

Swiss Section



Technical visit to the Bommersteintunnel and the 11th AGM, 21 April

Report by Chris Glättli

The Bommerstein tunnel is located in the north eastern part of Switzerland next to the Lake Walen (Walensee) and is operated by the Swiss Federal Railways SBB for the Line Zürich–Chur, with three trains per hour each way.

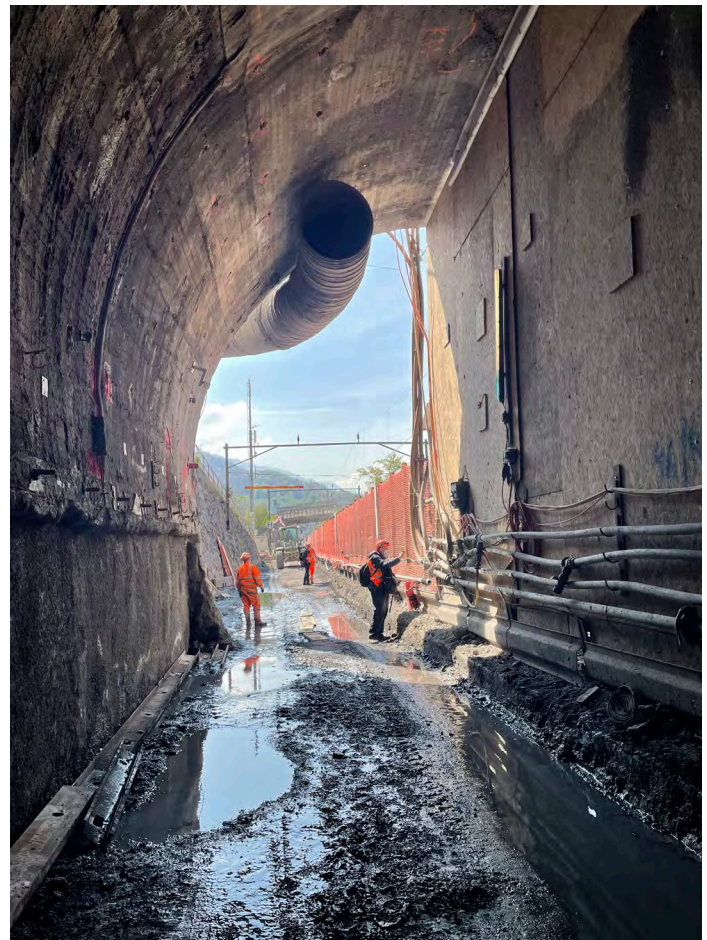
The 450m tunnel was initially built in 1941 and required extensive work. This included updating to today's operational safety regulations, ensuring stability and sealing of the arch, drainage system, introduction of a power rail system, adapting to the newest envelope for bigger trains, and replacement of ballast. Specifically, a new height requirement was a challenge and an additional 40cm had to be dug out on the bottom of the tunnel.

Digging, installing rebars, reinforcing and placement of new pipes along the Bommerstein tunnel.

As this is the main line to Chur, the railway operation of SBB had to continue whilst SERSA was performing the work. This could be achieved thanks to introducing single-track operation in the double track tunnel. For this a cross over at Mols had to be inserted outside the tunnel and for safety reasons a wall was introduced in the middle of the tunnel to separate construction workers from the moving trains, and the maximum speed for the trains was lowered to 80km/h. Under these circumstances the construction site had no impact on the existing timetable. As one side was finished, construction and trains 'swapped sides'.



Construction site on the west end of the tunnel, showing the dividing wall and the new arch shape of the deeper dug tunnel foot.



Massive civil works were performed for example blasting, diamond cutting rock and concrete, pressure washing the arch with 2000bars, and rock anchoring 15m deep. To perform this complex undertaking SERSA provided four installation sites, where preparations took place and vehicles were stored. The preliminary work started in 2011, followed by detailed planning and finally construction for the project at a total cost of approx SFR37m (£34m, €38m, \$38m). With two shifts per day, the construction will take three years and finish 2023.

Once complete the project will result in achieving normative conformance, double track distance of 3.80m, bigger envelope, new catenary on the outside section, new neutral section, new tunnel radio and cabling and signs for the evacuation route.

The technical visit consisted of an excellent presentation by Pierre Ferrin SBB, Lukas Herburger, Christian Schnyder and Bea Müller all from SERSA, but only the visit to the tunnel itself showed how extensive the construction is. Driving dumpers, drilling for blasting and train traffic at the same time made the visit to see the civil engineering a true experience. A big thanks to all the organisers involved.

After the technical site visit, we had a good reception for the AGM, which took place in the Restaurant Seehof in Walenstadt. Unfortunately, the president had to excuse himself at short notice before the AGM but thankfully Rolf Seiffert stepped in to lead the well-prepared meeting, and all the agenda items, including elections, were carried out efficiently. After the AGM we had a wonderful dinner with deep conversations. A big thank you to the organisers Patrick and Bea.

