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EDA Research Needs: Perspective from a Smaller and More Focused EDA Company

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Abstract

Advanced package technologies such as 3D-IC and TSV (through silicon via) are enabling semiconductor companies to bridge the gap between highly scalable chip and package/PCB. Clearly, chip-package-system (CPS) convergence emerges as the key opportunity and challenge for the competitive industry. Implementation tools need to allow designing of multiple die along with the package in a single environment. Physical analysis and optimization tools need to be able to handle the multi-die complexity, while accurately model and analyzing the coupling effects of power, signal, reliability, thermal, and stress. The presentation will highlight some of the emerging and longer term research needs to address collaboration and design closure across multiple domains of engineering culture and expertise.