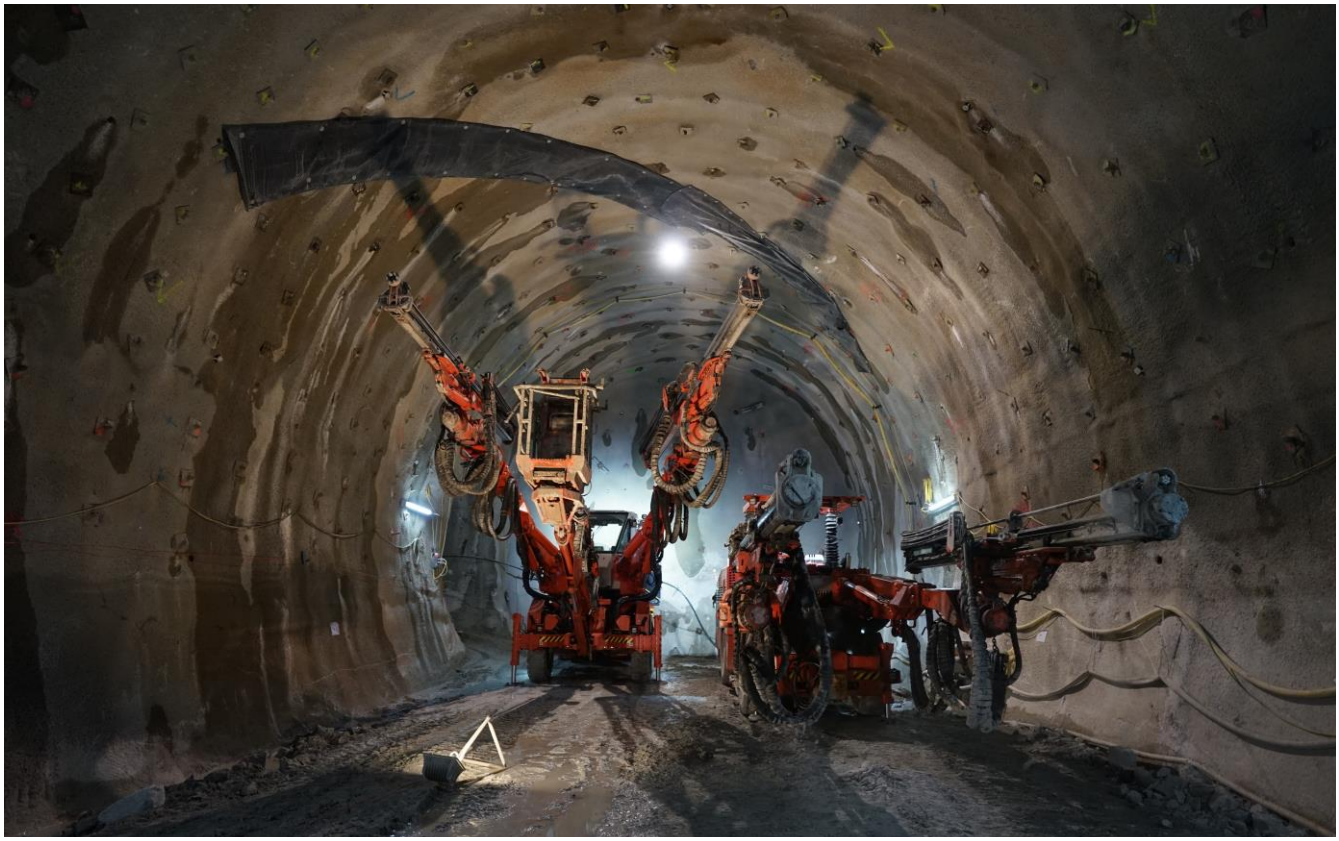
Marti Tunnel AG
Bauunternehmung



SEMMERING - BASISTUNNEL - SBT3.1 - TUNNEL GRAUTSCHENHOF

SPITAL AM SEMMERING (AT)

CLIENT
ÖBB- Infrastruktur AG, AT-1120 Wien

DESIGNER
Planungsgemeinschaft Semmering, AT-1120 Wien
Basis-Tunnel – PGST, AT-1120 Wien

CONSTRUCTION PERIOD
05.2016 – 04.2025

CONTRACT SUM
CHF 326 Mio. (€ 301 Mio.)

JOINT VENTURE COMPANY
ARGE SBT3.1 Grautschenhof

JOINT VENTURE PARTNERS
Marti GmbH Österreich, AT-8045 Graz
Marti Tunnel AG, CH-3302 Moosseedorf

LEAD COMPANY AND TECHNICAL LEAD
Marti GmbH Österreich, AT-8045 Graz

COMMERCIAL LEAD
Marti Tunnel AG, CH-3302 Moosseedorf

Marti Tunnel AG
Seedorffeldstrasse 21 CH-3302 Moosseedorf Tel. +41 31 388 75 10 www.marti-tunnel.ch tunnel@martiag.ch

SEMMERING - BASISTUNNEL - SBT3.1 - TUNNEL GRAUTSCHENHOF

SPITAL AM SEMMERING (AT)

PROJECT DESCRIPTION

The project Semmering Basistunnel (SBTN), which is about 27.3 km, consists of a twin tube single-lane tunnel between the Gloggnitz and Mürzzuschlag portals including cross connections and emergency stations. The entire tunnel is initiated through the site portal Gloggnitz as well as three intermediate accesses designated as ZA Göstritz, ZA Fröschnitzgraben and ZA Grautschenhof.
The project is divided into three construction lots:
• Lot SBT1.1 - Tunnel Gloggnitz
• Lot SBT2.1 - Tunnel Fröschnitzgraben
• Lot SBT3.1 - Tunnel Grautschenhof

In the lot SBT3.1, the tunnel advance works for both tunnel stretches are carried out through the two shafts Sommerau 1 and Sommerau 2 commencing from the shaft bottom area. The main construction units are:
- 2 x 100 m shafts with diameter of 8 and 14 m
- 2 x 7 km long (70 - 94 m²) single-track rail tunnel
- 14 cross connections separated 500 m at most

GEOLOGY

The geological characterization of the project presents 28 rock types. These extend from loose rocks to solid rock types with weak zones. The rock types of the construction lot SBT 3.1 Tunnel Grautschenhof are composed of different rock types of the Semmering's Crystalline and the permomesozoic units of the Central Alpine. Schist and phyllite are described as the significant units of the Semmering's Crystalline with an occurrence of approx. 45%. In the disturbance areas 20% gneiss and 10-15% limestone are to be expected.

WORK DESCRIPTION

Underground excavation, rock support and grouting work
- Shaft excavation method: pre-shaft (concrete piling with excavator), D&B sinking
- Shaft dimensions: 8 m and 14 m respectively, 100 m deep each
- Shaft bottom caverns: 2 injection caverns of 30 m each (180 to 210 m²)
- Underground logistics: shaft hoisting system and vertical conveying system
- Tunnel excavation method: conventional methods (top heading and benching)
- Excavation length and cross section: 6.9 and 7 km respectively, 70 to 94 m²
- Grouting works and exploration drilling
- Standard rock support: shotcrete (276'000 m³) and systematic rock bolts (164'000 pcs)
- Additional rock support: spilling bolts (343'000 pcs), lattice girders (210'000 m), LSC elements (4'300 pcs) and pipe umbrella (146 m)
- Cross connections: 14 units around 36 m long (36 to 40 m²)

Underground water and frost protection work
- Umbrella seal and perimeter waterproofing systems incl. cross connections: 310'000 m³

Surface- and groundwork
- Earth, pre-cut and geotechnical works
- Unloading and transfer conveyor system to stockpile
- Roadwork
- Fresh water and drainage system
- Installation of cable pipes and channeling

Concrete work
- Tunnel reinforced concrete lining incl. cross connections
- Construction concrete: 366'000 m³

27.03.2019

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