

IME & Elta Systems to develop TSV silicon interposers for Power Amplifier applications

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The Institute of Microelectronics (IME), an institute of the Agency for Science, Technology and Research (A*STAR), and electronic defence systems company ELTA Systems Ltd. (ELTA), a group and a wholly owned subsidiary of Israel Aerospace Industries (IAI), have inked an agreement to design and develop a novel through-silicon via (TSV) substrate technology for multi-chip module packaging. The collaboration will result in new applications in multi-chip modules in radar, communication, and electronic warfare systems. The new technology platform would enable miniaturisation of wireless applications that are faster, lighter and can withstand higher temperatures.

"Our collaboration with ELTA presents an excellent opportunity for IME to build upon the leadership we've established in the area of 3D IC packaging over the years," said **Professor Dim-Lee Kwong**, Executive Director of IME. *"Through our combined knowledge and industrial acumen, our joint goal is to develop innovative manufacturing and design processes to address the challenges associated with the use of TSV substrate technologies. We expect the resultant technology to have a fundamental impact on the defence systems industry, and on a wider scale, the worldwide semiconductor packaging market."*

"The collaboration with IME will bring forth ELTA's vision into reality. Utilising IME's leadership and expertise in packaging and assembly processes, together with ELTA's innovative system solutions, will position both IME and ELTA as industry leaders," said **Joseph Fouks**, General Manager of the Microwave Systems Division, ELTA.

"As an authority in TSV substrate technology from both the design and fabrication standpoints, IME commands a unique position in the TSV packaging domain," said **Yaniv Maydar**, Head of Engineering and Technology Department, ELTA. *"We look forward to benefitting from their industry-honed expertise in the area, as well as their capabilities in IC packaging design and wafer level moulding."*

By providing high density, very fine pitch interconnects and better stress tolerance between the die and substrate, TSV substrate technology is increasingly viewed as a critical means of resolving the growing geometric and material incompatibility between printed circuit boards and ICs. Apart from the greater miniaturisation they afford, TSV substrate technology also offers more flexibility and shorter time-to-market. IME has been spearheading the development of this disruptive technology through its TSV research programme and the 3D TSV consortium which it leads.

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