



The Gotthard Base Tunnel
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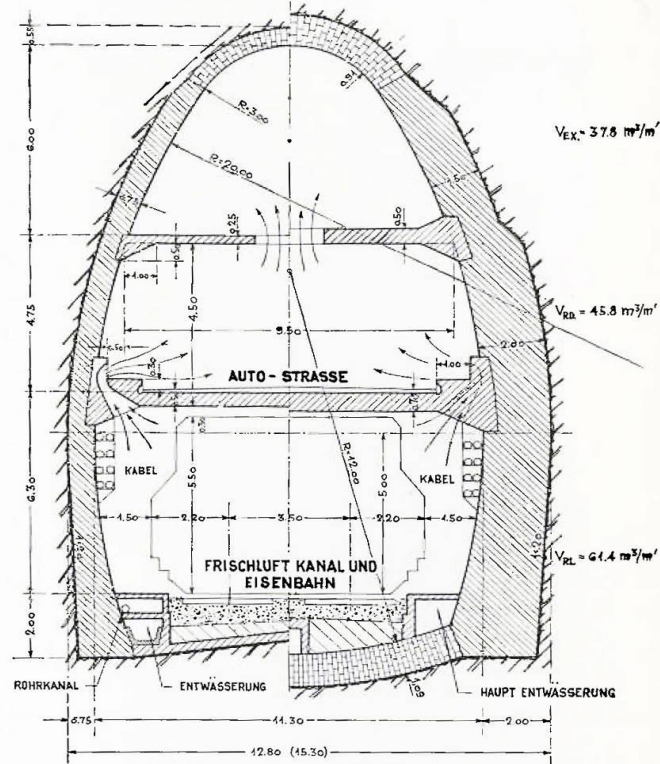
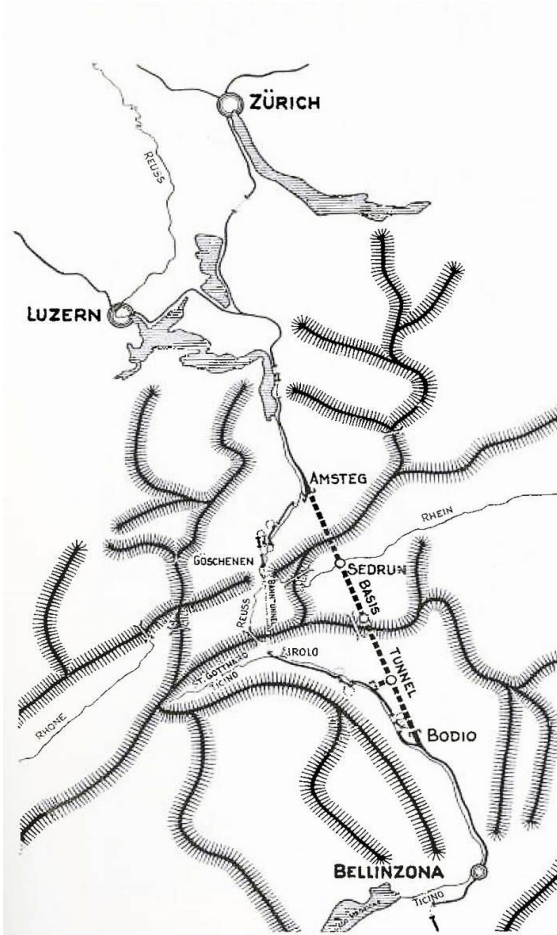
The Gotthard Base Tunnel



- concept
- challenges
- key success factors

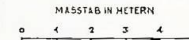
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concept: vision of Eng. Carl Eduard Gruner (1947)



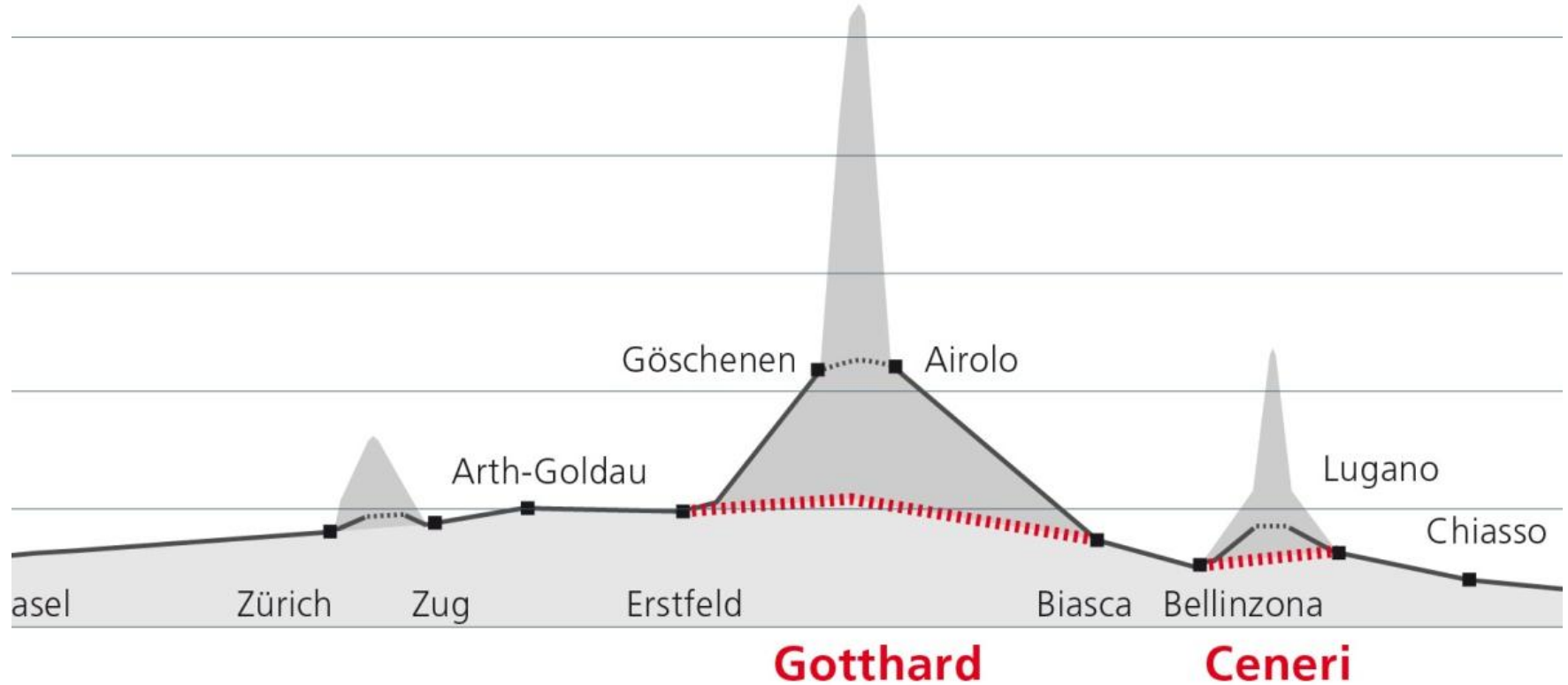
MATERIALLISTE IN m^3/m

SCHNITT	A	B
EISLAUSBRUCH	20.66	25.97
BETON VERKLÄDUNG	30.5	47.4
STAHL BETON	45.2	48.7
GEWÖLBE MAUERWERK	3.3	46.8



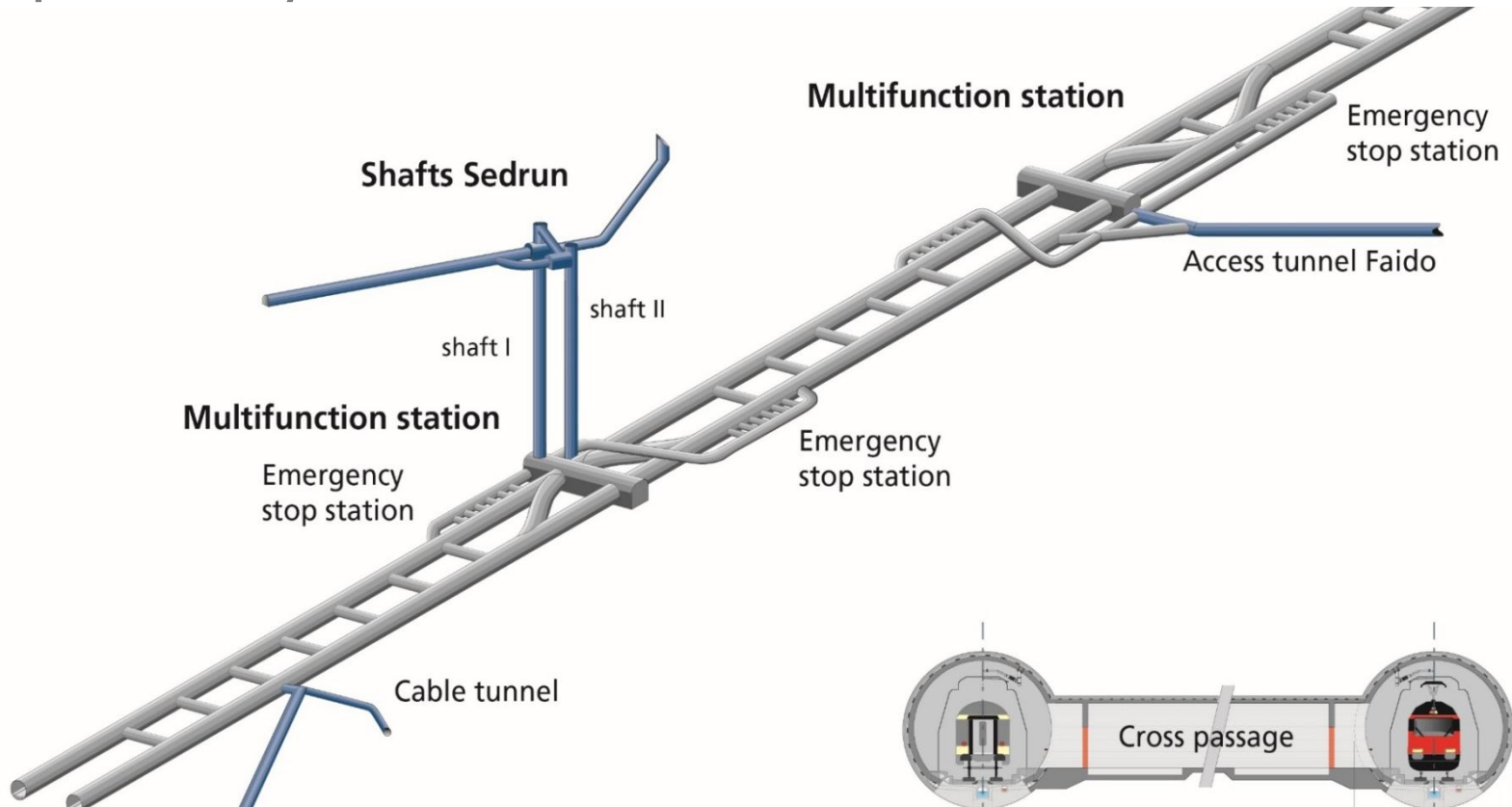
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concept: flat route through the Alps



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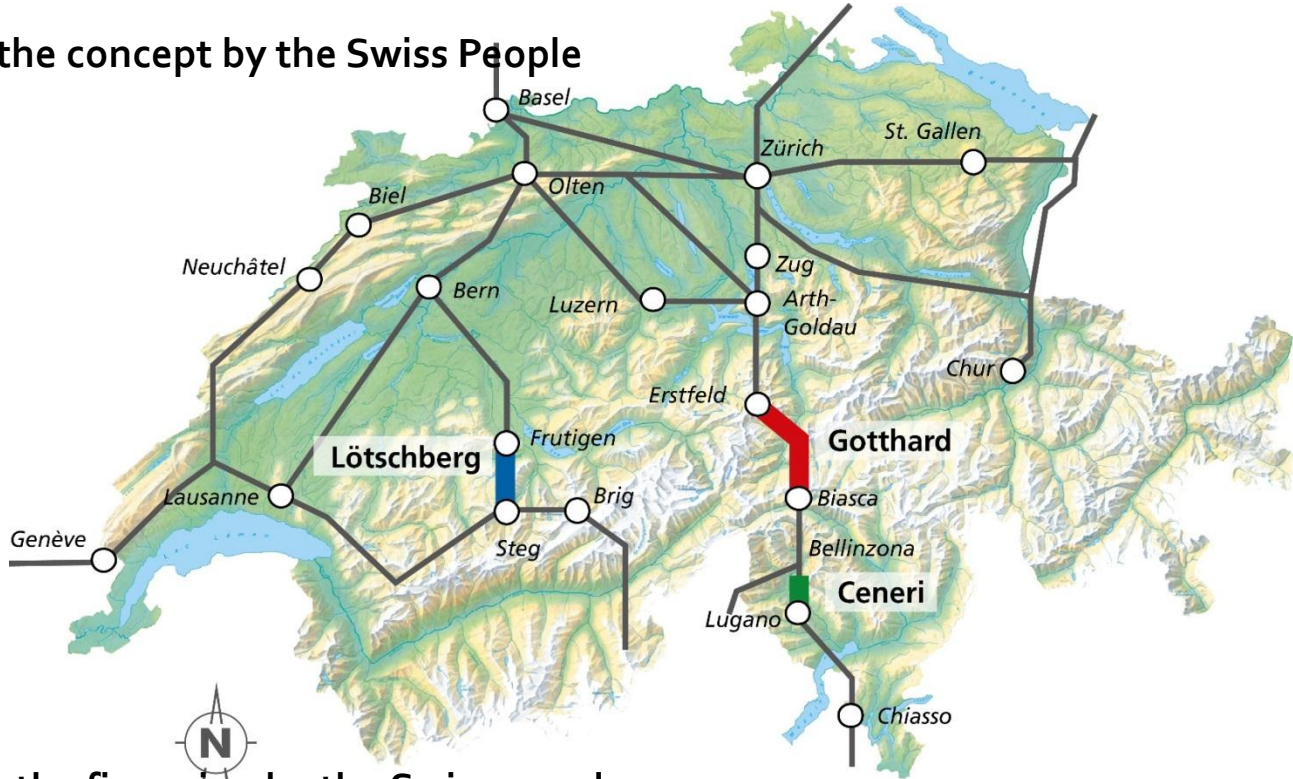
concept: tunnel system



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challenge: political process

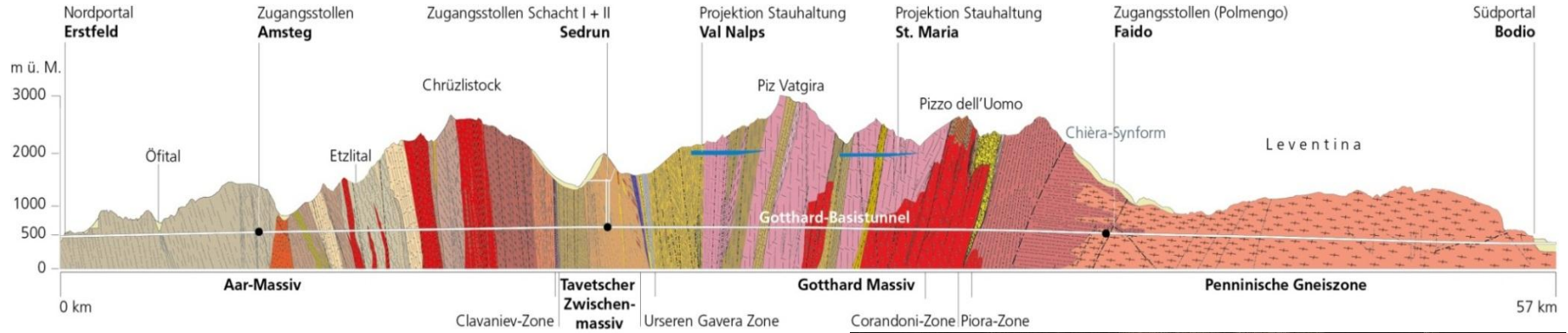
- 1992 approval to the concept by the Swiss People



- 1998 approval to the financing by the Swiss people

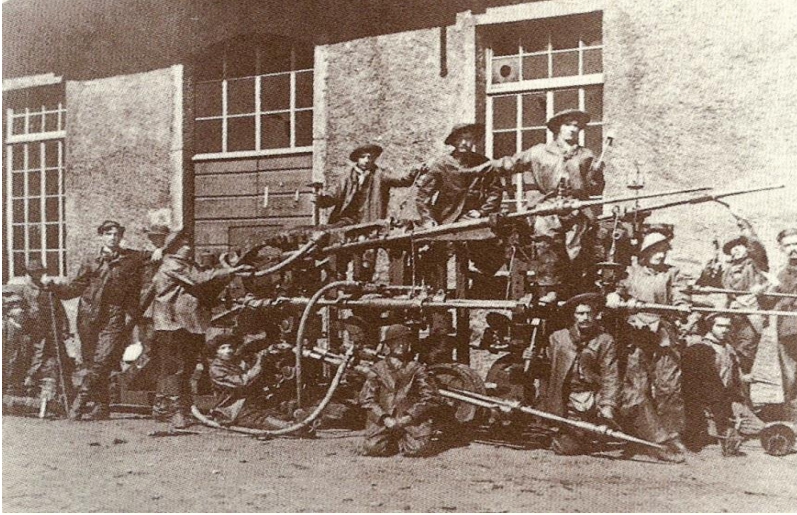
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challenge: geology



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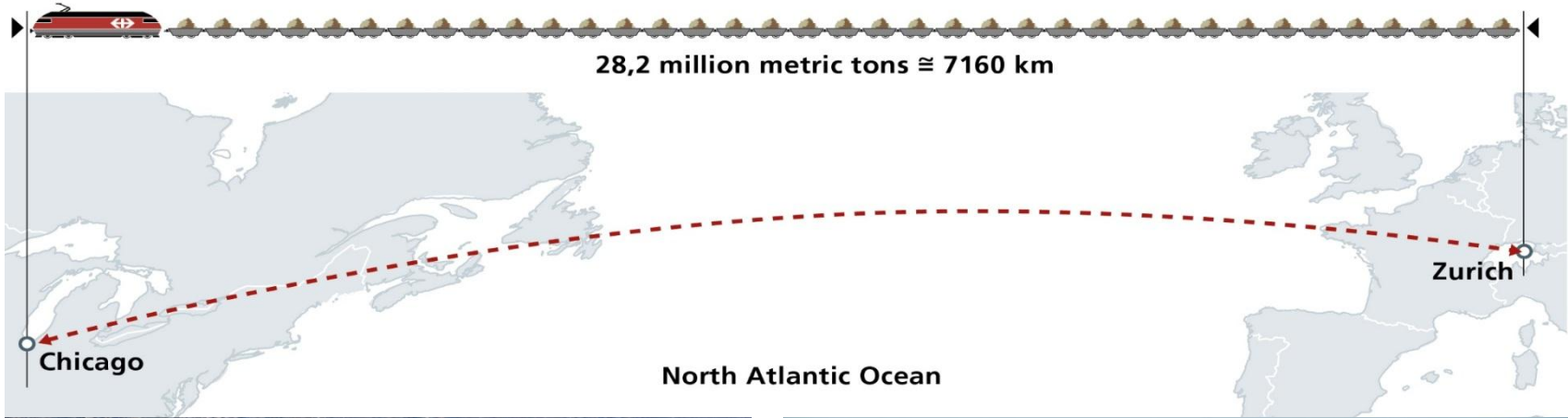
challenge: technics



0/155-71

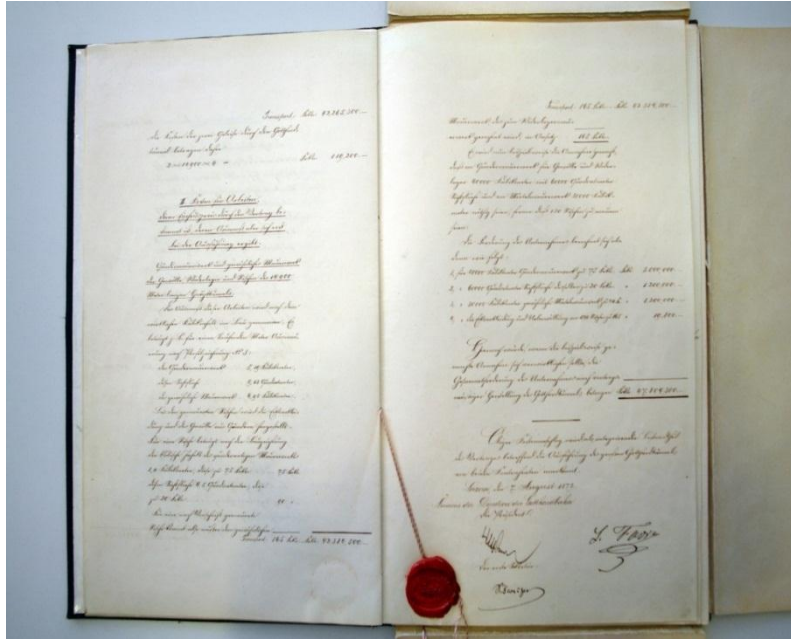
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challenge: spoil management



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challenge: procurement and contracts



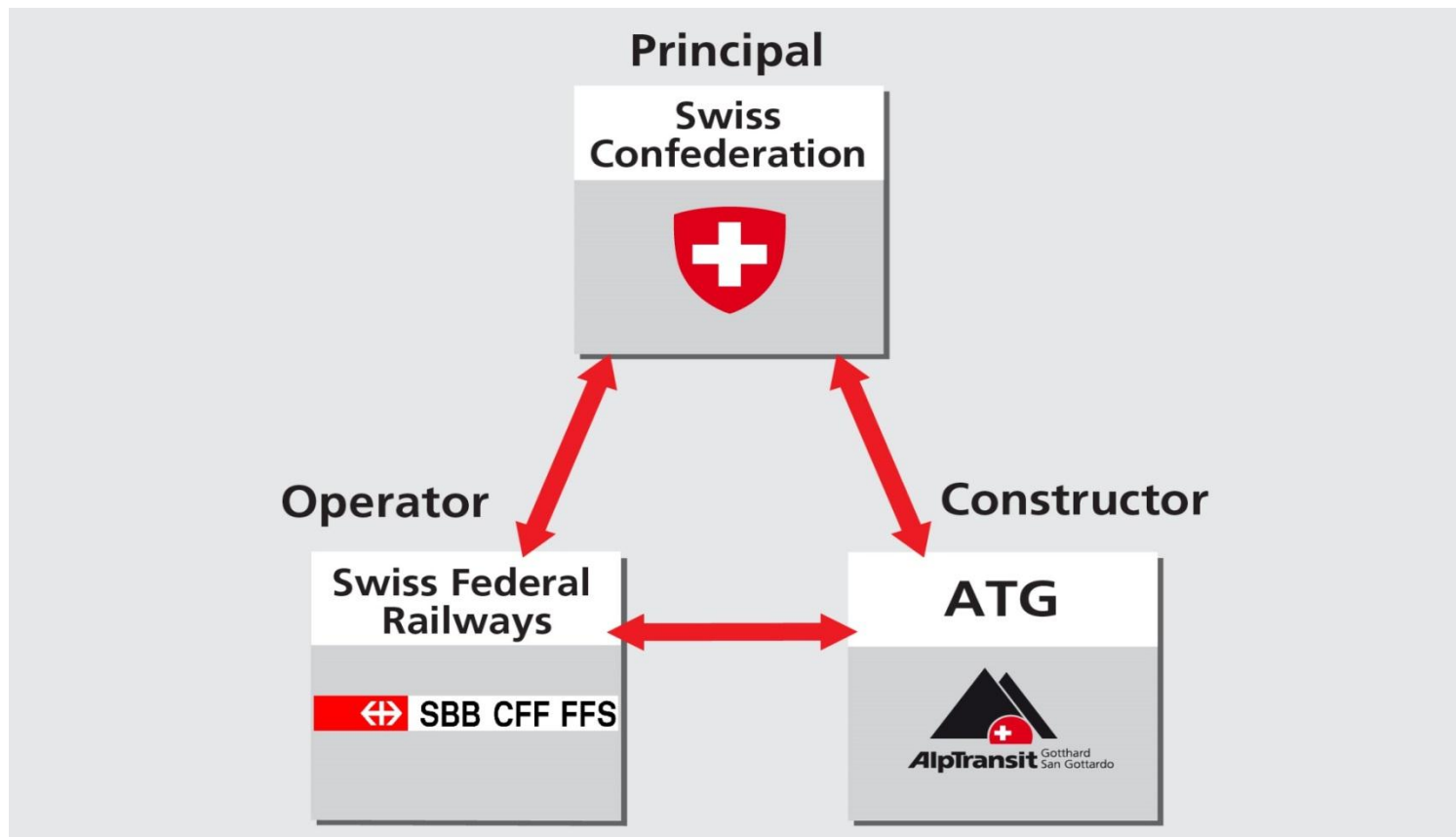
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challenge: environment and ecology



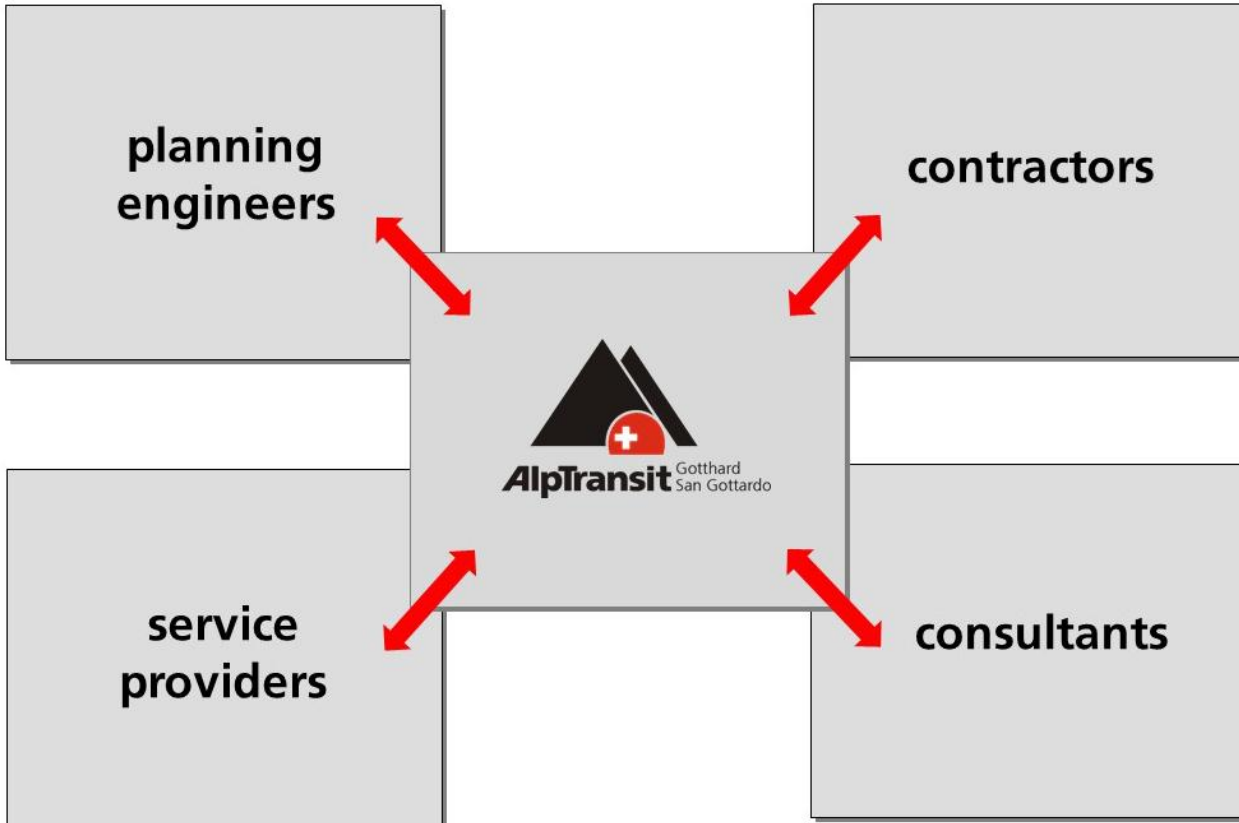
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key success factor: business model



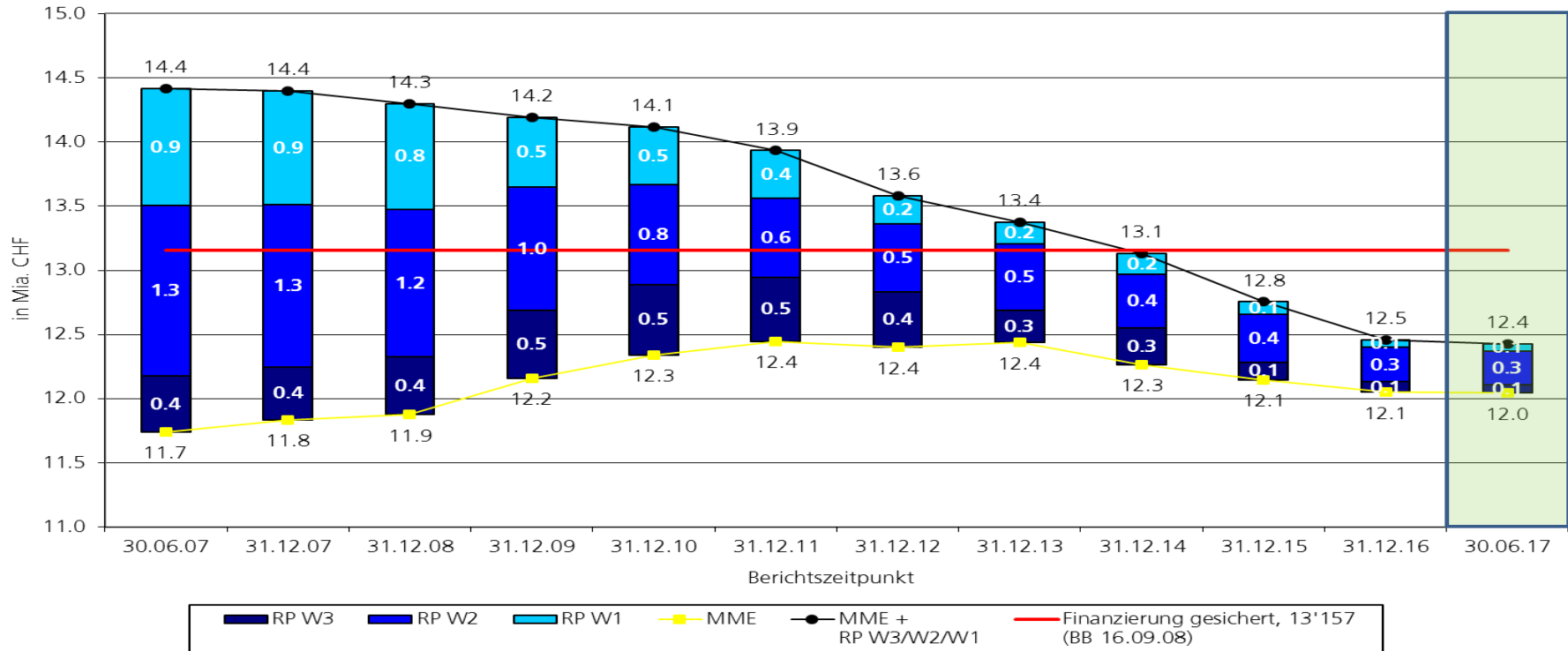
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key success factor: focus on project management



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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)

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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



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key success factor: transparency and communication



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key success factor: people



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next step: Ceneri Base Tunnel 2020



The Gotthard Base Tunnel

next step: Ceneri Base Tunnel 2020



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Thank you very much for your attention !