

## Setting the track | Since 1847.

This year marks the 175<sup>th</sup> anniversary of Switzerland's very first railway. Reason enough for Swiss Travel System AG to take a closer look at the developments that not only shaped Swiss railway history but rail-bound public transportation in general. Its roots can be found in industrialization. Electrification and the proliferation of Alpine tourism acted as catalysts for Swiss innovations. Advances in Swiss railway infrastructure and railway architecture have been also instrumental on a European level, as the Gotthard Tunnel of 1882 and the Gotthard Base Tunnel of 2016 illustrate.

At the same time, railway history powerfully demonstrates how we are moving towards a new era: from steam locomotives powered by coal to engines running on clean waterpower. In the new digital society, the effects of novel technologies are felt here as well, and automation of complex processes has become standard. At its core, railway history is about people first, machines second.

### From agrarian to industrial society.



The industrial revolution first changed England, then the rest of Europe. The change gave rise to major innovations, such as metal rails, the steam engine and spinning frames. Until then, most people worked in agriculture. But suddenly, a huge demand for factory workers emerged. Mobility, however, was a luxury few could afford. Back in 1840, the 23-kilometre-long trip from Zürich to Baden on a horse-drawn carriage cost the equivalent of a day's wage for a skilled factory worker, and the journey from Zürich to Chur was an 18-hour adventure. An eternity, compared to the mere 74 minutes it takes an intercity to travel the distance today. But it was just a matter of a few years until the locomotive, invented by the English, would conquer Switzerland.

### Groundbreaking: Spanish-Bun-Railway.



1847 marked the year of the first railway connection built exclusively on Swiss soil. The "Spanish-Bun-Railway" running on steam would change the way people travelled. Up until then, the Swiss had travelled on water, horses or mules. Thanks to the railway, goods, people, and mail could reach their destination much faster. [Download](#) image:

## A society on the move.



The Spanish-Bun-Railway remained the only connection in Switzerland for many years. The railway boom only started after the first federal railway act of 1852, when private companies such as Alfred Escher's Swiss Northeastern Railway and the Swiss Central Railway began developing an extensive network. In 1880, the Swiss network surpassed 2,500 km in length – its density matched by no other European country. The nation's thriving industry with its need to move goods at low cost from place to place was the driving force behind its expansion. However, the rivalry between cantons also meant that some railway lines were superfluous and added little to meet the needs of some cities and their people.

## A divided society: mobility as a luxury.



Comfort came down to price. Until 1957, trains usually offered three classes of service. Back in the days, luxury coaches were reserved for the ultra-wealthy – a minority that would soon discover a more private way of getting around mid-century: cars. [Download](#) image:

## Shortcut through the Alps – defeating the Gotthard.



When the Gotthard Tunnel opened in 1882, news outlets from around the globe reported on the little Alpine country and its stunning achievement. For the first time ever, northern Switzerland was connected to the Ticino by rail. This allowed goods and passengers to travel even faster from Germany to Italy via Switzerland. The success story continued in 2016, when the 57-kilometre-long Gotthard Base Tunnel opened, marking another world record. Today, the Gotthard Panorama Express and the Treno Gottardo allow guests to relive a piece of railway history, as they make their way through the Gotthard Tunnel of 1882 that defined the travel experience until as recently as 2016.

## Groundbreaking: Swiss inventions.



In the 19th century, the Swiss Alps became an attractive holiday destination. But traditional railways proved unsuitable for the steep slopes and challenging mountain terrain – mainly because of the rails' poor adhesive-friction properties. It was Alpine tourism that drove Swiss engineers to develop innovations that many had deemed impossible: cog railways and funiculars that can easily accomplish steep gradients. More direct routes on narrower gauge tracks had the added advantage of bringing down costs.

## Designed in Switzerland.



Mountain railways in Switzerland really took off towards the end of the 19th century. The four most popular cog railway systems were named after their Swiss inventors.

The Riggerbach system is named after Niklaus Riggerbach (used for the Rigi Railways, first cog railway in Switzerland). The Locher system is named after Eduard Locher, (used on the Pilatus Railway, still the world's steepest cog railway). The Abt system is named after Carl Roman Abt (used on the Gornergrat Bahn, the world's first electrified mountain railway), and the Strub system is named after Emil Strub (used on and the Jungfrau Railway, which offers service to Europe's highest-set railway station). The image shows the Pilatus Bahn, the world's steepest cog railway.

## Turn of the century: Mountain railways are chic.



The Vitznau-Rigi-Railway was the first cog railway to operate in Switzerland in 1871. Switzerland's premier cog railway negotiates 1315 m over a stretch of 7 km. Niklaus Riggerbach's innovation served as a model for many European mountain railways. The historic Lok 7 locomotive, built in 1873 in Winterthur, reached a maximum speed of 7.5 kilometers per hour, reliably bringing countless people to the summit. Fast-forward to the present day: The brand-new rail cars are state-of-the-art. First introduced in April 2022, they offer plenty of comfort and can return the brake energy generated on the way down to the power grid – energy that can then be used for the ascent.

## Bankruptcy and birth of the SBB.



**SBB CFF FFS**

The private railways failed to be profitable on many routes, resulting in several bankruptcies. This led to renewed calls for a nationalization of the railways. The new railway act of 1872, which transferred the power to issue new or rescind existing concessions to the federal government, was a first move in this direction. In 1902, the Swiss Federal Railways (SBB) were founded. By 1909, the SBB had incorporated the major private railways and made the electrification and strategic expansion of its route network a priority. The railways enjoyed a reputation as a reliable employer and to this day, people are proud of "their railways". After all, precision and punctuality are Swiss values that are inextricably linked to the image of the Swiss railways.

## The end of an era: The steam locomotive is history.



In 1915, the SBB had a fleet of 1,229 steam locomotives, of which 1,197 were deployed on normal gauge tracks. During the First World War, people and goods travelled less often, which led to declining demand for rail services. At the same time, coal was a scarce good. Because the SBB had started early and electrified most of its lines around 1920, the steam engines could now be gradually replaced with more energy-efficient vehicles. In 1968, the steam-powered SBB locomotive became a thing of the past. The image on the left depicts what is arguably Switzerland's most famous locomotive: the Ce 6/8, also known by the name crocodile because of its shape and the way it moved when in motion. Its 3,640 horsepower was first put to good use on the electrified Gotthard Line. [Download](#) image:

## Conquering the Alps on rails.



The economically vital north-south axis through the Alps was followed by making the famous mountain resorts accessible by rail – from Davos to Zermatt. As only the third railway route in history, the Albula and Bernina Lines were awarded UNESCO World Heritage status in 2008. The Glacier Express and the Bernina Express both traverse the world-famous Landwasser Viaduct – a true feat of engineering. And between the First World War and 1962, the Simplon-Orient-Express travelled from Paris via Lausanne through the Valais and on to Venice and Istanbul. © Rhaetian Railways.

## Synchronized timetable and Rail 2000.



Switzerland introduced a regular-interval timetable in 1982, which was promoted with the slogan “one train per hour”. The novelty is best illustrated by taking the route Zurich-Bern as an example: Due to optimized travel times of under an hour, the trains arrive and leave the station at precisely the same times. This schedule applies to all larger cities: Trains pull in around the full hour mark and leave shortly after the full hour. Thanks to this, departure times of trains, buses and boats are perfectly synchronized.

In the framework of “Rail 2000”, public transport is further enhanced, more frequencies are added, and even better align with regional and local connections.

## Swiss Travel Pass: One country, one ticket.



In 2014, the Swiss Travel Pass celebrated its 25th anniversary. With a single ticket, guests from abroad may not only take advantage of the extensive railway network but use all forms of public transportation – as long as their Swiss Travel Pass remains valid. Travel on premium panoramic trains, attractive discounts on popular mountain excursions and complimentary access to more than 500 museums are also included. An invention that's probably unique to the world.

## Massive investments for the railway of tomorrow.



Over the years, the SBB has invested billions of CHF to modernize its fleet serving national and international destinations. Trains such as the Giruno, Astoro and the FV-Dosto carry 1.3 million people daily throughout the SBB's route network. But other railways set new standards, too. In 2019, Glacier Express introduced its Excellence Class. The class of service between Zermatt and St. Moritz leaves no wishes unanswered. And the Rhaetian Railway has committed CHF 534 million towards 56 Capricorn railcars.

## The renaissance of the railway: sustainability is top of mind.



Getting around by public transportation is the most climate-friendly way to travel. Globally, Switzerland is seen as a pioneer. The SBB maintains its own hydropower plants and 90% of its power needs are met by hydropower. The Rhaetian Railway is even fully powered by hydropower. And many mountain railways, such as the Rigi Railways, have recently replaced their fleet with the latest-generation models that return the brake energy generated on the way down into its power system. Other mountain railways make use of similar technology. Perhaps no surprise: the SBB received the renowned Watt d'Or in 2022.

Pictures are ready for download [here](#).

SBB Historic images available [here](#):

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