, at the present moment, compatible.

[3G is the third generation](#) of standards and technology that is based on the International Telecommunication Union (ITU) family of standards. 3G networks enable network operators to offer users a wider range of more advanced services that include wide-area wireless voice telephony, video calls, and broadband wireless data, all in a mobile environment. 3G networks are wide-area cellular telephone networks that evolved to incorporate high-speed Internet access and video telephony.

[UMTS \(Universal Mobile Telecommunications Service\)](#) is a third-generation (3G) broadband, packet-based transmission of text, digitized voice, video, and multimedia at data rates up to 2 megabits per second (Mbps). UMTS offers a consistent set of services to mobile computer and phone users, no matter where they are located in the world. UMTS is based on the Global System for Mobile (GSM) communication standard.

