PRESS INFORMATION

Bosch Rexroth presents agentic AI and mobile humanoid robotics at SPS 2026

Manuela Kessler | 03.11.2026 | Lohr am Main / Germany | PI 044/26

- New Agent iXi independently takes on tasks within the automation environment
- Solution set for mobile humanoid robotics combines transport and flexible handling
- ctrlX AUTOMATION expands to include new safety, drive, and software solutions
- Open partner ecosystem gains new members and new functionality



Bosch Rexroth is adding new products, functions, and ready-made solution sets for various application areas to ctrlX AUTOMATION in all product lines. (Image source: Bosch Rexroth AG)

Artificial intelligence that completes tasks autonomously. Mobile robots that do more than just transport things, but also lend a hand. Industrial automation is taking on new tasks. Bosch Rexroth has created the technological foundation for this in the form of ctrlX AUTOMATION and will be demonstrating the full extent of the possibilities that this open platform now offers at SPS 2026. Highlights include the new AI agent, Agent iXi, and the mobile humanoid robot "RoXi," which will be used to give a live demonstration of the solution set for mobile robotics. The company will also be showcasing numerous innovations from its automation portfolio and partner ecosystem. The solutions will be available to view at the SPS in Nuremberg, Hall 7, booth 450 from November 24 to 26.

"We are witnessing a fundamental change in industrial automation. Up to now, the main focus has been on controlling processes efficiently and reliably. In the future, systems will increasingly take on tasks independently and respond to changing situations. Agentic AI and mobile robotics are driving this development. Now it is a matter of bringing these technologies into industrial practice. At the trade fair, we will show how this can be achieved with open platforms," explains Steffen Winkler, Senior Vice President Sales, Business Unit Automation & Electrification Solutions at Bosch Rexroth.

Agent iXi: AI takes on tasks

Agentic AI is being integrated directly into ctrlX AUTOMATION. The new AI agent, Agent iXi, can translate an objective that has been defined by a human into individual steps, then plan and execute them. To do so, it accesses engineering tools, apps, documentation, as well as data and functions of the automation environment. Curated skills provide the necessary automation knowledge and engineering rules.

The range of applications extends from the selection of components and topologies, and the configuration of motion, drives, and I/Os, to the generation of PLC programs. It also encompasses system monitoring and documentation. The control of such far-reaching automation remains in the hands of humans: Agent iXi acts within defined access rights, and its activities are logged and remain traceable.
Visitors at SPS can see for themselves how Agent iXi is transforming engineering – for instance, using the example of a three-axis handling system: Using a drawing and a task description in natural language, the AI agent can create the axes and kinematics, and generate the PLC program for the desired motion. Agent iXi is currently in the beta phase and is expected to be available in early 2027.

When mobile robots lend a hand

The range of tasks is also expanding when it comes to robotics. Mobile robots are increasingly taking on more than just material transport tasks. With additional handling functions in the form of robot arms, they can, for example, equip machinery, remove workpieces, or supply material. Bosch Rexroth demonstrates how such applications can be implemented on a common automation foundation using "RoXi," a showcase of a mobile humanoid robot, as an example. The demonstrator is based on the ctrlX AUTOMATION solution set "Mobile Robots". This set combines compatible hardware and software components and thus reduces the development and integration work required. In order for mobile robots to be able to take on tasks independently, localization, navigation, motion control, functional safety, and communication all have to work together. With ctrlX AUTOMATION, these functions can be integrated in one platform. The solution set includes controls, I/O modules, and laser-based localization software. The platform can be perfectly supplemented by cobots from Kassow Robots. Thanks to their seven-axis kinematics, compact footprint, and flexible mounting options, these cobots are particularly well-suited for advanced mobile manipulation, including dual-arm robotic configurations.
Manufacturers can build upon this foundation, expanding their solutions with their own components, software modules, or AI models. Instead of having to develop the technical foundation themselves, they can focus on application-specific features. Open interfaces also facilitate integration into existing automation environments.

"We automate everything"

From handling and robotics, packaging machines and intralogistics, all the way through to building automation and energy technology: "We automate everything" is Bosch Rexroth’s motto at SPS, where the company will demonstrate how ctrlX AUTOMATION can be used to implement a wide variety of applications. The open automation toolkit combines the control platform ctrlX CORE, ctrlX I/O modules, industrial PCs ctrlX IPC, ctrlX HMI solutions, and drives ctrlX DRIVE on a common software basis with the open operating system ctrlX OS. The motion systems ctrlX FLOW6D and ctrlX FLOWHS are also part of the solution portfolio. New products and functions are now expanding the toolkit in key areas.
With ctrlX SAFETY, Bosch Rexroth covers functional safety – from SafeMotion functions within the drives and compact, modular safety controllers to the software-based Safety PLC app. The latter enables safety functions to be implemented directly on ctrlX OS – without the need for additional control hardware. This saves space and costs. ctrlX SAFETYlink provides a response time that is up to 70% shorter than that of standard safety communication protocols.
With the new Economy Line, ctrlX DRIVE is expanding to include economical servo drives for applications that do not require advanced special functions. Since the firmware and engineering are identical to those of the existing platform, existing projects can continue to be used without any need for modification.
The operating system also includes some new functions: The Long-Term-Support-Release ctrlX OS 4.6 strengthens security and engineering with single sign-on, advanced OPC UA security features, and integrated Git version management. This allows software releases and configurations to be managed and changes tracked directly on the device. The platform, which is certified to IEC 62443-4-2 Security Level 2, also helps machine manufacturers to prepare for the requirements of the Cyber Resilience Act (CRA).

The solution sets show how the modules can be combined for specific applications. They incorporate compatible hardware and software and thus reduce the engineering and integration work required.

New partners expand the ctrlX OS Ecosystem

At SPS, the ctrlX World partners will demonstrate how the ctrlX AUTOMATION Ecosystem is expanding. There has also been growth among ctrlX OS OEM partners, who use the operating system on their own hardware. Grossenbacher Automation has extended its offering to include smart panels, web panels, and smart controllers. evopro systems engineering is showcasing the first software-defined camera, the evoVIU VIUx, and is using the operating system ctrlX OS. Additional partners at the Rexroth booth include Advantech, AMD, Balluff, Bosch Manufacturing Solutions, Murrelektronik, Relatech, Signaloid and XITASO. The collaboration shows how different hardware platforms and specialized applications can be integrated into the open automation ecosystem. All partners will be at the SPS in Nuremberg alongside Bosch Rexroth from November 24 to 26, 2026 (Hall 7, booth 450).

Basic Information Bosch Rexroth

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, around 31,900 associates generated sales revenue of 6.5 billion euros in 2025.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 413,000 associates worldwide (as of December 31, 2025). The company generated sales of 91 billion euros in 2025. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, digitalization, electrification, and artificial intelligence. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in hardware, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture intelligent, user-friendly products. With technology that is "Invented for life," Bosch wants to help improve quality of life. The Bosch Group comprises Robert Bosch GmbH and its roughly 500 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. Bosch's innovative strength is key to the company's further development. Bosch employs some 82,000 associates in research and development.

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