





Transport of a tunneling drill jumbo at Linth Limmern 1000 MW pump-storage plant (Switzerland)

Selected Highlights



1950-1970

Earthworks with scrapers on highway construction sites in Switzerland



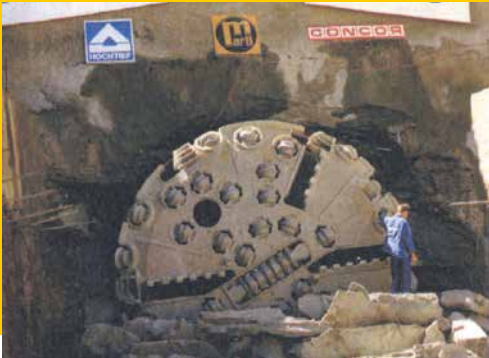
1971-1980

Hydraulic multi-arm tunneling drill jumbo at Seelisberg Tunnel, Switzerland



1984

Execution of 1,500 reinforced concrete Vibrex piles in Durban, South Africa



1992-1996

Lesotho Highlands Water Project, South Africa



1987-2015

Transjurane highway tunnels in the Canton of Jura, Switzerland



2009-2016

Linth Limmern 1000 MW pump-storage plant, Switzerland

Marti Group

Marti is a family owned group of construction companies based in Berne-Moosseedorf, Switzerland. The first Marti company was established in 1922. Steady growth as of the 1940ies led to geographical expansion all over Switzerland and to a technology-driven diversification and specialization. The most significant milestones include cutting-edge mechanization of earth and road construction works in the late 1950ies and, in the early 1980ies, the acquisition of projects in foreign countries, such as Saudi Arabia or South Africa. Marti has been involved in a wide range of infrastructure and building projects in Switzerland and abroad, as general contractor, lead partner in international joint ventures, design-build contractor, construction manager and subcontractor.

Today the group consists of more than 80 corporate entities and has over 6,000 employees in Switzerland, Austria, Germany, Slovakia, Iceland, India, China, Chile and Norway.



Sachseln safety gallery for an existing road tunnel (Switzerland)



Tunnel boring machine at Bärenwerk hydropower plant (Austria)



Concrete segment manipulator at Snekkestad railway tunnel (Norway)



Inclined pressure shafts at 1000 MW Linth Limmern pump-storage plant (Switzerland)

Tunneling

Tunneling is one of the core competences of Marti. The company has been involved as a specialist contractor for the execution of mechanized and conventional tunnel construction works in relation to large-scale underground transportation and hydropower projects in Switzerland and abroad. Marti is an expert for underground projects in both urban and remote areas in various kinds of geological conditions.

Selected References



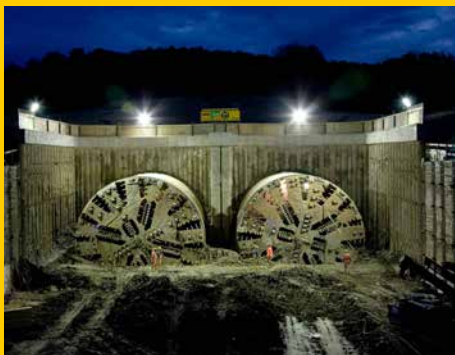
Project Bärenwerk Hydropower Plant

Country	Austria
Owner	Salzburg AG
Scope	Water tunnel with concrete segmental lining
Diameter	3.8 m / 12.47 ft
Length	2,835 m / 9,300 ft
Completion	2008



Project Linth Limmern Pump-Storage Plant

Country	Switzerland
Owner	Kraftwerke Linth-Limmern AG
Scope	2 pressure shafts (inclined 45°)
Diameter	5.2 m / 17 ft
Length	2 x 1,120 m / 13,445 ft
Completion	2011



Project Katzenberg Railway Tunnel

Country	Germany
Owner	Deutsche Bahn (DB) Projektbau GmbH
Scope	2 tunnels with EPB/TBMs with single lining with concrete segments
Diameter	11.16 m / 36.6 ft
Length	2 x 9,385 m (8,984 m with TBM) / 30,790 ft (29,475 ft with TBM)
Completion	2010



Project Bracons Safety Tunnel

Country	Spain
General Contractor:	UTE Tunnel de Bracons, FCC Construction
Scope	TBM drive, lining with shotcrete
Diameter	4.40 m / 14.4 ft
Length	4,500 m / 14,765 ft
Completion	2008





Herrenknecht VF 600 raise boring machine at 900 MW Nant de Drance pump-storage plant (Switzerland)



Raise boring installation area at Uma Oya plant (Sri Lanka)



Pressure shaft at Nant de Drance

Raise Boring and Shaft Construction Works

During the last five years Marti has become a trusted international partner for the execution of raise boring and shaft construction works. The development of the Marti raise boring unit started with two vertical pressure shafts (diameters up to 8.2 m / 27 ft; depth 430 m / 1,410 ft) for the 900 MW Nant de Drance pump-storage plant in the southwestern part of Switzerland and a job in Hong Kong. In 2016, the company completed work at the Chuquicamata copper mine in the north of Chile, the Uma Oya project in Sri Lanka and the Búrfell hydropower plant in Iceland. With our equipment, drilled shafts with diameters up to 6 m / 19.6 ft and depths up to 1,000 m / 3,280 ft are achievable.

Selected References



Project	Uma Oya Multipurpose Development Project
Country	Sri Lanka
Scope	Pressure, surge and escape shafts
Diameter	3.2-3.7 m / 10.5-12.1 ft
Depth	89-617 m / 291,995 ft
Machine	Herrenknecht VF 600
Completion	2017



Project	Chuquicamata Copper Mine
Country	Chile
Scope	7 vertical ventilation shafts
Diameter	3-5 m / 9.8-16.4 ft
Depth	110-385 m / 360-1,263 ft
Machine	Herrenknecht VF 600
Completion	2017



Project	Búrfell Hydroelectric Project
Country	Iceland
Scope	2 vertical pressure shafts
Diameter	4.5 and 6 m / 14.7 and 19.6 ft
Depth	86 and 115 m / 282 and 377 ft
Machine	Herrenknecht VF 400
Completion	2017





Waterproofing works at Belchen highway tunnel between Berne and Basel (Switzerland)



Frost and water protection works at Nordnes tunnel (Norway)



Grouting and drilling works on a project in Heidelberg (Germany)



Waterproofing works at Linth Limmern pump-storage plant (Switzerland)

Waterproofing and Grouting / Injection Works

Established in 1965, Renesco has developed from a local Swiss tunnel sealing company to an internationally recognized specialist for the execution of waterproofing and grouting solutions for all kinds of underground, hydraulic and civil structures. Our services include sheet waterproofing/geomembranes (such as PVC, FPO/TPO and HDPE), liquid applied/sprayed waterproofing, bonding sealing systems for new structures or restoration work. Full service in chemical and cementitious grouting/injection is available including drilling services. To be able to meet our customers' highest expectations with regard to the quality and efficiency of work, Renesco develops and constantly improves its equipment and methodologies.

Selected References



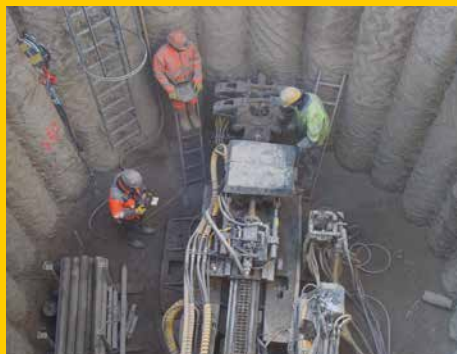
Project Northern Line Extension, London

Country England

Scope

Sheet waterproofing for tunnels and shafts, full-round seal, 2 mm PVC-P, 500 mm wide 6-ribs water barrier, 1,200 g/sqm PP protection geotextile direct onto fibre-reinforced shotcrete.

Completion 2017-2018



Project Oberau Tunnel

Country Germany

Scope

Systematic injection of special cement-based grout (2,900 tons) to consolidate the ground and to allow a controlled lifting of overlaying structures, installation of monitoring system to control the grouting process, construction of 6 shafts (diameter 6 m, depth 12 m), horizontal drilling (7,000 m).

Completion 2016-2017



Project Metro Copenhagen

Country Denmark

Scope

Waterproofing of 23 stations (top/down construction), installation of FPO/TPO based sheet waterproofing, geotextile, water barriers, compartment and injection system.

Completion 2012-2018



Project Snekkestad Railway Tunnel

Country Norway

Scope

Systematic pre-grouting to minimize water intrusion during excavation over the whole length of the tunnel in 20 m sections (section 135 sqm, length 2,100 m), alternating with drill & blast process.

Completion 2011-2014





Conveyor belt system for the Follo Line project (Norway)



Conveyor belt system for a project in Oberegg (Switzerland)



Conveyor belt system for the Eppenbergtunnel project (Switzerland)



Conveyor belt system for the Katzenbergtunnel project (Germany)

Conveyor Systems

Marti Technik is a specialist contractor for the development, manufacture, supply, operation and maintenance of customized belt conveyor systems for tunnel projects and other applications. The company has experience from a broad range of projects totaling in more than 630,000 m or over 2,000,000 ft of conveyor belt length worldwide.

Selected References



Project **Coca Codo Sinclair Hydroelectric Project**

Country	Ecuador
Scope	2 tunnel conveyor belts
Length	26,900 m in total
Width	1,000 mm
Conveying capacity	1,000 t/h
Power	3,130 kW



Project **Alto Maipo Hydroelectric Project**

Country	Chile
Scope	2 tunnel conveyor belts (Alfalfal / Las Lajas)
Length	21,790 m in total
Width	650 / 800 mm
Conveying capacity	320 t/h / 650 t/h
Power	615 kW / 1,250 kW



Project **Sao Paulo Metro Project (Line 5)**

Country	Brazil
Scope	2 tunnel conveyor belt systems (Lot 3 / Lot 7)
Length	10,000 / 5,870 m
Width	800 / 1,000 mm
Conveying capacity	500 / 1,000 t/h
Power	1,200 / 1,015 kW



Project **Evergreen Project**

Country	Canada
Scope	Tunnel conveyor belt
Length	2,000 m
Width	1,000 mm
Conveying capacity	1,050 t/h
Power	200 kW





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