

Achieving system dependability: the role of automation and scalability

System dependability (including functional safety and reliability) plays a critical role in the autonomous vehicle and high-performance computing markets. In fact, it has been, already for a few years, an essential requirement. The increased scale and complexity of the semiconductor content, though, has made this goal quite more challenging to achieve in the last few years. This session will present how EDA and shift-left methodologies play a crucial role, providing automation and scalability. The session will start by reviewing requirements, challenges and opportunities for automation and then proceed to cover a shift-left approach for RTL based fault simulations to achieve functional safety. The last part will focus on a flow to mitigate soft-error rates in high reliability applications, starting from the identification of critical registers to the implementation of soft error detection techniques while maintaining PPA (Performance, Power, Area) constraints.

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