

Siemens and NVIDIA are advancing Industrial AI

- **The partners advance the technologies that power AI – from chips to AI factories – and deliver AI applications transforming physical industries**
- **Designing better chips: AI agents automate complex design tasks, enabling chip designers to explore 50 times more design options**
- **Building AI factories faster: Reference designs help simplify planning and deployment, while Siemens–Delta prefabricated power modules reduce data-center time to market by up to 50 percent.**
- **Reducing AI factories' footprints: Physics-based digital twin technology helps optimize energy use, inform grid assessments and evaluate noise-reduction measures before construction**
- **Putting AI to work in engineering: Engineers can predict product performance up to 1,000 times faster**
- **Putting AI to work in manufacturing: Siemens' Erlangen factory provides the blueprint for adaptive manufacturing, with successfully piloted AI applications now coming to market**

Siemens and NVIDIA are putting AI to work in product design and production – and helping build the AI factories that power it. Ten months after expanding their partnership at CES, the companies are delivering new products and reporting measurable results from joint projects.

“Industrial AI gives our customers a once-in-a-century opportunity to do what was never possible before,” said Roland Busch, President and CEO of Siemens.

“Together with NVIDIA, we are building the Industrial AI Operating System, combining their accelerated computing and AI platforms with our leading hardware, software, industrial AI and data. This will help customers make products smarter,

factories more productive and infrastructure more efficient – with the safety, security and reliability industry demands.”

“AI is driving a new industrial revolution, transforming every industry and redefining what we can build and how we build it,” said Jensen Huang, founder and CEO of NVIDIA. “Together with Siemens, we are reinventing how chips are designed and AI factories are built – and putting that intelligence to work in the physical world, powering a new era of autonomous engineering and manufacturing.”

Designing the chips that enable AI

AI starts with chips. To deliver more computing power faster, Siemens and NVIDIA have developed AI agents that automate complex chip design tasks and verify their results using Siemens’ electronic design automation (EDA) tools and NVIDIA AI infrastructure. The latest application extends this work to electrical and thermal analysis.

As chipmakers stack components to build more powerful chips, heat becomes harder to manage and can limit performance. With Siemens’ AI-driven electrothermal workflow, engineers can predict where heat will build up and how it will affect a chip’s performance before manufacturing begins. AI agents plan and run the analysis across multiple engineering tools within Siemens’ EDA software portfolio. NVIDIA CUDA-X libraries accelerate the thermal simulation workflow, helping engineers evaluate design alternatives faster. The workflow helps engineers to set up multiple tools in under five minutes instead of several days and enables 50 times more design exploration than manual methods.

Building the infrastructure powering AI

AI factories turn data and energy into AI at scale. NVIDIA DSX defines the reference architecture for the AI factory. As a leading data center infrastructure provider, Siemens provides the electrical distribution, protection, automation and controls to the NVIDIA DSX architecture – from the grid connection to the AI rack – and the

digital twin that customers use to design, build and operate the facility as one system.

Siemens, NVIDIA and ecosystem partners have introduced the NVIDIA DSX Vera Rubin Reference Design for the U.S. and European markets. These repeatable architectures translate NVIDIA DSX requirements into deployable power and controls infrastructure, bringing together power, cooling and compute requirements and adapting them to local standards to simplify planning, construction and operation. Siemens and Delta co-designed prefabricated, factory-tested electrical power modules that can reduce data-center time to market by up to 50 percent.

Siemens' physics-based digital twin, developed with NVIDIA and built using NVIDIA Omniverse libraries, helps operators plan and optimize this infrastructure as one system. Even before construction begins, the digital twin shows how a facility will interact with the grid, where cooling could fall short and how noise from continuously operating cooling equipment could affect neighbors. Operators can identify and address potential bottlenecks, evaluate infrastructure tradeoffs that affect tokens per watt, and test noise-reduction measures before committing capital – helping them meet local requirements and build community trust. The digital twin can also provide utilities with additional visibility to inform grid-connection assessments. During operation, connected telemetry and simulation can help operators identify opportunities to improve cooling and electricity use.

Turning AI into real-world impact

Putting AI to work in industry means helping engineers develop better products faster and manufacturers run more resilient, efficient operations. To enable engineers to test more designs before building prototypes, Siemens combines its Simcenter simulation software with NVIDIA accelerated computing and NVIDIA CUDA-X libraries to accelerate supported simulation workloads. The package can run without an internet connection, keeping sensitive data on site. Simulations run up to ten times faster. Simcenter PhysicsAI uses models trained on simulation data to predict design performance up to 1,000 times faster than traditional simulation;

local AI agents further accelerate simulation tasks, reducing manual effort and helping engineers iterate faster.

Siemens' electronics factory in Erlangen serves as the blueprint for adaptive manufacturing. Here, Siemens and NVIDIA have developed and piloted AI applications that coordinate production tasks and prepare quality inspections. Intelligence Center X and Siemens' operations software bring together data and workflows from enterprise resource planning (ERP) systems and the shop floor. AI agents built with the NVIDIA Factory Operations Blueprint (FOX) use this information to coordinate and optimize production planning, helping manufacturers adapt faster to changing conditions and cut costs by up to 20 percent.

For automated optical inspections, Process Preparation X uses Siemens' Digital Twin and NVIDIA Cosmos Data Factory to create training data, eliminating a critical bottleneck in preparing quality inspections – the need to build physical prototypes – and helping to shorten time to market by up to 40 percent.

Manufacturers can also test production changes before implementing them. Digital Twin Composer – built using NVIDIA Omniverse libraries – connects virtual factory models to real operational data, and AI-powered factory scheduling allows teams to optimize production based on component availability, equipment maintenance and other variables. An initial customer deployment increased throughput by 20 percent. This implementation brings the NVIDIA Factory Operations Blueprint (FOX) to life through Siemens Intelligence Center X for operations.

This press release is available at <https://sie.ag/f5W6d>

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industrial AI, Siemens leverages its deep domain know-how to apply AI – including generative AI – to real-world applications, making AI accessible and impactful for customers across diverse industries. Siemens also owns a majority stake in the publicly listed company Siemens Healthineers, a leading global medical technology provider pioneering breakthroughs in healthcare. For everyone. Everywhere. Sustainably.

In fiscal 2025, which ended on September 30, 2025, the Siemens Group generated revenue of €78.9 billion and net income of €10.4 billion. As of September 30, 2025, the company employed around 318,000 people worldwide on the basis of continuing operations. Further information is available on the Internet at www.siemens.com.