Keynote: System of Systems – The Key Enabler for Future Applications

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Abstract

“The only thing more amazing than our technology is what the world does with it.” - Intel

As more and more diverse mobile devices are connected to the cloud computing technology continues to advance a faster merge of multiple communication technologies. Manifold new applications such as in health care or automotive connect and enrich the lives of every person on earth. “Internet of Things”, “Smart Everything”, or “Always Connected” are the new keywords characterizing the applications.

More than ever, we face unanticipated challenges in System of Systems development. Today, components are sophisticated systems themselves. As soon as such integrate into an even more complex product their interaction becomes as important as the individual systems. Rather than the most advanced technology the user experience in the ecosystem defines the success of a product. To make matters worse, the pace of innovation in the ecosystem continuously accelerates. All that is accompanied with having to serve all price segments allowing network access for everybody.

Only a new design philosophy tying all elements together will allow to reconcile these extremely diverging requirements. While System-on-Chip solutions providing the compute power for a tremendous amount of SW/FW remain essential, the System of Systems architecture itself is defined by the user experiences and must cover the interaction of the systems and related communication protocols. The road to success are end to end accountability for each use case as well as traceability of its implementation status. Combining user experiences with technology needs to be adhered in the next EDA generation.

This keynote will cover: 1) the System of Systems challenge in computing ecosystems, 2) the evolution in product development and their challenges, and 3) the requirements for the next EDA generation.

Curriculum Vitae

 Angela Schöllhorn studied solid state physics at the University of Duisburg-Essen. In 1984 she started her career in semiconductor business. Since then she has held several top-management R&D positions in the industry (Siemens, Infineon, INTEL) delivering Mobile Communication Solutions to leading providers such as Apple, Samsung and Nokia.