GBT, the world’s longest rail tunnel, is part of the Swiss Alp transit project, it is intended to bypass winding mountain routes and establish a direct route suitable for high speed rail and heavy freight trains. Once completed in 2016, the tunnel will be with a 57 km length and an estimated budget of 57 billion dollars and is expected to reduce the 3.5 hour travel time from Milan to Zürich by one hour.

THE CHALLENGE AND THE SOLUTION

The climatic conditions in the tunnel with relative high temperatures (30 – 40°C) and humidity of more than 80% are quite challenging for the equipment installed. The electrical equipment needed in the construction phase is powering the ventilation and illumination, as well as the complete machinery used in construction of tunnel and therefore it is essential to guarantee the workers safety and health. In addition, remote control and automation options were key requirements in the Gotthard tunnel project due to its large distances and the scope of supply. To be considered for this important project, the equipment had to convince the customer concerning reliability, autonomy and safety.

Ormazabal delivered CGMCOSMOS cubicles which perfectly withstand the harsh installation conditions like they will occur in the Gotthard base tunnel. The redundant system with Ormazabal ekorSTP automatic line transfer safeguards the continuous ventilation of the tunnel in case of loss of one power supply.

Ormazabal ekorRPS and ekorRPGci protection units using toroidal transformers installed at the bushings saved space and installation costs in comparison to the competitive offer.

With this solution Ormazabal could support the customer to achieve highest safety and reliability standards, which are mandatory in the project.

- Highly reliable operation under harsh environmental conditions
- Ultra safe switchgear, internal arc tested according to IEC standards
- Advanced automation and protection functions guarantees top performance
- Modularity allows upgrades and reconfigurations of electrical schemes
- Long life term asset which has an important impact on the clients ROI