News Release/Presseinformation

Joint press release of the project partners of the European research project "Verdi" (Fraunhofer IIS/EAS - Germany, Infineon Technologies Austria, NXP Semiconductors – The Netherlands, Continental AG - Germany, Continental Automotive France SAS, University Pierre & Marie Curie/LIP6 - France, Magillem Design Services – France)

"VERDI" creates innovative approach in electronic product design

Today's cars are no longer a simple means of transport but extremely complex and heterogeneous electronic systems with a lot of safety and comfort functions. With existing methodologies this complexity leads to significant difficulties in the developing process of such so-called system of systems products. In the next three years the seven partners within the European project VERDI will work on new methods and tools for the design process of the future. Their main goal is to safeguard a reliable functionality for electronic products. At the same time the partners want to facilitate a cost-effective development. The innovative approach of VERDI will shorten the time to market by up to 25 percent. The design costs should be reduced by at least 20 percent. Additionally, the project will contribute to an increasing product safety and robustness.

Available development tools or verification methodologies do not support heterogeneity across the analogue-digital-barrier. That is a problem for systems of systems. They consist of electronic devices working together with physically different components and software. These components, in turn, are part of bigger systems with which they have to be integrated. Until today the components are separately simulated and failures on system level are often just recognized after the production of a first hardware sample. This is not only an expensive and time-consuming process, but jeopardises the overall product success missing the market window.

For changing this, the Fraunhofer Institute IIS/EAS, who leads the project, works together with the University Pierre & Marie Curie and the enterprises Continental, Infineon Technologies Austria, NXP Semiconductors and Magillem Design Services. Jointly they want to better link the system design, verification and prototype validation by an efficient integral verification and validation methodology. At a very early stage this will enable the developer to analyse whether a product is designed in the right way and with the requested specifications. The effectiveness of the VERDI results will be demonstrated in real and representative automotive applications, like a braking system electronic control unit. But as the new methodologies will be brought to industry-recognised standards, the concepts will be applicable in other electronic domains, too. VERDI (Verification for heterogeneous Reliable Design and Integration) is sup-

ported by the European Commission within the 7th Framework Programme for Research and Technological Development with 3.15 million Euros.

How to reach the goal of reliable, safe and cost-effective product development

The new methodology should master the heterogeneous behaviour across domains and overcome traditional barriers between different design disciplines. To achieve this, the Verdi partners will define new methods to reuse and automate verification know-how and scenarios for hardware validation. They will better facilitate reusing these technologies between and within companies and for different product generations. Furthermore, new methods to bridge the gap between verification and prototype validation will be implemented. The result will be a unified electronic library concept to validate a system continuously throughout the product creation process.

About Fraunhofer IIS, Division EAS (IIS/EAS), Germany – project leader
The Fraunhofer-Gesellschaft is the biggest organisation for research of practical utility in Europe. The Institute for Integrated Circuits IIS operates in the fields of microelectronic systems and software. Its Design Automation Division EAS is involved in the Verdi project. The scientists develop methods and tools for the reliable design of electronic and mechatronic systems becoming more and more complex.

About NXP Semiconductors, Netherlands
NXP Semiconductors N.V. provides High Performance Mixed Signal and Standard Product solutions that leverage its leading RF, Analog, Power Management, Interface, Security and Digital Processing expertise. These innovations are used in a wide range of automotive, identification, wireless infrastructure, lighting, industrial, mobile, consumer and computing applications. A global semiconductor company with operations in more than 25 countries, NXP posted revenue of $4.4 billion in 2010.

About University Pierre & Marie Curie, LIP6, France
UPMC is the largest technical university in France. UPMC is involved in VERDI through the System on Chip (SoC) division within the Laboratory of Computer Sciences, called LIP6. Two teams of the SoC division are involved: ALSOC and CIAN. The ALSOC research activities concern methods and tools for multiprocessors system on chip design. The research areas of CIAN team focus on design methods and tools for analog and digital components that are integrated on the same chip.

About Magillem Design Services, France
Magillem has developed an easy to use, state-of-the-art platform solution to cover electronic systems design flow challenges in a context where complexity, interoperability and design re-use are becoming critical issues to manage design cycle time of SOC.

About Infineon Technologies Austria, Austria
Infineon Technologies Austria AG with its headquarters in Villach, its Research and Development Centers in Villach, Graz, and Linz as well as its IT Services GmbH in Klagenfurt, and a Sales Office in Vienna, with a total staff of 2,500 employees throughout Austria (900 of these in research and development), generated total sales of about 1.327 billion euros (including DICE) in the fiscal year 2010 (to end of September). Infineon Technologies Austria AG is a member of the Infineon Technologies AG group of companies.

About Continental AG, Germany
With sales of €26 billion in 2010, Continental is among the leading automotive suppliers worldwide. As a supplier of brake systems, systems and components for powertrains and chassis, instrumentation, infotainment solutions, vehicle electronics, tires and technical elastomers, Continental contributes to enhanced driving safety and global climate protection. Continental is also an expert partner in networked automobile communication. Continental currently has close to 160,000 employees in 45 countries.

About Continental SAS, France
Continental Automotive France founded in 1978 is the French establishment of Continental Automotive worldwide group. In cooperation with its 3 main business units, Power Train, Chassis and Safety and Interior, Continental develops automotive products for OEMs worldwide in order to optimize passenger and vehicle security, promote safety consideration, improve passenger comfort, increase engine performance, contribute to environment protection, bring drive pleasure and mobility, manage innovative ideas in communication systems and multimedia, and promote innovation.

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