

Press release

## **Hydraulic cylinders set standards for the future of construction machinery: lightweight, sensors and sustainability**

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- **Liebherr's innovative hydraulic cylinders deliver peak efficiency, while reducing environmental impact, and offer a forward-thinking solution for industries that strive to meet both performance and sustainability goals**
- **The cylinders stand out for their durability and sustainability**
- **The integrated sensor technology allows for real-time monitoring of hydraulic cylinders**
- **Liebherr focuses on innovation in the construction industry, developing lightweight solutions and alternative coatings for piston rods**

**In a world, where machines perform at peak efficiency, while preserving resources and the environment, Liebherr's modular hydraulic cylinders are driving sustainable, high-performing applications. The lightweight and future-ready cylinders offer opportunities to open up new fields of application, as well as to fulfil the increasingly strict regulations and meet the increasing requirements.**

Baden (Switzerland), December 17, 2024 - Liebherr's next-generation hydraulic cylinders are designed to meet the growing demand for sustainable, smart, high-performance machinery. Liebherr's innovative hydraulic cylinders deliver peak efficiency, while reducing environmental impact, and offer a forward-thinking solution for industries that strive to meet both performance and sustainability goals. With a team of experts and state-of-the-art production facilities, the Liebherr components product segment develops hydraulic cylinders on its site in Oberopfingen (Germany). These do not only meet today's requirements but are also ready for the challenges of the future. They are built to last, proving an exceptional reparability and ensuring a continuous supply of spare parts. Their efficient design enables quick and reliable repairs, allowing for high machine uptime and reduced resource consumption over time. This commitment to durability directly supports both sustainability and cost-efficiency.

Liebherr also advances in predictive maintenance by integrating sensors that monitor performance of hydraulic cylinders in real-time. The technology helps to detect wear early, to prevent failures, to optimise repair schedules and minimise unplanned downtime. This does not only increase machine safety but also extends the component life.

Further focus of Liebherr's innovation lies on lightweight construction. By using carbon fibre reinforced plastic (CFRP), the company has significantly reduced the weight of its hydraulic cylinders, enhancing machine performance and reducing CO2 emissions. This enables longer booms, more agile movement and overall improved energy efficiency. A prime example of this innovation is Liebherr's lightweight material handling prototype, which features two CFRP hybrid cylinders in the boom. The reduced weight does not only lower energy consumption but also increases load capacity.

To further extend cylinder life, Liebherr is working on the development of advanced coatings for piston rods to improve corrosion and wear resistance, while adhering to stringent environmental standards such as REACH, which limits the use of chromium(VI) in the near future. This proactive approach ensures that customers are able to meet future requirements for construction machinery on time. Every hydraulic cylinder stands for Liebherr's pursuit of efficiency, durability and sustainability. For Liebherr-Components, the future isn't just something to wait for – it is something to help shape, one cylinder at a time.

Liebherr-Components will present these innovative solutions for next-generation hydraulic cylinders and other product highlights at Bauma 2025 on booth 326 in hall A4 – a must for everyone, who follows new developments in the construction industry.

## **About the Liebherr-Components AG**

In this segment, the Liebherr Group specialises in the development, design, manufacturing of high-performance components in the fields of mechanical, hydraulic and electric drive and control technology. Liebherr-Component Technologies AG, based in Bulle (Switzerland), coordinates all activities in the components product segment.

The extensive product range includes combustion engines, injection systems, engine control units, axial piston pumps and motors, hydraulic cylinders, slewing bearings, gearboxes and winches, switchgear, electronic and power electronics components, and software. The high-quality components are used in cranes and earthmoving machinery, in the mining industry, maritime applications, wind turbines, automotive engineering or in aviation and transport technology. Synergy effects with other product segments of the Liebherr Group are used to drive continuous technological development.

## **About the Liebherr Group – 75 years of moving forward**

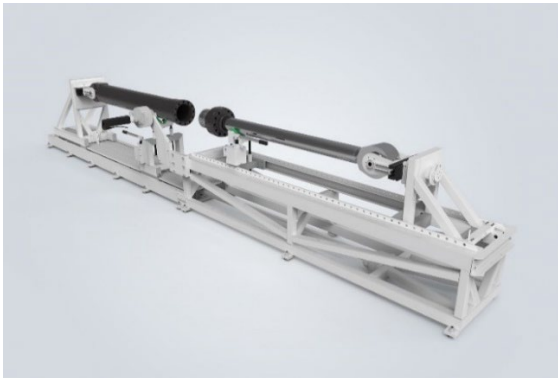
The Liebherr Group is a family-run technology company with a highly diversified product programme. The company is one of the largest construction equipment manufacturers in the world. It also provides high-quality, user-oriented products and services in a wide range of other areas. The Liebherr Group includes over 150 companies across all continents. In 2023, it employed more than 50,000 staff and achieved combined revenues of over 14 billion euros. Liebherr was founded by Hans Liebherr in 1949 in the southern German town of Kirchdorf an der Iller. Since then, the employees have been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers. Under the slogan '75 years of moving forward', the Group celebrates its 75th anniversary in 2024.

## Images



liebherr-lh150C-gantry-port\_stageIV-tier4f-IIIA-bamberg.jpg

The lightweight material handling prototype has two CFRP hybrid cylinders on the boom.



liebherr-montagebank-steel.jpg

Liebherr-Components Kirchdorf GmbH uses customised assembly benches for efficient and fast repair of hydraulic cylinders.

## Contact

Alexandra Nolde  
Senior Communication & Media Specialist  
Phone: +41 56 296 4326  
Email: [alexandra.nolde@liebherr.com](mailto:alexandra.nolde@liebherr.com)

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