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Press Release

Socionext Expands 3DIC Support with Advanced 3D Die Stacking and 5.5D in Packaging Portfolio

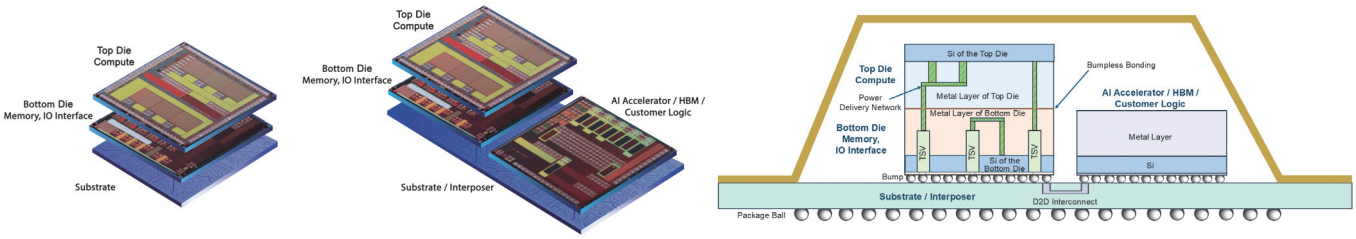
Production-Ready 3DIC Technology for Compact, Power-efficient Consumer Applications and High-performance AI and HPC Devices

[Yokohama, Japan, August 28, 2025] --- Socionext, the Solution SoC company, today announced the availability of 3DIC support in its portfolio of well-proven capabilities for the delivery of complete solutions for consumer, AI, and HPC data center applications that include chiplets, 2.5D, 3D, and 5.5D packaging. Socionext empowers customers with a proven development process and unmatched expertise delivering high-performance, high-quality solutions that accelerate innovation and success.

As a key milestone, Socionext has successfully taped out a complete packaged device leveraging TSMC's SoIC-X 3D stacking. The design combines an N3 compute die and an N5 I/O die in a face-to-face (F2F) configuration. The F2F 3D stacking approach minimizes interconnect distance, significantly reduces signal latency and power consumption compared to traditional 2D and 2.5D designs.

Vertical Stacking, Limitless Potential with the 3DIC Design

Building on the company's experience in 2.5D designs, Socionext applies proven design experience and methodologies to 3DICs, which stack components vertically to unlock key advantage



3DIC F2F and 5.5D Structure

- **Heterogeneous Integration**

  3D ICs enable the integration of different technology nodes (3nm, 5nm, 7nm) and functions (e.g., logic, memory, interface) into a single package, allowing for more optimally partitioned solution addressing performance, density, and cost.

- **Higher Integration Density for a Broader Range of Applications**

  Vertical stacking enables greater functionality in a smaller footprint—an essential advantage as traditional scaling nears its limits. This is especially valuable for space-constrained consumer devices.

- **Improved Performance**

  Shorter, wider connections between dies reduce latency and boost bandwidth.

- **Lower Power Consumption**

  Compact interconnects result in reduced drive requirements due to lower impedance.

Press Inquiry:
Socionext Inc. https://www.socionext.com/en/contact/

A Vision for the Future

The introduction of 3DIC along with 5.5D support reflects Socionext's strong focus on advancing heterogeneous integration, bringing together multiple functions within a unified system of semiconductors and packaging elements. As demand grows for scalable, high-density, and energy-efficient platforms, especially in consumer, AI, and data center applications, 3DICs will play a pivotal role in shaping the future of semiconductor innovation.

"Socionext's extensive experience in SoC design and our collaboration with TSMC position us at the forefront of next-generation SoC development," said Rajinder Cheema, CTO and Executive Vice President at Socionext. *"This milestone reflects our dedication to delivering cutting-edge solutions that meet the evolving needs of our customers."*

About Socionext Inc.

Socionext Inc., a leading global System-on-Chip (SoC) supplier, is a pioneer of the 'Solution SoC' business model. This innovative approach encompasses Socionext's 'Entire Design' capabilities and offering of 'Complete Service'. As a trusted silicon partner, Socionext fuels global innovation, providing superior features, performance, and quality that set its customers' products and services apart in diverse domains ranging from automotive and data centers to networking, smart devices, and industrial equipment.
Socionext Inc., based in Yokohama, operates offices across Japan, Asia, the United States, and Europe for development and sales. For more information, visit https://www.socionext.com/en/.