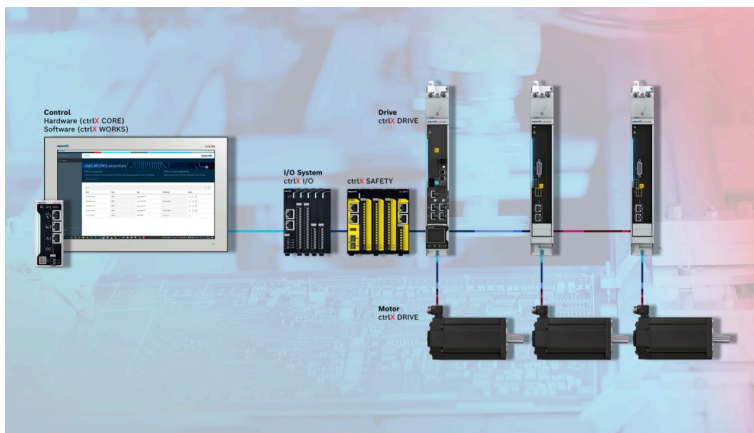**PRESS INFORMATION**

Bosch Rexroth at automatica: apps and low-code engineering for automation and robotics

Manuela Kessler | 21.06.2022 | Lohr am Main / Germany | PI 032/2022

Automation platform with ecosystem for almost all tasks

- Low-code engineering and apps for robotic applications
- Web-based HMI and use of consumer devices possible
- One device for all tasks: Security, data analytics and IoT connection
- Automation solution can be used in AGVs (shuttle technology)

Individually combinable components from the automation toolbox ctrlX AUTOMATION solve numerous automation tasks. (Image source: Bosch Rexroth AG)

Whether robots take over all aspects of assembly or selected production processes are automated – automation has many different faces. It is progressing in factories all the time and changing them fundamentally. After all, lean processes, flexibility and agility are key requirements when it comes to maximizing economy. The automation toolbox ctrlX AUTOMATION helps to solve these challenges and surmounts the classic boundaries between machine control, IT and the Internet of Things. Bosch Rexroth will show how connectivity, simple engineering and much more are made possible at automatica in Munich (Hall A6 booth 502).

Automation spans a very broad spectrum. There is no single route to the smart factory as every company has specific requirements. We therefore assess on an individual basis where the greatest potential for automation lies for each customer. With ctrlX AUTOMATION and the ecosystem, needs-based solutions for different automation and robotics tasks can be put together," explained Andreas Gryglewski, head of the Business Development Robotics and Logistics, Business Unit Automation & Electrification Solutions at Bosch Rexroth.

Motion software and apps provide significant support during handling

Today's automation tasks can range from the simplest Cartesian handling tasks or highly dynamic machines with numerous synchronized axes in the consumer industry to precision motion solutions in semiconductor and electronic applications.

The software ctrlX MOTION covers all conceivable motion tasks including robotics and CNC. The functions provide valuable support, e.g. during handling. Among other things, they ensure

higher dynamics and productivity. With the app-based software architecture, the functionality of ctrlX MOTION can be adapted to the user's requirements and expanded at any time. The "active vibration damping" for example protects mechanical systems and ensures maximum accuracy.

One technology for various HMI applications

Machine operation via human machine interface is among the most important elements in industrial automation. One part of Bosch Rexroth's automation platform is ctrlX HMI: A solution comprising hardware and software which can be combined as required. The hardware portfolio includes displays, panel PCs, web panels and panel frames. The web-based software solutions are provided by partners. Whether a tablet or integrated display is used, important information can be prepared and presented in a clear manner. The operating interfaces on all devices can be operated via an HTML5-capable web browser. Platform-independent visualization is therefore possible. Customer devices too can easily be integrated. The panel frame from the ctrlX HMI portfolio is suitable for 10" consumer tablets. The solution thus allows flexible and mobile applications. The enabling switch ensures safe operation, while a firewall guarantees IT security.

All connectivity requirements met by a single device

ctrlX IOT is another part of the automation platform. The Rexroth solution is geared to connectivity, an important factor in today's factories. The progressive IoT toolkit features integrated safety and meets all Industry 4.0 requirements. With ctrlX IOT, the possibilities for users are virtually unlimited. The option of fully integrating IoT solutions into the (hardware) platform makes this possible.

"With ctrlX IOT, we combine in a single solution everything needed to meet the latest requirements concerning security, data analytics and IoT connection in automation, robotics and other areas. As a result, additional devices such as a security device, an IoT device, a motion control system, an industrial PC and HMI are no longer needed," explained Andreas Gryglewski.

More robotics options thanks to ROS2 integration into ctrlX CORE

The apps offer numerous robotics solutions too. For example, the Robot Operating System 2 (ROS2) can be integrated into the control platform ctrlX CORE by installing an app. ROS2 is one of the most popular prototyping platforms for developing robotic applications. By installing an additional app, the ctrlX CORE becomes an ROS note and offers direct access to the ROS world and the data layer.

Bosch Rexroth will present this and other solutions for modern automation and robotics at automatica in Munich (Hall A6, Stand 502) from 21 to 24 June.

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

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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