

3S RENON, BOLZANO, ITALY – A SUCCESS STORY



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In the heart of the Alps

The historical context

Why 3S?

The PPP (Private – Public – Partnership)

The Construction

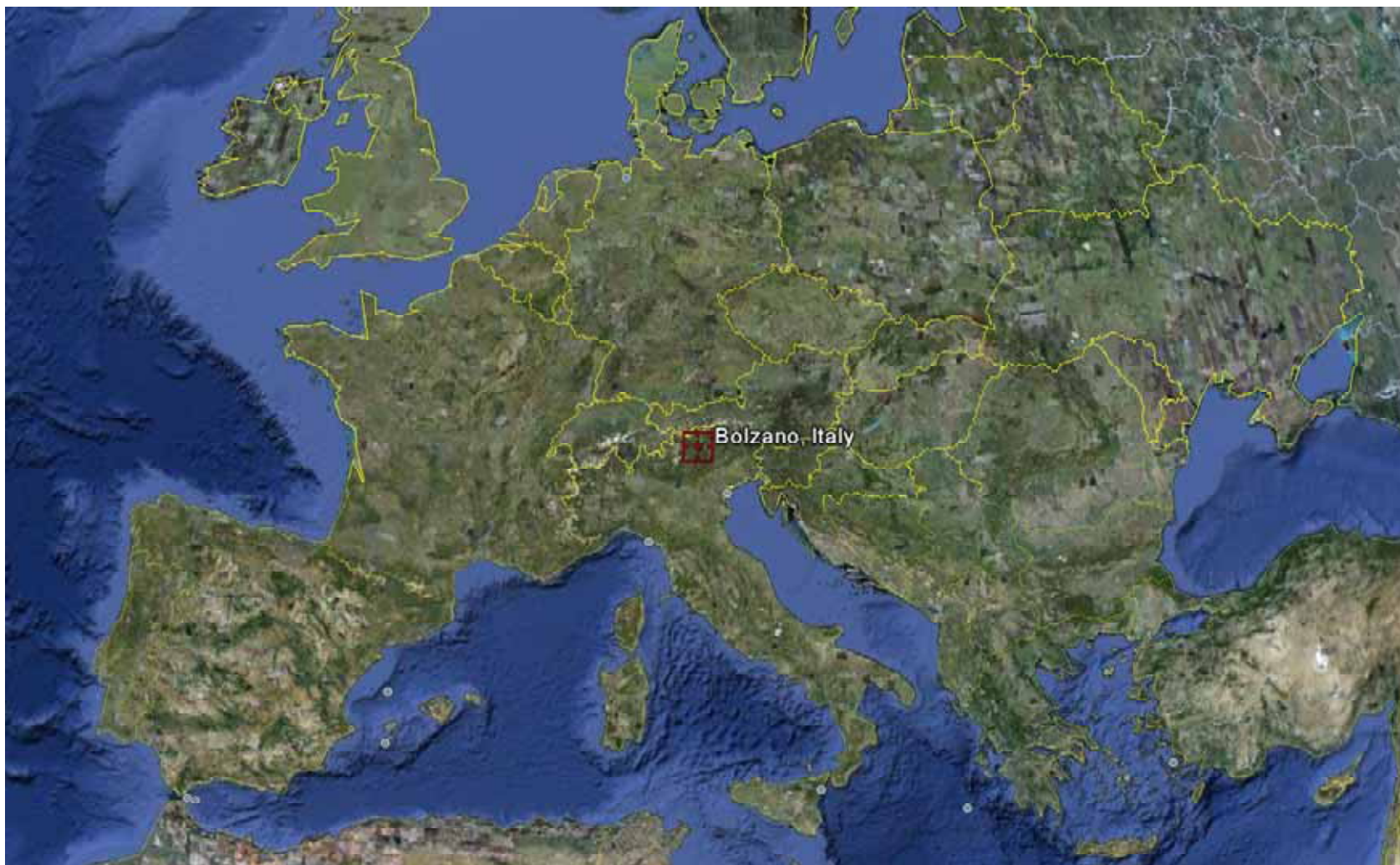
The Technology

The Architecture

The Operation

“The” success Story

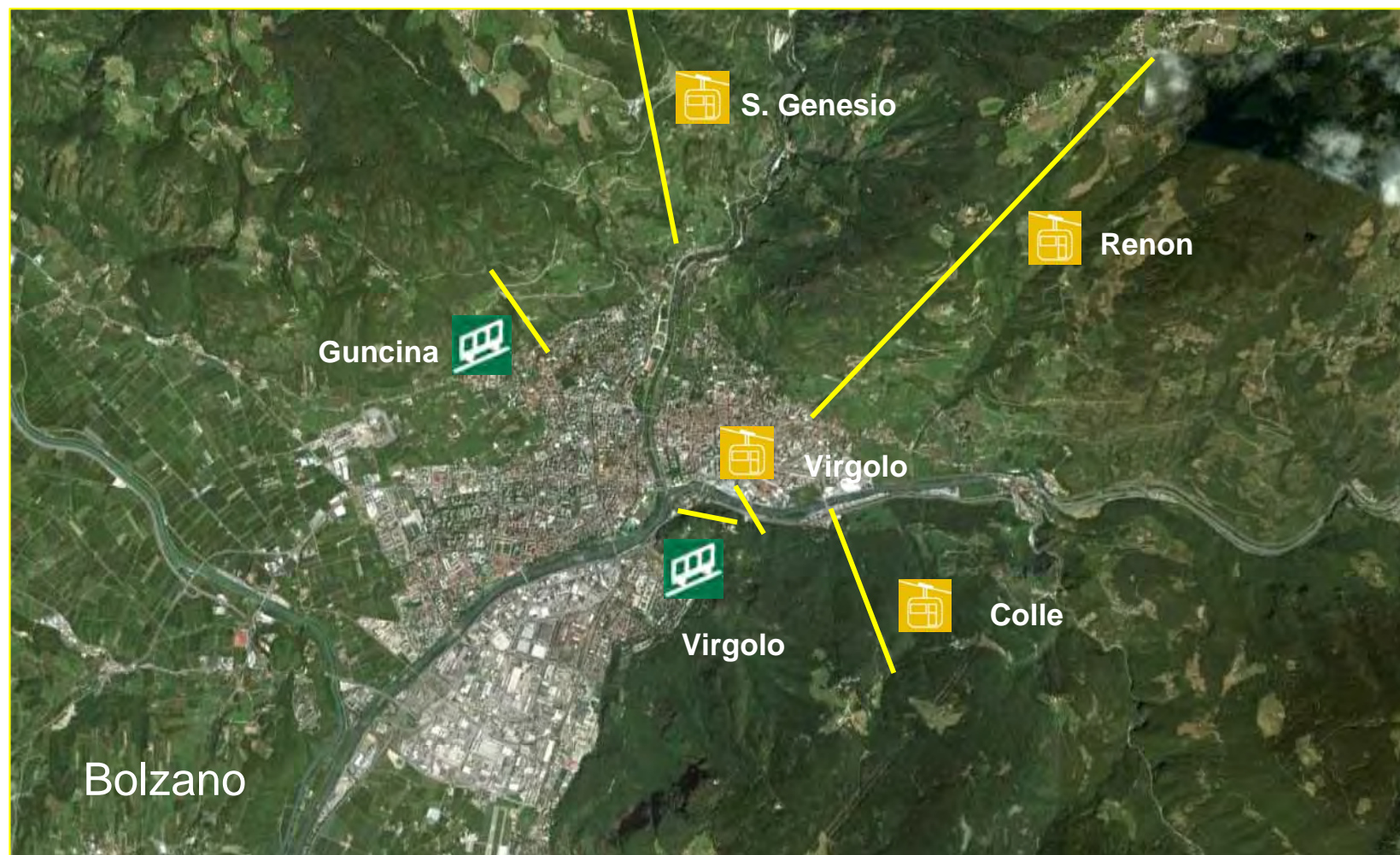
IN THE HEART OF THE ALPS



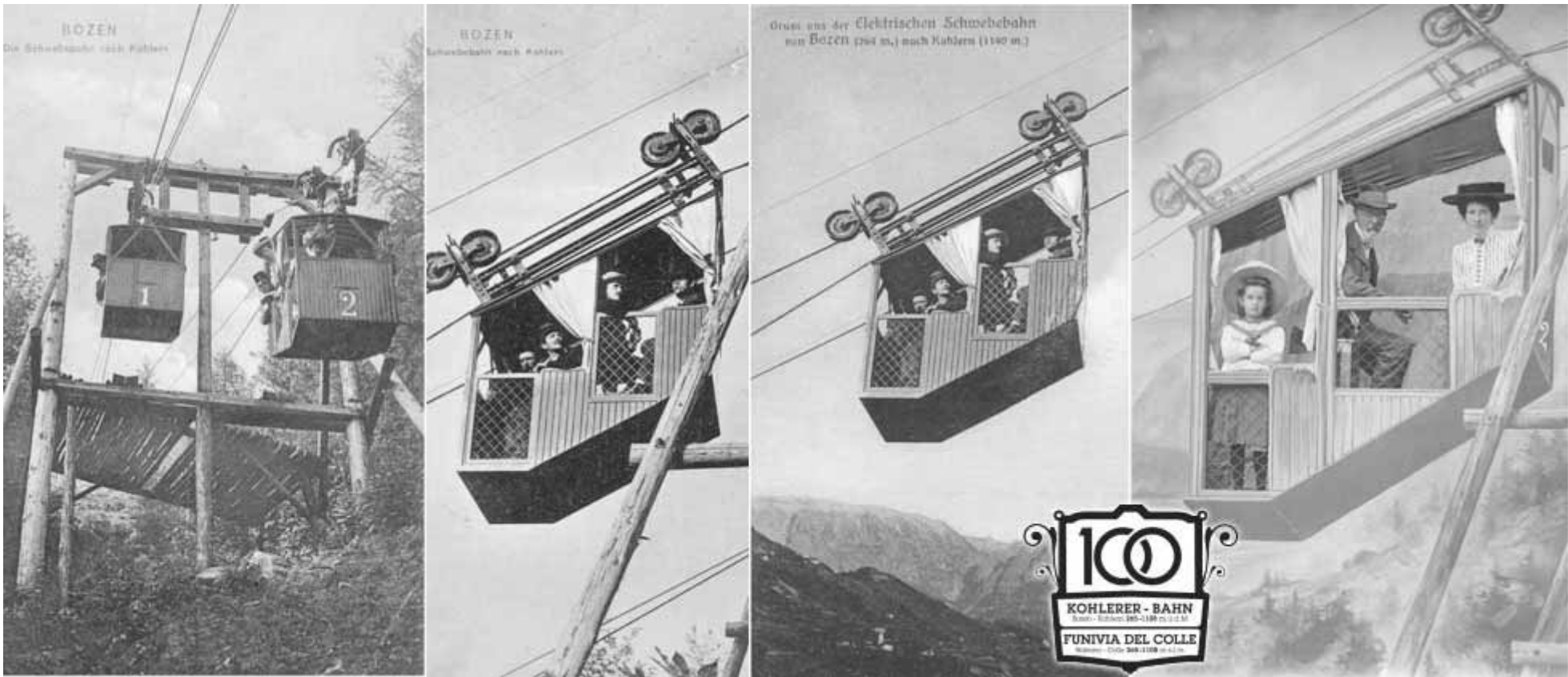
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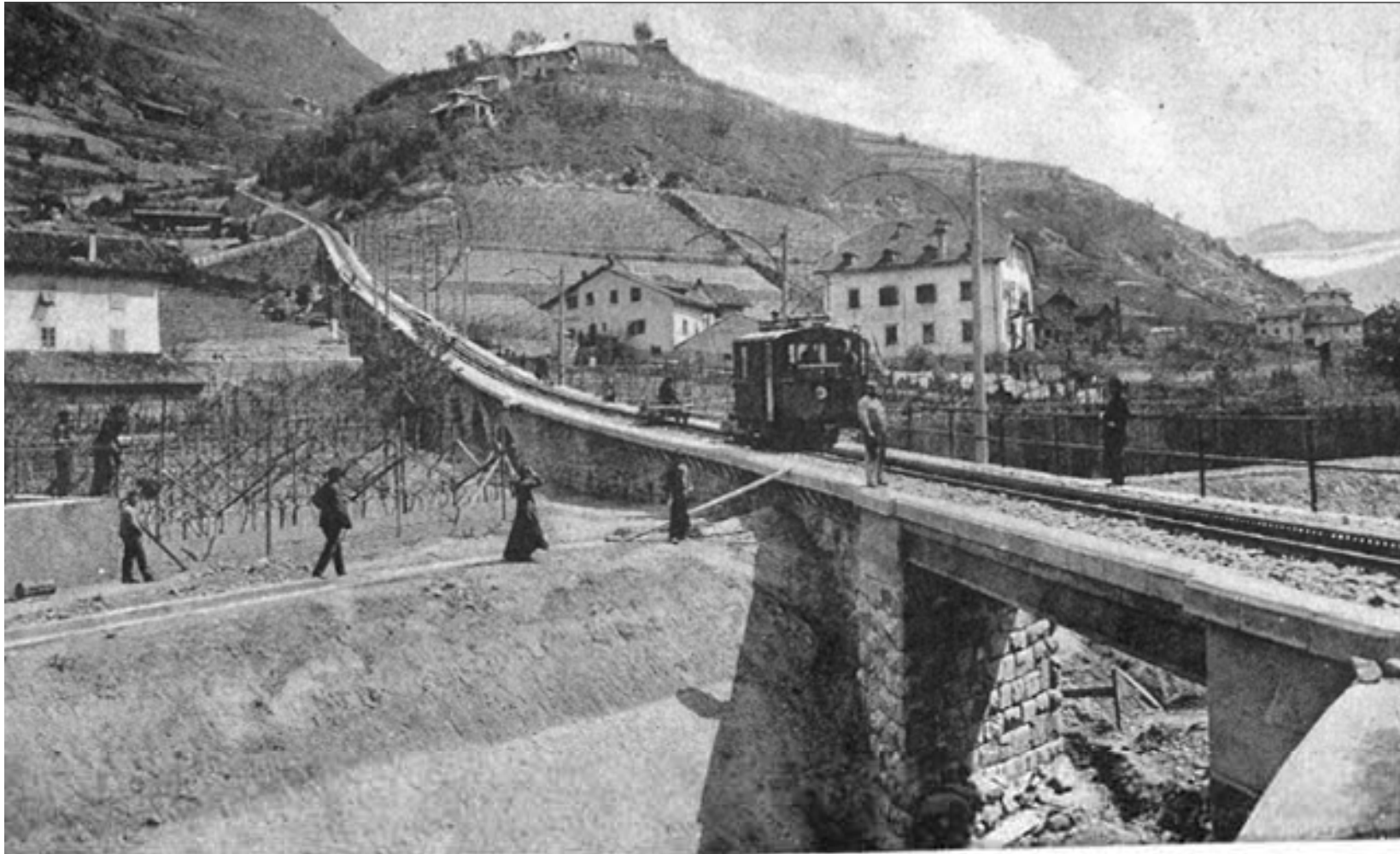
THE HISTORICAL CONTEXT

Rack-and-Pinion Railway 1908 - 1966



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THE HISTORICAL CONTEXT

Rack-and-Pinion Railway 1908 - 1966



HISTORICAL CONTEXT

Tramway 1966 - 2007



WHY 3S?



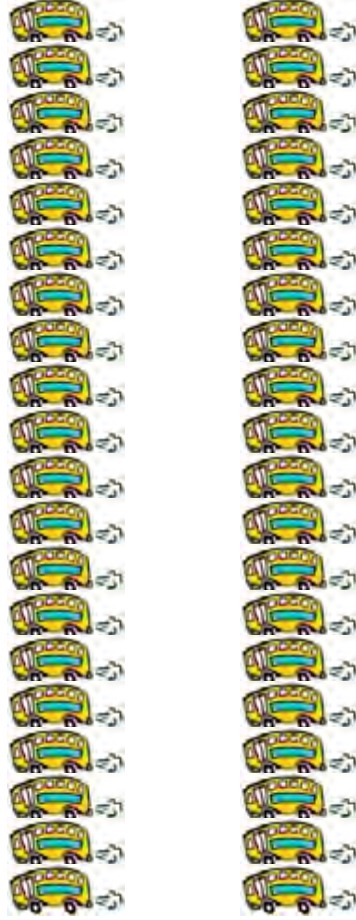
Increase of capacity

WHY 3S?



Previous capacity 250 p/h

about 40 busses daily



about 88 busses daily



Required capacity 550 p/h 735 p/h

about 120 busses daily



WHY 3S?



Increase of capacity

Improvement of line safety

WHY 3S?



WHY 3S?



Increase of capacity

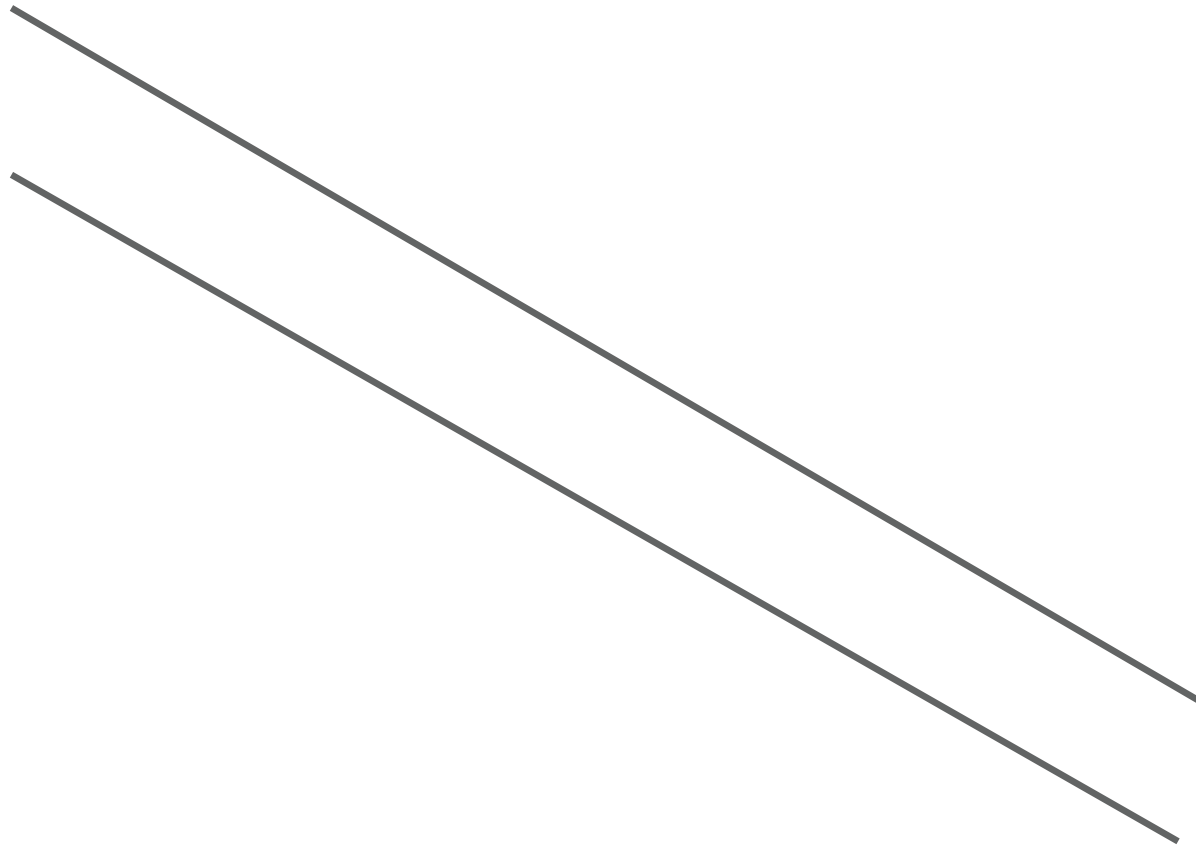
Improvement of line safety

High frequency

WHY 3S?



Top Station

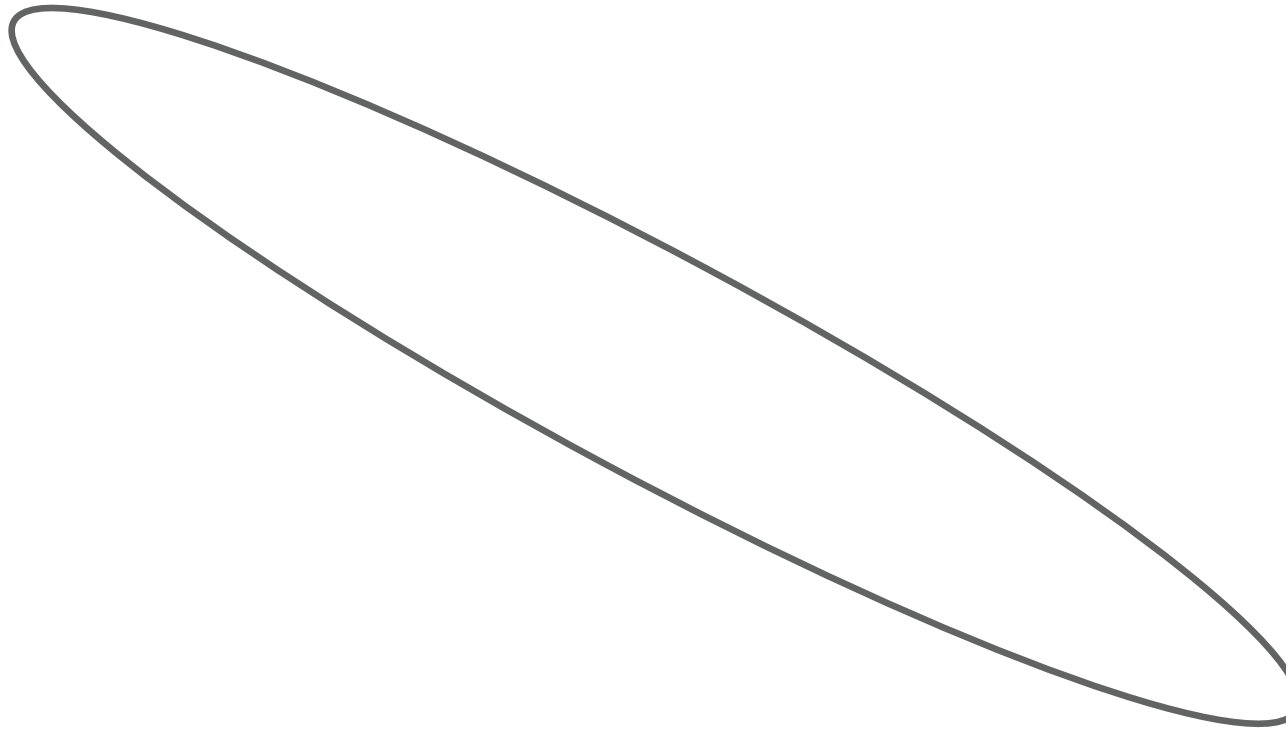


Bottom Station

WHY 3S?



Top Station



Bottom Station



WHY 3S?



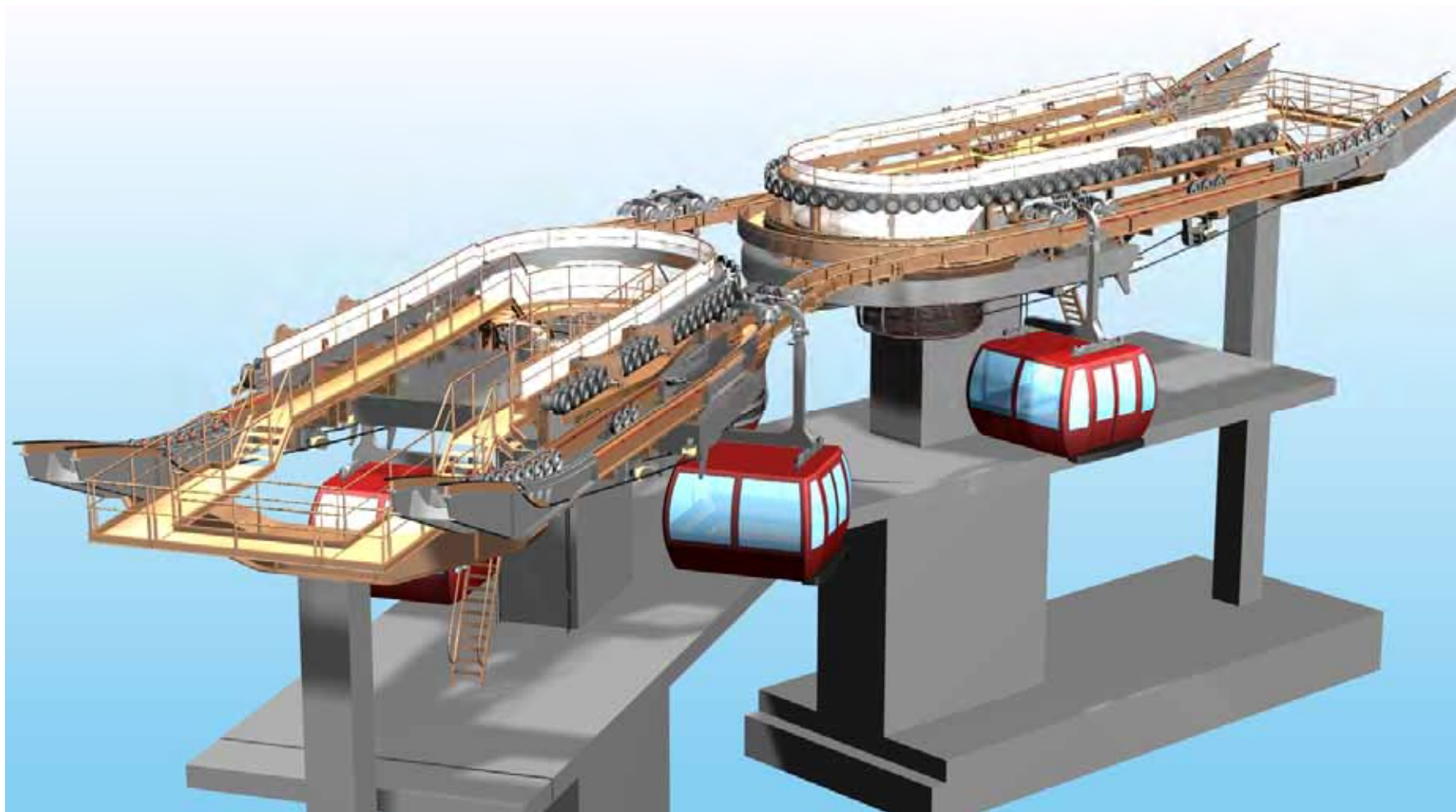
Increase of capacity

Improvement of line safety

High frequency

Possibility of line extension

WHY 3S?



WHY 3S?



Increase of capacity

Improvement of line safety

High frequency

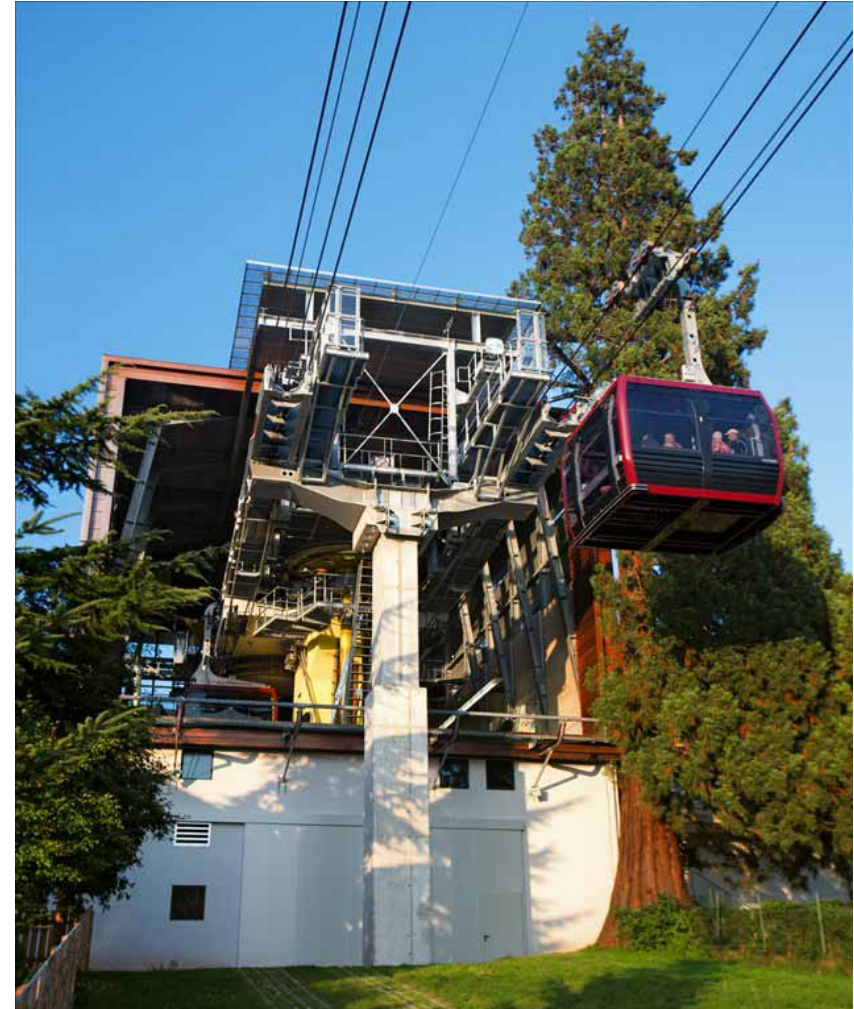
Possibility of line extension

Limited station dimensions

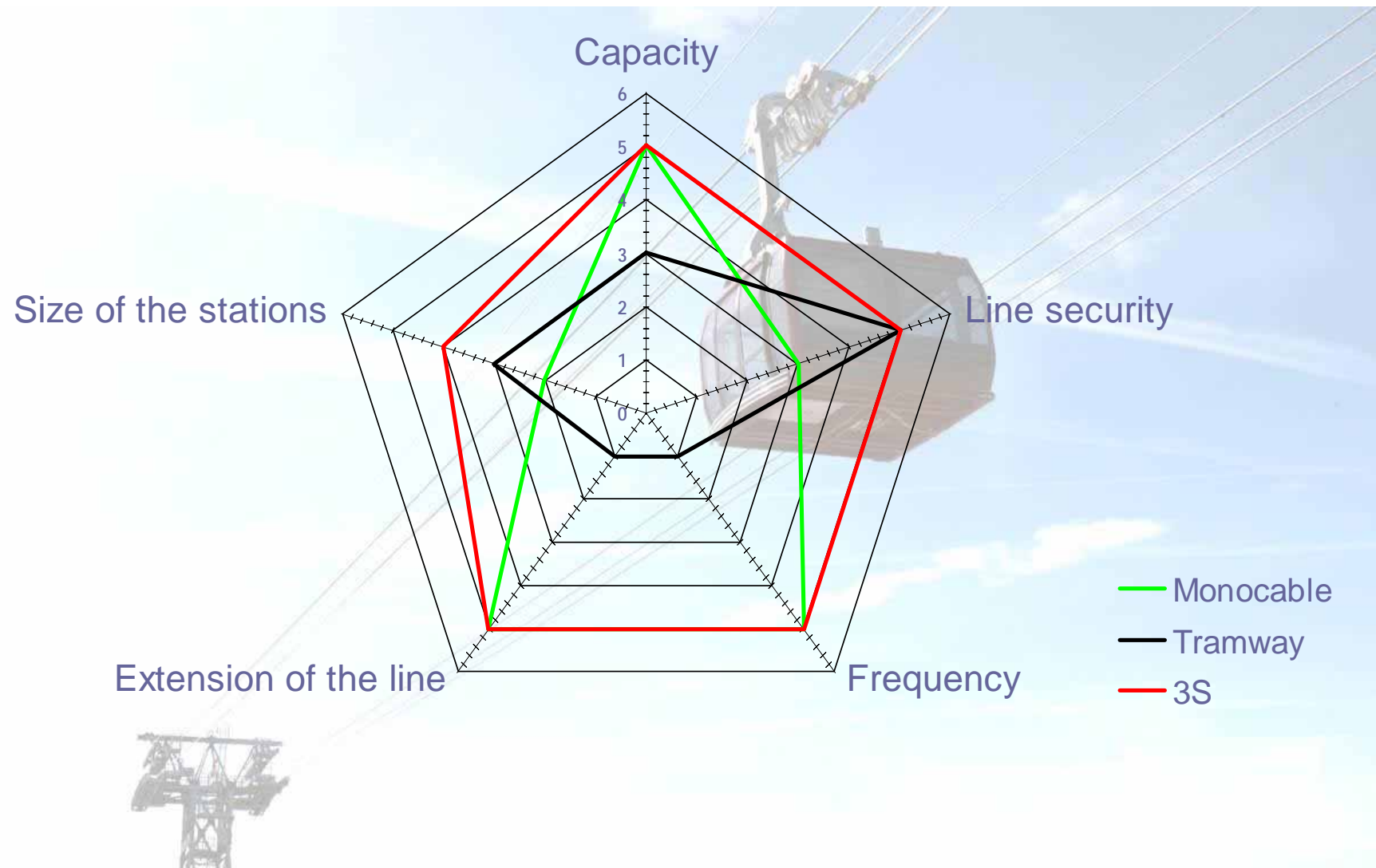
WHY 3S?



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THE PPP (Private – Public – Partnership)



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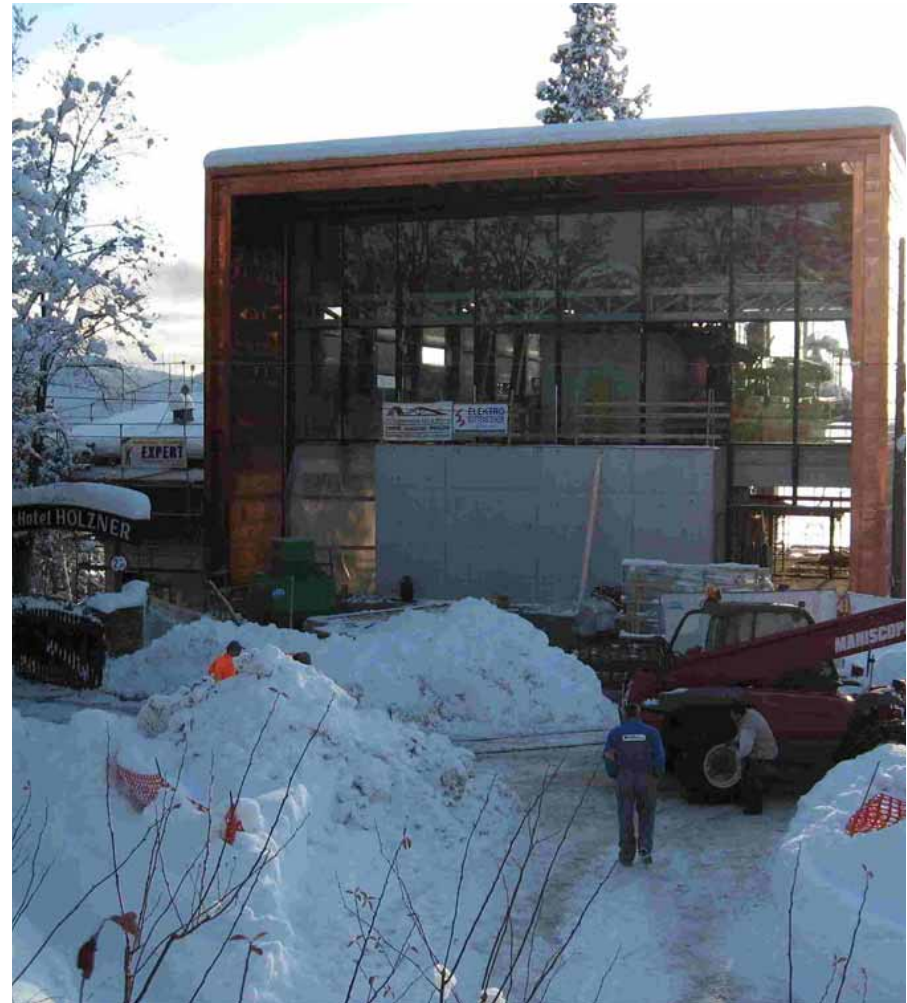
THE CONSTRUCTION



THE CONSTRUCTION



THE CONSTRUCTION



THE CONSTRUCTION



OPENING – 23th May 2009



OPENING – 23th May 2009



THE TECHNOLOGY – TECHNICAL DATA

▪ Drive station	on the top
▪ Return station	at the bottom
▪ Horizontal length	4.379 m
▪ Vertical rise	949 m
▪ Capacity	550 P/h
▪ Number of cabins	8 - 35 persons (28 seated)
▪ Designed capacity	735 P/h (with 10 cabins)
▪ Travel time	approx. 12 min
▪ Departure interval	approx. 4 min
▪ Line speed	3 – 7 m/s
▪ Installed power	2 x 350 kW
▪ Numbers of towers	7
▪ Diameter of carrying rope	4 x 46 mm (anchored)
▪ Diameter of hauling rope	40 mm (anchored)
▪ Storage	in the stations (4 in the top station and 4 in the bottom station)

THE TECHNOLOGY – RESCUE SYSTEM



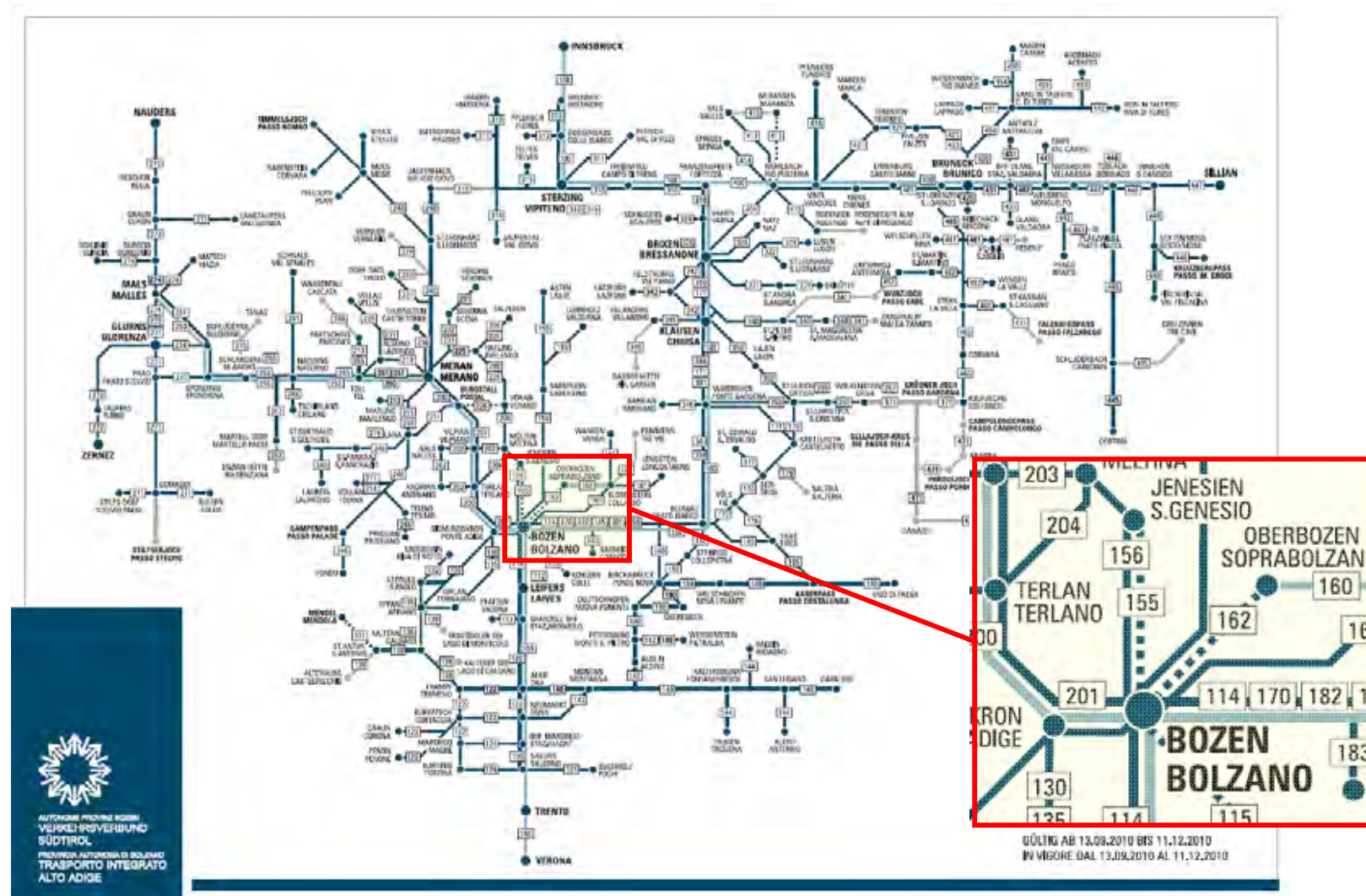
THE TECHNOLOGY – RESCUE SYSTEM



THE TECHNOLOGY – RESCUE SYSTEM



THE OPERATION



THE OPERATION

162 SEILBAHN RITTEN FUNIVIA RENON



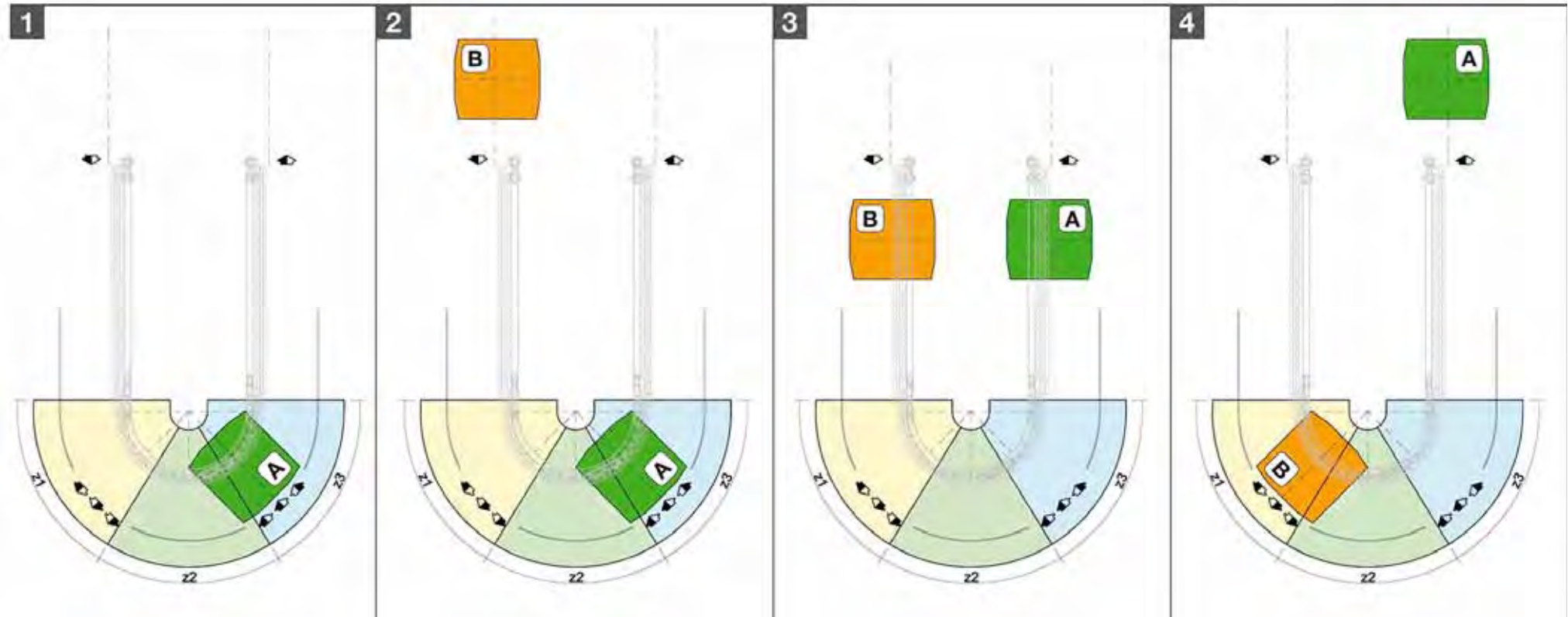
Werktage						Giorni feriali					
Durchgehender Betrieb	06.30	—	21.00								Orario continuato
Fahrten um	21.12		21.24		21.36		21.48				Corse alle ore
Letzte Fahrt um	22.38 (Ankunft /arrivo h. 23.00)										Ultima corsa alle ore
Sonn- und Feiertage						Giorni festivi					
Durchgehender Betrieb	07.10	—	21.00								Orario continuato
Fahrten um	21.12		21.24		21.36		21.48				Corse alle ore
Letzte Fahrt um	22.38 (Ankunft /arrivo h. 23.00)										Ultima corsa alle ore

FAHRTDAUER / TEMPO DI PERCORRENZA 12 MIN.

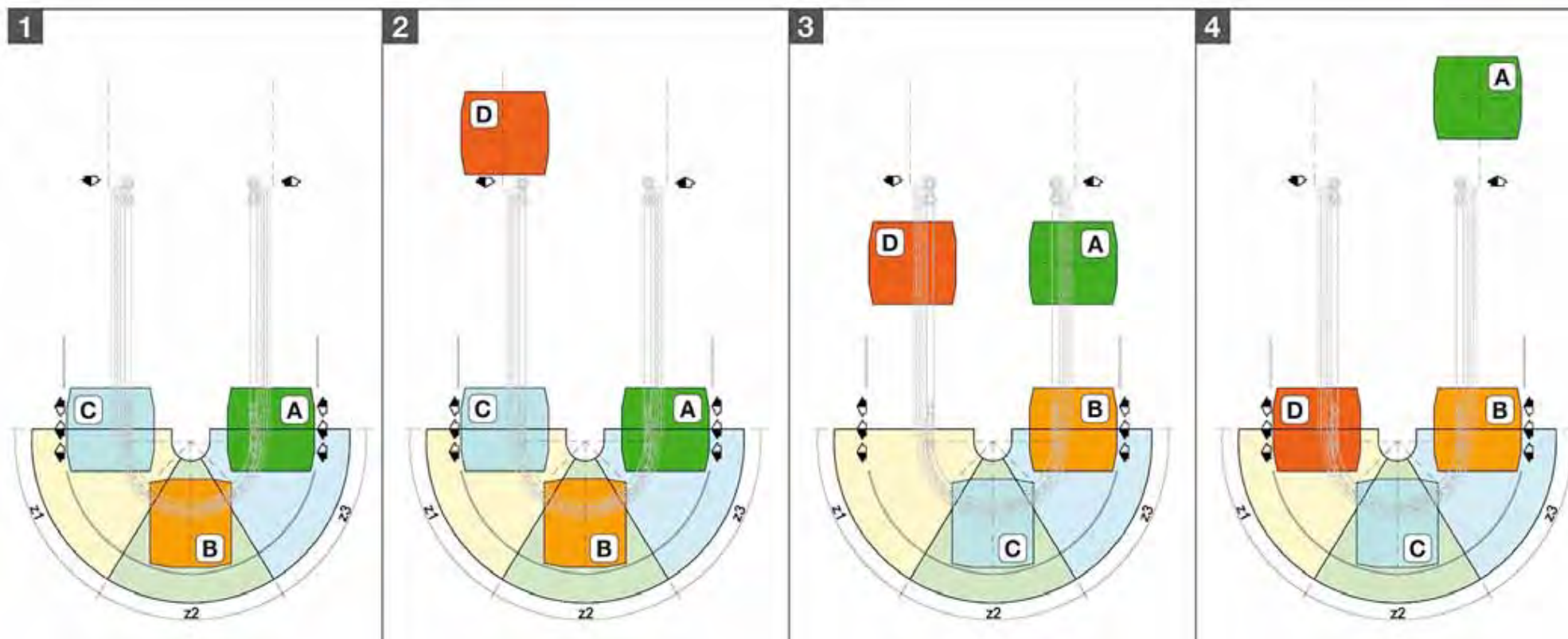
THE OPERATION



THE OPERATION – REGULAR OPERATION



THE OPERATION – REDUCED OPERATION



THE ARCHITECTURE



THE ARCHITECTURE



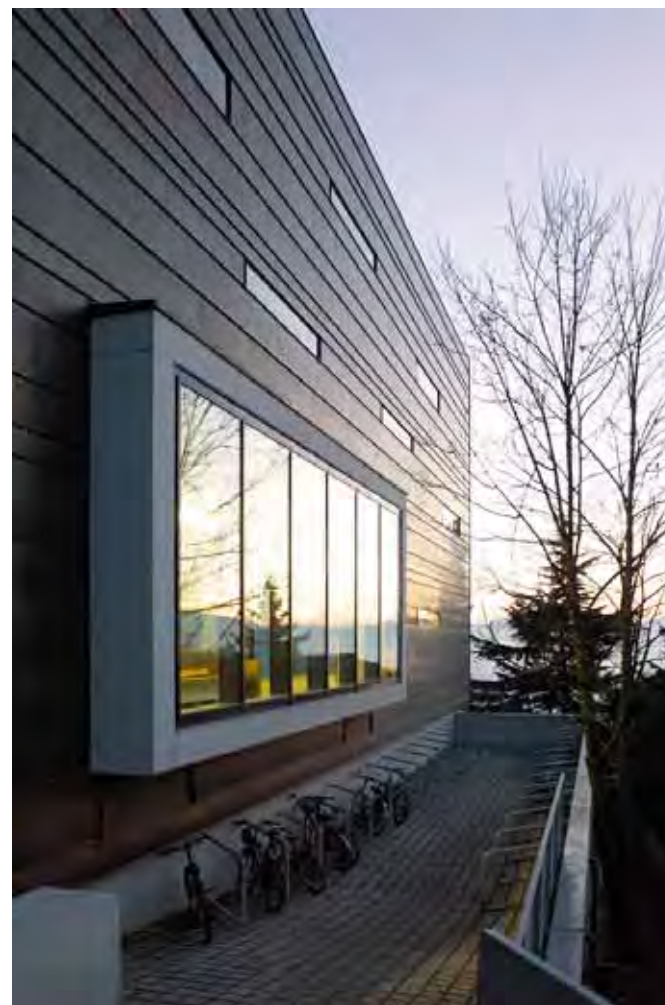
THE ARCHITECTURE



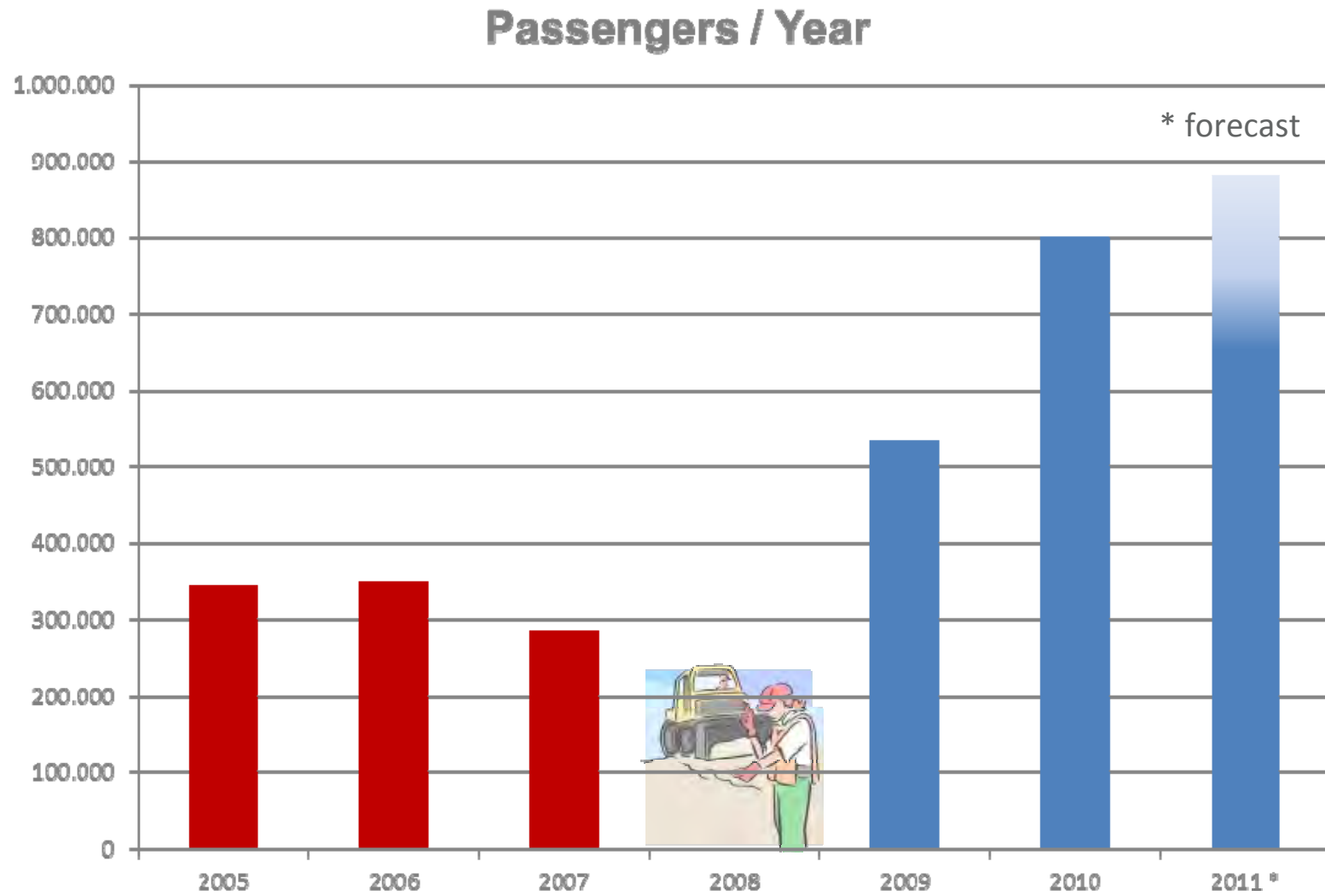
THE ARCHITECTURE



THE ARCHITECTURE



“THE” SUCCESS STORY - PASSENGERS



“THE” SUCCESS STORY - TECHNOLOGY

Innovative



Comfortable



Safe



Flexible



“THE” SUCCESS STORY - THE SOCIO-URBANISTIC IMPROVEMENT



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Thank you for your attention..

