

The Siemens logo is displayed in a white box in the top left corner of the page. The background of the entire page is a photograph of a massive grey power transformer being transported on a blue rail wagon. A white banner is attached to the side of the transformer with red and black text. In the background, a large industrial building with a 'SIEMENS' sign is visible under a clear sky.

# SIEMENS

[www.siemens.com/energy/TLM](http://www.siemens.com/energy/TLM)

## Spectacular transformer repair

Siemens organizes heavy-load transformer shipment through the Alps

The life-extending repair of power transformers is everything but an easy task – not only because of the sophisticated technology inside the units, which are indispensable for a reliable power supply. Often, there are also logistic challenges to be mastered: The heavyweights need to be transferred to the factory for more extensive repairs and, of course, back on-site afterwards.

Siemens recently completed a particular challenging project of this kind in Austria: the repair of a 360-ton 600 MVA ELIN transformer and its subsequent transport through the Austrian Alps. The unit was transported by train – from the Siemens transformer production plant in Weiz all the way to the Ernstshofen substation more than 200 kilometers away in Lower Austria.

The Transformer has been in use for APG, an Austrian grid operator, at the Tauern substation in the State of Salzburg since 1989. After experiencing an external flashover in 2011, the transformer was initially inspected on site, then transferred to the Weiz plant for a detailed inspection, and finally repaired within only seven months. The life-extending repairs comprised the installation of new coils, switches, bushings, a cooling system control unit, and other sensitive components. All repairs were performed in

close cooperation with the customer APG. For example, the Siemens experts in Weiz did not recommend actual repairs to be made until the core and coils had been thoroughly inspected. Part of the recommendation also included briefing the customer on the repair's technical and economic feasibility. After the repairs, the service life of the transformer is comparable to that of a new one.

After the repair, the transformer had to be transferred through the Alps to its new site of use in Ernstshofen, because the agreed upon maintenance contract also included transport and recommissioning. Over the course of the route, the transformer had to cross several bridges owned by the ÖBB (Austrian Federal Railways). The project team had conducted extensive prior inspections of the transport route to ensure that all bridges withstood the heavy load with no problems. Close collaboration with the customer, the suppliers, and the forwarder ensured that this impressive project was a success.

**Answers for energy.**