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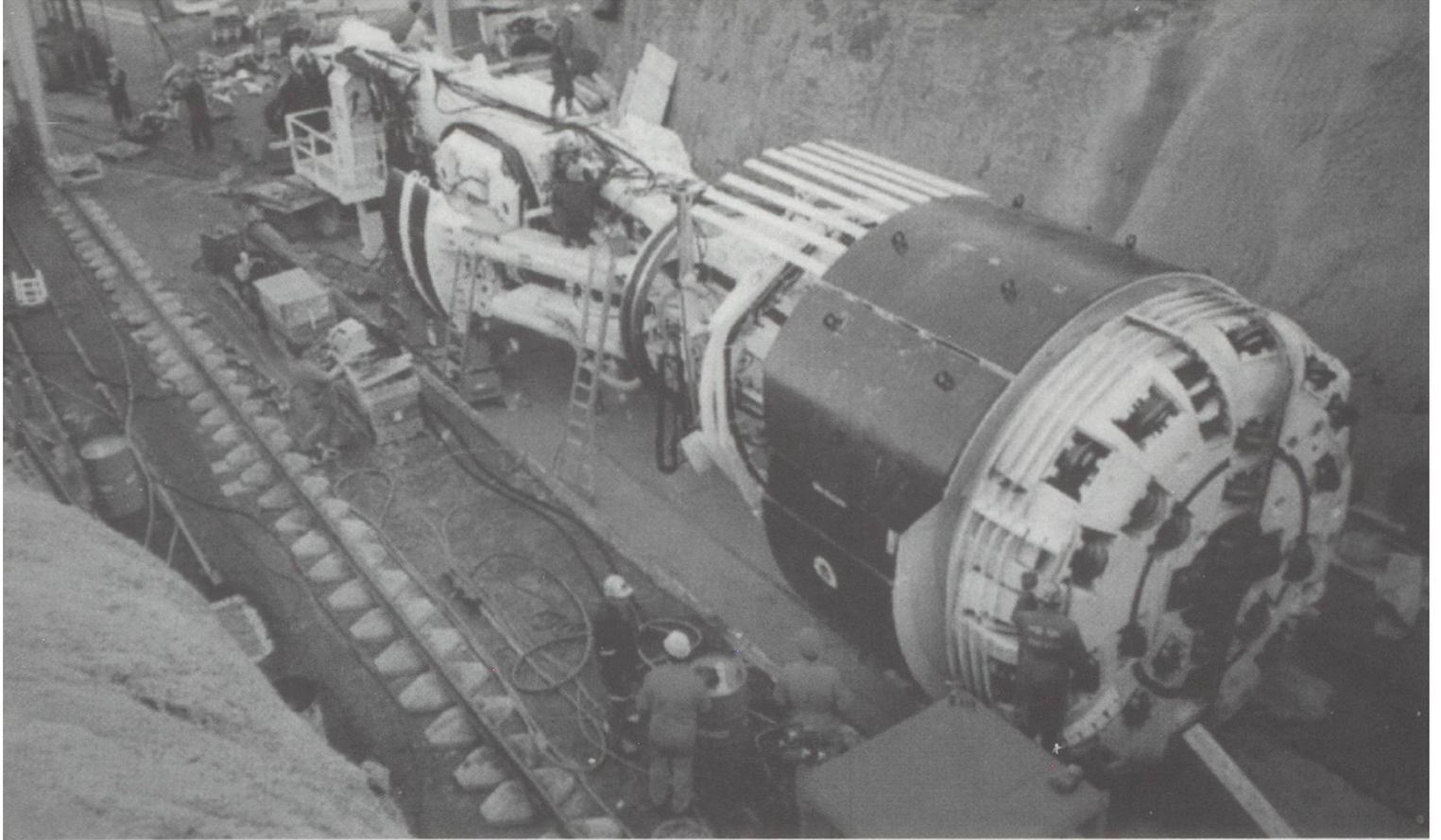
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AlpTransit - a brief overview by Peter Marriott

The growing Trans European Rail Network (TEN) for both passenger and freight services utilises Swiss routes as some of the main railway lines linking Northern and Southern European destinations. The major Swiss contribution to the improved rail network will be the high capacity AlpTransit project announced by the Swiss government in 1991.

AlpTransit comprises the building of two twin bore tunnels on the Gotthard and Lotschberg routes crossing the Alps at an elevation which corresponds to the valley floors. Currently 7% (350 km) of all Switzerland's railways are within tunnels but the AlpTransit project will increase this with a new 57km tunnel on the Gotthard route and 42 km on the Lotschberg. Anticipated maximum line speeds are 200 kph for passenger services and 140 kph for freight. The Lotschberg car shuttle trains will have a maximum speed of 120 kph. The overburden on top of the tunnels will be 2300 metres in places. The twin tunnels will utilise cross passages and underground emergency stations but no service tunnel. The internal diameter will be 8.4 m for the Gotthard bores and 8.6 m in the Lotschberg tunnels to enable the Autoverlad (Car Shuttle) service to continue.

Above: One of the Tunnel Boring Machines.

The Gotthard route will feature a new 131 km route between Lucerne and Lugano. The new Lotschberg 60 km route will run between Frutigen and the Rhone Valley.

A minimum radius of 4000 metres will be required together with a maximum gradient of 13%.

In 1991 it was estimated that the total costs of the project would be 14 billion CHF that would be repaid over 60 years. There will be various "attack" adits utilised during construction in addition to the boring operations from each end of the tunnels. The quantities of spoil will be around 15 million sq metres in respect of the Gotthard line and 13 million sq metres for the Lotschberg.

Whilst the anticipated year of opening was 2007 for the tunnels this may be delayed by the lack of capital needed to implement the enormous project.

My thanks go to Nicholas Brunner of BLS AlpTransit AG for some of the information above. I am now reviewing additional material received about the planned Lotschberg AlpTransit project and will be hopefully be submitting a more detailed article on this to the Editor for a future issue of Swiss Express.