PRESS INFORMATION

Digitalized hydraulics becomes a live experience

Manuela Kessler | 31.03.2026 | Lohr am Main / Germany | PI 009/26

Bosch Rexroth demonstrates the benefits of digitalized hydraulics using a deep drawing press at the Hannover Messe

Visitors to the Hannover Messe can experience the benefits of digitalized hydraulics at the Bosch Rexroth booth, using a deep drawing press as an example. (Image source: Bosch Rexroth AG, photographer: Rolf Nachbar)

As coordinator of the “Fluid 4.0” research project, Bosch Rexroth is playing a decisive role in shaping the digital transformation of fluid technology. At Hannover Messe, the company, together with member companies of the project, will present solutions for the digitalized and efficient future of fluid technology at the Plattform Industrie 4.0 joint booth of the Federal Ministry for Economic Affairs and Energy. Bosch Rexroth will demonstrate on a deep drawing press how digital solutions interact, thus providing added value along the entire value chain.
The digitalization of hydraulics offers enormous potential for increasing the productivity and efficiency of modern hydraulic systems. Bosch Rexroth is presenting concrete solutions this year in Hanover. Instead of abstract models, the company is focusing on a tangible trade fair

experience: All technologies and solutions will be presented on a real demonstrator – a deep drawing press. Trade fair visitors can see firsthand at the press how the digital solutions interact and create concrete added value.

Digital twin becomes reality: QR code as a gateway to the world of data

At the deep drawing press, Bosch Rexroth will demonstrate, for example, how easily valuable product information can be accessed. A simple scan of a QR code on the component is enough to access the Digital Twin in the form of the standardized Asset Administration Shell (AAS). This gives users immediate, barrier-free access to all relevant data: from technical documentation and certificates to the CO2 footprint. The previously time-consuming search through physical file folders or various websites is no longer necessary.

Asset Orchestration Platform (AOP): the brain of the digital factory

The true potential of digitalization lies in the intelligent connection of this data. Bosch Rexroth has developed the Asset Orchestration Platform (AOP) software solution for this purpose.
As the "brain" of the shop floor, it collects and orchestrates data from individual components and their administration shells and makes it available for higher-level applications once data analysis has been completed. In this way, it creates the basis for efficient control and accelerated commissioning and enables maximum flexibility for future requirements.
To illustrate this process, Bosch Rexroth will demonstrate the interaction between the AOP and its IoT service, CytroConnect Solutions, live at the booth. Visitors will see how real-time machine data – such as data from sensors measuring pressure, temperature, or oil quality – is collected, fed into the AOP via the administration shell, and can then be used for higher-level applications such as condition monitoring or predictive maintenance. In addition, Bosch Rexroth will also demonstrate how events arising in Condition Monitoring can be actively and dynamically responded to within the AOP, and how humans can be involved.

Project Fluid 4.0

In the Fluid 4.0 research project, an industrial consortium is pushing ahead with the strengthening and further development of the administration shell as a digital twin in a cross-industry data space, thereby establishing a cross-manufacturer, open standard for fluid technology. Building on the existing infrastructure, companies and institutions from industry and science are digitalizing practical applications with Bosch Rexroth as a coordinator. By mid-2026, the development and implementation of four use cases for industry-relevant demonstrators are planned: efficient control development for accelerated commissioning using digital data, energy monitoring for greater transparency in the optimization of energy consumption, CO2 balancing in the operational phase and a circular economy concept. Bosch Rexroth is also showing the four use cases on the deep drawing press.
The progress made in the digitalization of hydraulics, as well as the results of the Fluid 4.0 research project, will be presented and discussed at the Fluid-X Symposium on June 29 and the project closing event on June 30, 2026, organized by the Fluid Power Association within the VDMA and the Fluid 4.0 project consortium.

Bosch Rexroth at the Hannover Messe

Bosch Rexroth will present its solutions for the digitalization of fluid technology at the Hannover Messe 2026 at the Plattform Industrie 4.0 joint booth of the Federal Ministry for Economic Affairs and Energy in hall 13, booth C24.

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 32,600 associates generated sales revenue of 6.5 billion euros in 2024.

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Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 417,900 associates worldwide (as of December 31, 2024). According to preliminary figures, the company generated sales of 90.5 billion euros in 2024. 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 86,900 associates in research and development, of which nearly 48,000 are software engineers.

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