3M participates in JOINT3, a next-generation semiconductor packaging consortium

ST. PAUL, Minn., Sept. 30, 2025 /PRNewswire/ -- 3M has joined the next-generation semiconductor packaging consortium JOINT3, an effort to bring together global leaders in semiconductor materials, equipment and design.

JOINT3 is a co-creation evaluation platform established by Japan-based Resonac Corporation with the aim of accelerating the development of tools optimized for panel-level organic interposers, the thin layers made from organic materials that connect different parts of an electronic device, helping to manage electrical signals and power between components.

In recent years, packaging innovations in the back-end process, which involves the interconnection, packaging and testing of manufactured semiconductors, have become one of the key technologies for next-generation semiconductors, which are essential for rapidly expanding markets such as generative AI and autonomous vehicles. Among these technologies, 2.xD packages, which involve arranging multiple semiconductor chips in parallel and connecting them via an interposer, are expected to see further growth in demand due to increasing data communication capacity and speed requirements. As semiconductor performance improves, interposers are becoming larger in size, prompting a shift from silicon to organic materials. Traditionally, interposers are cut from circular wafers, but as their size increases, fewer can be produced per wafer. To counter this, a new manufacturing method using square panels instead of circular wafers is emerging, enhancing interposer yield. Using a prototype line for 515 x 510mm panel-level organic interposers, the consortium is working on designs optimized for panel-level organic interposers.

3M, a global leader in materials science and innovation, is excited to partner with Resonac and other semiconductor industry leaders through the JOINT3 co-creative evaluation platform to advance panel-level organic interposers.

"As crucial drivers of device performance and systems innovation, advanced packaging technologies like panel-level organic interposers are essential for fabricating next-generation AI and high-performance chips," said Steven Vander Louw, 3M's president of display and electronics product platforms. "With increasing demand for speed to solution in advanced semiconductor applications, suppliers must work together to provide comprehensive solutions to tough challenges on increasingly shorter timelines. 3M is eager to contribute our key technology platforms and solutions, providing decades of materials science expertise to help shape the future of advanced packaging and drive progress in semiconductor manufacturing and roadmap advancement."

About 3M
3M (NYSE: MMM) is focused on transforming industries around the world by applying science and creating innovative, customer-focused solutions. Our multi-disciplinary team is working to solve tough customer problems by leveraging diverse technology platforms, differentiated capabilities, global footprint, and operational excellence. Discover how 3M is shaping the future at 3M.com/news.

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