

The airbag listens too

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New airbag sensor recognizes the seriousness of a crash from the noise

From 2007, airbags in our cars will start to listen: The automotive supplier Siemens VDO Automotive AG has developed a sensor that monitors the vibrations in the vehicle's chassis. Thus an accident is heard early on and the seriousness of the accident can be assessed in just a few milliseconds. The airbag control unit then triggers the seatbelt tensioner and the necessary airbags in order to protect the passengers as well as possible.

As long as our cars are not in a position to avoid accidents completely, the electronics at least reduce the consequences of the accident to a

minimum for the vehicle's passengers. Seatbelt tensioners, and now a number of different airbags, are used in the interior. To enable the protective functions to be activated quickly, however, the first step is for the vehicle electronics to recognize the accident. Siemens VDO has been supplying crash sensors to almost all car manufacturers worldwide since 1996. At the moment, acceleration sensors are used to recognize an accident and pressure sensors are built into the automobiles for a quick reaction to side impact.

From 2007 onwards, a new sensor, which can also hear the accident, will be introduced to supplement the current options that have been tried and tested millions of times. With the Crash Impact Sound Sensor - CISS for short - working together with the airbag control unit, an accident can be recognized and the seriousness of the accident assessed even more quickly. Engineers exploit the fact that vehicle deformation depends on the seriousness and type of accident and leads to different impact sound waves. Together with the acceleration signals, these deformation noises produce a precise image of the accident and allow restraint systems to be triggered individually.

CISS will be fitted as additional sensors for the first time in 2007. For the future, Siemens VDO is planning to integrate the sensor in the airbag control unit so that the transmission of information within the vehicle and the installation of the safety system can progress even more quickly. At the same time, Siemens VDO is working on enhancing the vision of the "seeing automobile" and thus preventing accidents in advance.

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