THURSDAY, DECEMBER 10, 2009

Infineon spearheads German research 'CoSiP' project with partners

NEUBIBERG, GERMANY: The growing complexity of microelectronic systems makes it necessary to align and coordinate the development of chips, packages and boards at a very early stage, especially when it comes to system-in-package (SiP) applications.

In order to carry out research into an end-to-end SiP design environment of this type, Infineon Technologies AG has spearheaded the "CoSiP" project with its partners Amic Angewandte Micro-Messtechnik GmbH, the Fraunhofer Institute for Reliability and Microintegration (IZM), the Automotive Electronics division of Robert Bosch GmbH, and the Corporate Technology division and Healthcare sector of Siemens AG.

CoSiP stands for the "development of compact, highly miniaturized and energy-efficient systems using the co-design chip-package system". The project, co-funded by the German Federal Ministry of Education and Research (BMBF), is due to be completed by the end of 2012.

As part of the CoSiP project the five partners will devise new design methods that will enable the components of an SiP – i.e. two or more chips combined into a single chip package – to be developed together with the board the chip is mounted on, allowing them to be adapted to suit it.

The project partners aim to create the foundations for the design tools needed for SiP development. The results of the research project will help ensure the optimal utilization of existing and future technologies for SiP applications. The development time for SiP designs could be reduced by at least one-third. Siemens Healthcare and Corporate Technology will apply the research results in the field of medical technology, while Bosch will utilize the results in the automobile industry.

In the past it was customary to develop the three design domains of a SiP – chips, chip package and board – in sequence and independently of each other; there was generally no link-up between chip development and the development of either the chip package or the board. Optimization of each of three system components also took place in isolation.

Going forward, however, system development will require the interdependent end-to-end co-design of chips, chip package and system, and the CoSiP research project is paving the way for this.

The four private enterprise project partners are funding about 50 percent of the CoSiP research project. In line with the German government's high-tech strategy, the Federal Ministry of Education and Research (BMBF) is providing the remaining 50 percent of project funding as part of its Information and Communication Technology 2020 (ICT 2020) program.

The aims of the ICT 2020 program are, among other things, to promote the development of microchips as an interdisciplinary enabling technology and to consolidate and strengthen Germany's technological lead in the field of information and communication technology.

The project work is being carried out in close cooperation with the European MEDEA+ project "Chip/Package-System Co-Design - An Enabler for Compact System-in-Package Solutions".

Posted by Pradeep Chakraborty at 3:52 PM

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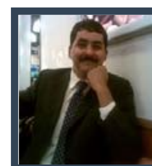

Pradeep Chakraborty

I have multiple interests, including sports, reading, writing, etc. My blog was selected as the best in the world in the Electronic Hardware category for 2008, by Electronics Weekly, UK. It also received an Honorable Mention @ Blognet Awards 2009!

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