

PRESS INFORMATION

Developing tailored industrial solutions together

Manuela Kessler | 22.04.2024 | Lohr am Main / Germany | PI 010/24

At the Hannover Messe trade fair, Bosch Rexroth along with partner companies will present numerous new products from the fields of factory automation and hydraulics

At Hannover Messe 2024, Bosch Rexroth will present factory automation and hydraulics solutions which will help companies from a range of sectors to achieve their growth and sustainability targets. For example, the company has developed tailored solutions for an economical hydrogen infrastructure, working together with partner companies from the hydrogen industry. With its new actuators, Bosch Rexroth allows the electrification and digitalization of all safety-relevant movements in water depths of up to 4,000 meters – for example for the offshore storage of CO2 or the temporary storage of green hydrogen. But no company can do everything alone nowadays. Open solutions and co-creation are the key here. With its automation system ctrlX AUTOMATION and the partner network ctrlX World, Bosch Rexroth shows how maximum openness works in automation.

Efficient compression: Drive solutions for an economical hydrogen infrastructure

At Hannover Messe 2024, Bosch Rexroth will present components and products developed together with manufacturers and operators from Europe and the USA for the economical operation of hydrogen filling stations with short refueling times. Working with FirstElement Fuel, the market leader for the commercial operation of hydrogen filling stations in the USA, Bosch Rexroth has for example developed a cryogenic pump that can compress up to 600 kg of liquid hydrogen per hour. It allows heavy commercial vehicles to be refueled directly within a few minutes. Bosch Rexroth also offers other drive solutions for compressing both gaseous and liquid hydrogen.

H4U software platform: Maximum flexibility thanks to digitalized hydraulics

With the H4U software platform, machine and system manufacturers can implement hydraulic functions easily and independently of hardware. They can use H4u.apps in their familiar engineering tools and can reduce costs and engineering work by implementing the apps on existing control hardware. Bosch Rexroth's hydraulics know-how integrated into the software platform provides the broadest hydraulics functionality anywhere on the market. At the same time, Bosch Rexroth is continuously developing the functional scope of the software platform with additional H4U.apps.

eLION platform: Bosch Rexroth continues to drive electrification

The eLION platform was specially developed for global use in off-highway vehicles and supports the full electrification of mobile machines. eLION includes motors and inverters as well as important system components such as DC/DC converters, onboard chargers and high-voltage cables. Bosch Rexroth also provides BODAS software modules and suitable gearboxes as well

PRESS INFORMATION

as hydraulic components such as axial piston pumps for the entire eLION platform. The fully integrated safety functions into all inverters (in accordance with ISO 13849, 25119 and 19014) helps to reduce engineering times. Numerous machines equipped with eLION are already in use as part of pilot projects.

Simply electric: Actuators reduce the costs of offshore systems

In the offshore storage of CO₂ and the temporary storage of green hydrogen, valves regulate the controlled flow of process gases and fluids. Newly developed eSEA actuators with a 24 V low-voltage (DC) supply are an economical alternative to conventional capital and energy-intensive hydraulic systems. Bosch Rexroth is now adding the eSEA Push actuator for linear movements and the eSEA Drive for applications with very high torques in excess of 35 kNm to its actuator for rotary movements (eSEA Torque), which has won a number of international technology awards. This means that all movements required for valve control can be controlled and executed safely, reliably and fully electrically under water via a standardized interface.

Broad portfolio: Bosch Rexroth offers solutions for the entire value stream in battery production

Bosch Rexroth offers a range of components, modules and systems covering the entire value stream in battery production – from electrode and cell production to battery module and pack assembly and even end-of-line testing and recycling. At Hannover Messe, the company will demonstrate how rapidly deployable linear robots optimize processes in module and pack assembly and disassembly by performing typical tasks such as handling, screwing or dispensing quickly and precisely.

Deep discharging of vehicle batteries: Process now 100 times faster

Local battery recycling and the reuse of raw materials will be important building blocks in creating a circular economy. With its solution kit for diagnosing, discharging and disassembling used vehicle batteries, Bosch Rexroth allows the automation of these process steps on an industrial scale as well as scaling, even with high variance, and offers the possibility of scaling in view of the increasing demand for battery recycling. Compared to previous methods of discharging with a process time of up to 24 hours, the automated process enables a reduction by factor up to 100 or to less than 15 minutes. At the same time, it provides optimum protection for employees.

Automation system ctrlX AUTOMATION: New solutions and partner companies

The automation system ctrlX AUTOMATION provides all hardware and software components for complete automation solutions – from control systems and I/Os to motion, PLC and IoT functions and even drives and motors. It is modular and scalable and can meet the needs of virtually any application on demand. The partner network ctrlX World expands the solution with a wide range of apps and hardware components.

PRESS INFORMATION

Open to all operating concepts: The linear motion system ctrlX FLOWHS

The linear motion system for transport and positioning ctrlX FLOWHS from Bosch Rexroth is geared to maximum openness and flexibility. It is based on the control system ctrlX CORE with the operating system ctrlX OS. The solution can easily be expanded via app technology. ctrlX FLOWHS is 100 percent integrated into the automation system ctrlX AUTOMATION and benefits from the complete ctrlX OS ecosystem.

Operating system ctrlX OS: New possibilities for embedded computer applications

The Linux-based operating system ctrlX OS is now also available for embedded computer applications from congatec. The collaboration between the two companies opens up new possibilities for users of embedded and edge computing products from congatec. By using ctrlX OS and the associated ecosystem, they also gain access to the entire solution portfolio and numerous apps. They can use both ctrlX OS apps and the apps from the partner network ctrlX World.

Stronger together: Automation needs co-creation

The partner network ctrlX World is growing. It expands the solution with a wide range of apps and hardware components. With the pneumatics specialist SMC Deutschland, the 100th partner company has now joined the ctrlX World. Bosch Rexroth and all partner companies have a common goal: To simplify and improve a wide range of automation processes. The ctrlX World partners Arduino Pro by Arduino s.r.l., GEFAZ mbH, Intel Deutschland GmbH, VMware by Broadcom, VEIL Energy BCorp, XITASO GmbH and the ctrlX OS OEM partner Dell Technologies will present their solutions at the Rexroth stand.

CE partners: Certified expertise locally

With local Certified Excellence (CE) partner companies, Bosch Rexroth is expanding its global presence. They complement the Rexroth portfolio for factory automation, hydraulics and mobile working machines with their own solutions and services. The CE partner network encompasses distribution, service, solution and training partners and is being expanded all the time.

At Hannover Messe 2024, CE partners will present for example solutions with lightweight robots from Kassow Robots – part of the Bosch Rexroth product portfolio since 2022. The flexible cobots with seven axes make it easy for SMEs to implement robotic applications. HELDELE Automation GmbH will present a bin picking cell which allows cost-effective and flexible handling of various components using an industrial cobot. PTS Group GmbH will demonstrate a production process with chain conveyor system, assembly workstation, cobot material feed and hydraulic and pneumatic additional functions, while SYMACON System + Service GmbH will show its newly developed SSG Lift system solution with a cobot from Kassow Robots and the control system ctrlX CORE from Bosch Rexroth. The Belgian CE partner company REM-B Hydraulics will be exhibiting industrial hydraulics from Bosch Rexroth at the trade fair stand.

PRESS INFORMATION

The hydraulic specialist's services range from repairs and servicing to the sale of hydraulic components. Since 2023, REM-B has also been offering repairs and services for linear motion technology components.

Bosch Rexroth at Hannover Messe 2024: Hall 6, Stand D26

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 33,800 associates generated sales revenue of 7.6 billion euros in 2023.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 429,000 associates worldwide (as of December 31, 2023). The company generated sales of 91.6 billion euros in 2023. 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, electrification, digitalization, connectivity, and an orientation to sustainability. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in sensor technology, 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 user-friendly, sustainable products. With technology that is "Invented for life," Bosch wants to help improve quality of life and conserve natural resources. The Bosch Group comprises Robert Bosch GmbH and its roughly 470 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. At 136 locations across the globe, Bosch employs some 90,000 associates in research and development, of which nearly 48,000 are software engineers.

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