

Press release

Premiere: Liebherr proudly presents its autonomous driving system for wheel loaders

- Nominated for the Bauma Innovation Award 2025 in the “Digitalisation” category
- “Liebherr Autonomous Operations” will enable fully autonomous wheel loader operation in the future
- User-friendly operation without specific IT knowledge
- Autonomous, driverless system for repetitive, monotonous and dangerous work assignments

At Bauma 2025, “Liebherr Autonomous Operations” will be presented as the latest technological innovation from the Liebherr plant in Bischofshofen. The autonomous driving system developed in-house redefines efficiency and safety in wheel loader operation. The autonomous solution, which is at an advanced stage of development, enables complete driverless operation and is particularly suitable for monotonous standard tasks and operations in hazard zones. “Liebherr Autonomous Operations” features simple, intuitive operation via a web application and allows operators to achieve consistent machine performance over the entire operating period.

Bischofshofen (Austria), January 2025 – After years of intensive development, Liebherr-Werk Bischofshofen GmbH is presenting an autonomous system for wheel loaders at Bauma – Liebherr Autonomous Operations. This allows repetitive and monotonous wheel loader tasks to be carried out easily and intuitively without an operator. This can particularly help to counteract the difficulty of finding employees for monotonous routine tasks. At the same time, the system also allows employees to devote themselves to other, more complex tasks. The autonomous system offers operators a simple and user-friendly application that requires no special IT knowledge. With demonstrations taking place many times a day, visitors at Bauma can see the autonomous wheel loader live in action. The prototype will be trialled in further field tests until it is available on the market.

Flexibility and security

“Liebherr Autonomous Operations” is particularly suitable for repetitive operations and can be used to perform monotonous standard tasks – such as the recurring loading of feed hoppers or loading from A to B – independently and without an operator. As a result, employees can devote themselves to more varied tasks, meaning that working time can be organised more effectively. At the same time, it can create space for employees to focus on more complex activities that require human expertise. In

addition, work in hazard zones – such as areas of a quarry at risk of collapse – can also be carried out by the driverless autonomous system without endangering employees.

Efficiency and predictability

The autonomous system delivers machine operation with consistent performance and efficiency right from the start, thereby increasing productivity. “Thanks to the constant material supply, work processes can be better planned and it is easier to do so,” explained Manuel Bös, Head of the Emerging Technologies department. At the same time, the machine operates gently ensuring cost savings due to reduced wear and fuel consumption. Furthermore, operators can switch seamlessly between classic, manual cab operation or fully autonomous operation.

User-friendly interface

The Liebherr “Autonomous Job Planner” web application can be used to graphically define work orders in a 3D working environment without any special IT knowledge. The machine perceives its surroundings, piles and obstacles using 3D environmental sensors – without having to use drones or separate surveying technology. On this basis, the machine plans the individual work cycle, executes it independently and adapts to any changes in the environment or different bulk materials fully automatically. Another special feature of the prototype is that it can operate without GPS reception, which allows it to be used in halls, underground, on high demolition walls or under vegetation. “In these sorts of operations, conventional GPS-based systems can have their limits, whereas Liebherr Autonomous Operations can be used anywhere – from a confined industrial hall to an open quarry,” explained Bös. In addition, the self-driving wheel loader can also carry out work independently around the clock, enabling flexible material transport at any time.

With “Liebherr Autonomous Operations”, Liebherr-Werk Bischofshofen GmbH has developed an autonomous add-on designed especially for the operation of earthmoving machines. Work orders can be defined simply and intuitively in a web application without the need for specialised IT skills. The autonomous system opens up new possibilities in terms of the organisation of working hours and order planning. After ten years of development, Liebherr is in the final testing phase with the self-driving wheel loader and then the machine will be launched on the market.

Images



liebherr-autonomous-operations-bauma-innovation-award.jpg

“Liebherr Autonomous Operations” can be followed on the test site and in the web application.

About Liebherr-Werk Bischofshofen GmbH

Liebherr-Werk Bischofshofen GmbH develops, produces and sells wheel loaders from the Liebherr Group. The plant in Salzburger Land (Austria) has grown steadily over the decades thanks to sustainable innovations, creative solutions and high quality standards. The wheel loader range is constantly being expanded and includes models in different product groups: Compact loaders, stereo loaders, and mid-sized and large wheel loaders with impressive, innovative drive designs.

About the Liebherr Group

The Liebherr Group is a family-run technology company with a highly diversified product portfolio. 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, its staff have worked tirelessly to impress their customers with sophisticated solutions and actively advance technology.

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