



Gotthard Base Tunnel The world's longest railway tunnel

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The NRLA under the Gotthard

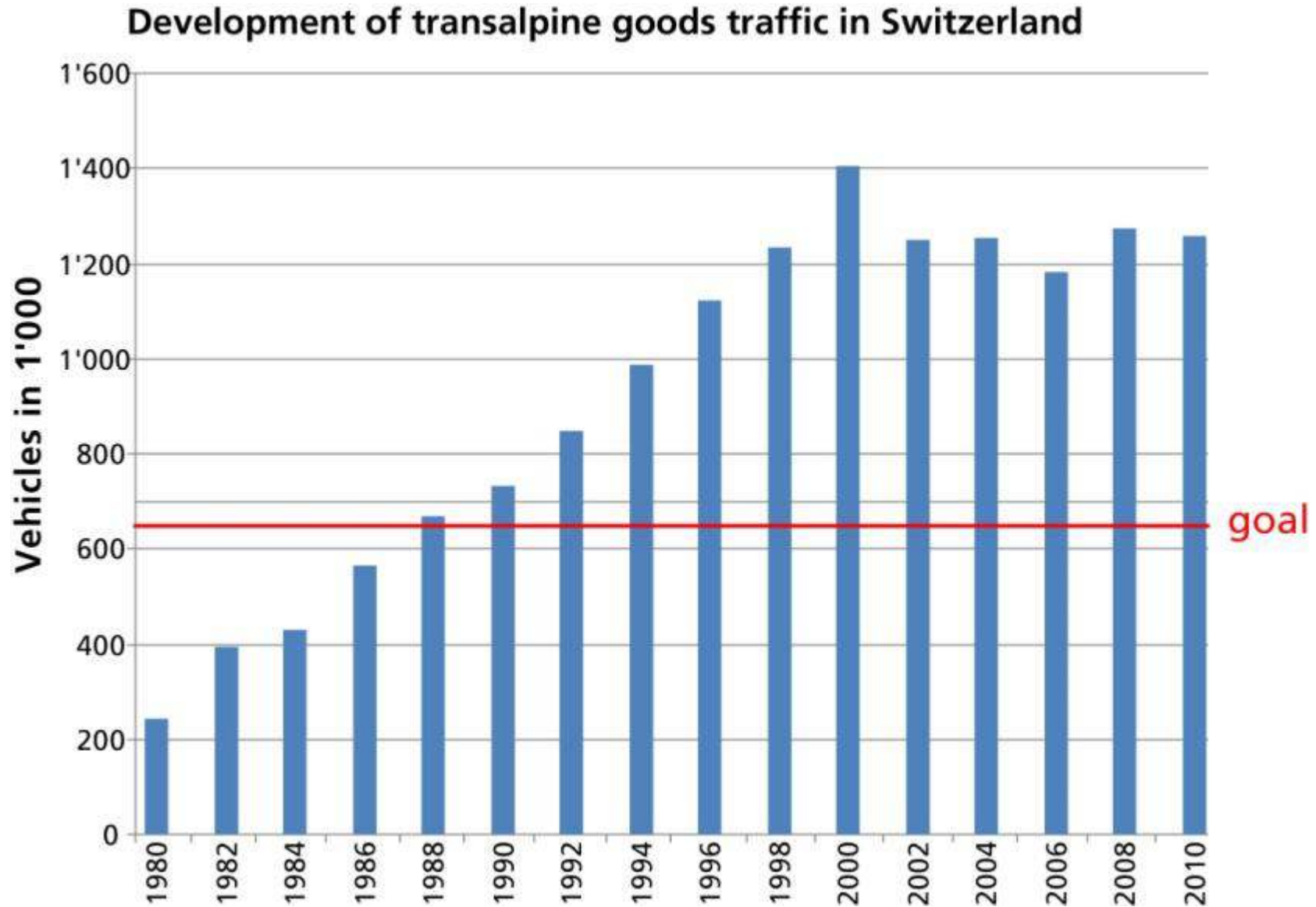
Final breakthrough



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The NRLA under the Gotthard

Transalpine goods traffic



The NRLA under the Gotthard

Journey times Zurich – Lugano / Basel – Lugano



today
from 2019

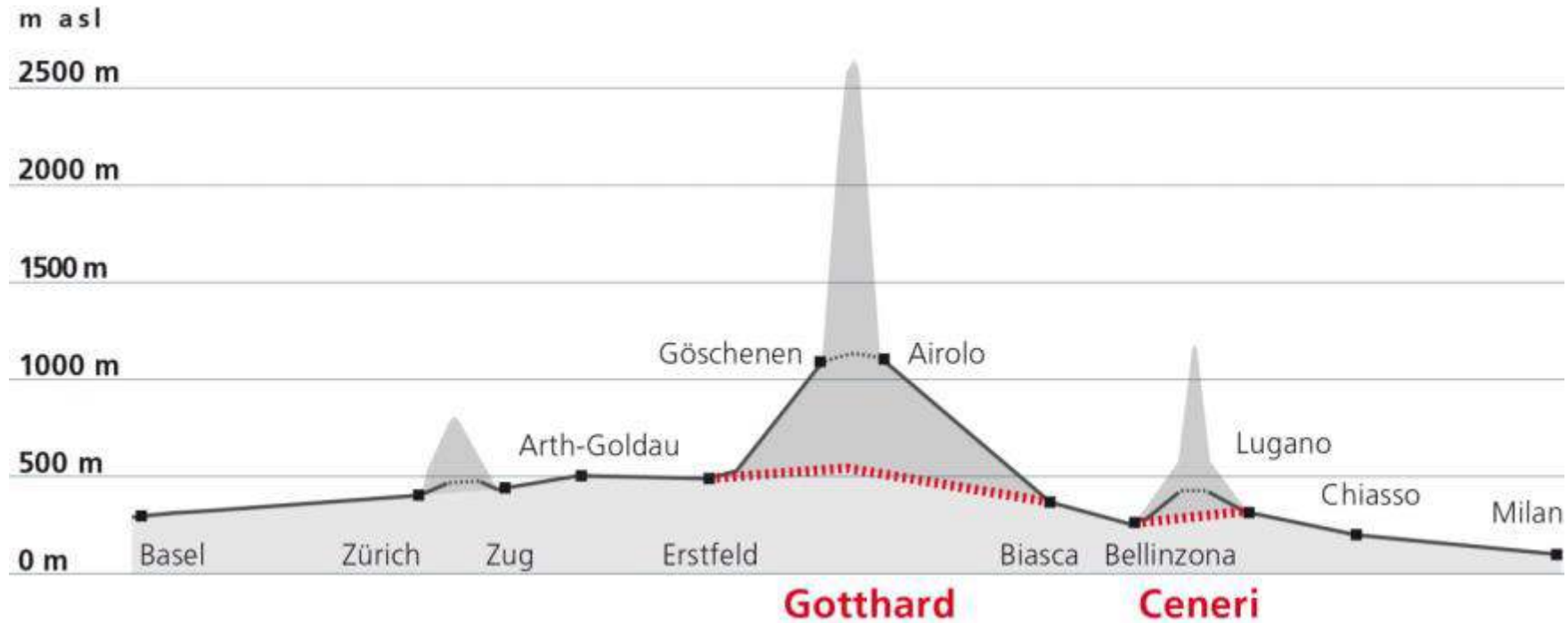
The NRLA under the Gotthard

FinöV (Financing Public Transport) decision 1998



The NRLA under the Gotthard

A flat railway route through the Alps



The NRLA under the Gotthard

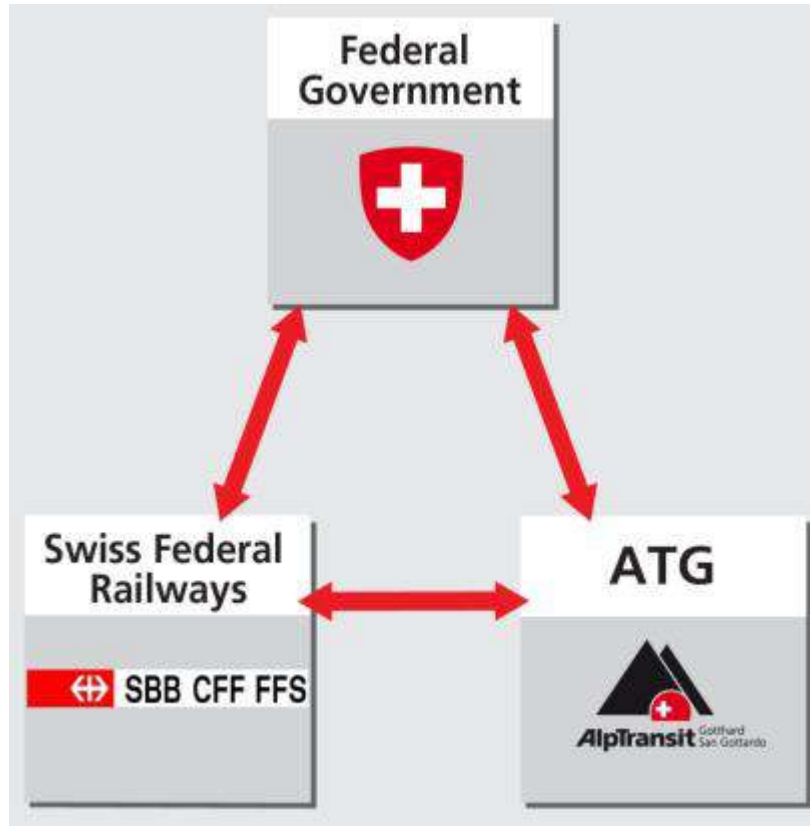
Key features of the only flat railway route through the Alps



- **Newly constructed twin-track route**
- **Mixed operation**
- **Maximum speed passenger trains: 250 km/h**
- **Maximum speed goods trains: 160 km/h**
- **50 – 80 passenger trains per day**
- **220 – 260 goods trains per day**
- **Loaded vehicles: max. height 4.2 m**
- **Max. Gradient: $\leq 12.5 \text{ ‰}$**
- **Min. Radius: $\geq 5,000$ metres**
- **Useful life: 100 years**
- **Max. temperature: 40° C**

The NRLA under the Gotthard

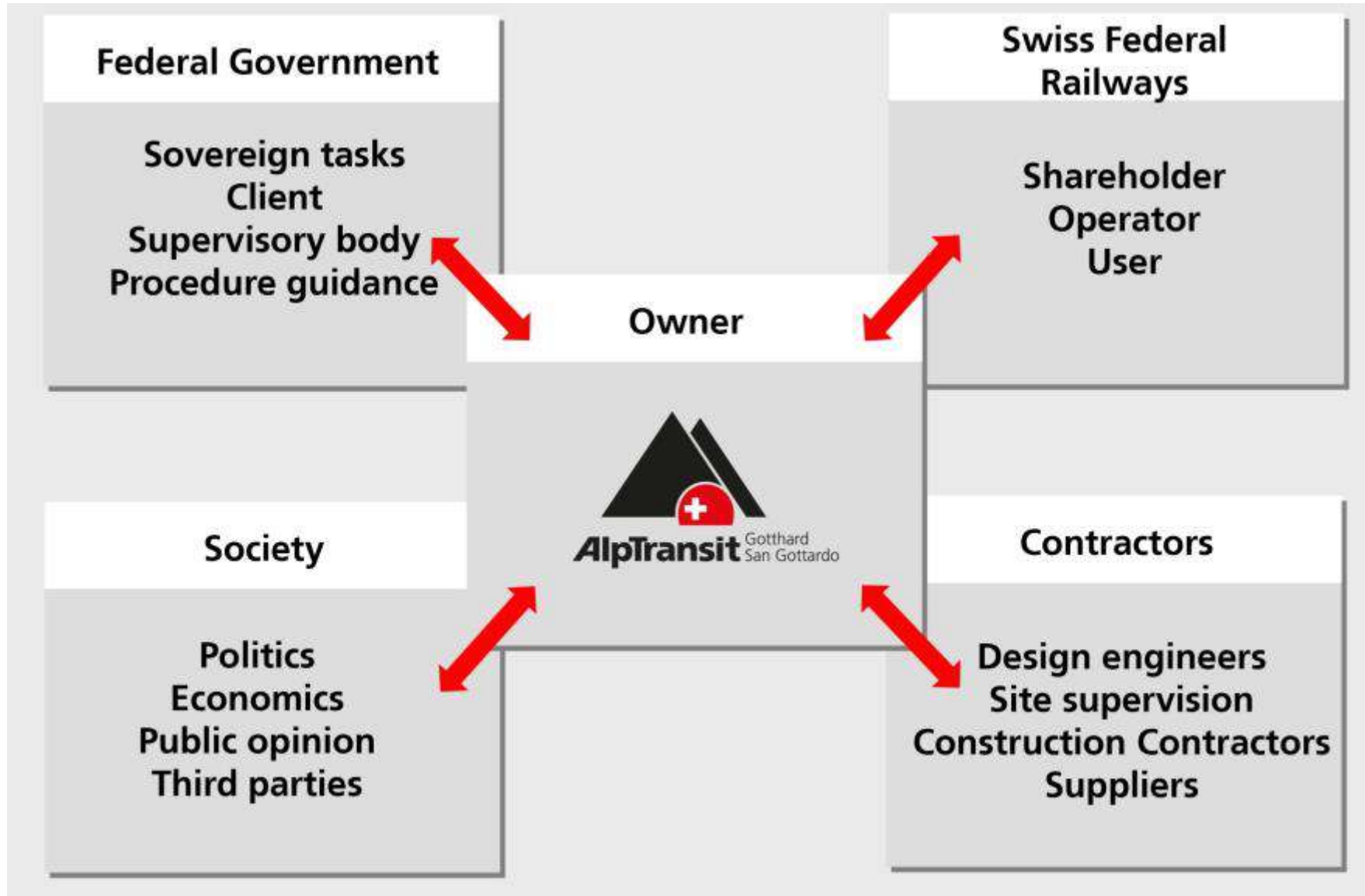
Challenge – Implementation of organisation



- **Direct management, simple control**
- **Transparency through direct parliamentary control**
- **Clear allocation of responsibilities, best governance**
- **Efficiency thanks to lean organisation (short paths, simple decision processes)**

The NRLA under the Gotthard

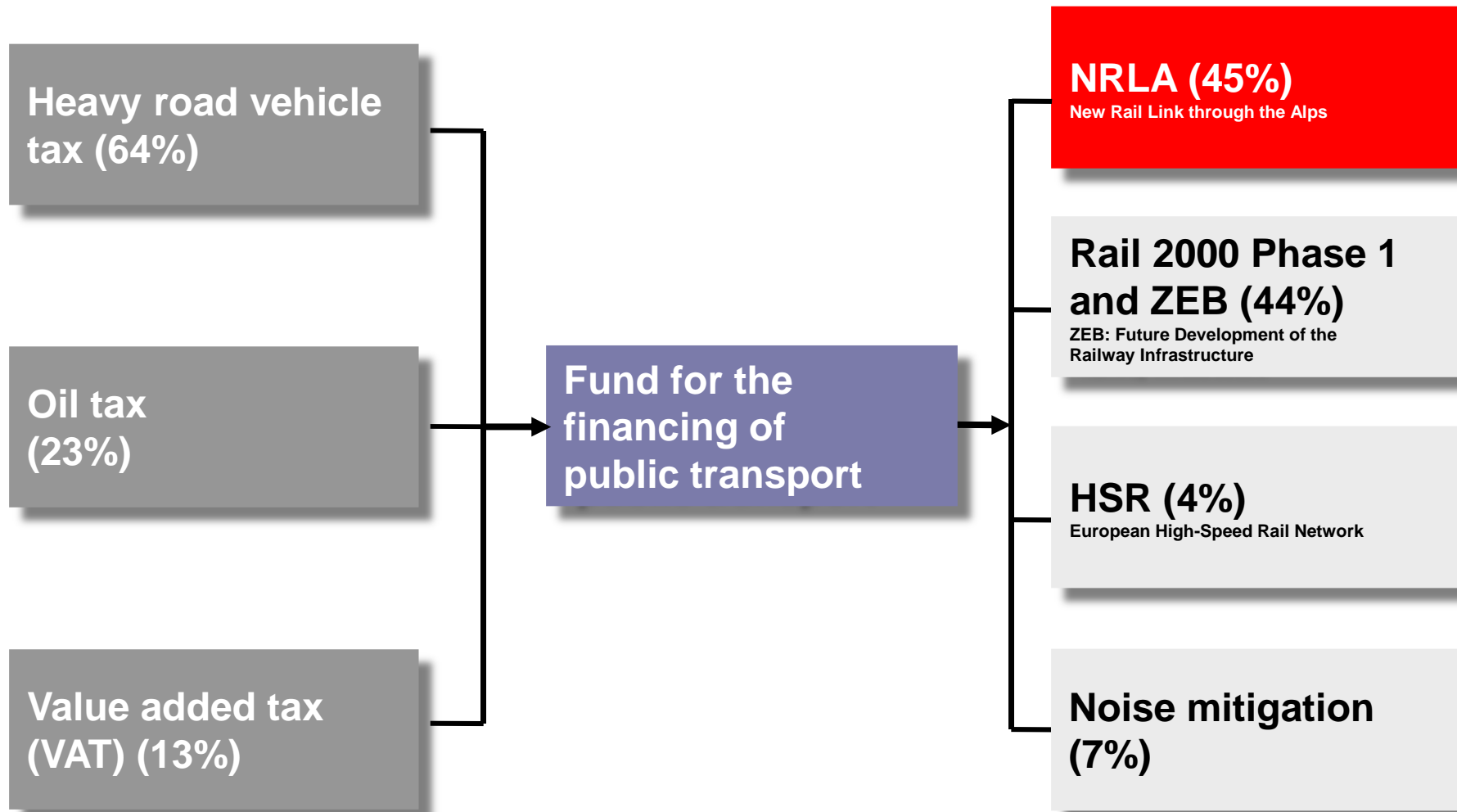
Interest partners



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The NRLA under the Gotthard

Allocation of Public Transport Financial Fund (Finöv)



The NRLA under the Gotthard Swiss Government Decision

Swiss Government Decision on Amendment of the NRLA Total Credit (Alp Transit Financing Decision)

of September 16, 2008

Art. 1

For the realisation of the New Rail Link through the Alps, a total credit of 19 100 billion Swiss francs including reserves (price level 1998 according to NRLA inflation index and project status 2007, without inflation, value added tax and construction interest) is approved and divided into the following committed credits:

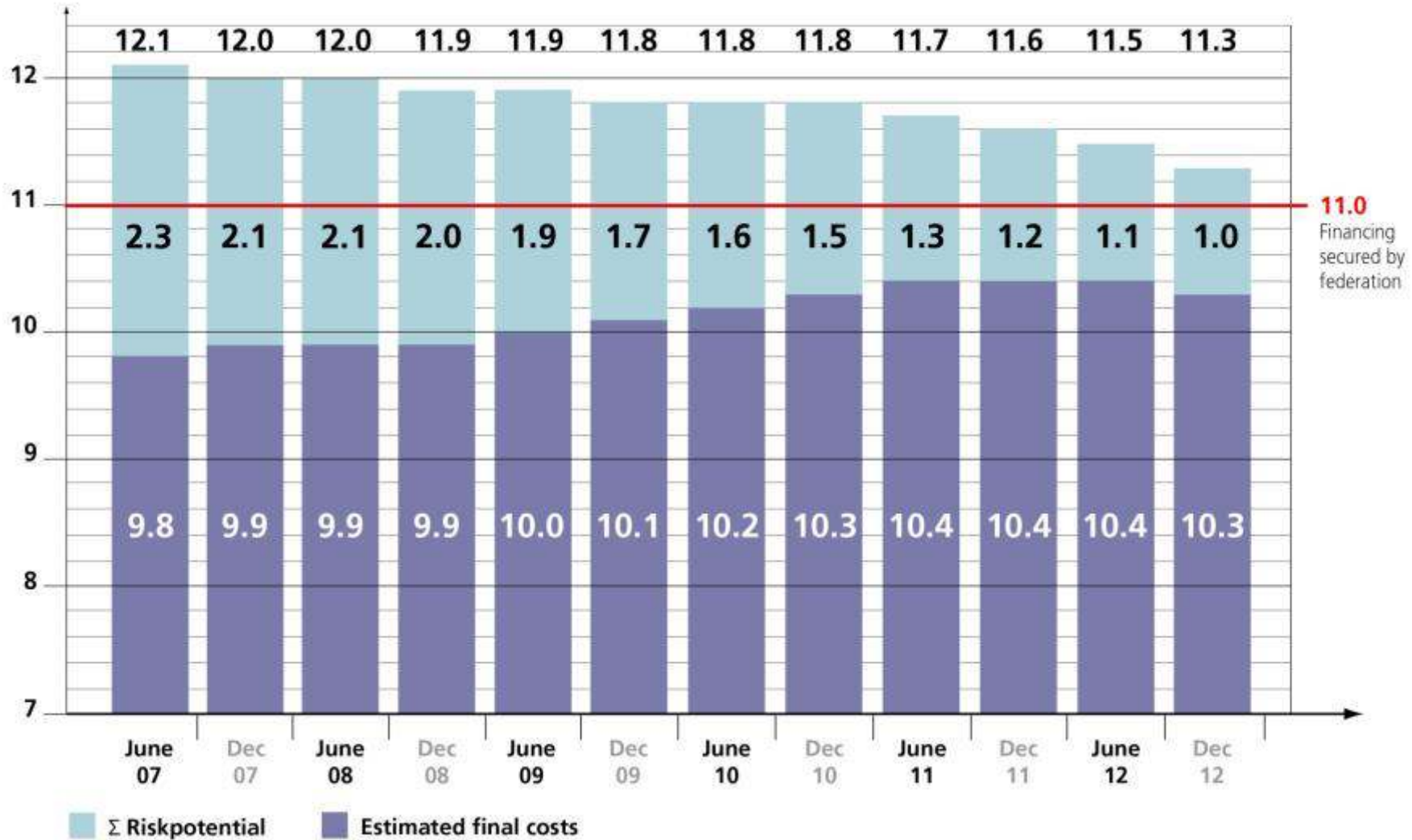
	Investments in CHF million
a. Project management	98
b. Lötschberg route	4 311
c. Gotthard route	€ 11 000
d. Upgrade corridors	112
e. Link to Eastern Switzerland	100
f. Upgrade St. Gallen–Arth-Goldau	101
g. Other upgrades, Lötschberg route	365
h. Other upgrades, Gotthard route	441
i. Reserves	115
Total	€ 16 000

The NRLA under the Gotthard

Development of final cost and risk potential



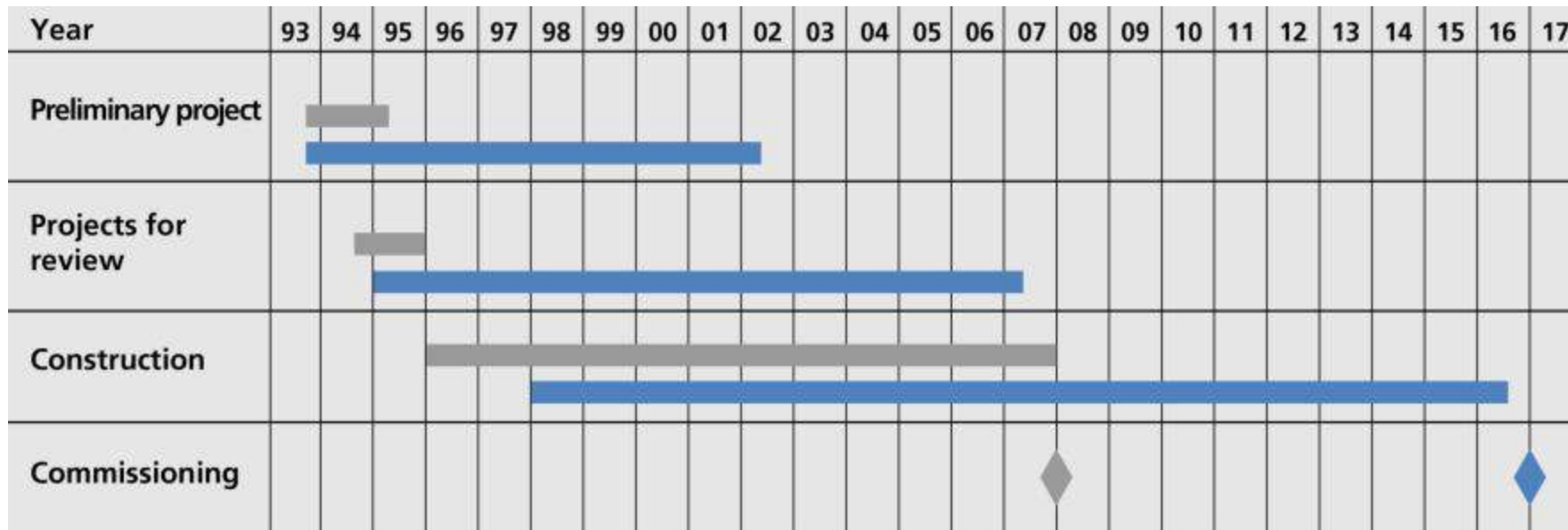
billions (bn) Euro



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Gotthard Base Tunnel

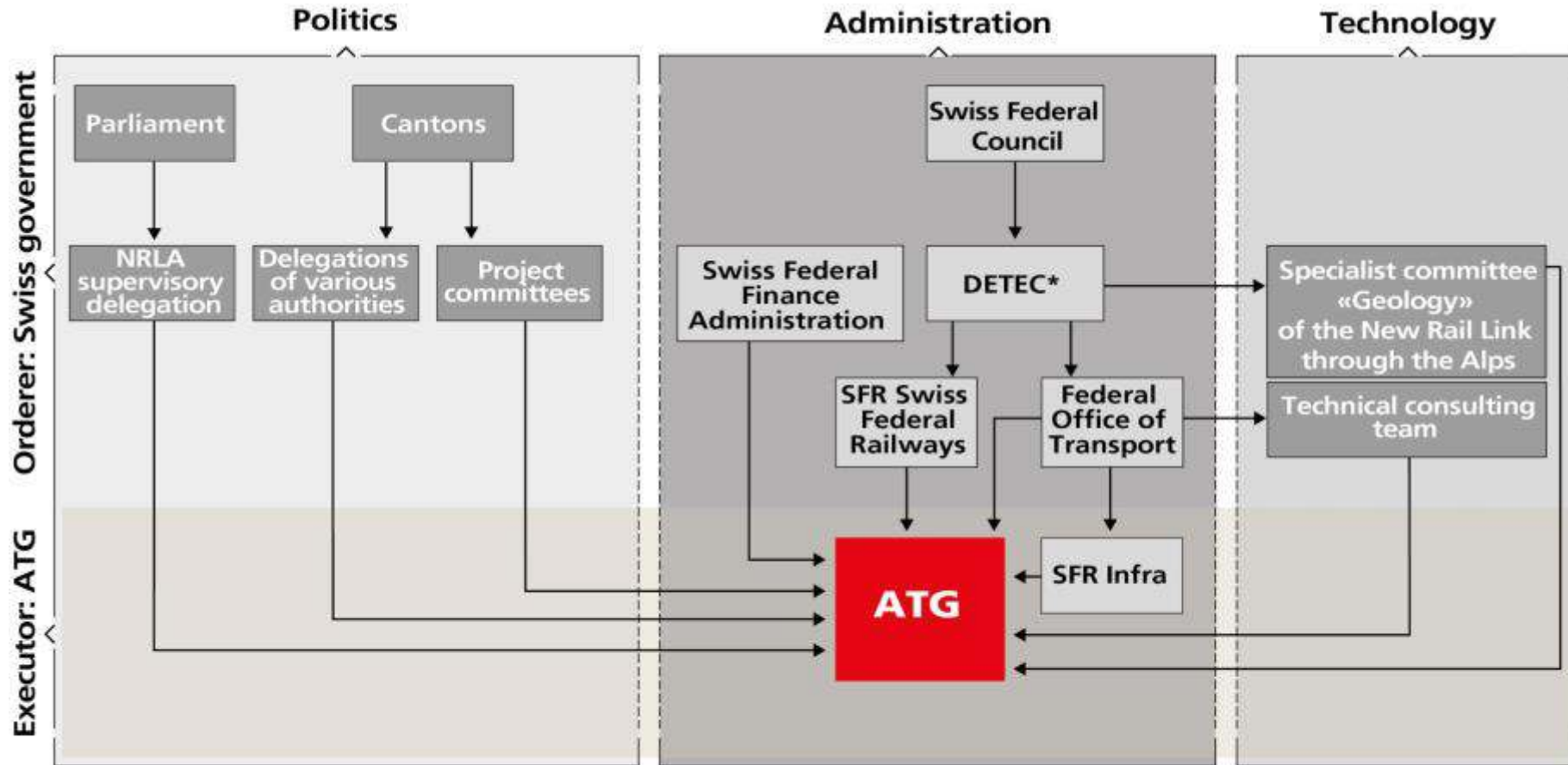
Challenge Planning and Procedures



■ Planning
■ Reality

The NRLA under the Gotthard

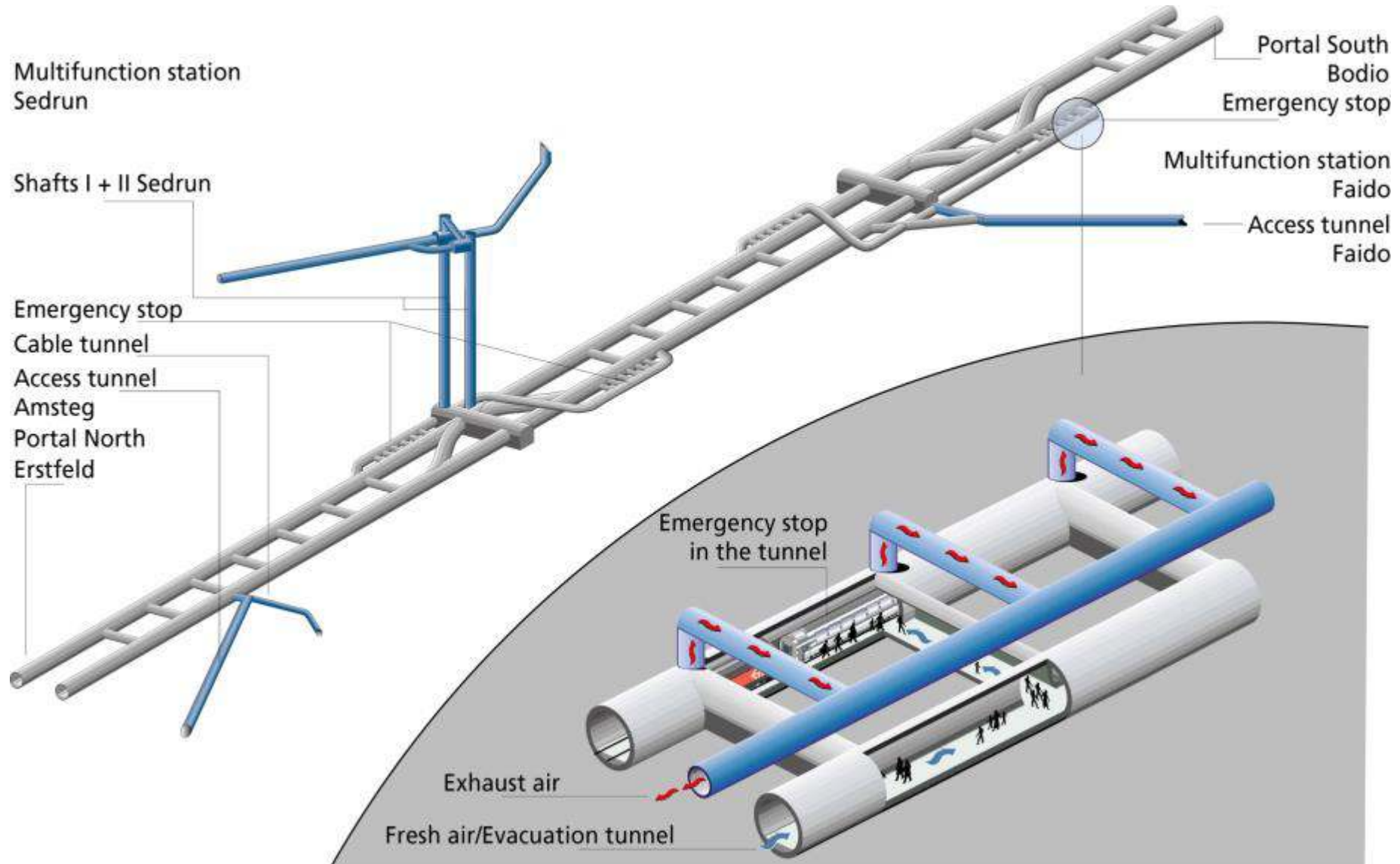
Project supervision



*Federal Department of the Environment, Transport, Energy and Communications (DETEC)

Gotthard Base Tunnel

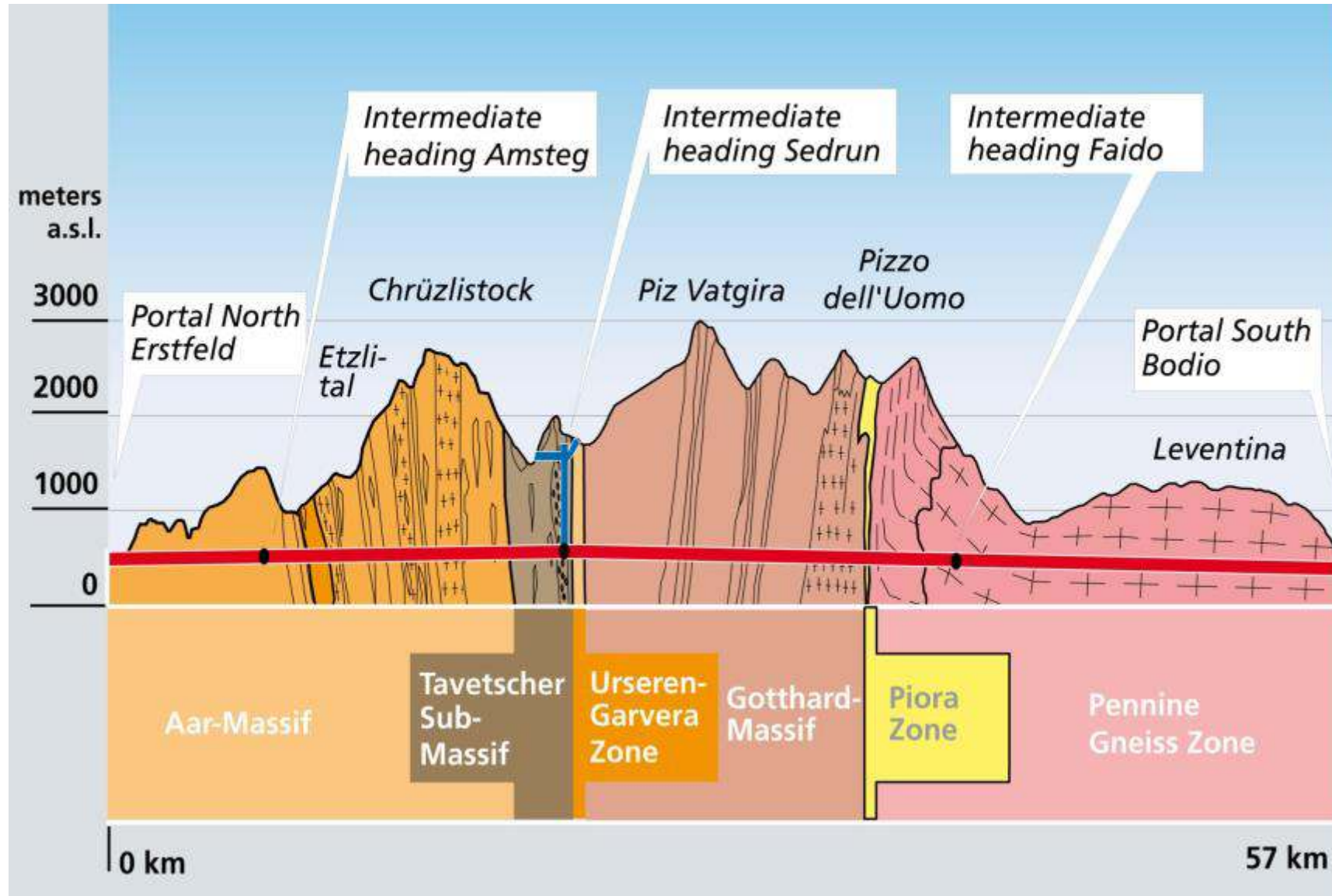
Safety concept in the Gotthard Base Tunnel



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Gotthard Base Tunnel

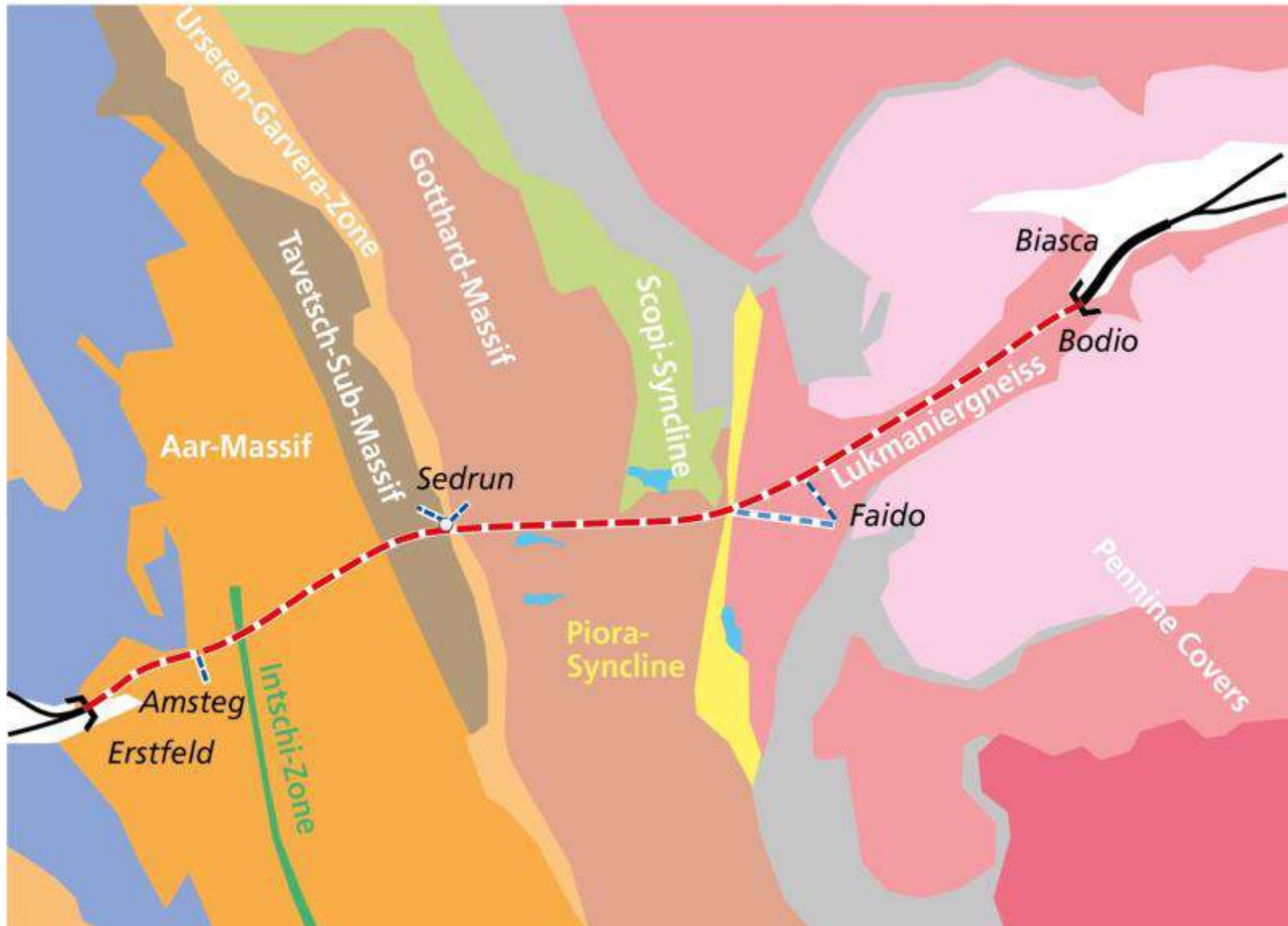
Challenge Geology I



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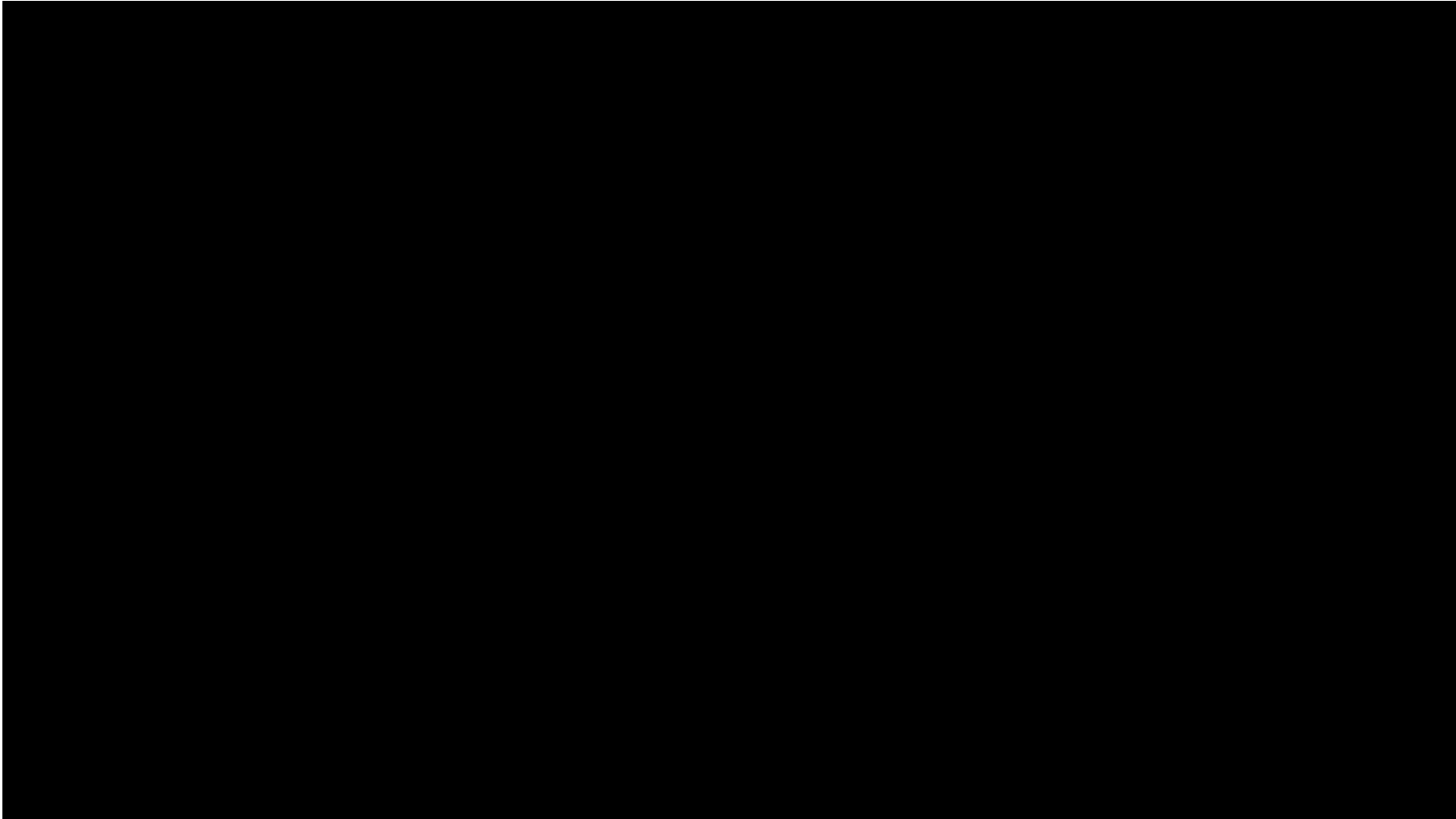
Gotthard Base Tunnel

Challenge Geology II



Gotthard Base Tunnel

Sedrun



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Gotthard Base Tunnel

Bodio: Portal South



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Gotthard Base Tunnel

Installation progress Railway technology, March 1st, 2013



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Gotthard Base Tunnel

Bodio: Non-ballasted track, overhead conductor, GSM-R cable



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- Opening of the **Gotthard Base Tunnel** with scheduled train services: 2016
- Opening of the **Ceneri Base Tunnel** with scheduled train services: 2019

