

Porta Alpina : potentially the deepest underground station in the world

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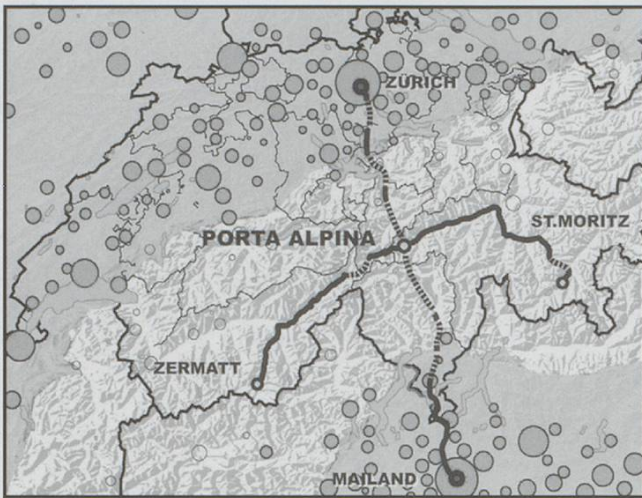
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PORTA ALPINA

Potentially the deepest underground station in the world



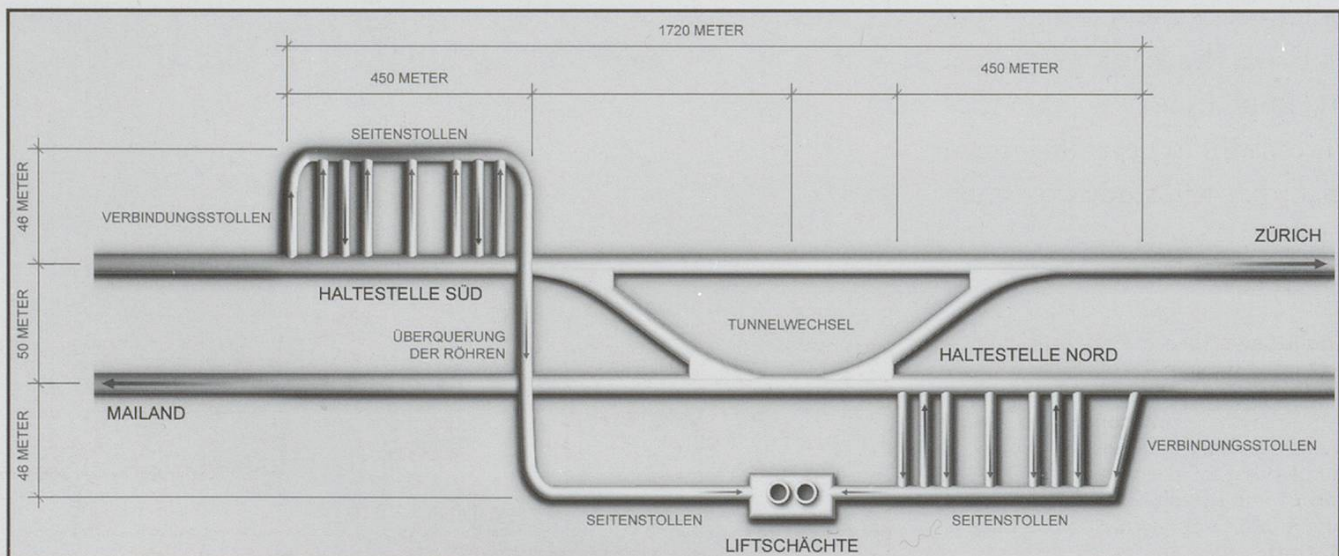
Early in December the Swiss parliament approved SFr 7.5 million to kick-start the process to investigate the potential to build a station some 800m under the Surselva valley in Canton Graubünden that would be sited on the high-speed line through the Gotthard base tunnel. The station, Porta Alpina, would be linked to the surface with high speed lifts leading up to a 1km long tunnel that would have a bus service taking passengers to the surface near the village of Sedrun. The promise of funding came after a government-sponsored study was published in September 2005 that showed that the project was feasible.

The vertical shaft and the access tunnel already exist; they are part of the construction infrastructure that is being used to build the

57km long base tunnel. The plan is to spend some SFr50 million to upgrade the existing facility (it will serve as an emergency access point in the long term anyway) and to build platforms on the new line where express trains running between Zürich and Milan from 2015 could stop. The promoters of the scheme claim that the bold plan will revive the economically depressed mountain region lying above the tunnel and stop the drift of people away from the alpine valley.

The promoters estimate that at least some 50,000 tourists would use the facility each year. With Milan and Zürich each only just over an hour away from the station it is anticipated that some people would move to the area as long-distance commuters, and a population growth of around 1,000 is suggested. It is estimated that the increase in the local tax revenue alone would cover the station's annual operating costs. Politicians in Canton Graubünden also appear to consider that the proposal is feasible as they too voted some SFr20 million toward the project during December.

Despite these optimistic moves it is still uncertain that the Porta Alpina station will be built. SBB who would have to operate the



station as part of the high-speed link between Switzerland and Italy is amongst one of the main critics of the proposal. With the escalating costs of both the Gotthard and Lötschberg base tunnels (up from SFr12.6 billion to SFr15 billion at the latest estimate) the SBB needs to run it at maximum capacity and stopping in the middle of the mountain would reduce that capacity. A Swiss Federal Railways spokesperson is on record as saying "At some point a decision will have to be taken, either in favour of passenger and heavy freight trains running non-stop after each other or passenger trains having to stop to load or unload a couple of dozen passengers."

Although increased economic activity would be welcome in the Surselva and the surrounding area there is genuine concern locally that the romantic villages, and the environmentally sensitive alpine landscape in the remote valley, would not be the same if the project were to go ahead. The potential of the station being built has, however, provided the impetus for the region's authorities to develop a master plan that will study the implications of the project.

The illustrations are all © Porta Alpina and on this page from the top show: A diagram of the whole project together with height comparisons with buildings from all over the world. A cut-away of the arrangements at the top of the lift-shaft. And finally a cut-away of the base station.

