



The Gotthard Base Tunnel
The world's longest railway tunnel

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- **concept**
- **challenges**
- **key success factors**

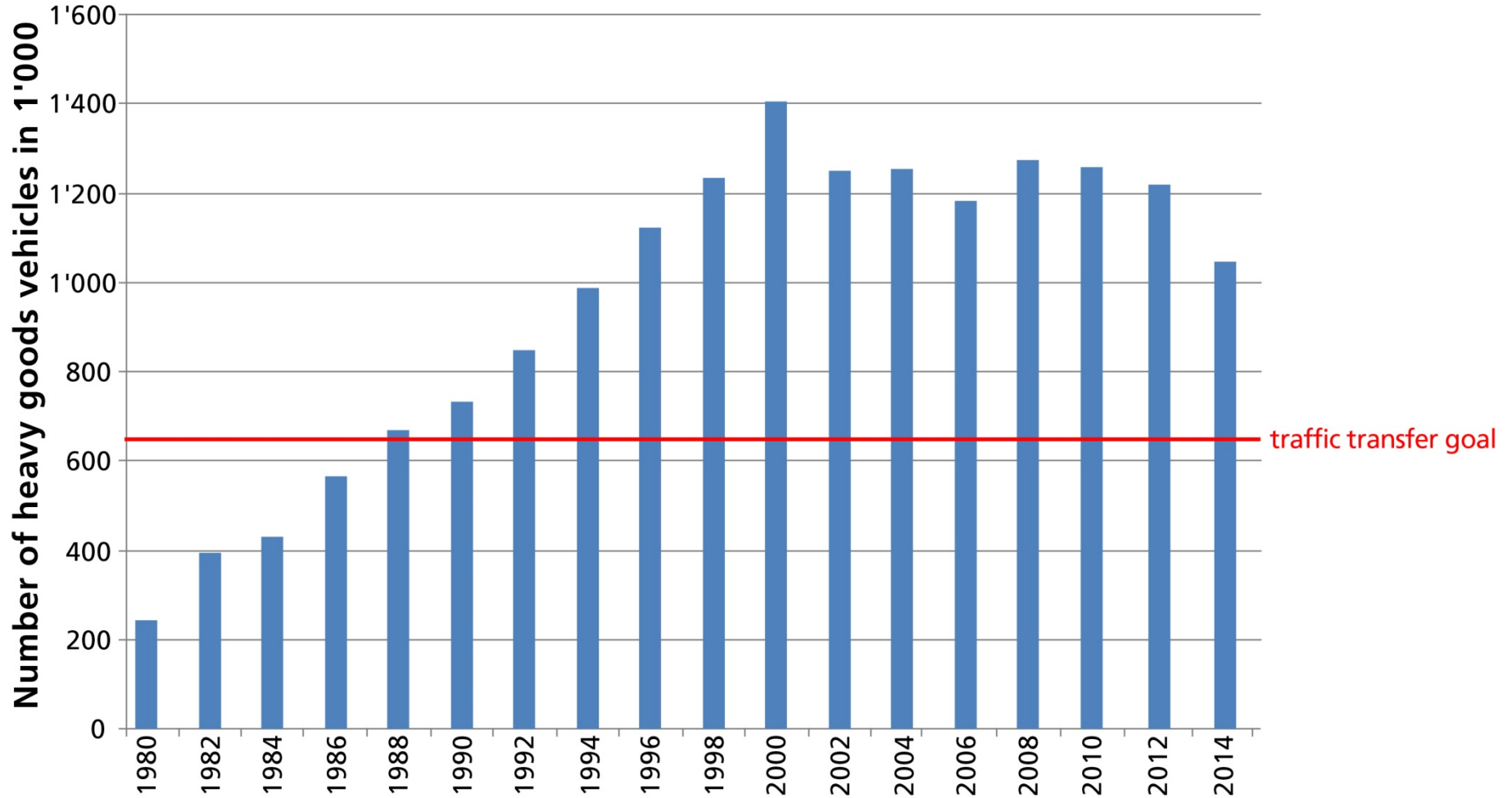
The Gotthard Base Tunnel

concept: freight corridor 1 Rotterdam - Genoa



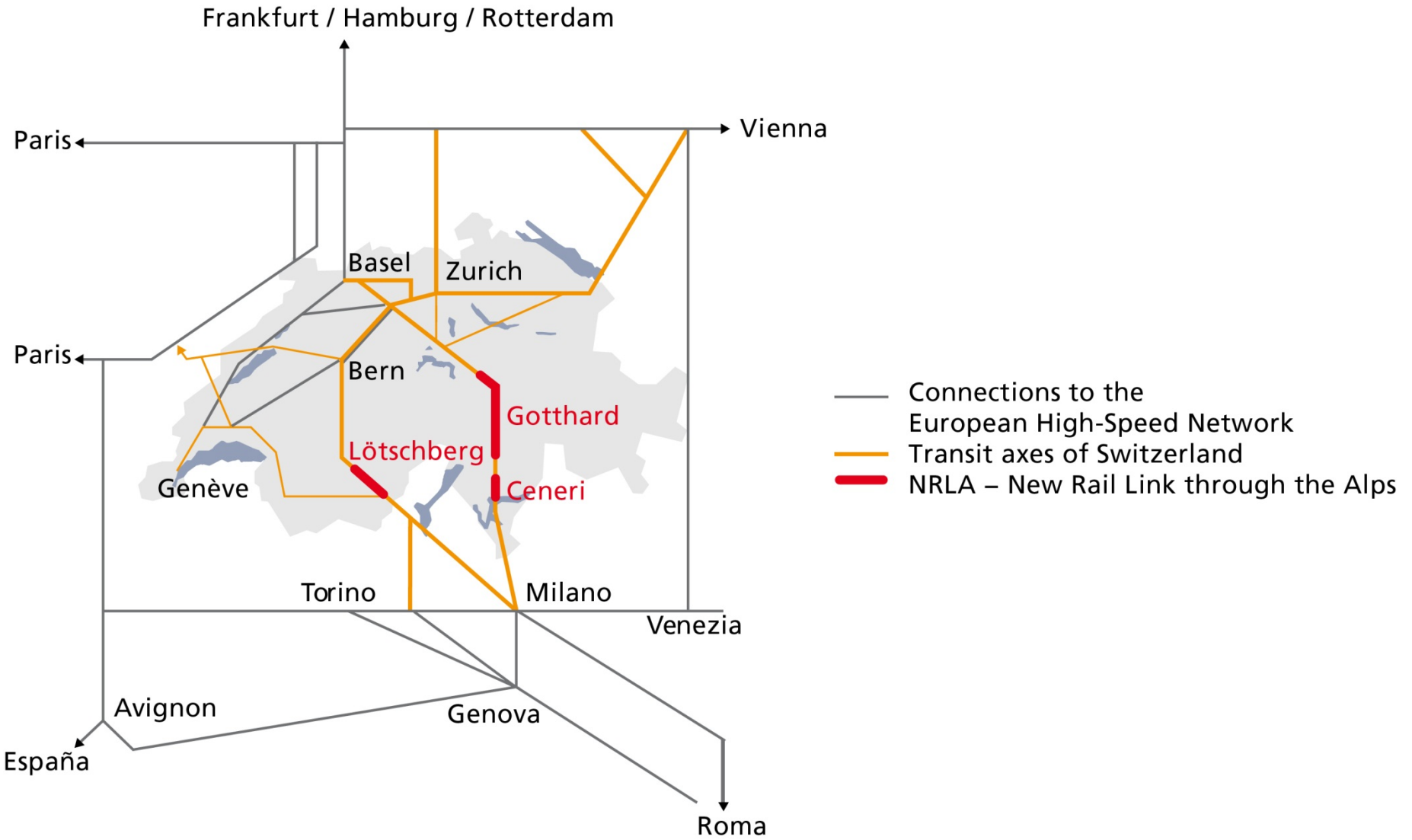
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concept: transalpine goods traffic



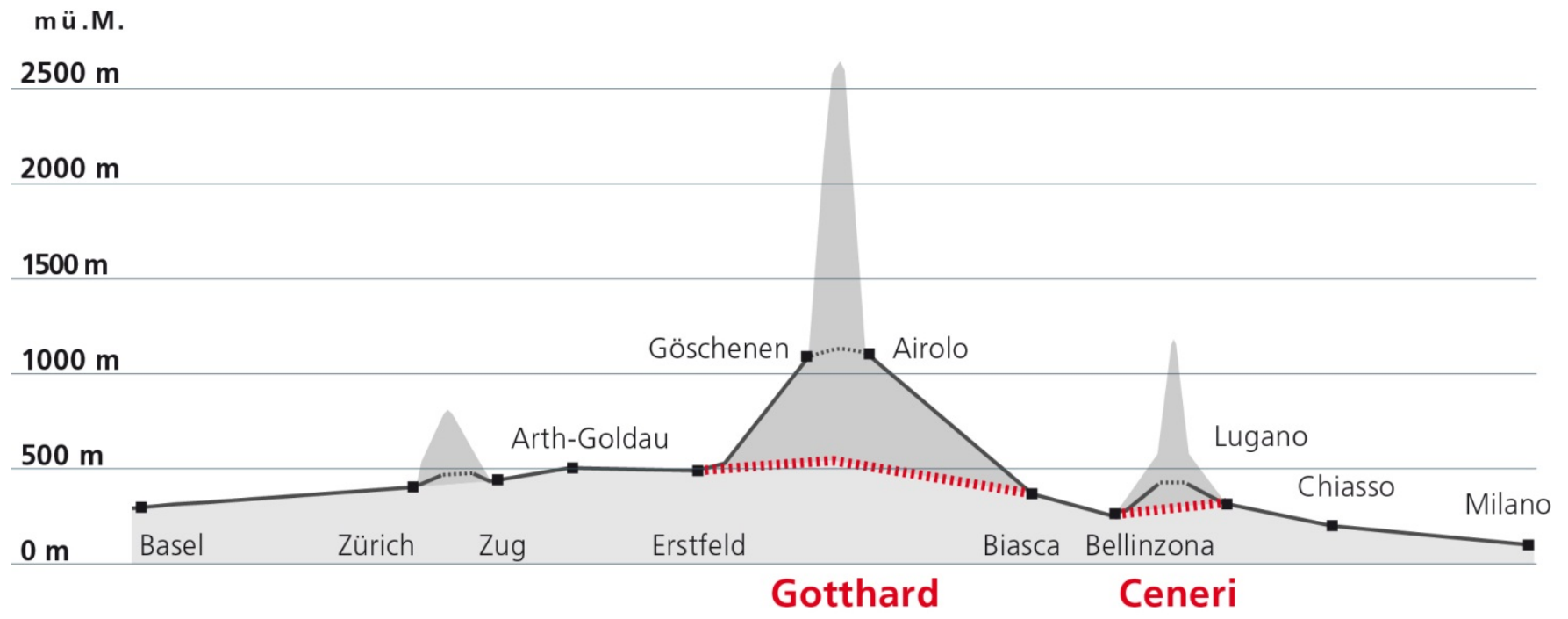
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concept: connections to the european high-speed rail network



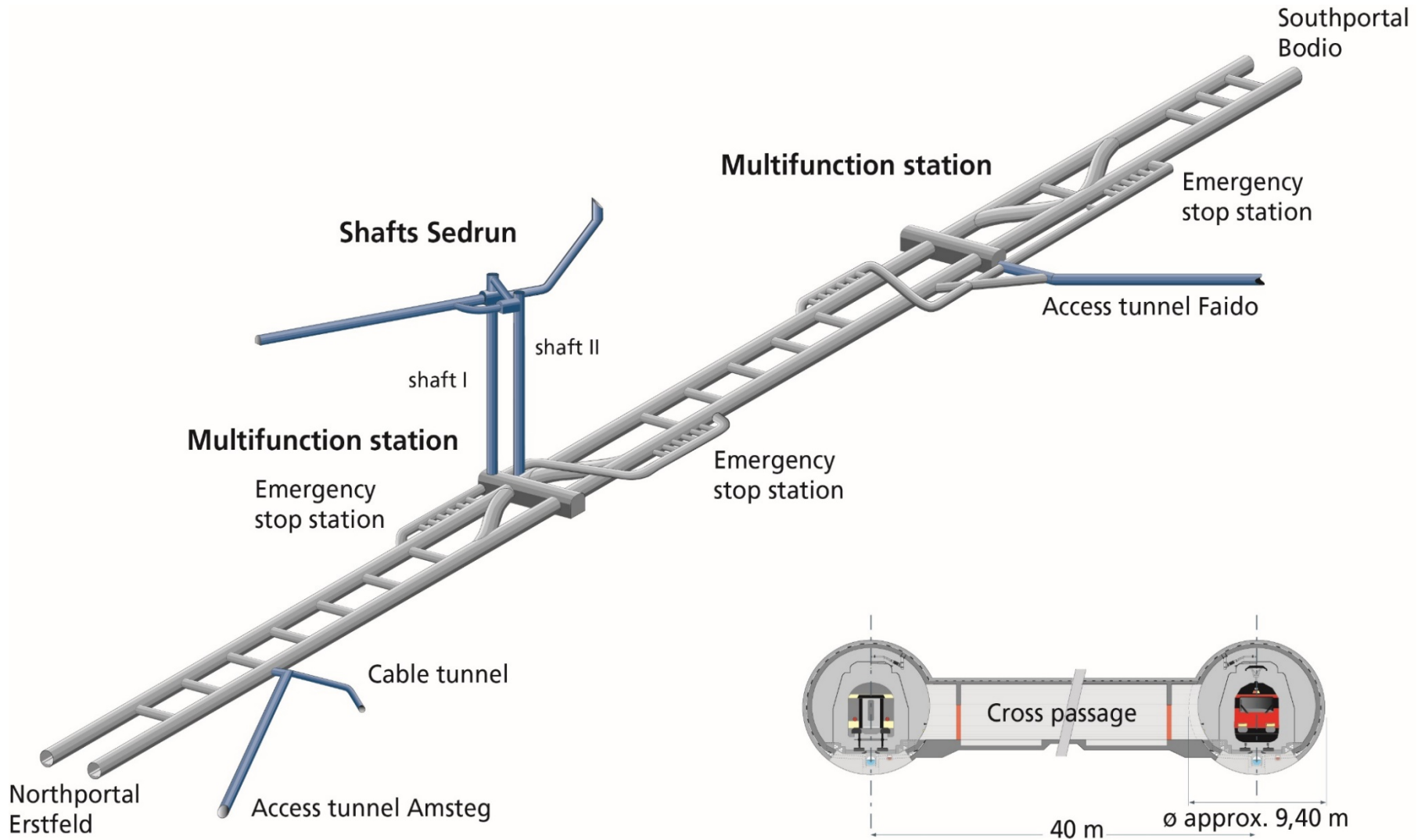
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concept: flat route through the Alps



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concept: tunnel system



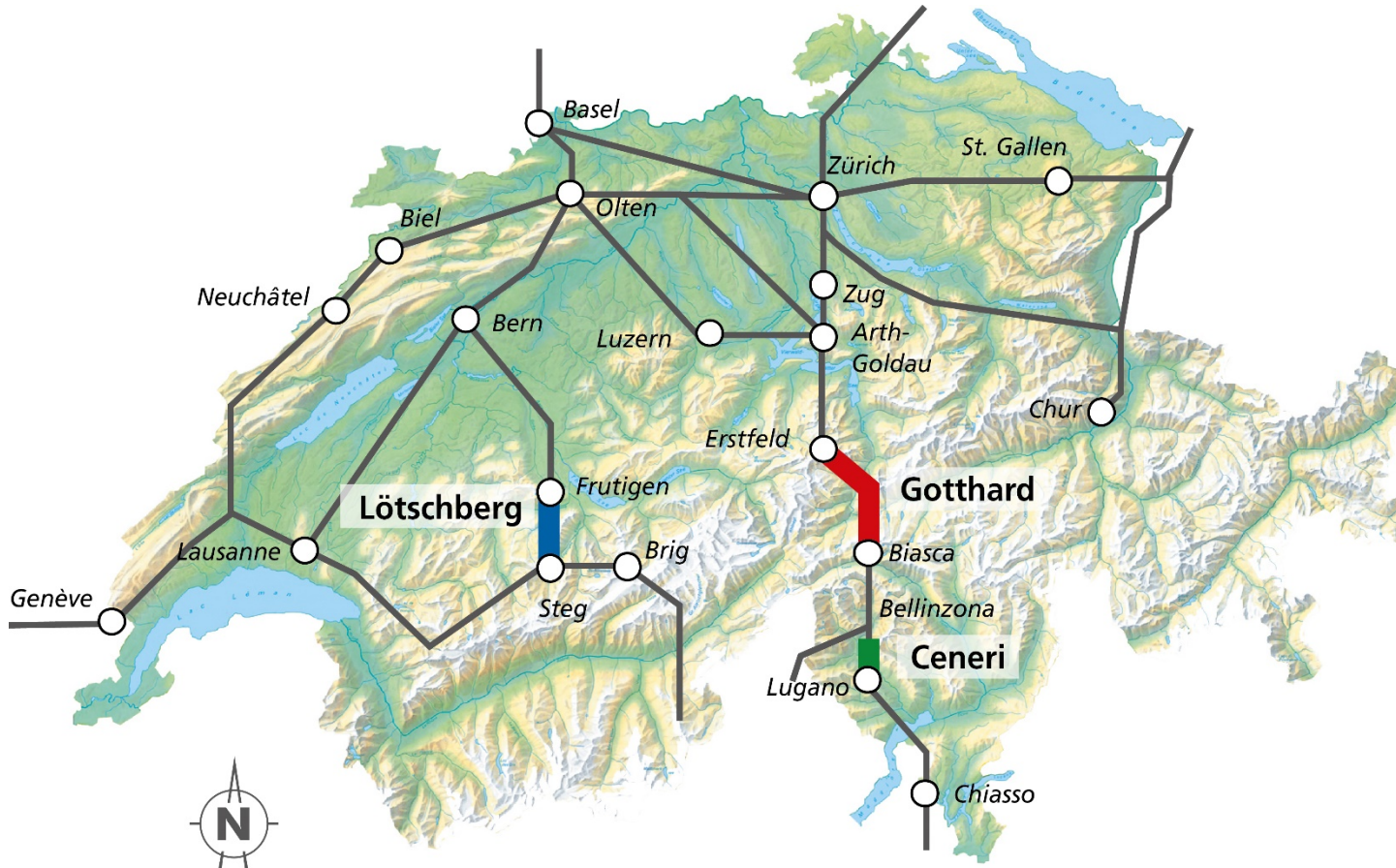


- concept
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challenge: political process

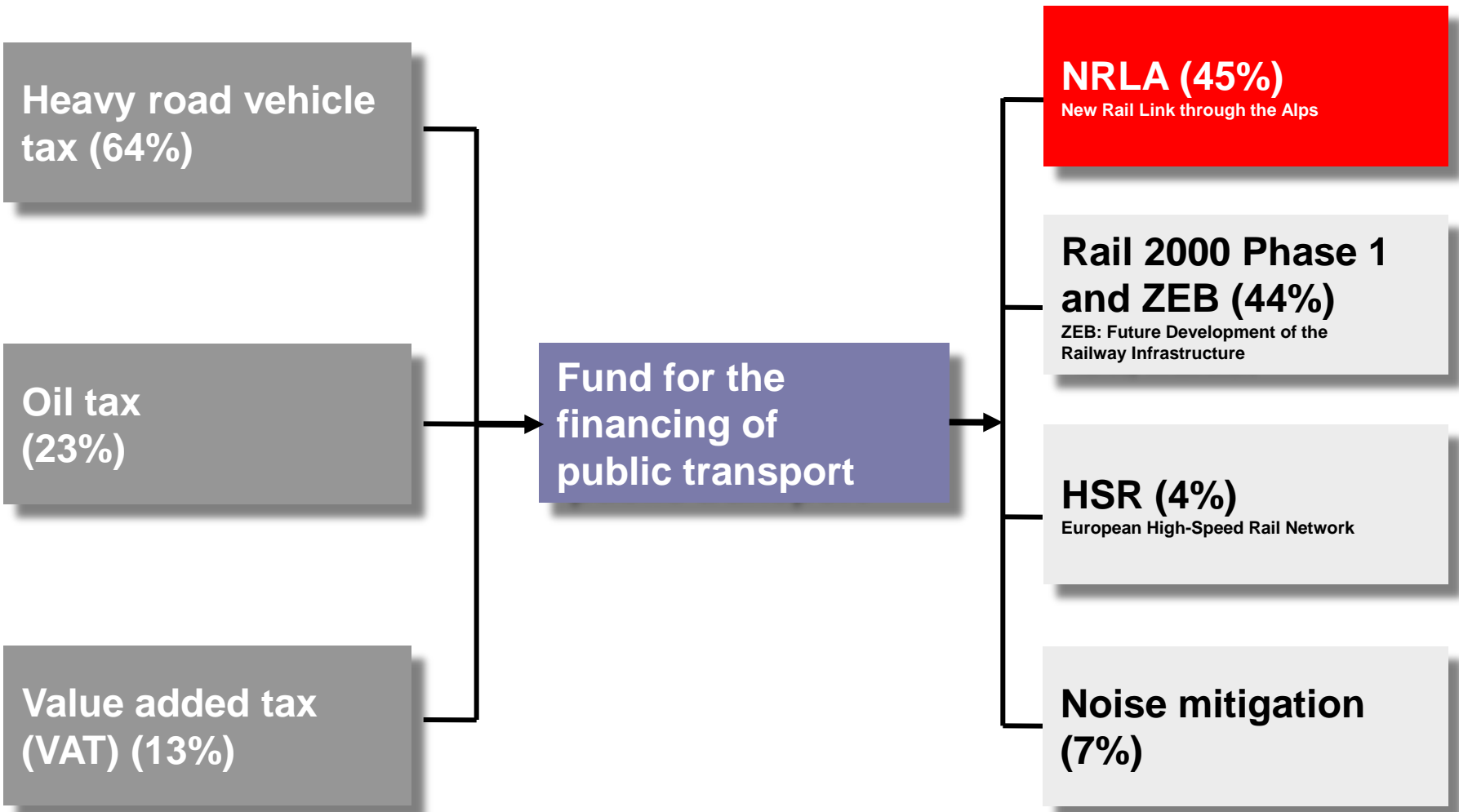
- 1992 approval to the concept by the Swiss People



- 1998 approval to the financing by the Swiss People

The Gotthard Base Tunnel

challenge: financing of the project



The Gotthard Base Tunnel

challenge: financing of the project

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:

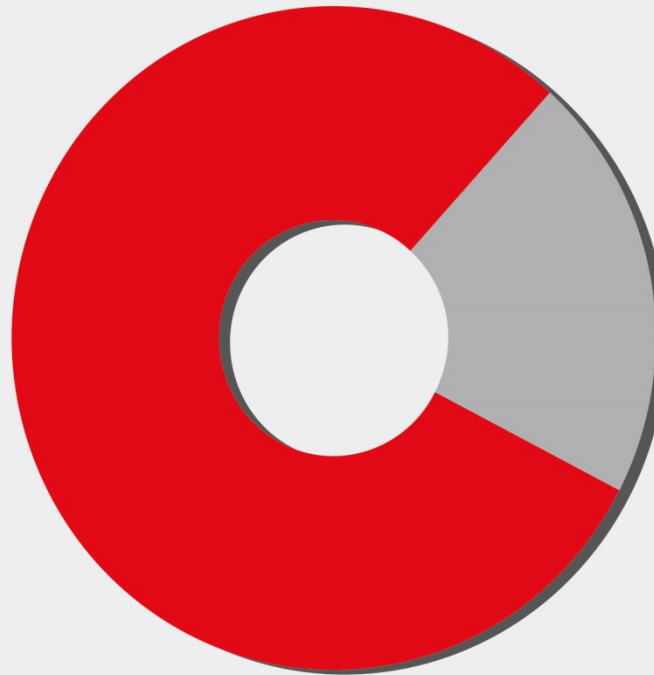
	Investments in CHF million
a. Project management	98
b. Lötschberg route	4 311
c. Gotthard route	13 157
d. Upgrade Bernina	115
e. Link to Eastern Switzerland	100
f. Upgrade St. Gallen–Arth-Goldau	101
g. Other upgrades, Lötschberg route	365
h. Other upgrades, Gotthard route	441
i. Reserves	415
Total	19 100

The Gotthard Base Tunnel

challenge: financing of the project

Gotthard Base Tunnel
CHF 9'541 billion

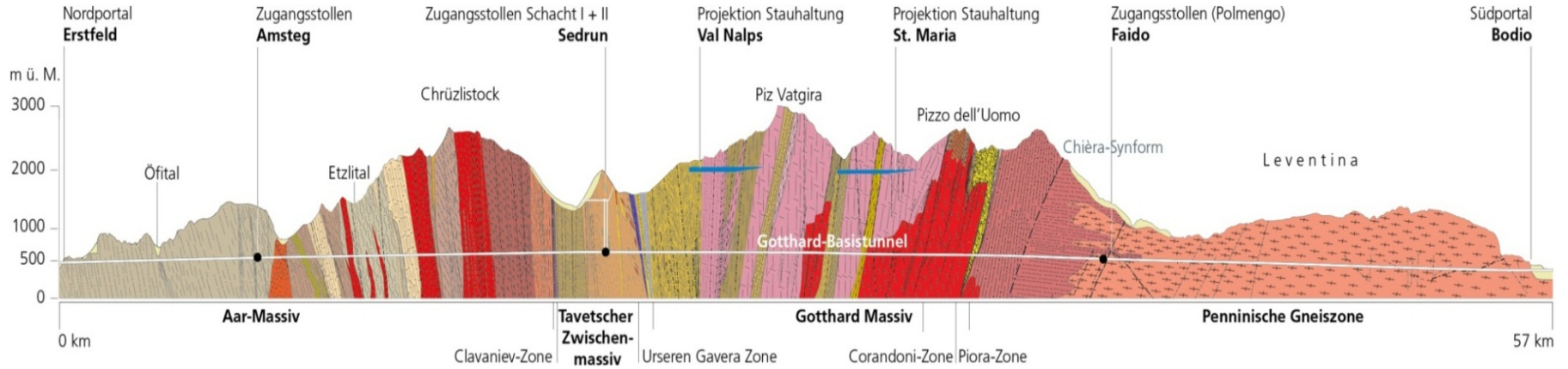
Ceneri Base Tunnel
CHF 2'510 billion



Total costs Gotthard Route
CHF 12'051 billion

The Gotthard Base Tunnel

challenge: geology



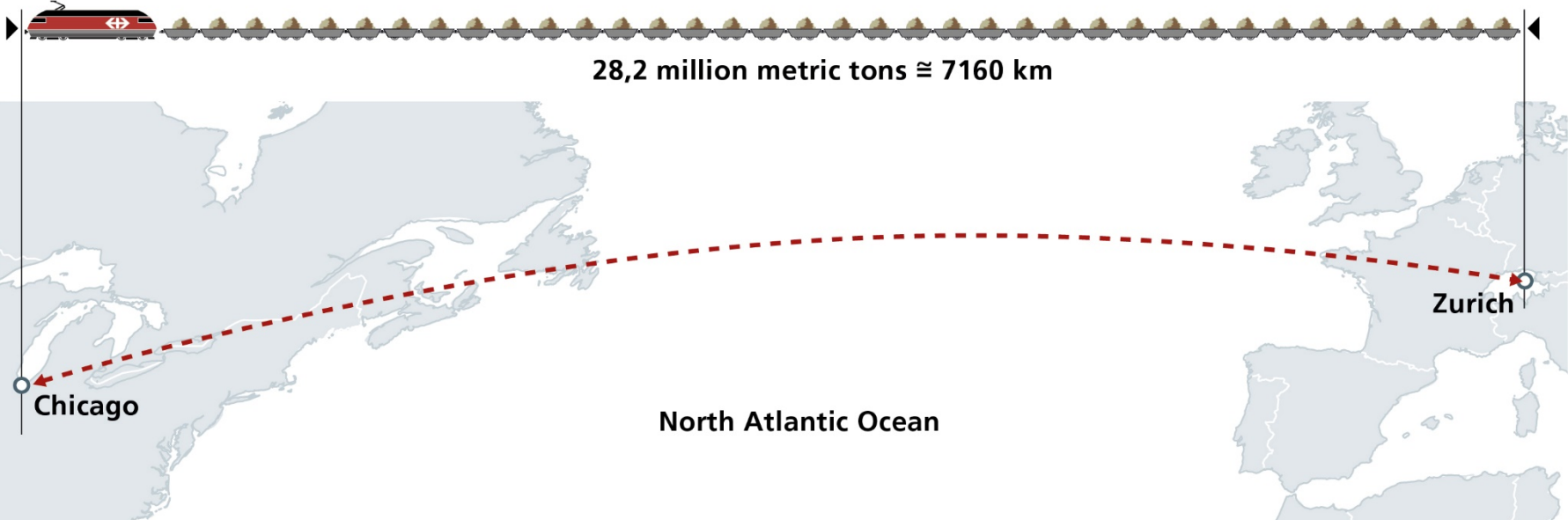
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challenge: technics



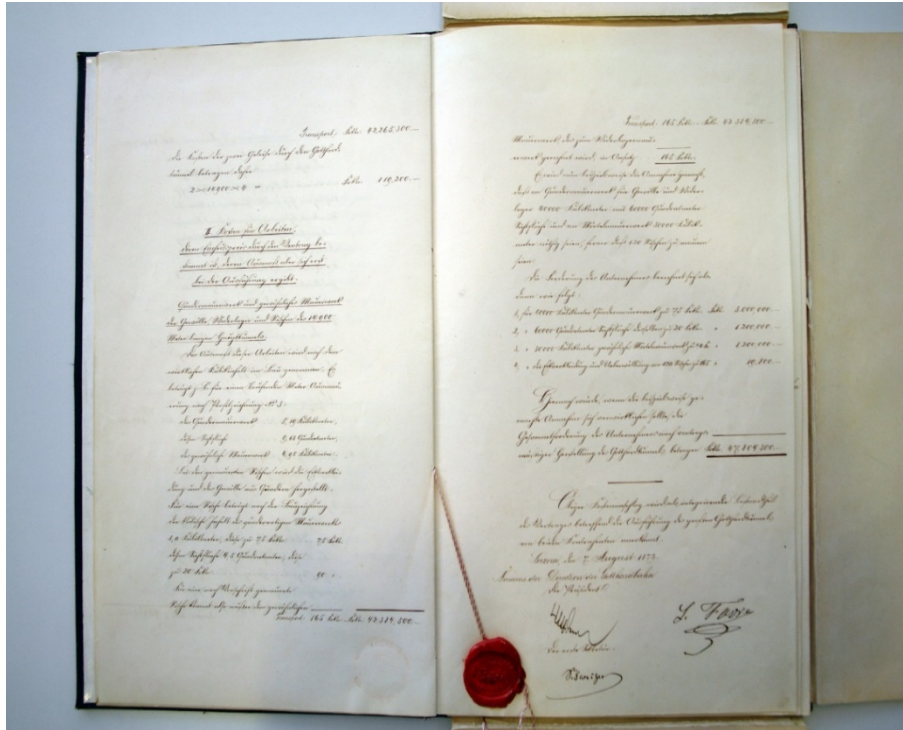
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challenge: spoil management



The Gotthard Base Tunnel

challenge: procurement and contracts



The Gotthard Base Tunnel

challenge: environment and ecology



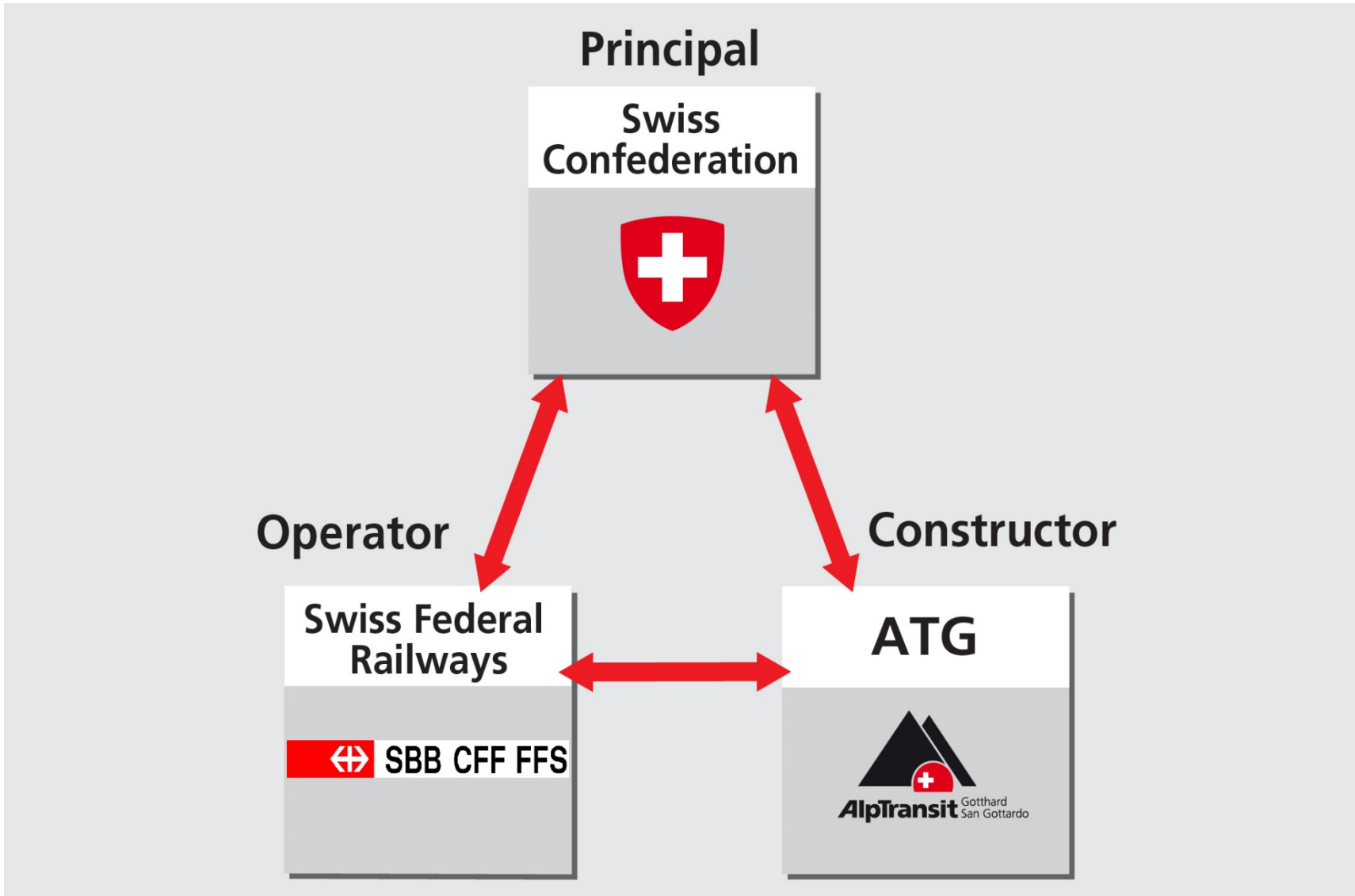
The Gotthard Base Tunnel



- **concept**
- **challenges**
- **key success factors**

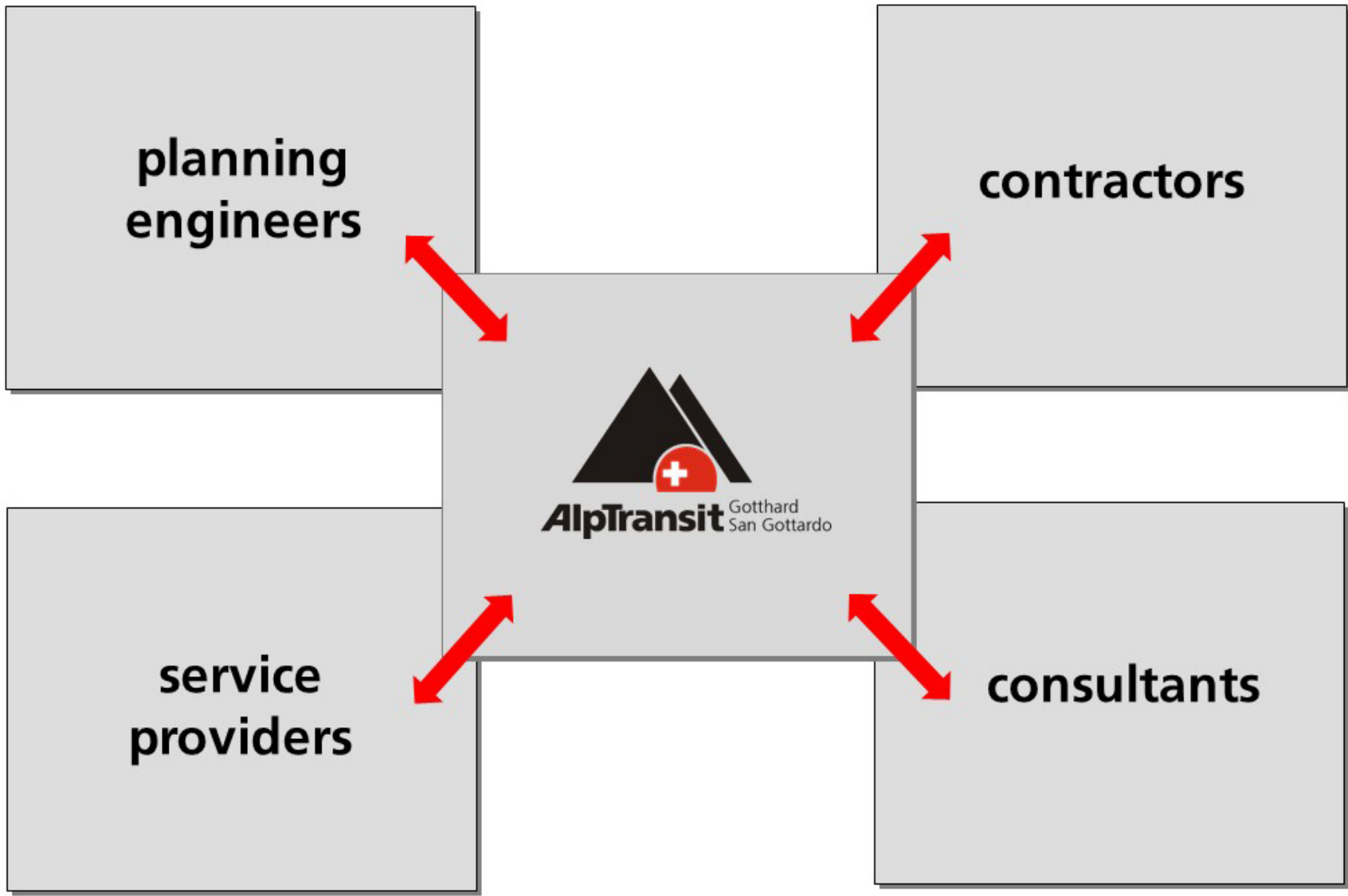
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key success factor: business model



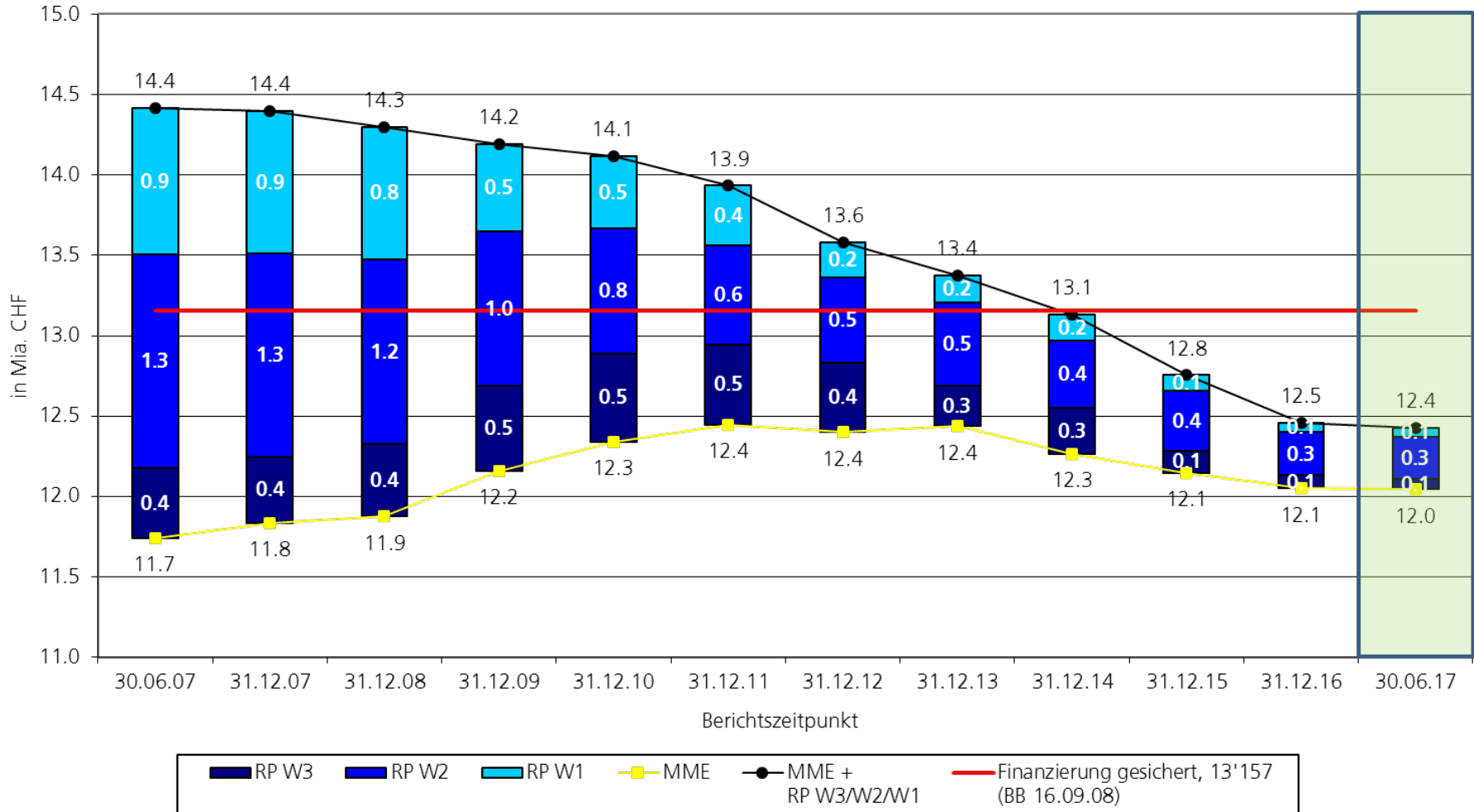
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key success factor: focus on project management



The Gotthard Base Tunnel

key success factor: internal cost and risk control



Entwicklung mutmassliche Endkosten (MME) und Risikopotenziale (RP) (Gefahren – Chancen), auf CHF 100 Mio. gerundet (Stand 30.06.2017)

The Gotthard Base Tunnel

key success factor: external project control

- **politically: by a special commission of the Swiss Parliament**
- **legally: by approvals of the Federal Authorities**
- **technically: by independent experts**
- **financially: by audits**
- **in quality: by ISO certification**



The Gotthard Base Tunnel

key success factor: transparency and communication



The Gotthard Base Tunnel

key success factor: people



The Gotthard Base Tunnel

key success factor: commissioning December 2016



- Commissioning **Ceneri Base Tunnel:**
December 2020



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