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Technology News

Searched: HMI which stimulates eco-friendly driving

December 07, 2011 | Christoph Hammerschmidt | 222901957



How can the design of a Human-Machine Interface (HMI) encourage drivers to change their driving behavior and reduce fuel consumption? This is the central question for the European research project ecoDriver. The Institute for Motor Vehicle Technology (IKA) of the RWTH University (Aachen) gets granular on this topic.

of pre-programmed engine data and average fuel consumption as well as current data on engine RPM and speed to generate an estimate and indicate the current fuel consumption. Experience, however, has shown that these indications have rather little impact on actual driver behavior.

A car's fuel consumption depends largely on how the driver treats the gas pedal - but also factors such as tire pressure, loading, engine performance and environmental conditions affect the fuel consumption. The goal of the ecoDriver project is finding HMI concepts for driver assistance systems that take all these factors into account - along with the individual drivers' driving habits. These concepts shall, according to the researchers' intentions, provide a simple indication along with basic guidelines that help the driver to reduce fuel consumption. The project aims in particular to a long-term motivation of the driver with regard to a fuel-conscious driving style.

In order to reach this goal, the IKA plans to investigate the influence of different interaction concepts to driving behavior, fuel consumption and driving style. These trials will be conducted at a driving simulator; as soon as the alternatives have been reduced to one model, the concept selected will be implemented as a prototype and tested in a real vehicle. Besides the effectiveness of the model, the acceptance of test persons will be evaluated.

The project is funded in part by the European Commission. Besides IKA further participants are BMW, Daimler, University of Leeds, the Fiat research center in Italy, navigation system company Navteq, IFFSSTAR in France and others.

For further information, visit www.ika.rwth-aachen.de

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