

Royal mountains : St. Gotthard - the legendary mountain

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St.Gotthard – the legendary mountain

Neither the Matterhorn, the Jungfrau or the Pilatus is Switzerland's mountain of mountains. That honour goes to St.Gotthard, for it is here that Switzerland was allegedly founded and where it built its masterpieces. By Rolf Ribi

Every schoolchild knows the legend of the construction of the Teufelsbrücke, and how the people of Uri outwitted the devil. Many know the "St.Gotthard Mail Coach" painting by Rudolf Koller, which hangs in Zurich's Kunsthaus. Old men and women remember the military fort on St.Gotthard from the Second World War. Some people see the birth of their nation reflected in the freedom-loving shepherds of St.Gotthard. And all Swiss are proud of engineering feats like the mountain pass, the railway and its helical tunnels, the motorway and road tunnel, and what will eventually be the world's longest railway tunnel.

"Royal mountains"

Firstly, St.Gotthard is a massive mountain range between the Reuss valley and the Leventina, or more precisely between the Urseren and Bedretto valleys. Its highest peak, Pizzo Rotondo, tops out at 3,192 metres. St.Gotthard is named after the pass between the Hospen valley and Airolo,

and this gets its name from a bishop to whom the hospice chapel was dedicated in the 13th Century. The altarpiece shows St.Gotthard.

"St.Gotthard may not be the highest mountain range in Switzerland, and Mont Blanc in Savoy easily outranks it in terms of size," wrote Johann Wolfgang Goethe in his 'Letters from Switzerland' in 1799. "Yet it alone has the status of a royal range because it is

the point where the largest mountain ranges meet." Indeed, the Bernese and Valais Alps converge on St.Gotthard from the west, the Glarus and Grisons Alps from the east. To the north and south, the Reuss and Ticino rivers have gouged deep valleys in the rock.

St.Gotthard is a European watershed. Four major rivers spring forth there: the Rhine flows to

the North Sea, the Rhone to the Mediterranean, the Reuss joins the Aare and later the Rhine, and the River Ticino merges with the Po before emptying into the Adriatic. Right at the top of the pass, two lively streams flow

out of small mountain lakes only a few steps apart: the Reuss and the Ticino. The Gotthard Massif is also a weather divide. When it rains in the north, the south mostly has a northerly wind and perfect weather. And when the warm Föhn wind blows in the north, it often rains for days on end in the Ticino.

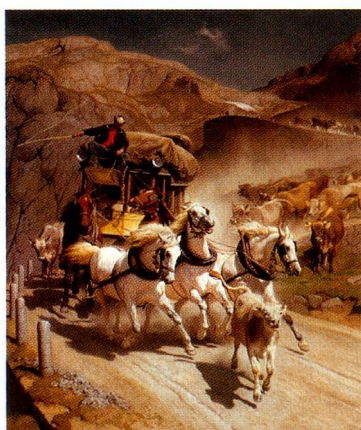
The road over the pass

Until the 12th Century, the Schöllenen Gorge blocked the way to St.Gotthard. It was only with the construction of the



Monument to fallen miners in Airolo.

Teufelsbrücke in around 1220 that mule trains began transporting goods all the way to Lombardy. However, the dangerous path remained mainly a local connection between the two valleys until the 1500s. Mule trains took seven days to travel from Flüelen to Bellinzona. In the 17th and 18th Centuries there was a horse-ridden mail service between Zurich and Milan. The expansion of the former mule trail into the mountain pass around 1830 transformed St.Gotthard into the most important transit route through the Alps, initially by horse-drawn carriage and later by the first cars.



The legendary "St. Gotthard Mail Coach" by Rudolf Koller.



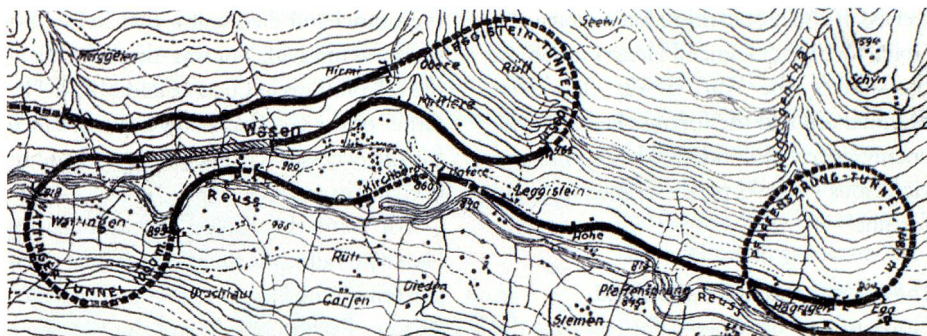
It took almost four years of drilling...



... to make the first breakthrough on 6 September 2006.

After the Second World War, it was increasingly used by holidaymakers. The construction of the motorway spawned the idea of a road tunnel through St.Gotthard. In 1980, after 11 years' work, the longest road tunnel in the world at the time, consisting of a single 16.9-kilometre tunnel pipe and one service tunnel, was completed. "The tunnel is not a corridor for heavy goods vehicles," Federal Councillor Hans Hürlimann said at the opening ceremony. "Our transport policy focuses on goods being transported by rail both today and tomorrow." Today we know that this hope was in vain. The flood of lorries (and cars) is constantly increasing, bringing local residents and the St.Gotthard route itself more problems than benefits.

At 9.44am on 24 October 2001, the St.Gotthard road tunnel became an inferno when a northbound lorry loaded with tyres collided head-on with an articulated lorry driving in the other direction. A fire broke out and a diesel tank exploded, producing blinding, choking smoke and causing the tunnel ceiling to collapse. Eleven people died of smoke inhalation. The fire in the St.Gotthard Tunnel became a national disaster and a pan-European event. It was the worst-case scenario. Critics demanded the rapid construction of a second tunnel pipe and the eventual shifting of goods transport onto rail. The Swiss Federal Roads Authority claimed the tunnel and its infra-



A masterpiece of engineering: the seven helical tunnels of the Gotthard railway.

structure were very safe. "No-one need have died in the tunnel if those responsible had acted correctly," a statement said.

Five years later, the St.Gotthard motorway was again in the headlines: Huge boulders broke off from the mountain near Gurtellen and plunged 700 metres to the ground. A German couple in a car was killed, many others had a narrow escape. Chunks of granite weighing up to 125 tonnes and spanning

50 cubic metres blocked the motorway and cantonal road. There is no protection against such giants, the cantonal authorities said. Days later, the overhanging rock head was dynamited away expertly while dozens of camera crews recorded the event in safety from the other side of the valley.



The Schöllenen Gorge and "Devil's Bridge".

National legend

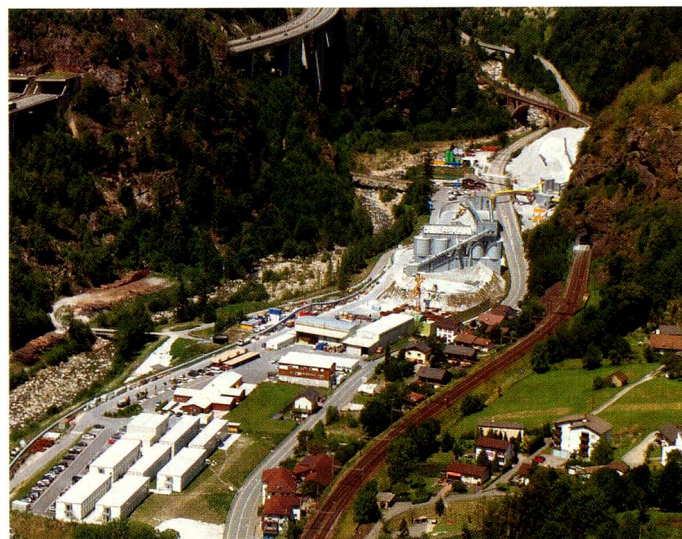
"The construction of the Teufelsbrücke in the Schöllenen Gorge was considered a seminal event in the early days

of the Confederation," wrote historian and journalist Helmut Stalder in his book 'Mythos Gotthard'. No-one captured the essence of St.Gotthard's mythical role in the foundation of Switzerland better than the poet Friedrich Schiller in his 1804 liberation drama 'William Tell'. "St.Gotthard becomes Tell's path of destiny, the common path of destiny for all Switzerland," Helmut Stalder wrote. The new federal state of 1848 eagerly seized upon this myth, he says. "It was easy to develop a national identity around St.Gotthard", combining virtues such as the love of freedom, defensibility, fear of God and loyalty to tradition.

For a century, St.Gotthard remained a symbol of liberty, resistance and watchfulness, indeed serving as Switzerland's God-given fortress. At least that's what the Federal Council believed on the eve of the Second World War. "It is no coincidence that the first federal alliances were formed around the Gotthard Pass. That fact was providential and crucial for the national consciousness of the Swiss Confederation." St.Gotthard not only symbolised self-assert-



Filling with excavated material from the Gotthard in the Reuss delta near Flüelen.



The major construction site at the tunnel entrance in Faido.

iveness. It also hosted the reduct national; the alpine fortress of General Henri Guisan. At the end of the War, it was clear that St.Gotthard and the fortress had kept the enemy at bay and independence emerged victorious – thanks partly to gracious good fortune.

The rail line through St.Gotthard

Gotthard or Lukmanier? The row over the new alpine tunnel raged for years and was only settled in 1871 with the foundation of the Gotthard Railway Company. The driving force behind this was Zurich politician and businessman Alfred Escher. Louis Favre of Geneva was commissioned to build the 14.9-kilometre tunnel, which he planned to complete in precisely eight years at a cost of CHF 47.8 million.

The miners began their incredibly arduous work in September 1872, standing knee-deep in water, breathing hot, smoky air in an extremely dangerous environment. On 28 February 1880, the drill rods of the two galleries met with almost perfect precision: they were only a few centimetres apart in height and 33 centimetres horizontally. The world's longest railway tunnel of the time and the first all-year connection through the Swiss Alps had been completed, and the St.Gotthard railway began operating on 1 June 1882.

At least 200 miners, nearly all of them Italians, lost their lives. A small memorial stone was erected to them in Göschenen cemetery, while another memorial to fallen miners – “Le vittime de Lavoro” by Vincenzo Vela – stands near Airolo station. Louis Favre never lived to witness his triumph. He collapsed in

the tunnel and died half a year before his work was finished. Nor was Alfred Escher at the celebrations in Lucerne and Milan. The father of the Gotthard railway was blamed for the excessive cost of the tunnel and retired in bitterness.

Not only the tunnel, but the entire Gotthard railway is a magnificent feat of engineering. It includes seven helical tunnels by Wassen, Dazio Grande and the Biaschina Gorge that elegantly overcome height differences of hundreds of metres. “The Gotthard railway was the Swiss Suez Canal, the technical conquest of the Alps, victory over the vertical,” wrote Helmut Stalder.

Another engineering feat

The Gotthard is once again the site of a monumental development. The 57-kilometre base tunnel from Erstfeld to Bodio is a tunnel of superlatives. It is the longest railway tunnel in the world, the first level transalpine track, it connects central and southern Switzerland, forms a straight, near-horizontal connection, and is the boldest vision yet for conquering the Alps. Since the autumn of 1993, gigantic tunnel drilling machinery with drill heads 10 metres in diameter has been working its way through the millennia-old rock. Never has a tunnel been dug so far into a mountain. According to the computer model, the tips of the two screws will be less than 20 centimetres apart when they meet at the centre.

Trains will have to climb or descend no more than eight metres per kilometre. Thanks to this small incline, trains will be able to race through the Alps at 250 kilome-

tres an hour, cutting travel times between Zurich and Milan by an hour to only two hours and 40 minutes. The near-level railway will also permit freight trains to carry more than twice as much weight as at present and travel at up to 160 kilometres an hour.

The new Gotthard line is part of the New Rail Link through the Alps (NRLA). The NRLA project to build the two tunnels under St.Gotthard and the Lötschberg was approved by popular referendum in 1992 and gained planning permission in 1998. It is due to be completed in 2016 at a cost of about CHF 18 billion. But even now it's already clear that the Gotthard base tunnel and its two single-track pipes will be the crowning achievement of the 21st Century.

And when the new flat line opens, what will happen to the old Gotthard railway, this masterpiece of engineering prowess, when instead of 260 trains a day only three dozen locomotives will climb the helical tunnels by Wassen's little church? Plans are afoot for the Gotthard line to become a UNESCO World Cultural Heritage site.

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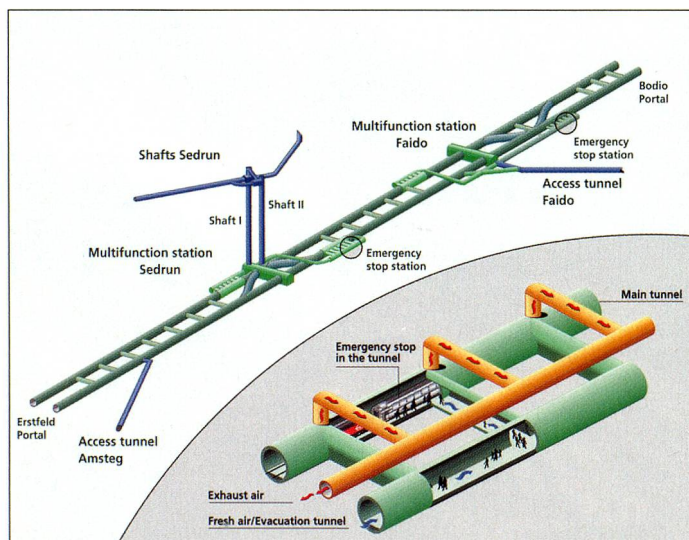


Diagram of the Gotthard Base Tunnel with emergency stops and ventilation.



At 57 kilometres, the new base tunnel is the longest railway tunnel in the world.