

Highly Automated Driving Taking Shape

EU funded project HAVEit is set to make vehicles safer, more environmentally-friendly and efficient by enhancing their level of automation. After more than three years of research work on intelligent driver assistance systems, seven vehicles demonstrating concrete results are to be presented in Borås (Sweden) on 21 and 22 June 2011.

Frankfurt am Main, Germany, 14 April, 2011. Research concepts and technologies for reducing drivers' workload, preventing accidents and reducing environmental impact, these are the objectives of the EU funded R&D project HAVEit ("Highly Automated Vehicles for Intelligent Transport"). HAVEit research focuses mainly on reducing mistakes made by distracted, overloaded or tired drivers when driving in congestions or long-haul trips for example. The project has developed coherent vehicle concepts, combining cutting-edge integrated information and sensor technology. These "intelligent" vehicles are able to assist the driver through various, situation-dependent, levels of automation by providing indications or carrying out the driving task independently. The driver still remains completely responsible at any point in time: He or she has to monitor the system carefully and can take over the complete driving task at any moment.

HAVEit was launched in February 2008. The findings of the three-year research project are to be presented on a Volvo test track in Borås (Sweden) on 21 and 22 June 2011. Four of the seven vehicles include the development and validation of innovative safety, comfort and active green driving applications. Here, highly automated driving will support the driver in overload as well as underload situations and can further improve the fuel consumption and efficiency of vehicles. The applications being developed are an Automated Roadwork Assistance and a Temporary Auto-Pilot, both to be demonstrated in a passenger car, with a truck demonstrating the Automated Queue Assistance and an Active Green Driving hybrid bus.

The other three vehicles cover safety architectural issues: The migration from fail-silent to failure-tolerant systems towards a safe platform for possible later development of a fully automated vehicle. The applications to be demonstrated are a Brake-by-Wire Truck for open roads, a Joint System Interaction vehicle and an Architecture Migration Demonstrator vehicle.

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Driving with a co-pilot – Helping drivers and the environment

All demonstrated vehicles with a high degree of automation have an installed “co-pilot” system which analyses traffic, the surroundings and the current status of the vehicle. It computes ideal driving manoeuvres and executes these according to the selected level of automation, reducing fuel consumption and optimising the flow of traffic. But highly automated driving also increases road safety as it relieves drivers of tiring and straining tasks. This applies to mentally straining situations such as roadworks as well. An onboard camera recognises if drivers are distracted and the system can warn them of impending danger or intervene in an emergency. The responsibility, however, always remains with the driver who can decide against automated driving at any point in time and can always “override” the system.

About HAVEit – Funding and consortium

17 European partners from the automotive and supply sector as well as from the scientific community collaborate in the HAVEit project, for example Continental, Volvo Group, Volkswagen and the German Aerospace Center (DLR). Seven research vehicles are to be presented at the Final Event. Four cars, two trucks and one bus will be showcasing technologies which are decisive for future series production. “HAVEit demonstrates that automated driving is not simply a dream, but can already be implemented in a near-series environment with today’s technologies”, explained Dr. Reiner Hoeger (Continental), HAVEit project coordinator.

In total, investments of EUR 28 million were made into HAVEit, EUR 17 million of which were EU grants and EUR 11 million were contributed by the 17 partners, of which EUR 7 million are invested by the automobile industry.

The HAVEit consortium consists of vehicle manufacturers, automotive suppliers, scientific institutes as well as small and medium-sized companies from Germany, Sweden, France, Austria, Switzerland, Greece and Hungary:

- Continental AG
- Volvo Technology AB
- Volkswagen AG
- EFKON AG
- Sick AG
- Haldex Brake Products AB
- Knowllence
- Explinovo GmbH
- German Aerospace Center (DLR)
- Ecole Polytechnique Fédérale de Lausanne (EPFL)
- University of Athens, Institute of Communications and Computer Systems (ICCS)
- University of Applied Sciences Amberg-Weiden
- Budapest University of Technology and Economics
- Universität Stuttgart, Institut für Luftfahrtsysteme
- Wuerzburg Institute of Traffic Sciences GmbH
- Institut National de Recherche en Informatique et en Automatique (Inria)
- Institut français des sciences et technologies des transports, de l'aménagement et des réseaux (IFSTTAR)

For further information, please visit www.haveit-eu.org.

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