Funicular railway Schwyz-Stoos









SHORT DESCRIPTION

The existing funicular on the Stoos will be replaced by a new construction (the concession of the existing funicular is expiring and cannot be extended) with new lines. The type of cableway to be used is a funicular in shuttle service with 2 vehicles for passenger and goods transport. Both vehicles run on a common track between the termini with Abt's diversion in the middle of the line.

THE PROJECT

The route in the steep slope (up to 110% inclination) between the valley and mountain stations runs straight in the ground plan. For topographical reasons, two rock bands (Tunnel Zingelifluh and Ober Zingeli) and at the top the Stoosfluh (Tunnel Stoosfluh) must be crossed along the route. In the transition to the individual tunnels and in the tunnels, the rails run on a slab of prefabricated concrete elements, which are non-positively connected to the substructure and the ground. Above the Stoosfluh tunnel, the gravel track runs on a gradient of up to 30%.

CHALLENGES

Challenges

- Slope
- Mountain construction site summer & winter
- Logistics for inclined shafts
- Geology
- Equipment and material can only be transported to the individual workplaces via the material ropeway

FURTHER INFORMATION

Key data

- Realisation 2013 - 2017
- Construction sum CHF 24.90 million
- EUR 23.71 million
- Total length 1.74 km
- Breakout cross section 27,40 m2
- Geology marl slate / limestone

Implenia under construction

Task
Lead management, Chair Technical management, Commercial management and site manager
Implenia Switzerland Ltd,
Infrastructure - Tunnelling
CH-8304 Wallisellen

Services rendered
Tunnel construction and material ropeway

Construction method

- After the start of construction, the material ropeway will be built first in order to ensure the access to the construction site. The three tunnels will be constructed by blasting (Zingelifluh and Ober Zingeli in advance using the DN 1.8m and 1.4m raisdrill method). A 74-tonne, 28-metre-long tunnel boring machine (Kolk) will be used for the blasting operation.
- Stoosfluh tunnel: length 235 m
- Tunnel Ober Zingeli: length 90 m
- Zingelifluh tunnel: length 252 m

Project participants

Owner
Funicular railway Schwyz - Stoos AG

Engineer
Slongo Röthlin Partner AG, Stans

ARGE
ARGE Implenia - Vetsch

FACTS

Location	Schwyz , Switzerland
Status	completed
Construction volume (value of our services)	25 M CHF
Start of construction	May 2013
Completion	May 2017
Blasting method	✓

SERVICES

Tunnelling

Service tunnels

https://implenia.com/en/references/detail/ref/funicular-railway-schwyz-stoos/

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