



Electrical Brake System Increases Traffic Safety and Handling of Trucks

A new brake-by-wire-system shortens braking distance by 15 percent

Gothenburg / Borås (Sweden), June 21, 2011. The steady growth of road transportation is an increasing issue in today's traffic stream. The more trucks and busses there are on the open road the more important and critical are their braking performance to avoid crashes and blocked motorways. Over the years, new brake system technologies on commercial vehicles have been developed and introduced. Brake-by-wire is a new method of transferring the power of a vehicle's brake pedal to the brakes. "By wire" in this case means that the new system transfers the brake force electronically instead of pneumatically. A Brake-by-Wire demonstrator truck developed to meet the brake regulations according to ECE-R13 will be shown today at the Final Event of HAVEit, an EU funded project on highly automated driving, thereby strongly promoting safe and intelligent mobility of both people and goods.

The HAVEit Brake-by-Wire demonstrator truck is a perfect example of the HAVEit technology partnership between an OEM like Volvo, a supplier like Haldex, a scientific institution like the University of Stuttgart (Germany) and a specialist company like (Explinovo). "Research work aiming at improving safety, such as the progress within brake technology, is of great importance to Volvo and the ambition to reach our zero accident vision," says Carl Johan Almqvist, Volvo Trucks.

The vehicle is equipped with a full Brake-by-Wire system which replaces the current technology based on a pneumatic system. The now fully electromechanical brake system enables increased braking performance for actuation and advanced slip control resulting in an improved stability control and reduced stopping distance by about 15 percent compared to state-of-the art brake systems. The system uses the principle of self-enforcement for generating brake force. This means very low energy consumption compared to alternative systems. Apart from these advantages the driver has a better pedal feeling. The truck itself profits from an improved brake balance and therefore improved vehicle stability.

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“The HAVEit Brake-by-Wire demonstrator truck is an important milestone for the automotive industry as it is designed in accordance with the regulations of ECE-R13 and therefore an important step towards the commercialization of this technology”, says Fredrik Seglö, Product Manager at Haldex.

The demonstrator truck is equipped with an electromechanical brake system developed by Haldex and uses a redundant system architecture to ensure safety and to comply with the brake regulations. In the system controllers for the system a redundancy management, developed by the Faculty of Aerospace Engineering at the University of Stuttgart (ILR) is used and in order to secure FlexRay/CAN communication between the brake system and the overall system a gateway was developed by Explinovo.

On the HAVEit Final Event various driving scenarios will be demonstrated showing both braking performance and system redundancy. This includes braking on a low friction area and simulation of system failures.

About HAVEit

The EU funded R&D project HAVEit („Highly Automated Vehicles for Intelligent Transport“) is set to develop research concepts and technologies for highly automated driving. This will help to reduce the drivers' workload, prevent accidents, reduce environmental impact and make traffic safer. Launched in February 2008, 17 European partners from the automotive and supply sector as well as from the scientific community collaborate in the project. 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 and scientific institutes from Germany, Sweden, France, Austria, Switzerland, Greece and Hungary:

Continental, 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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About Haldex

Haldex (www.haldex.com), headquartered in Landskrona, Sweden, develops and provides reliable and innovative solutions with focus on brake and air suspension products to the global commercial vehicle industry. Haldex is listed on the Nasdaq OMX Stockholm Stock Exchange, Haldex had net sales of 3.7 billion SEK 2010. The number of employees amounts to about 2,200.

About Volvo Technology

Volvo Technology is the centre of research and innovation within the Volvo Group and responsible for long term technological development as well as both basic and applied research & development. Volvo Technology is a wholly owned subsidiary of the Volvo Group.

The mission of our company is to develop a lead in existing and future technology areas of high importance to the Volvo Group.

Our customers include all Volvo Group companies and Volvo Cars but also some selected suppliers.

We participate successfully in national and international research programmes involving universities, research institutes and other companies in the industry.

Volvo Technology is formally a business unit within the Volvo Group, with ~500 employees and is located in Sweden, France, North America and Asia.

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