

TECHNICAL APPLICATION

Complete, high-tech new hospital building erected using modular design and secured **with Bender technology**

## Starting small and getting big: New methods in construction

The new clinic for children and young people at the Diakonie-Klinikum in Schwäbisch Hall is a milestone in construction technology. It was not produced on the actual site, instead it was pre-installed in Neresheim and largely delivered complete with furniture, air-conditioning and heating and water and electricity connections. This also applies to the Bender technology installed.

Every floor of the new building is made up of fitted modules which were put together using a system of building blocks. A total of 60 of these room modules were required to form the entire building unit, including stairwells, treatment rooms, patient rooms and corridors. Putting them all together took just six days. The 61st module - the second floor bridge - forms the connection between the children's hospital and the main hospital building.

### Time saving and synergies

Each of the modules is up to 20 m long and 4.50 m wide and weighs 35 tons - about the same as four double garages. It required a complicated system of logistics to transport, a task entrusted to specialists Felbermayr from Nuremberg and Kübler from Michelfeld. According to project coordinator Thorge Clever from Speditions Kübler, all the obstacles on the stretch between Neresheim and Schwäbisch Hall were recorded and incorporated into a special workflow plan.





## Logistical masterpiece

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The heavy-load transporters drove to the grounds of Spedition Schwäbisch in Michelfeld-Erlin overnight. During the day, when new room cells were required at the 'Diak', a small convoy headed off towards Schwäbisch Hall with a police escort.

## Special machinery for a special project

Assembly involved a mobile crane, of which only a few exist in Germany. The giant, which can lift up to 750 t, arrived on another 16 heavy transporters. It took two days to assemble the crane and just as long to dismantle it. It was posted in front of the main building so it could lift the individual buildings straight from the low-loaders in Diakoniestraße.

One indicator of just how precisely the individual modules are produced becomes clear as you walk through the finished building: there is no evidence of impacts or joins either inside or outside the building.

## Starting small and getting big

The new building covers 3200 m<sup>2</sup> and fits 58 beds across five floors. The total of 230 rooms include intensive care units for newborns and children, an infant and infection ward, a special paediatric surgery clinic and a neuro and social paediatrics unit. The ground floor incorporates a treatment centre, with physiotherapy, speech therapy and occupational therapy.

In future, modular construction will take on more importance, not only as an interim solution but also for extensions to existing buildings. Only very little time is required at the building site itself, which minimises building site issues such as noise, dust, exhaust gases and vibrations.

We would like to thank Ms Giesel from the Diak and Mr Langenbach from ADK for their help and support in producing this report. ■

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