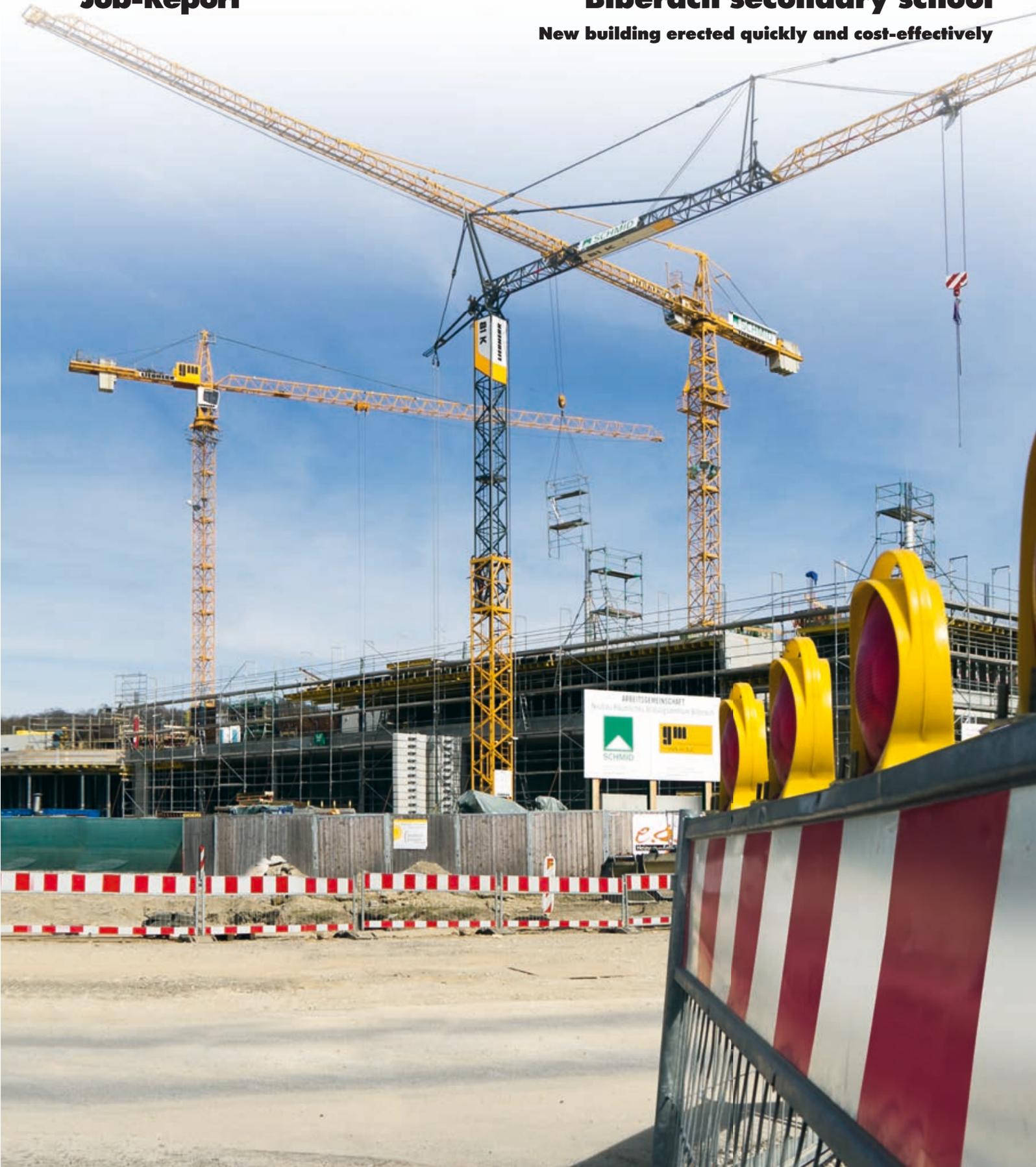


Fast-erecting crane

81 K

Job-Report

Biberach secondary school
New building erected quickly and cost-effectively



LIEBHERR

New school building with high turnover

Six construction cranes from Liebherr were used during the building of one of the largest education facilities in the German state of Baden-Württemberg in the Upper Swabian town of Biberach. The fast-erecting cranes 42 K.1 and 71 K and the top-slewing cranes 91 EC and 112 EC H 8 Litronic ensured that the loads were handled smoothly. Two other Liebherr 81 K fast-erecting cranes were also used. This type of crane has the high level of adaptability in terms of radius and hook height as well as the drive and control technologies that were previously available only in top-slewing cranes.

The municipal project „New construction of Biberach education centre“ with a total volume of €45 million was implemented

by ARGE Grüner & Mühlischlegel GmbH & Co. KG (Biberach) and Matthäus Schmid GmbH & CO KG (Baltringen). Apart from a secondary school for about 1,200 pupils, a new sports hall, a cafeteria and a library were also built. The two 81 K cranes were

Maximum speed – adjusted to the respective

particularly impressive because of the hook height of 40.4m, which is unique to this crane category, and also their maximum load capacity of 6,000 kg and much higher handling capacity than the predecessor model 71 K.

Since all loads are handled in 2-rope operation, there is no need for time-consuming re-reeving. With the 81 K, the loads are always moved at maximum speed, which is adjusted to suit the respective load. This increases handling capacity for the extensive concreting and formwork that was required on the site. The new Biberach education centre has a volume of about 90,000 cubic metres. Thanks to MICROMOVE, large, heavy pre-fabricated parts – such as those for the stands in the sports hall – could be positioned precisely to the exact millimetre.



Save a lot of money

In the €45 million project „New construction of Biberach education centre“, Alexander Schumacher, Technical Manager at Grüner & Mühlischlegel and Senior Construction Manager at ARGE, and his colleague Alexander Weckerle, who is responsible for the construction site floor plans at Matthäus Schmid, have a special reason for choosing the Liebherr 81 K fast-erecting crane: They wanted to test out the new drive and control technologies that were previously available only with top-slewing cranes. „For us, it was important to put this new crane to the acid test on a building site,“ say Schumacher and Weckerle. „After all, it is only in practical use that you see whether the numerous optimized and further-developed functions really have any significant added benefits compared to the tried and tested predecessor model, the 71 K.“ After about six months they had nothing but positive comments for the crane. Apart from the simple and safe assembly, the 40.4m hook height, the MICROMOVE fine-positioning mode and the improved load-capacity curve with more than 25% extra load capacity at the tip compared to the 71 K, it is especially the SPEED2LIFT 2-rope operation that makes the 81 K „such a great product“, says Alexander Schumacher.

No time-consuming re-reeving

This makes the time-consuming re-reeving completely unnecessary and the 81 K can always be operated at maximum speed – adjusted automatically to the respective load. This increases handling capacity considerably and also – in particular – workplace safety when heavy loads are being moved. For Alexander Weckerle, the 81 K is also a „cheap alternative“ to a small top-



Working together: Franz Moll (foreman), Alexander Schumacher (senior construction manager/technical manager), Jan Kleinhans (construction manager), Erich Manz (head foreman) and Andreas Braun (managing director of Grüner & Mühlischlegel).

slewing crane for another reason. „The erection costs for a fast-erecting crane are roughly 30 per cent lower than for a small top-slewing crane.“ But it is especially the high handling capacity of the 81 K that impresses Alexander Schumacher and Alexander Weckerle.

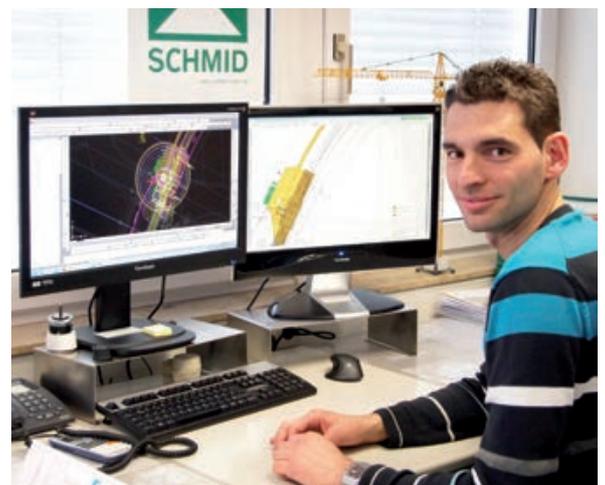
„The 81 K is truly impressive“

The two 81 K cranes were also used to lift large and heavy pre-fabricated parts, such as the stands for the sports hall and the enormous cavity walls for the secondary school. The high load capacity of the 81 K of 6,000kg and the 1,400kg load capacity at the tip at maximum jib length make the 81 K a real powerhouse.

„Because of the very complicated floor plan geometry the buildings

have a high proportion of fair-faced concrete and special structural components. Since these parts were concreted with the 81 K, load capacity and handling capacity play a major role,“ says Alexander Schumacher. „And in this respect, the 81 K is truly impressive.“

Alexander Weckerle from Matthäus Schmid GmbH & CO KG (Baltringen)



The benefits



Precise positioning: No problem whatsoever with the 81 K.

„Because of the very complicated floor plan geometry the buildings have a relatively high proportion of fair-faced concrete and special structural components. Since these parts were concreted with the 81 K, naturally load capacity and handling capacity play a major role. In this respect, the 81 K is truly impressive.“

Construction Manager Alexander Schumacher

Reap the benefits

- + SPEED 2 LIFT:**
Pure 2-rope operation for maximum capacity at full speed
- + Unbeatable load capacity at the tip**
- + MICROMOVE:** Accurate fine-positioning mode at the press of a button
- + Safe working movement with load swing damping and wind force control**

Specifications

Maximum load capacity	6,000kg
Lifting capacity at the tip	1,400kg
Maximum radius	45m
Slewing radius	2.75m/3.5m
Hook heights	
Tower retracted	17.4m
Standard	26.0m
6 tower sections	40.4m
Max. hook height at 30° luffed jib position	55.0m