



**25<sup>th</sup> International Conference on Electronic Packaging Technology**

**August 07 to 09, 2024, Tianjin, China**

**<http://www.icept.org>**

**Speech subject:** **Semiconductor Supply Chain 'Eco System' Overview**

**Speech leader:** Dr. Kitty PEARSALL IEEE EPS

**Speech Description/Objective:**

At the end of 2023 the semiconductor market had increased from \$532 Billion in 2023 to \$611 B mid-year 2024. This growth is viewed positively in the light of the recent Covid pandemic and ongoing supply chain disruptions. Since disruptions (all kinds) in the semiconductor supply chain are not going away the semiconductor companies must ensure that their entire “supply chain (SC) eco system” is complete, efficient and resilient.

Many SC experts use a pyramid to highlight the critical segments of the chip manufacturing fabrication process. Through the use of a SC pyramid, process experts highlight the essential needs and requirements, beginning to end, of the chip fabrication process eco system.

The resulting pyramid notes the intersection of the many entities involved, upstream and downstream suppliers, associated manufacturing equipment companies, and all vendors and distributors for each segment. The eco system includes chip design, chip design verification, wafer manufacturing, key essential raw materials, packaging, and assembly and test regardless of the entity type (foundry, OSAT facility, or IDM). The final chip is then designed into a sub-assembly, device, or a system that can be sold to consumers and government agencies.

A discussion of the equipment tools key to the chip fabrication process will also be presented. This will include design verification and test tools, deposition equipment, and lithography equipment.

**Speech Outline:**

- The semiconductor supply chain (SC) ecosystem.
- SC pyramid illustration of 6 segments describing the chip fabrication process
- Associated main player companies for each of the segments
- Semiconductor fabrication equipment suppliers and their market share

**Who Should Attend:**

Anyone interested in the Semiconductor SC eco system and the impact of each segment should find the presentation interesting.

**Introduction of Speaker:**

Kitty Pearsall received the BS degree in Metallurgical Engineering and her MS and PhD degrees in Mechanical Engineering and Materials from the University of Texas. Across my 41-year career at IBM, I was appointed to strategic roles in the Integrated Supply Chain while implementing global cross commodity processes/products. Since closing Boss Precision Inc at the end of March 2024, Kitty is now affiliated with Capstan Technologies.

Kitty has been an active member of IEEE for 34 years as well as an EPS member for 29 years, with growing roles and responsibilities, including EPS Past President and a member of the EPS Board of Governors since 2005. Kitty holds 13 US Patents and 8 published IP disclosures. Kitty has been recognized by IBM with many outstanding technical awards, by the University of Texas in Austin and by the IEEE Electronic Packaging Society. These include, but not limited to, those mentioned below:

EPS Distinguished Lecturer

EPS David Feldman Award

IBM Distinguished Engineer in Integrated Supply Chain

Member of the IBM Academy of Technology

IBM Women in Technology Fran E. Allan Mentoring Award