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## Technical Background

### **“Assistance Systems Have to be Supportive, Not Patronising”**

**Future Trends for Driver/Vehicle Interface, Information & Assistance Systems are Topics at the FISITA 2006 World Automotive Congress.**

*London / Yokohama, 23 October 2006* – Over the past 50 years, vehicle safety systems such as seatbelts and airbags have succeeded in making driving less dangerous and more comfortable. This development is continuing with the ongoing implementation of Advanced Driver Assistance Systems (ADAS) in vehicles. Already present in many parts of modern cars, these systems will become even more common in the near future. Their job is to relieve drivers from tasks that may distract their attention from the traffic around them. For example, an assistance system that is currently being developed uses the entire windscreen to display key information. Other systems significantly reduce the vehicle’s stopping distance or allow cars to communicate with each other. However, even though such systems are now able to provide more functions than even before, they will never be a complete substitute for the driver. They merely act as a “co-pilot” to improve the driver’s ability to drive safely. Papers focusing on the latest developments in this field are being presented by engineers from all over the world at the FISITA 2006 World Automotive Congress. The congress takes place from October 22 – 27 in Yokohama, Japan.

#### **Entire Windscreen Serves as a Display**

Engineers from Denso have developed a windscreen display on which information from such sources as the car’s navigation system or a night vision camera can be superimposed. What makes this system unique is that the entire windscreen can be used as a display. Symbols from the navigation system are visualised in such a way that they appear to be integrated into the traffic. “This makes it much easier for the driver to take in the information”, says Koji Nakamura from Denso’s Research Laboratories. This in turn makes driving safer, as drivers no longer need to divide



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their attention between the traffic and the vehicle's instruments. Studies have shown, however, that several problems with a driver's image perception still have to be solved before the system is ready for the market.

The task of the Emergency Brake Assist (EBA) system is to reduce a vehicle's stopping distance. It detects a fast application of the brake pedal such as that which occurs in a panic braking situation. The system then builds up additional brake pressure in order to achieve the maximum braking performance. During the Congress, engineers from Peugeot Citroën and Renault will be presenting the advantages of this system.

### **Cars Communicate with Each Other**

Vehicle-vehicle communication and vehicle-roadside communication are the focus of a US project that is currently in the early stages of development. The project, called INTI – Integrated Network of Transportation Information, is organised by the Intelligent Transportation Society of America (ITS America). “In effect, drivers would receive real-time information about the traffic density or accidents on the road ahead. This can prevent crashes and increase safety and mobility”, says David Acton, member of the board of directors of ITS America.

“An assistance system has to be supportive, not patronising. The driver should be able to switch it off if he wants to”, says Klaus Kompass, Director of Integration Driver Assistance Systems and Active Safety at BMW. According to engineers from BMW Group, the technology has to keep the driver on a “mean activation level”, preventing either fatigue or stress. The systems are only intended to play the role of a “co-pilot”.



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Founded in Paris in 1948, FISITA (the Fédération Internationale des Sociétés d'Ingenieurs des Techniques de l'Automobile / International Federation of Automotive Engineering Societies) is the world body representing over 144,000 automotive engineers. FISITA brings together the national automotive engineering societies in 38 countries to disseminate and share leading-edge technical knowledge in order to improve automotive transportation for the benefit of mankind. FISITA is a non-profit educational and scientific organisation dedicated to promoting advances in automotive technology that save lives, protect the environment and conserve natural resources.

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