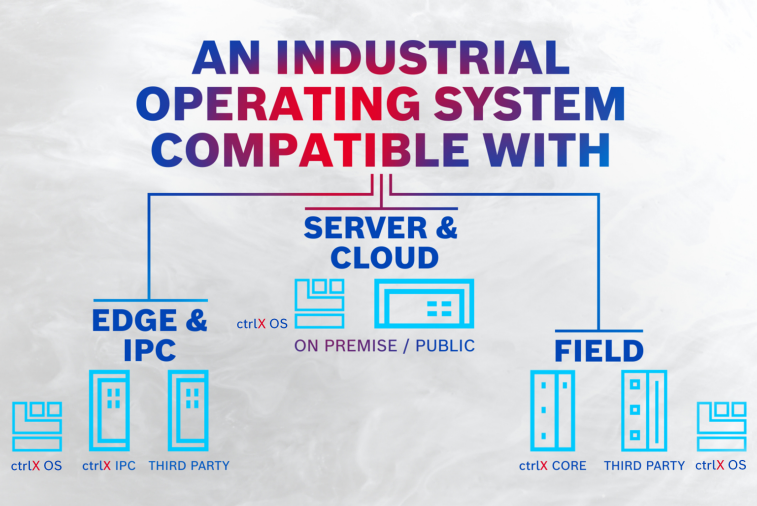
PRESS INFORMATION

Bosch Rexroth presents ctrlX OS: Operating system now available for third parties

Manuela Kessler | 21.09.2022 | Lohr am Main / Germany | PI 038/22

The Linux-based operating system for the automation toolkit ctrlX AUTOMATION is now available for hardware from third-party providers and virtualized environments

- Next level of openness and freedom in automation
- Can be used on all levels – from the field level to the cloud
- Hardened software stack with a high degree of cyber security
- Connection to the ctrlX Store and the ctrlX Device Portal



The Linux operating system ctrlX OS is now available for hardware from third-party providers. (Image source: Bosch Rexroth AG)

With the automation toolkit ctrlX AUTOMATION and the principle of the "smartphone for the world of industrial automation", Bosch Rexroth signaled a paradigm shift in the market back in 2020. In 2021, the leap from an open platform to an industrial partner network was achieved with the ctrlX World. Now Bosch Rexroth is taking the next step as regards freedom and openness: In the past, the real-time-capable, Linux-based operating system was used exclusively on the control system ctrlX CORE. However, it is now available as a separate solution for industrial environments. ctrlX OS can be used on all levels – from the field level to the cloud, and on a range of different hardware.

"The trend in automation is increasingly moving towards distributed software and data-based automation solutions – from the field level and edge devices to the cloud. At the same time, information is being pooled as far as possible. The same standards apply to the entire network in terms of applicable software, security, tools and communication interfaces," explained Steffen Winkler, Vice President Sales, Business Unit Automation & Electrification Solutions at Bosch Rexroth.

ctrlX AUTOMATION is geared to these requirements. The fully open system comprising hardware and software as well as the ctrlX World, boasts all of the components for complete automation solutions.

The next level of freedom in automation

Now Bosch Rexroth is taking the next development step and offering ctrlX OS, a Linux-based operating system designed for real-time use in industrial environments. ctrlX OS is hardware-independent and seamlessly connects even more automation components to the entire ctrlX AUTOMATION portfolio, including the partner solutions of the ctrlX World. Software-based functions can be developed, installed, updated and operated even more easily and flexibly across all levels of the automation topology. Bosch Rexroth thus caters for the needs of software-driven factories and enables modern software practices such as virtual testing and DevOps in automation. Hardware independence also makes it possible to operate a virtual control system on hypervisor platforms, in the data center, on edge servers or in the cloud.

The operating system supports app technology, web-based engineering, secure user management and the high-performance exchanging of data via the ctrlX Data Layer. All devices in the network are connected efficiently via the system. A standardized tool chain and a software development kit (SDK) are available for all devices. The ctrlX Device Portal allows effective device management anywhere in the world. This is a digital service for providing new software functions, management and maintenance of device settings or remote maintenance.

ctrlX OS means automation on all levels. As a result, IT and OT applications can easily be merged for Industry 4.0 purposes. ctrlX OS provides access to all apps from the ctrlX Store and the ctrlX AUTOMATION Community. Users can also run their own software on any hardware that is suitable for the application. And all of this takes place on an extremely secure level: A hardened software stack ensures a high degree of cyber security.

“As confirmed by the market, we offer the very latest, most open and most secure operating system for automation technology. We’re now taking the bold step of making this operating system available to other automation component suppliers, once again demonstrating our commitment to maximum openness,” said Steffen Winkler.

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 Applications, Machinery Applications and Engineering, and Factory Automation. With its intelligent components, customized system solutions 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, more than 31,000 associates generated sales revenue of around 6.2 billion euros in 2021.

Basic Information Bosch

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The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.

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