

AMAX Introduces Next Generation Industrial AI Platforms for Semiconductor Metrology

New AMAX industrial AI systems to bring GPU acceleration and thermal efficiency to next generation semiconductor inspection and metrology tools.

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-- AMAX, a leading solution provider and designer of industrial AI and HPC solutions for the semiconductor industry, today announced the launch of its next generation HPC and AI

compute platform engineered for advanced metrology applications. As semiconductor inspection tools for advanced technology nodes generate increasingly large volumes of data, compute requirements for metrology have intensified. While traditional systems have relied on deterministic image processing, the industry is now entering a new phase of AI-based and GPU



accelerated image inspection and analysis. AMAX's next generation platform, powered by NVIDIA Blackwell architecture, is built to enable this shift, delivering the compute density and heat rejection technology required to operate in semiconductor fabs.

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*Dr. Rene Meyer, Chief
Technology Officer, AMAX*

The new platform achieves higher power density while remaining 100% heat neutral, ensuring no residual heat enters surrounding environments subject to strict fab regulations. Air-cooled designs support up to 25 kW of

power density per rack, while liquid-cooled designs scale to 50 kW and beyond. This enables semiconductor manufacturers to increase analysis throughput and accuracy without compromising facility space.

Engineering for Semiconductor Demands

AMAX develops systems specifically for semiconductor equipment manufacturers, where every aspect of design impacts function, performance and reliability. Its engineering teams account for thermal behavior, airflow dynamics, and acoustic control, as well as structural and seismic

requirements. Electrical design is optimized for safety, system control and monitoring, and integration into existing tools or for stand-alone operation. Mechanical design ensures systems remain serviceable and reliable under continuous operation. This multidisciplinary approach enables AMAX to deliver appliances that meet the strict technical and environmental standards of semiconductor fabs and labs.

“AMAX’s next generation platform is designed for the coming wave of GPU-driven applications in semiconductor metrology,” said Dr. Rene Meyer, Chief Technology Officer, AMAX. “We are leading the way in system design to help equipment manufacturers adopt GPU acceleration, enabling faster inspection and analysis for advanced technology nodes, to increase yield and bring down wafer costs.”

With end-to-end engineering services spanning design, manufacturing, certification, deployment, and life-cycle management, AMAX partners with semiconductor companies to deliver solutions optimized for specific applications and operational environments. By combining industrial-grade customization with high-performance compute, AMAX is positioned to accelerate the semiconductor industry’s transition to GPU-enabled metrology.

To learn more about how AMAX designs and deploys solutions for the semiconductor industry, visit [AMAX's Semiconductor Solutions page](#)

About AMAX

AMAX is a global leader in designing and manufacturing advanced computing solutions for AI, HPC, and industrial applications. With expertise across thermal, mechanical, and electrical engineering, AMAX delivers fully customized platforms built to meet the highest standards of reliability and performance. AMAX was the first to engineer liquid-cooled HPC equipment for the semiconductor industry, setting a benchmark for innovation in high-density, thermally demanding environments. From design to deployment, AMAX enables organizations to accelerate innovation and achieve operational excellence.

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