## **Information for Press**

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# Next Decade Smartphones Multi-core solutions for mobile devices EU sponsors research project with 2.9m EUR for two years

Ruhr-University Bochum, one of the ten biggest universities in Germany, announced today that it has added another European project to its growing list of successes: eMuCo (Embedded Multi-Core Processing for Mobile Communications). eMuCo (www.emuco.eu) is an international project with a total budget of 4.6M EUR, which is supported by the European Union under the Seventh Framework Programme (FP7) for research and technological development with 2.9M EUR. eMuCo will improve the user experience of mobile devices due to its high performance multi-core approach still providing low power consumption.

### Seamless and secure integration of different software environments

"To exploit the enormous performance gain provided by multi-cores as can be seen in today's PCs, we make use of virtualization technologies that enable us to create a flexible and scalable software architecture for embedded mobile devices" says Prof. Dr. Attila Bilgic, who is leading the Integrated Systems institute of RUB and is coordinating the eMuCo project. "Virtualization techniques provide a spatial and temporal separation of the resources, allowing a seamless and secure integration of different software environments, such as applications running on different operating systems and different protocol stacks on the modem subsystem side".

#### Multi-core platforms point to be the solution of future mobile devices

Multi-core systems for mobile devices are an emerging technology with several paradigms to face. But feature-rich phones with very sophisticated user interfaces, such as the iPhone or the BlackBerry Storm, will need the performance provided by multi-core architectures. eMuCo will exploit the capabilities of multi-core solutions and demonstrate the basic functionality of mechanisms necessary to meet the challenges of their usage. "With the recent advances in wireless networks and the exponential growth in the usage of multimedia applications, multi-core platforms point to be the solution of future mobile devices and with it a new paradigm has emerged, which we have called into the eMuCo project: Load Balancer for Mobile Devices" says Dr. Maria Elizabeth Gonzalez de Izarra, leading the eMuCo research team at RUB. "The rich amount of information provided by the protocol stack and the predictable interdependency of the protocol stack processes mark the difference between a general purposes load balancer and a load balancer for mobile devices, and naturally, it is the key to get the solution for a load balancing over multicores with real time constraint considerations on these devices".

#### Partners

This project is coordinated by Prof. Dr. Attila Bilgic and carried out by a consortium of academic and industrial partners: Ruhr-Universität Bochum, Infineon (Germany), Telelogic (Sweden), ARM (United Kingdom), Technische Universität Dresden (Germany), University of York (United Kingdom), "Politehnica" University of Timisoara (Romania), and GWT-TUD (Germany).

## **Further information**

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