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Nanomotion to Showcase Advanced Precision Motion Solutions for Hybrid Bonding and Silicon Photonics Inspection at SEMICON Japan

How NanomotionATOM™ Meets New Motion Requirements for Advanced Packaging & Wafer-Level Validation for Inspection Equipment Manufacturers

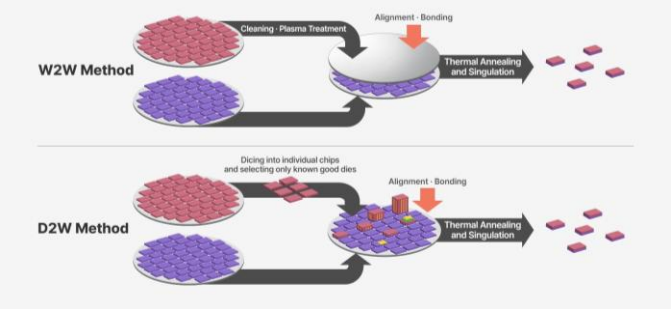
Ronkonkoma, New York (November 16, 2026) – Nanomotion, a leading provider of advanced motion solutions, is highlighting precision motion solutions for emerging hybrid bonding, silicon photonics and metrology applications at SEMICON Japan, featuring its latest trademarked technology, NanomotionATOM™.

As AI, high-performance and next-generation data infrastructure push semiconductor architectures beyond traditional transistor scaling, advanced packaging and optical interconnect technologies are introducing more precise requirements, especially in hybrid bonding and silicon photonics.

Today's inspection equipment creates a critical bottleneck, as conventional motion architectures can struggle to deliver the precision and stability required. In hybrid bonding for advanced semiconductor packaging, die-to-wafer (D2W) bonding needs more precise metrology, inspection and positioning to accurately test and identify known-good dies before placement. Silicon photonics and co-packaged optics (CPO) similarly require precision motion to support fiber interconnect placement, optical alignment and stabilization and interconnection testing.

Building on Nanomotion's expertise in wafer and mask metrology, defect inspection and mask repair, the company's motion systems, based on NanomotionATOM™, help inspection equipment manufacturers meet that demand.

The Opportunity & Challenge in Hybrid Bonding



Known good die identification, precision positioning and fine-focus 3D placement are driving new precision motion requirements for inspection equipment.

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Nanomotion's piezoelectric motion stages are built with NanomotionATOM™, a positioning technology made for ultra-precise motion control in Angstrom-level semiconductor tooling. This technology delivers unprecedented stability, positioning, and responsiveness in compact, controlled environments, particularly for secondary-axis operation around the primary wafer stage.



NanomotionATOM™
Enabling Motion Into the Angstrom Era

NanomotionATOM™ supports:

- Sub-nanometer-level accuracy and stability, decreasing drift and increasing precision
- Rapid movement across X, Y and Z axes, rotation and tilt with minimal settling times for complex inspection and positioning processes
- Compatibility with vacuum operating environments for controlled production processes

"Advanced packaging is changing the role of precision motion in semiconductor equipment," said President of Nanomotion Alan Feinstein. "Hybrid bonding and silicon photonics require inspection, alignment and validation at increasingly demanding levels of precision, creating new opportunities for Nanomotion's technology to enable the next generation of semiconductor equipment."

At SEMICON Japan, Nanomotion will demonstrate how its semiconductor inspection stages utilize NanomotionATOM™ to support sample positioning, optical inspection, fine-focus metrology and alignment in hybrid bonding and silicon photonics.

Visit Nanomotion at SEMICON Japan, Booth E1032, to learn more about precision motion solutions for hybrid bond, silicon photonics and semiconductor inspection. Explore our product portfolio online today: https://nanomotion.com/product-category/industry-solutions-products/semiconductor/

ABOUT NANOMOTION

Nanomotion, a leader in advanced motion systems and subsystem modules, is a subsidiary of Johnson Electric. With a diverse product portfolio that includes motors, drivers, controllers, standard and custom stages, Nanomotion serves market leaders in critical industries such as semiconductors, biomedical and optronics. Headquartered in Yokne'am, Israel, with an additional office in Ronkonkoma, New York, the company has been at the forefront of providing high-precision and reliable motion control solutions since its founding in 1992. Nanomotion remains committed to advancing the field of motion systems and delivering unparalleled performance for its customers.

Nanomotion China, established in March 2026, is based in Shanghai, building precision motion systems to support customers in China and other parts of Asia.

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