SIEMENS

Press

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Siemens turbocharges semiconductor and PCB design portfolio with generative and agentic AI

- **Siemens adds AI capabilities across EDA portfolio, enhancing productivity, accelerating innovation and speeding time-to-market**
- **New AI system enables EDA engineers to leverage AI securely within established EDA environments**
- **Increased access to generative and agentic AI with NVIDIA NIM microservices and NVIDIA Nemotron models accelerates system-on-a-chip (SoC) and chip design flows, PCB systems design and verification**

At the 2025 Design Automation Conference, Siemens Digital Industries Software today unveiled its AI-enhanced toolset for the EDA design flow. Throughout the event, Siemens is showcasing how artificial intelligence (AI) can improve productivity, accelerate time to market for the EDA industry and enable customers to explore innovation opportunities at the rapidly increasing pace that the market demands.

Siemens is demonstrating a new EDA AI system specifically designed for semiconductor and PCB design environments. The purpose-built EDA AI system delivers secure, advanced generative and agentic AI capabilities, offering unparalleled customization capabilities and seamless integration across the entire EDA workflow.

“We are strategically investing in developing sophisticated industrial-grade AI solutions purpose-built for the unique complexities of EDA. This accumulated expertise forms the technological foundation that empowers our customers to bring breakthrough semiconductor and PCB designs to market faster than ever before,”

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said Mike Ellow, CEO, Siemens EDA, Siemens Digital Industries Software. “Siemens is set to revolutionize the way design teams operate, ushering in a future where generative and agentic AI capabilities are seamlessly integrated into every aspect of the EDA workflow.”

Delivering openness, security and customizability across the entire EDA workflow

Using the new EDA AI System, customers can integrate their own EDA data and create custom workflows using advanced AI, enabling teams to deploy AI where it adds the most value - enhancing adoption and competitiveness without disrupting workflows. With enterprise-grade security, customizable access control and flexible deployment options (on-premises or cloud), Siemens delivers data protection completely within customers’ secure data centers. Additionally, it provides a strong data flywheel effect using a centralized multimodal data lake that boosts productivity through each interaction while supporting various AI models, including large and small language models, and machine and reinforcement learning.

Leveraging NVIDIA AI technologies to further accelerate EDA workflows

In addition to in-house infrastructure and third-party models, Siemens’ EDA AI system also supports NVIDIA NIM microservices and NVIDIA Llama Nemotron models. NVIDIA NIM enables the scalable deployment of inference-ready models across cloud and on-premises environments, supporting real-time tool orchestration and multi-agent systems. Llama Nemotron adds high context reasoning and robust tool-calling for more intelligent automation across the EDA workflow.

“AI agents can dramatically boost productivity for complex electronic design automation to support engineers across layout optimization, simulation and verification, freeing engineers to focus on creative problem-solving and advanced design challenges,” said Tim Costa, senior director of CAE and CUDA-X at NVIDIA. “With NVIDIA NIM microservices and Llama Nemotron reasoning models, Siemens EDA can speed the development of tomorrow’s most intricate electronic systems.”

Enabling AI capabilities across the Siemens EDA portfolio

Aprisa™ AI software: Aprisa AI is a fully integrated technology in the Aprisa digital implementation solution, enabling next-generation AI features and methodologies across RTL-to-GDS. Its capabilities include AI design exploration that adaptively

optimizes for power / performance / area (PPA) for a given design, as well as integrated generative AI-assist, delivering ready-to-run examples and solutions.

With a natural language interface built-in together with production-ready, fully customizable and transportable AI-generated solutions, Aprisa AI delivers 10x productivity, 3x faster time to tapeout and 10 percent better PPA for digital designs across all process technologies, enabling massive engineering team and compute scalability, while accelerating time-to-market for the next generation of silicon designs. To learn more about Aprisa AI please visit: https://siemens.com/aprisa-ai

Calibre® Vision AI software: Calibre Vision AI offers a revolutionary advance in chip integration signoff by helping design teams identify and fix critical design violations in half the time of existing methods by instantly loading and organizing them into intelligent clusters. Designers can then prioritize their activity based on this clustering and achieve a higher level of productivity. Calibre Vision AI also improves efficiency in the workflow with the addition of “bookmarks” that allow designers to capture current analysis state, including notes and assignments, and then foster enhanced collaboration between chip integrators and block owners during physical verification. Calibre Vision AI is integrated into existing layout viewers and physical design tools to enable engineers to debug in their current implantation environment. To learn more about Calibre Vision AI, visit: https://eda.sw.siemens.com/en-US/ic/calibre-design/interfaces/vision-ai/

Solido™ generative and agentic AI: Solido now harnesses Siemens’ EDA AI system to deliver advanced generative and agentic AI capabilities throughout the Solido Custom IC platform to transform next generation design and verification. Tailored to each phase of the custom IC development process, including schematic capture, simulation, variation-aware design and verification, library characterization, layout and IP validation, Solido’s new generative and agentic AI empowers engineering teams to achieve orders-of-magnitude productivity gains. To learn more about these advanced AI capabilities, visit: https://eda.sw.siemens.com/en-US/ic/solido/solido-generative-agentic-ai/

Availability

Siemens’ EDA AI system is currently available for early access across the Siemens EDA portfolio. To learn more about how customers can leverage Siemens’ EDA AI

portfolio of solutions to transform today's design challenges into tomorrow's innovations, visit: https://eda.sw.siemens.com/en-US/trending-technologies/eda-ai-page/

Siemens Digital Industries Software helps organizations of all sizes digitally transform using software, hardware and services from the Siemens Xcelerator business platform. Siemens' software and the comprehensive digital twin enable companies to optimize their design, engineering and manufacturing processes to turn today's ideas into the sustainable products of the future. From chips to entire systems, from product to process, across all industries. Siemens Digital Industries Software – Accelerating transformation.

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Siemens Digital Industries (DI) empowers companies of all sizes within the process and discrete manufacturing industries to accelerate their digital and sustainability transformation across the entire value chain. Siemens' cuttingedge automation and software portfolio revolutionizes the design, realization and optimization of products and production. And with Siemens Xcelerator – the open digital business platform – this process is made even easier, faster, and scalable. Together with our partners and ecosystem, Siemens Digital Industries enables customers to become a sustainable Digital Enterprise. Siemens Digital Industries has a workforce of around 70,000 people worldwide.

Siemens AG (Berlin and Munich) is a leading technology company focused on industry, infrastructure, mobility, and healthcare. The company's purpose is to create technology to transform the everyday, for everyone. By combining the real and the digital worlds, Siemens empowers customers to accelerate their digital and sustainability transformations, making factories more efficient, cities more livable, and transportation more sustainable. A leader in 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 2024, which ended on September 30, 2024, the Siemens Group generated revenue of €75.9 billion and net income of €9.0 billion. As of September 30, 2024, the company employed around 312,000 people worldwide on the basis of continuing operations. Further information is available on the Internet at www.siemens.com.

This document contains statements related to our future business and financial performance and future events or developments involving Siemens that may constitute forward-looking statements. These statements may be identified by words such as "expects," "looks forward to," "anticipates," "intends," "plans," "believes," "seeks," "estimates," ....