

Joerg Winkler / GLOBALFOUNDRIES

"FDSOI Technology and Dynamic Body Bias Compensation to Enable Next Generation AI/IoT and Automotive Products – An industrial perspective"

Vincent Huard / Dolphin Integration

"Dynamic aging compensation - the next key enabler of automotive products"

The automotive products, driven by ADAS needs, are now moving to very advanced CMOS nodes. This trend is helping a lot from soft errors perspective with a reduced architectural cost to achieve required FIT rate. But, on another hand, this trend is also generating enhanced risk with respect to end-of-life electrical wearout. Though such mechanisms can be managed statically with larger design margins, this is now often not possible in a context where leakage must also be reduced to support even higher junction temperatures. New solutions as dynamic aging compensation have been considered for the last decade as a research topic. But some groups are now moving towards an industrial usage of such dynamic aging compensation. This tutorial will guide you through the different research findings over the last decade and will give you clues on the most advanced solutions that will come in the next generation of automotive products.

Joerg Winkler is a Fellow Design Engineer at GLOBALFOUNDRIES. In this role, he is focused on digital design developments and SoC architecture solutions in the space of design-technology co-optimization for leading edge technology nodes. Dr. Winkler has worked in semiconductor digital design for the past 23 years, most of that time with AMD and GLOBALFOUNDRIES. With AMD he was chip architect in the areas of communications, x86 chipsets, and AMD's x86 Fusion APU's. He began his career with the Fraunhofer Institute of Microelectronic Systems in Dresden, Germany. Dr. Winkler holds graduate and doctoral degrees from Dresden Technical University

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