

HONEY Lays the Cornerstone for Highly Complex Driver Assistance Systems in Medium-Sized Vehicles; HONEY Research Project Successfully Concluded

Even today, a medium-sized vehicle contains about 1,000 chips and as many as 80 networked electronic systems. These numbers are set to grow as state-of-the-art safety technology gains traction - for example, driver assistance systems that help to prevent hazards such as rear-end collision in fog. The tight design envelope of a car means that existing systems have to become ever smaller and new ones have to be as compact as possible. This is where the findings of the recently successfully concluded 'HONEY' (highly optimized design methods for yield and reliability) research project come in.

The four project partners from the world of German semiconductor technology have addressed design methods in chip development and come up with results solving the widespread dilemma previously often associated with the use of smaller feature sizes: The deployment of state-of-the-art manufacturing technology did not automatically lead to smaller chips and hence compacter systems. HONEY's newly developed statistical and systematic design methods pave the way out of the predicament. They are employed in the early stage of circuit design for a new chip generation and methodically incorporate its process technology.

The new methods are already being integrated into existing design systems and will be available for chip development in about a year. The new design methods will enable the development of reliable chip systems in state-of-the-art manufacturing technology. In so doing, they significantly contribute to introduce a driver assistance system to the medium-sized car within the next few years.

The partners of the HONEY project were the Institute of Microelectronic and Mechatronic Systems of the Free State of Thuringia (IMMS GmbH), the software tool producer MunEDA GmbH, X-FAB Semiconductor Foundries AG, and the semiconductor manufacturer and project leader Infineon Technologies AG. IMMS and X-FAB worked out new chip design and automation methods for analog circuits and Infineon those for the digital components. MunEDA contributed software support solutions. The new development methods also enhance product analysis and production control.

The German Federal Ministry of Education and Research (BMBF) funded the HONEY research project to the tune of Euro five million as part of the ICT 2020 Information and Communication Technologies program. The three-year HONEY program was conducted under the auspices of the MEDEA+ European Research Initiative.

Further information

You will find further information on the HONEY project at <https://secure.edacentrum.de/honey>