IEEE Malaysia Section Report: INEMI Forum on Complex Integrated Electronics

By

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The INEMI Forum on Complex Integrated Electronics, co-organised by the International Electronics Manufacturing Initiative (INEMI) and Penang Skills Development Centre (PSDC), marked a pivotal moment for Malaysia's semiconductor ecosystem. This industry forum brought together global and regional researchers, developers, and industry experts to address the challenges and opportunities in implementing complex integrated electronics through a collaborative, cross-disciplinary approach.

The Professional Academic Industry Relationship (PAIR) of IEEE Malaysia Section, in collaboration with IEEE Electronics Packaging Society (EPS) Region 10; IEEE EPS Malaysia Chapter; IET and IEM (eETD & MaTD) played a critical role in supporting and amplifying the technical depth of this forum. All the technical societies' involvement ensured that the discussions were aligned with global standards and emerging trends in electronics packaging and manufacturing. The forum's focus on advanced packaging technologies, including 3D packages in electrical, mechanical and thermal analysis, and assembly of hybrid bonding interconnects, directly supports towards the Heterogeneous Interconnect Roadmap (HIR) approach. These technologies are essential for enabling high-performance, compact, and energy-efficient systems, which are increasingly demanded across sectors such as automotive, telecommunications, and AI-driven computing.

One of the key outcomes of the forum was the formation of various action groups driven by INEMI to initiate collaborative industrial programs. These groups will focus on: Bridging roadmap gaps through targeted R&D and driving pilot projects in advanced packaging and smart manufacturing. The learning could further facilitate the knowledge transfer and training through INEMI/Malaysia Technical Societies supported initiatives. Besides, IEM eETA & MaTD both committed to supporting these efforts by organising follow-up workshops, technical seminars, and joint projects. These initiatives will ensure that Malaysia remains at the forefront of innovation in electronics packaging and manufacturing. Malaysia's position as a key player in the global semiconductor supply chain makes active engagement in such forums not just beneficial but essential.

Figure 1: Group Photo from the Participants that Engaging in the forum.

Figure 2: Representatives from IEM, IET and IEEE EPS Malaysia that attended the forum.