SIEMENS

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Siemens Industrial Copilot expanded, adopted by thyssenkrupp

- **Siemens Industrial Copilot accelerates engineering and shopfloor operations**
- **thyssenkrupp Automation Engineering to use Industrial Copilot globally**
- **Future Industrial Copilot features include multimodality, agents, on-premises approach**

The Siemens Industrial Copilot is the first generative AI-powered assistant for engineering in an industrial environment. Today, Siemens announced major new functionalities for the Industrial Copilot and added thyssenkrupp Automation Engineering as global customer.

The Siemens Industrial Copilot for Engineering is the only copilot currently on the market that writes code for automation engineering. Future capabilities include multimodality and agent concepts, which will make it even more valuable for engineers. To deliver full data sovereignty, the Siemens Industrial Copilot for Operations is planned to be offered as an on-premises hardware-software bundle.

Rainer Brehm, CEO Factory Automation at Siemens, said: “With Siemens’ domain expertise, we’re turning generative AI into industrial-grade solutions that can be deployed without specialized AI expertise. The Siemens Industrial Copilot, the first generative AI-powered product for automation engineering, is a supercharger for industrial automation and will accelerate our customer’s journey toward greater innovation, productivity, and competitiveness.”

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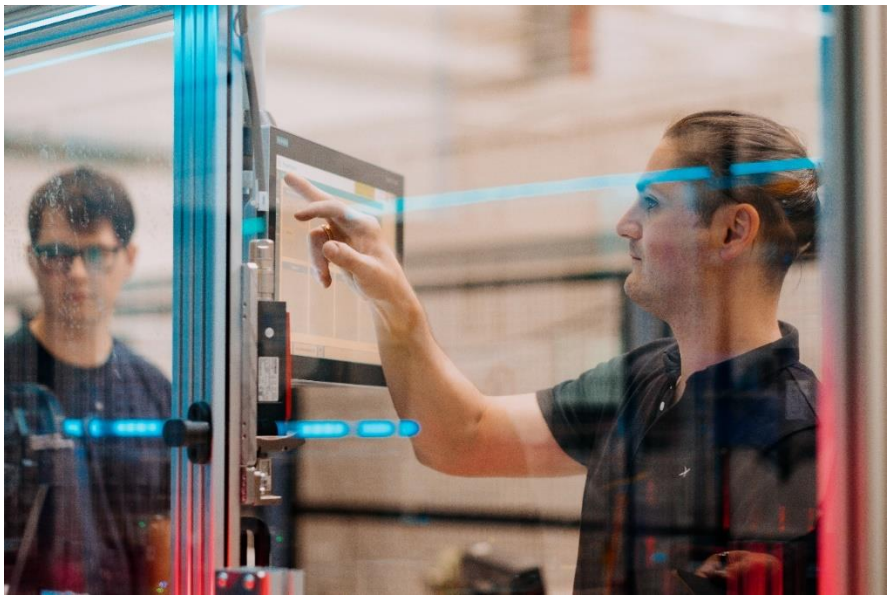
thyssenkrupp Automation Engineering and Siemens Electronics Factory to roll out the Siemens Industrial Copilot

Competitive pressure and lack of skilled labor are major challenges for industrial companies today. Making generative AI industrial-grade and bringing it to the shopfloor holds a huge potential for overcoming current industrial challenges and improving productivity. In fact, according to a recent Gartner report, by 2028 75 percent of developers will regularly use generative AI to assist with code creation, up from less than 10 percent in early 2023.

thyssenkrupp Automation Engineering, a special machine and plant builder, integrated the Copilot for Engineering in a battery machine used for battery quality inspections on electric cars. The industrial company plans to use the genAI-powered assistant at scale – engineering the machines at thyssenkrupp's global locations from 2025 onwards. The Industrial Copilot assists thyssenkrupp engineers in creating TIA Portal projects. It helps them develop structured control language (SCL) code faster for programmable logic controllers (PLCs), intelligently integrates the code into the TIA Portal and generates a machine visualization in WinCC Unified. This allows engineering teams to reduce repetitive and monotonous tasks like automating data management and sensor configuration. They can work more efficiently, optimize processes, and drive innovation.



The Industrial Copilot helps thyssenkrupp engineers to create a machine visualization in WinCC Unified

“thyssenkrupp Automation Engineering and Siemens have been successfully working together for a long time,” said Dr. Rolf-Günther Nieberding, CEO of thyssenkrupp Automation Engineering. “I expect that rolling out the Siemens Industrial Copilot across our machines will help us – and therefore our customers – to implement demanding projects in a much shorter time.”

The Siemens Electronics Factory in Erlangen, Germany, implemented the Copilot for Operations across its soldering machines. The Industrial Copilot helps Siemens operators and maintenance engineers to understand a machine’s error codes by translating its messages into natural language. It suggests solutions based on the machine’s details and history by combing through different documents, manuals, and spare part lists. Machine downtime can be significantly reduced, production bottlenecks can be resolved faster, and shift handovers will work more efficiently.

Multimodality, agent concepts and on-premises approach to supercharge the Siemens Industrial Copilot

The development of expanded and more powerful functionalities for the Siemens Industrial Copilot has been instrumental in winning thyssenkrupp Automation Engineering as a customer.

The Industrial Copilot for Operations allows shopfloor workers to directly interact with machines and helps them with maintenance tasks, error handling and performance optimization. In addition, the Industrial Copilot will have multimodal capabilities to analyze and interpret images and drive even more productivity with agent-based automation for a variety of tasks. To address data security for customers and make sure that data doesn’t leave the shopfloor, the Industrial Copilot for Operations is planned to be offered as an on-premises hardware-software bundle with the Simatic Industrial PC (IPC 1047E). The software stack running on IPCs is powered by NVIDIA NIM microservices, part of the NVIDIA AI Enterprise software platform, which lets automation and maintenance engineers ask real-time queries about operational and document data to facilitate rapid decision-making and reduce machine downtime. This configuration doesn’t require an Internet connection and stores data on local hardware

devices. It helps ensure data security by processing all data right on the shopfloor and keeping customers' data stored and available when and where it's needed.

The Industrial Copilot for Engineering will support multimodal input: for instance, by detecting and converting manual changes in the ECAD document that's used for electrical planning. These changes are automatically highlighted, annotated and eventually implemented in the TIA Portal project.

Highly complex automation projects will be partially automated using agent concepts. Agent concepts go beyond simple question-and-answer interactions, automating processes by breaking down large, complex tasks into subtasks. All relevant information is then collected from a number of sources, including ECAD information, in order to understand the user goal. Agents can also be connected to external systems and sources, which creates a closed loop with different tools linked together. Next, the agents create a plan on how to achieve goals and execute the required actions independently. These range from sending messages and accessing external systems to updating data sets. Engineers can also use agents to control and direct all production processes – while maintaining full transparency, having an overview of the data and knowing which steps should be taken next.

The Engineering Copilot TIA Essential has been available on the Siemens Xcelerator marketplace since July 2024. While Siemens provides the automation elements of the Industrial Copilot, the natural language processing is carried out by one of the most powerful GPT models using the Azure OpenAI Service of the Microsoft Cloud. This enables enterprise-grade performance, data protection, and reliability. Siemens' generative AI solutions for industry are reliable, secure and trustworthy, thus making industrial AI accessible to everyone, anywhere, at any time.

This press release and the press picture are available at https://sie.ag/7UfkBG

Further information on Siemens at SPS 2024 and the Siemens Industrial Copilot at siemens.com/press/sps24, siemens.com/sps-fair and siemens.com/industrial-copilot

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Siemens Digital Industries (DI) is an innovation leader in automation and digitalization. Closely collaborating with partners and customers, DI drives the digital transformation in the process and discrete industries. With its Digital Enterprise portfolio, DI provides companies of all sizes with an end-to-end set of products, solutions, and services to integrate and digitalize the entire value chain. Optimized for the specific needs of each industry, DI's unique portfolio supports customers to achieve greater productivity and flexibility. DI is constantly adding innovations to its portfolio to integrate cutting-edge future technologies. Siemens Digital Industries has its global headquarters in Nuremberg, Germany, and has employed around 72,000 people internationally.

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. Siemens also owns a majority stake in the publicly listed company, Siemens Healthineers, a leading global medical technology provider shaping the future of healthcare.

In fiscal 2023, which ended on September 30, 2023, the Siemens Group generated revenue of €74.9 billion and net income of €8.5 billion. As of September 30, 2023, the company employed around 305,000 people worldwide on the basis of continuing operations. Further information is available on the Internet at www.siemens.com.