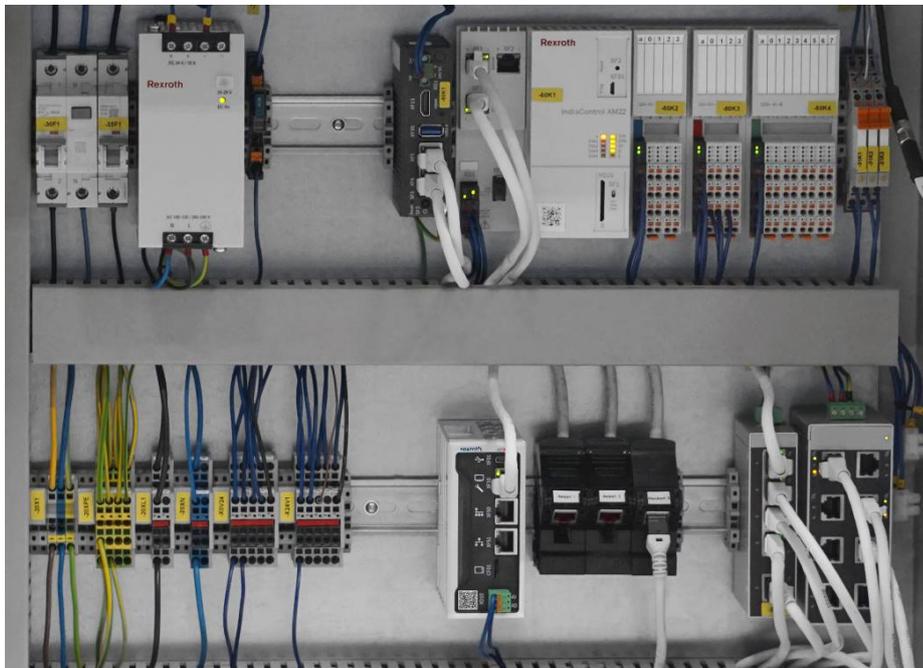# Connecting worlds the easy way: Bosch Rexroth and ctrlX World partners are connecting automation and the Internet of Things

Third-party providers offer IoT solutions via automation platform ecosystem

- ▶ Control multifunctionality thanks to apps
- ▶ Co-creation and new business potential
- ▶ Three new partners in the area of IoT solutions for automation

The ctrlX CORE control platform can be easily integrated into existing machines to retrofit IoT connectivity and functions. (Image source: Bosch Rexroth AG)

In modern automation, machine control, IT and the Internet of Things are connected seamlessly. With the ctrlX AUTOMATION platform, Bosch Rexroth is connecting these worlds. Via the ctrlX World partner network, the company offers its own IoT solutions as well as applications from third-party providers as apps. Thanks to these apps, the functions of the ctrlX CORE control solution can be configured as necessary. ctrlX CORE functions not only as a machine control system – it is also a secure and intelligent gateway solution. With its open design and numerous interfaces, the control system is also suitable for

Contact for Journalists:
Bosch Rexroth AG
Manuela Kessler
97816 Lohr a. Main
Tel.: +49 9352 18-4145
manuela.kessler@boschrexroth.de

brownfield installations in order to add IoT connectivity and functions to existing machines and systems.

With the ctrlX IOT software, Bosch Rexroth's automation platform already has important basic apps such as a firewall, a VPN client and an OPC UA server and client. These are complemented by partner IoT solutions. As a result, users are offered a wide range of apps and enjoy a great deal of flexibility.

For quick IoT application development, **Prescient Devices, Inc. (PDI)** is part of the ctrlX World. With the Node-RED-based Prescient Designer, the company offers a SaaS solution in order to design, simulate, distribute, operate and expand IoT/AI systems. This makes it possible to program thousands of IoT devices such as ctrlX CORE centrally in the cloud at one location and to transfer the program code to the devices with a click. As a result, these can be commissioned and maintained efficiently.

Andy Wang, founder & CEO of Prescient Devices, Inc. says: "Together with Bosch Rexroth, we'd like to simplify and speed up the development of IoT applications without having to use complex technology. The Prescient Designer is tailored to the Bosch Rexroth community and platform. This allows an engineer to design and create an edge-to-cloud IoT solution for example within a few weeks. Compared to conventional IoT development, this leads to 12x quicker development, 6x lower costs and greater real-time management and analysis intelligence at all times."

IXON B.V. is another ctrlX World partner. IXON offers an end-to-end IIoT solution for all remote maintenance requirements: from the hardware to the cloud. Bart van den Corput, Key Account Manager at IXON, explains: "Our aim is to encourage and support the IIoT transition among machine manufacturers by providing a secure cloud environment with all the technology needed to make the IIoT directly accessible anywhere in the world."

IXON cooperates with Bosch Rexroth in order to offer machine manufacturers even greater flexibility when creating an IIoT solution, which meets their requirements. As a result, they can easily integrate the IIoT into their automation solutions. Users can download the IXagent app from the App

Zone of the ctrlX AUTOMATION Community in order to gain access to all IXON cloud platform functionalities, e.g. remote access, cloud data logging, alarms and messages.

Solutions from **HiveMQ GmbH** are also available in the ctrlX World. HiveMQ offers an MQTT broker for the ctrlX CORE control system. This allows data to be exchanged between various hardware and software platforms. MQTT is an industry standard which is now very popular for IoT use cases such as intelligent production. At the same time, it is the basis for use cases such as connected vehicles, logistics, Industry 4.0 and connected IoT products.

Hans Michael Krause, Head of ctrlX World Product Management at Bosch Rexroth, explains: "With all these IoT solutions which are available through the ctrlX World, users can easily connect the necessary automation processes as they would with a smartphone. Simply download and launch the app. Bosch Rexroth also provides numerous sector-specific applications of its own. If the user would like to bring in their own personal knowledge, they can create apps themselves in all popular programming languages using the automation platform."

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 29,600 associates generated sales revenue of around 5.2 billion euros in 2020.
To learn more, please visit www.boschrexroth.com

The Bosch Group is a leading global supplier of technology and services. It employs roughly 395,000 associates worldwide (as of December 31, 2020). The company generated sales of 71.5 billion euros in 2020. 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 129 locations across the globe, Bosch employs some 73,000 associates in research and development, of which nearly 34,000 are software engineers.

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