Press Release

Kapsch becomes member of Car2Car Communication Consortium

Collaborating to shape the future of car driving in Europe

Vienna, April 14, 2016 – Kapsch has recently become a member of the Car2Car Communication Consortium (www.car-2-car.org), an association of European vehicle manufacturers, suppliers, IT companies, and research organizations. The goal of the Consortium is the improvement of both safety and efficiency of road traffic by means of new communication technology. Toward this end, the organization is dedicated to the standardization and improved use of technology for Vehicle-to-Vehicle (V2V) communication as well as Vehicle-to-Infrastructure (V2I) communication – together, referred to as V2X. "When it comes to V2X, cross-industry cooperation essential," explains Georg Kapsch, CEO of the Kapsch Group. "Integrating vehicles into a communication infrastructure is the basis for solutions that not only enable better traffic management but also increase safety and security in road traffic and reduce the environmental impact. V2X technology is considered one of the key elements of automated driving in the future." Kapsch Components, the Kapsch Group's production company, contributes its expertise from the development of specialized radio modules designed specifically for the diverse requirements and formats of V2X technology to the Consortium.

Cars able to "see around the corner"

Improved safety and security on the roadways is one of the main objectives Kapsch pursues with V2X automotive solutions. As part of a test project conducted in Sweden in the fall of 2015, Kapsch V2X modules were used to allow vehicles to "see around the corner" at an intersection. The technology used by Kapsch builds on the open Wi-Fi technology adapted to specific automotive communication requirements. This technology is used by vehicles to communicate with each other and exchange information with their surroundings (e.g. infrastructure components and pedestrians), including information on location, speed, and direction. This function exceeds previous sensors such as radar and cameras in Advanced Driver Assistance Systems, or ADAS, and enhances 360 degree perception beyond mere vision. In the event of danger, the vehicle automatically initiates braking to avoid collision. To achieve this, the Kapsch V2X module was integrated into an Autonomous Emergency Braking system, or AEB, and demonstrated in a test vehicle. The technology has potential for the future: The US Department of Transportation for example anticipates an 80 percent reduction in traffic accidents upon large-scale use of V2X.

A freight train on the street

In addition to safety and security, V2X also offers ways to use transportation means and infrastructure in a more efficient manner. In so-called platooning, several trucks are connected to a single convoy using V2X. Only the first truck in a convoy is actively controlled by a driver, the others follow automatically at intervals of several meters. The trucks not only share information on their environment amongst each other, the lead truck also communicates braking, avoidance, or acceleration maneuvers

to the following trucks. “In addition to greater safety and security, platooning offers the advantage of up to 20 percent lower fuel consumption – because the following vehicles remain in the slipstream of one another – as well as more comfortable travel. It is comparable to a freight train on the street,” explains project manager Adam Tengblad of Kapsch TrafficCom.

The potential of this application has been recognized. In cooperation with the European Commission, European automotive manufacturers have already begun to prepare themselves for the active use of platooning. The results of the European Platooning Challenge were presented during Intertraffic Amsterdam 2016.

Cooperative and intelligent transportation systems

The strategic term C-ITS (Cooperative Intelligent Transportation Systems) is used by the European Commission to refer to all technologies designed to enable vehicles to communicate with each other or with the traffic infrastructure.

Factors such as safety, security, and reliability have to be taken into account. Information sent from a car to another car or to traffic infrastructure must satisfy reliable standards – both concerning the integrity of the data as well as the speed and stability of data transmission. In particular when this information is intended to be directly translated into actions – such as initiating an automatic braking maneuver. Achieving homogeneous reliability throughout the EU is only one challenge that has to be mastered before C-ITS can become a reality in Europe. Data protection is another aspect. Often, C-ITS data are also personal data, the transmission of which must be regulated by law.

The Car2Car Communication Consortium also lends its expertise and specific information to support the discussion surrounding the legal framework for C-ITS.

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