Rotkreuzklinikum München

Rotkreuzklinikum München | Clinic of Gynaecology and Obstetrics

Retrofit

of the operating theatre and the delivery rooms

With a total of 435 beds, **the non-profit Rotkreuzklinikum München** is an important Munich hospital with a focus on care. Since it opened in 1892, it has grown into an academic teaching hospital of the Technical University of Munich with more than 1,000 employees. It is divided into two operating sites, the Rotkreuzklinik in Nymphenburger Strasse and the Frauenklinik in Taxisstrasse.

As a specialist clinic for gynaecology and obstetrics with 145 beds and around 3,800 births each year, the Frauenklinik is Bavaria's largest gynaecological clinic and one of the largest maternity clinics in Germany.

Rotkreuzklinikum München

Retrofit – the challenge in hospitals

The renovation of operating theatres and delivery rooms poses a formidable challenge. Ongoing operations must be maintained, and the safety of the patients must be guaranteed at the same time.

This was the challenge faced by the Frauenklinik in 2018. The central power supply system of three operating theatres, two recovery rooms and six delivery rooms were to be renovated after more than 20 years of operation to bring it up to the state of the art.

The Technical Director of the hospital explains: "Bender provides the necessary flexibility for complicated renovation solutions without interrupting ongoing operations. The renovation during idle periods made it possible for the affected areas to largely avoid any disruptions to operations. It was also essential for us to save time and money by continuing to use the existing supply structures, such as cabling."

The specifications for the renovation measures were driven by the existing infrastructure. No premises were available for the installation of a new system. The design of the existing switchgear meant it was also not possible to replace individual switchgear panels, making it necessary to reconstruct individual switchgear panels during operations. After a project manager from Bender Solutions GmbH & Co. KG had assessed the existing installation on site, these individually constructed systems were specially assembled and delivered ready-wired and mounted on wooden frames.

All the renovation measures were carried out by Bender service technicians without the need for any additional installation company. The installation activities were closely coordinated with the hospital and took place outside the regular hours of the operating theatres. The delivery rooms were fitted in as soon as they were free, thus avoiding any significant restrictions to the hospital's daily routine. The hospital's technical staff took care of the connection to the building control system, the on-site installation of new monitoring panels as well as the switching operations required as part of the renovation work.

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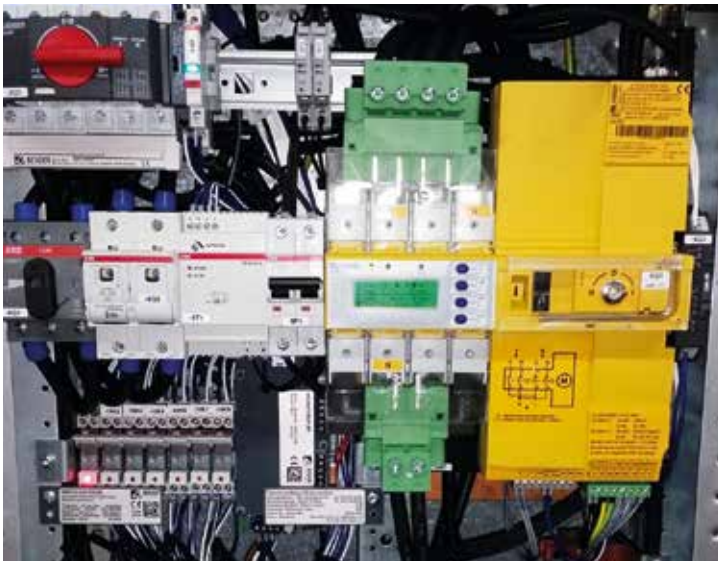

The distributors are equipped with TÜV-approved, automatic switching devices with monitoring for unearthed ATICS®-2-63A-ISO safety power supplies.

Bender supplied and installed a total of eleven isolated power panels, each supplied by BSV (battery-supported safety power supply) and SV (safety power supply), to ensure a redundant supply even under emergency power conditions. The high importance of the delivery rooms in the Frauenklinik requires that they are also supplied with IT systems. The distributors are equipped with TÜV-approved, automatic switching devices with monitoring for unearthed ATICS®-2-63A-ISO safety power supplies. All switching devices are equipped with a bypass switch for better maintenance. Two new isolating transformers were used per IT system. To reduce the thermal load, the ES710 series was implemented using the energy-efficient Green Line (GL) variant. The transformers, each with a power rating of 5 kVA and 6.3 kVA, were designed with 400 V on the primary side due to advantages regarding selectivity. The messages from the IT systems are displayed in each room by MK2430 alarm indicator and test combinations.

The renovation concept was drawn up in close consultation with the local registered inspector. With regard to optimum operational safety, the operating company commissioned the BSV manufacturer to calculate the network and the total inrush currents. In addition, the overall system was re-symmetrised and the selective protection grading was comprehensively reviewed.

Quality and experience count

The renovation of the power supply system in the Frauenklinik was not an easy task. "We chose Bender's solutions because we can look back on many years of excellent cooperation with the market leader in the field of medical IT systems and we can, therefore, achieve system consistency across the premises. We will be happy to return to Bender's specialist knowledge and solutions for future renovation projects," emphasises the Technical Director of the Rotkreuzklinikum. ■

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