

## EU-project focuses on multicore processor designs

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PARIS " Backed by the European Union, the Institute of Computer Science at the Augsburg University, in Germany, is about to coordinate a 2 million (\$2.8 million) project on embedded processor technologies.

The MERESA (Multi-Core Execution of Hard Real-Time Applications Supporting Analyzability) project aims to develop multicore processor designs, from two to sixteen cores, for hard real-time embedded systems hand in hand with timing analysis techniques and tools so as to ensure the analyzability and predictability regarding timing of every single feature provided by the processor. Participants indicated that design exploration activities will be performed in conjunction with the timing analysis tools.

The project will address both static WCET analysis tools (the OTAWA toolset) as well as hybrid measurement-based tools (RapiTime) and their interoperability, researchers added. The project will also develop system-level software with predictable timing performance.

To limit production costs and technology integration risks, researchers said they will investigate hardware-based real-time scheduling solutions that empower the same multi-core processor to handle hard, soft, and non real-time tasks on different cores. The developed hardware/software techniques will be evaluated by application studies from aerospace, automotive, and construction-machinery areas performed by selected industrial partners, they continued.

Besides the Institute of Computer Science at the Augsburg University, project partners include the Barcelona Supercomputing Center in Spain, the Institute of Computer Science Research at the Paul Sabatier University in Toulouse, France, Rapita Systems Ltd. in the United Kingdom and Honeywell spol. in Czech Republic.

An industrial advisory board has been formed. It is composed of Airbus France (Toulouse, France), BAUER Aktiengesellschaft (Schrobenhausen, Germany), ESA-ESTEC (European Space Research and Technology Centre), Infineon Technologies AG (Munich, Germany) and NXP Semiconductors (Eindhoven, The Netherlands).

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