

Countdown to the final stage of the New Railway Link through the Alps with ABB on board and in the tunnel

In late 2020, the New Railway Link through the Alps (NRLA) will meet its final milestone connecting North and South Europe with a third transalpine connection. ABB is supplying key electric components for the Ceneri Tunnel.

On December 15, the Swiss Federal Council Ignazio Cassis, the CEO of the Swiss Federal Railways (SBB), as well as other representatives from politics and business, kicked off the ceremonial festivities for the tunnels last stage of construction in Lugano. Simultaneously, “Ceneri 2020” clocks in the railway stations in Bellinzona, Lugano and Locarno rang in the countdown to the tunnels opening in a year’s time. The festivities were rounded off with the christening of another Giruno train named “Ceneri” and a group ride.

At 15.4 kilometers in length, the Ceneri Base Tunnel is the third largest NRLA construction project after the Lötschberg and Gotthard Base Tunnels, as well as the fifth longest railway tunnel in Switzerland. The flat track through the Alps will allow to transport even more goods by rail. It will also reduce travel times and give the Swiss Canton of Ticino an attractive commuter train.

ABB is an important partner in the deployment of this pioneering project. “We are supplying a wide range of innovative, energy-efficient ABB solutions both for the Ceneri Base Tunnel and the Giruno trains from Stadler, thereby making a major contribution to sustainable mobility in the rail sector,” explains Robert Itschner, CEO of ABB Switzerland.

Ceneri Base Tunnel – Expansion with ABB’s product portfolio

Just like in the Gotthard Base Tunnel – the so called “project of the century”, which was inaugurated in 2016 – the new Ceneri Base Tunnel will feature a wide range of products from ABB. This includes, for example, an extremely compact gas-insulated medium-voltage switchgear system for the 50 Hz tunnel infrastructure. The ability to connect up to five panels to create a completely functional switchgear block enables engineers to quickly replace entire systems in the event of a malfunction.

Additionally, the Ceneri Base Tunnel will be equipped with medium- and low-voltage distribution systems for the ventilation system including traction transformers and converters as well as multiple dry-type transformers provided by ABB, which ensure the tunnel’s as well as its emergency network’s energy supply. Further, the scope of delivery by ABB also includes the control system programming and communication, instrumentation and sensors for the entire ventilation system.

ABB technology driving the “buzzard”

The newly christened “Ceneri” Giruno train will begin regularly scheduled operations through the NRLA transalpine crossing following the planned opening of the Ceneri Base Tunnel in December 2020.

Incidentally, Stadler's high-speed train was named "Giruno" by SBB, the Rhaeto-Romanic word for "buzzard". Since its maiden voyage in May 2019, "Girunos" have been trialed on different routes, including on the Gotthard Line through the Gotthard Base Tunnel in August 2019. Now, they operate regularly on the routes from Basel and Zurich to Lugano and Chiasso and will continue on to Milan beginning in the spring of 2020.

The high-speed train, for which ABB supplied the drive, travels at speeds of 200 km/h on Swiss rails and has even reached 275 km/h without any issues during a trial run through the Gotthard Base Tunnel. Each of the approximately 200 meter long drive packages include four traction converters, two traction transformers and nine [Bordline BC](#) battery chargers. The chargers no longer feature conventional silicon based power semiconductors. Instead, they are installed with more compact silicon carbide semiconductors.

The partnership between ABB and SBB within the scope of the New Railway Link through the Alps underscores the tremendous innovative strength and broad expertise of ABB in the railway sector and is yet another milestone in the long, successful history of collaboration between the two leading companies.