

# **Heterogeneous Integration & Reinventing the Technology Roadmap**

## **Abstract**

The electronic industry has reinvented itself through multiple disruptive changes in market, business, and technologies. We are now entering a new era of digital economy with data migration to the cloud, smart devices everywhere, Internet of Things to Internet of Everything, and the emergence of autonomous vehicles. While Moore's Law is slowing, the pace of technology innovation continues to expand to meet challenges of the new era. With the closure of ITRS by SIA (last ITRS 2.0 edition published on July 8<sup>th</sup> 2016), the crucial question is: what are the critical paths going forward?

The IEEE CPMT, EDS, and Photonics Societies, ASME EPPD and SEMI have joined in collaboration to re-invent the Technology Roadmap for the professional, industry, academia and research communities. The Heterogeneous Integration Roadmap (HIR) will follow directly the purpose, process and format of the ITRS for the 15-year assessment of future requirement, and 25-year assessment for emerging materials and devices. The roadmap will address disruptive changes in the market place, major challenges in technology requirements, while identifying roadblocks and potential solutions. The goal is to stimulate research to address the roadblocks and to realize the potential solutions.

This talk will report on this roadmap collaboration in the making of the HIR Roadmap and the work of the HIR Technical Working Groups in achieving the purpose to provide long term vision into the future and identifying the needs of future system applications.