

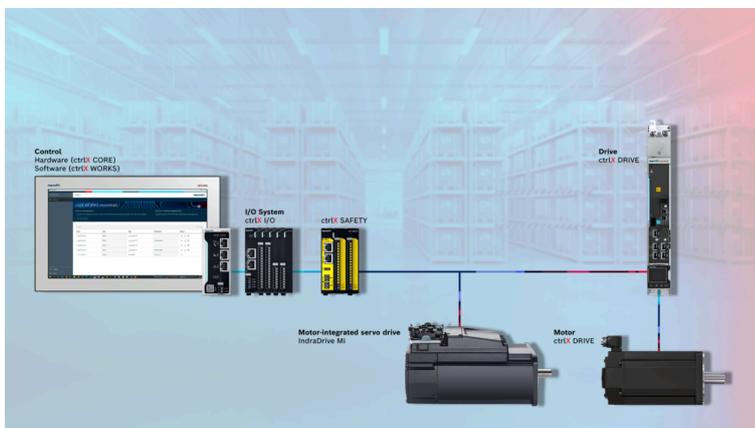
PRESS INFORMATION

Bosch Rexroth at LogiMAT: Lean and connected Intralogistics

Manuela Kessler | 31.05.2022 | Lohr am Main / Germany | PI 025/2022

Automation platform enables lean, secure and energy-efficient processes in modern factories

- Minimum space requirement in the control cabinet and maximum energy efficiency
- One device for all tasks: Security, data analytics and IoT connection
- Linux-based architecture with direct ROS integration for mobile robots



The ctrlX AUTOMATION system meets core Intralogistics requirements. (Image source: Bosch Rexroth AG)

Lean manufacturing is an important competitive factor for manufacturing companies. It is a question of streamlining processes in order to act more quickly and flexibly and thus achieve greater economy. This includes Intralogistics. The ctrlX AUTOMATION system meets these core requirements, particularly in terms of efficiency and compactness. In Hall 2, Stand B21 at LogiMAT, Bosch Rexroth is also demonstrating how other Intralogistics requirements such as security, connectivity, mobile robotics and sustainability can be implemented.

The ctrlX AUTOMATION platform interconnects machine control, IT and the Internet of Things intelligently. With the help of the real-time operating system Linux, fully open standards, app programming technologies, web-based engineering and a comprehensive IoT connection, ctrlX AUTOMATION paves the way to a new world of automation that is open, flexible and connective. The system makes it possible to combine existing and new product lines. For example, cabinet-free IndraDrive Mi drive technology can be combined with the ctrlX AUTOMATION portfolio for Intralogistics uses, such as storage and retrieval machines or mobile transport systems.

No control cabinet, energy-efficient and ready for intralogistics

The ultra-compact, decentralized IndraDrive Mi drive technology offers maximum flexibility with minimal space requirements. Great savings are possible when it comes to wiring and energy consumption. A DAMBACH load handling device, for example, is fitted with IndraDrive Mi. The benefit: It doesn't have a control cabinet and requires up to 83 percent less cabling. This saves weight and space. The reduced weight allows greater dynamism and shorter process times and improves storage-system performance. The Multi-Ethernet interface for connecting to various communication protocols also ensures flexible connectivity.

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The combination of the ultra-compact ctrlX CORE control system and ctrlX SAFETY – the fastest-reacting, most compact safety solution available on the market – is an ideal solution for modern Intralogistics, because ctrlX CORE combines the OT and the IT world with its app technology. For digitalization, all data are available in the ctrlX Data Layer and can easily be used. On the other side, a motion kernel with all necessary functions is available for the automation part. All of this can be programmed graphically, which greatly simplifies motion programming, for example.

“This scenario is an excellent example of the benefits resulting from a combination of the individual Rexroth components to create a needs-based, economical integrated solution. A key effect is the streamlining of processes and saving space as part of lean manufacturing,” explains Michael Lippert, Business Development Robotics and Logistics, Business Unit Automation & Electrification Solutions at Bosch Rexroth.

One device for all tasks: Security, data analytics and IoT connection

For the connectivity so crucial to factories today, Bosch Rexroth offers the special solution ctrlX IOT, an automation platform component featuring a progressive IoT toolbox with integrated security that meets all Industry 4.0 requirements. The option of fully integrating IoT solutions into the (hardware) platform gives users virtually unlimited possibilities for action.

“To meet the latest Intralogistics requirements concerning security, data analytics and IoT connection, you usually need several devices, such as a security device, an IoT device, a PLC and motion control system, an industrial PC, and an HMI. With ctrlX IOT, we combine all this in a single solution,” says Michael Lippert.

Linux-based architecture with direct ROS integration for mobile robots

In Industry 4.0, mobile robots are playing an increasingly prominent role in making Intralogistics processes leaner. Michael Lippert explains: “Mobile robotics is a highly sophisticated market where several trends come together. These include integrating sensors and cameras, AI computing, calculating SLAM algorithms, and much more. Our automation platform offers solutions with its different apps, and the free choice of programming language is the perfect basis for these tasks. One good example is ROS2-Integration. The Robot Operating System (ROS) is a set of software libraries and open-source tools which support the development of robot applications. By installing an additional app, the ctrlX CORE control system becomes an ROS node and offers direct access to the ROS world and our data layer.”

Bosch Rexroth will demonstrate this and other Intralogistics solutions of the future at **LogiMAT in Stuttgart (Hall 2, Stand B21), from May 31 until June 2.**

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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