

Press release

## **RIGA MAINZ replaces old railway bridge with Liebherr crawler crane LR 1750/2**

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- **LR 1750/2 crawler crane assembles two bridge sections, each weighing 285 tonnes.**
- **Specially constructed 2-meter-thick concrete slab ensures stable positioning of the crawler crane.**
- **Tight space conditions pose challenges for the installation team.**

**The German Railway has renewed a bridge over the Riß in Biberach. A Liebherr crawler crane LR 1750/2 from the crane and heavy haulage company RIGA MAINZ lifted out the old bridge sections and placed the new bridge in two parts, each weighing 285 tons. These were positioned on completely newly built abutments.**

Ehingen (Danube) (Germany), 21 December 2023 – The old bridge over the Riß, a 49-kilometer-long tributary of the Danube in Upper Swabia, dated back to 1912, while the abutments were three decades older. Originally, the plan was to construct the new reinforced concrete bridge a few meters west of the old one, demolish the old bridge, and then slide the new one into the railway line. However, this plan was rejected because it would have meant a major impact on the environment. A new cycle and pedestrian bridge would have had to be dismantled and a small area of forest would have had to be cleared. It was therefore decided to build the new bridge to the east on a meadow using prefabricated parts and lift it into place by crane.

The contractor, Salcef Bau GmbH, awarded the contract to replace the bridge to the crane and heavy haulage company RIGA MAINZ, which used a 750-tonne crawler crane LR 1750/2 for the job. A 2-metre thick and 18 x 18 metre concrete slab was built on eight large bored piles to ensure the crane giant, which was equipped with a 49 metre main boom for this task, could stand securely.

The assembly of the 750-ton crawler crane was no easy task. Company owner Uwe Langer, also responsible for project planning, reported, "The space conditions were very tight, as the newly constructed reinforced concrete bridges to be assembled were already placed on the construction site. In addition, we were restricted by surrounding trees."

For the construction of the new abutments, two large drilling machines produced a total of twelve bored piles with a diameter of 1.5 metres and a depth of ten meters. After the lifting of the new bridge sections, they were cast with concrete into the abutments to form a monolithic structure. This resulted in a ten-meter-wide and twenty-meter-long new bridge structure. The assembly and crawler crane teams did an excellent job, and the railway line had to be closed for only five days during this massive reconstruction.

The RIGA MAINZ team with crane operator Daniel Schleicher are full of praise for their crawler crane: "The LR 1750/2 was the optimum crane size for this job. It is compact and yet powerful. Larger cranes would not have been suitable in these tight conditions. Thanks to the variable ballast radius of the suspended ballast, we were able to make optimum use of the space."

The dismantling of the two old steel bridges, each weighing only 51 tonnes, was smooth. The two prefabricated new reinforced concrete bridges, each weighing 285 tonnes, posed a more significant challenge. The LR 1750/2 had to move a gross load of 300 tonnes, including the crane hook block and rigging, to a lifting height of up to 27 metres and an outreach of up to 25 metres. Various auxiliary tasks for the crawler crane, such as lifting an 85-tonne excavator at a 42-metre outreach, were also performed. The entire job took just over two weeks: Two days each for setting up and dismantling the crawler crane and ten days of operation - five night shifts were added to the ten day shifts.

## About Liebherr-Werk Ehingen GmbH

Liebherr-Werk Ehingen GmbH is a leading manufacturer of mobile and crawler cranes. Its range of mobile cranes extends from 2-axle 35 tonne cranes to heavy duty cranes with a lifting capacity of 1200 tonnes and a 9-axle chassis. Its lattice boom cranes on mobile or crawler travel gear deliver lifting capacities of up to 3000 tonnes. With universal boom systems and extensive additional equipment, they can be seen in action on construction sites throughout the world. The Ehingen site has a workforce of 4,300. An extensive, global service network guarantees the high availability of Liebherr mobile and crawler cranes. In 2022, the Liebherr plant in Ehingen recorded a turnover of 2.37 billion euros.

## 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 and user-oriented products and services in a wide range of other areas. The Liebherr Group includes over 140 companies across all continents. In 2022, it employed more than 50,000 staff and achieved combined revenues of over 12.5 billion euros. Liebherr was founded in Kirchdorf an der Iller in Southern Germany in 1949. Since then, the employees have been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers.

## Images



liebherr-lr1750-2-riga-mainz-01.jpg

Riga Mainz assembles two reinforced concrete bridge sections over the Riß near Biberach with a Liebherr LR 1750/2.



liebherr-lr1750-2-riga-mainz-02.jpg

A two-metre thick, 18 by 18-metre large concrete slab was specially built to ensure a stable base for the crawler crane.



liebherr-lr1750-2-riga-mainz-03.jpg

Riga Mainz used a Liebherr LTM 1230-5.1 for the assembly of the LR 1750/2.



liebherr-lr1750-2-riga-mainz-04.jpg

The LR 1750/2 had to move gross loads of around 300 tonnes to a lifting height of up to 27 metres and an outreach of up to 25 metres.



liebherr-lr1750-2-riga-mainz-05.jpg

Tight space conditions and surrounding trees posed a challenge for the crane and the team.

## Contact

Wolfgang Beringer  
Marketing and Communication  
Phone: +49 7391/502 - 3663  
Email: [wolfgang.beringer@liebherr.com](mailto:wolfgang.beringer@liebherr.com)

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