

# World's longest tunnel breaks down Swiss Alpine barrier (Update 2, Pictures)

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A giant drilling machine completes the world's longest tunnel beneath the Swiss Alps. In a stage-managed breakthrough, attended by some 200 dignitaries 30 kilometres (20 miles) inside the tunnel and broadcast live on Swiss television, engineers from both sides shook hands after the bore had pummeled through the final 1.5 metres (five feet) of rock.

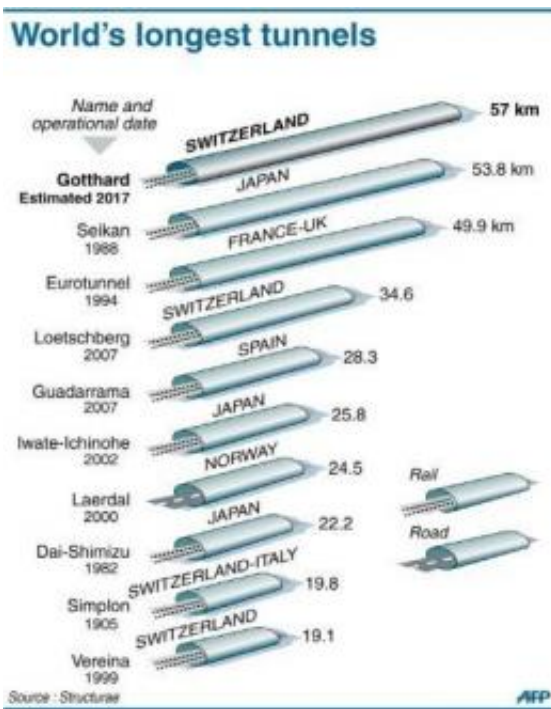
A giant drilling machine punched its way through a final section of Alpine rock on Friday to complete the world's longest tunnel, after 15 years of sometimes lethal construction work.

In a stage-managed breakthrough, attended by some 200 dignitaries 30 kilometres (20 miles) inside the tunnel and broadcast live on Swiss television, engineers from both sides shook hands after the bore had pummeled through the final 1.5 metres (five feet) of rock.

"Here, in the heart of the Swiss Alps, one of the biggest environmental projects on the continent has become reality," said Swiss Transport Minister Moritz Leuenberger.

Tunnel workers paid tribute to their colleagues who had died on the construction site with a minute's silence as the names of the eight victims were read out during an emotional ceremony for the breakthrough.

"Workers, thank you, thank you, thank you. We have not only built a tunnel, we have written history," said Luzi Gruber, of the construction company Implenia.



A graphic listing the world's 10 longest tunnels. A giant drilling machine has punched its way through a final section of Alpine rock to complete the world's longest tunnel, after 15 years of sometimes lethal construction work.

The 57-kilometre (35.4-mile) high-speed rail link, which will open in 2017, will form the lynchpin of a new rail network between northern and southeastern Europe and help ease congestion and pollution in the Swiss Alps.

It is the third tunnel to be built through the snowbound St. Gotthard area but it is much the longest and three kilometres longer than a rail link between two Japanese islands, the current record holder at 53.8 kilometres.

"The myth of the Gotthard has been broken for a third time. Our forefathers struggled from the Middle Ages onwards to make this mountain passable," Peter Fueglistaler, director of the Federal Transport office, told journalists gathered for the final breakthrough.

Passengers will ultimately be able to speed from the Italian city of Milan to Zurich in less than three hours and further north into Germany, cutting the journey time by an hour.

But the 9.8-billion Swiss franc (7.0-billion euro) tunnel, which is 9.5 metres in diameter, is also the fruit of strong popular environmental concern about pollution in the Swiss Alps.

Switzerland nonetheless struggled to convince sceptical European neighbours to support the ambitious and costly transalpine rail plans.

But they gained added weight in a shock 1994 referendum result when Swiss voters supported an ecologist motion to stop heavy trucks driving across the Alps -- including the expanding flow of transiting EU goods traffic.

A nationwide poll published on Wednesday suggested that sentiment is undimmed.



A worker holds an effigy of Saint Barbara -- the patron saint of miners -- after a giant drilling machine completed the world's longest tunnel beneath the Swiss Alps.

Sixty-seven percent of those surveyed support a ban on truck traffic through the Gotthard road tunnel and moving it on to rail, according to the poll commissioned by an Alpine environmental lobby group.

In recent years, Austria, France and Italy have set in motion two similar rail tunnel projects through the eastern and western Alps, that are both planned to exceed 50 kilometres in length in the 2020s.

"I hope that this tunnel will have many more brothers in the Alps," transport minister Leuenberger said.



Miners celebrate after completing the world's longest tunnel beneath the Swiss Alps. Passengers will ultimately be able to speed from the Italian city of Milan to Zurich in less than three hours and further north into Germany, cutting the journey time by an hour.

Once completed, around 300 trains should be able to speed through the Gotthard's twin tubes every day, at up to 250 kilometres per hour (155 mph) for passenger trains.

Apart from the economic and environmental implications, the spotlight was on more than 2,000 tunnel workers, especially following the rescue of Chile's trapped miners.

The builders, who have blasted and bored through 13 million cubic metres (460 million cubic feet) of rock, were feted at a celebration just above the breakthrough point in the mist-bound village of Sedrun.

As the two tunnels became one, tunnelers unfurled a Swiss flag to a thunder of applause.

One of the first to make it through, Hubert Baer, told the crowd "It's a wonderful feeling, it's an honour to have participated in the construction of the longest rail tunnel in the world."



View of the 57 kilometre railway tunnel under construction under the Swiss Alps in Sedrun. A giant drilling machine has punched its way through a final section of Alpine rock to complete the world's longest tunnel, after 15 years of sometimes lethal construction work.

With hardhats on their heads and bottles of champagne in hand, the miners from about a dozen countries brought out the flags of Germany, Italy, Portugal, Spain and Turkey.

"This is a moment charged with emotion, very moving. It's been very impressive. It's a unique project," German tunneler Dirk Schwarz told Swiss television.

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