CERN LHC, Los 1









SHORT DESCRIPTION

Construction contract for CERN, the European Organization for Nuclear Research (Conseil Européen pour la Recherche Nucléaire). CERN is one of the largest and most renowned centers for basic research in physics in the world. Implenia was involved in the construction of various parts of the particle accelerator.

THE PROJECT

Implenia was involved in the construction of the LHC particle accelerator in Geneva for CERN. Implenia's contract included the following buildings:

- Superstructure: 5 concrete buildings, 2 plant ducts, 1 concrete and steel workshop L=84 m, W=24 m, H=18 m
- Shaft construction: PX15 ø9.2 m depth 65 m; PX14 ø20.5 m depth 57 m; PX16 ø14.7 m depth 57 m
- Caverns: UX15 length 53 m, width 30 m, height 35 m; USA15 length 62 m, width 20 m, height 13 m
- Miscellaneous: Various connecting galleries of Fa=2.4 - 7.5 m^2, chambers Fa=130 m^2
- The excavation was carried out using hydraulic excavation hammers and reprofiling with cutterheads (blasting not permitted). Rock support with anchors and wet shotcrete (with steel fibers).

With the new particle accelerator, CERN researchers hope to discover new atoms and the smallest particles.

FURTHER INFORMATION

ARGE

- Implenia Schweiz AG, Wallisellen (formerly Zschokke Bau AG) - 20%
- Porr-Asdag Tunnelbau GmbH, Vienna
- C. Baresel AG, Stuttgart
- Wayss & Freytag AG, Stuttgart/Frankfurt
- Bec-Perforex, Rossny-sous-Bois CEDEX

FACTS

Location	Genf , Switzerland
Status	completed
Construction volume (value of our services)	106 M CHF
Start of construction	January 1998
Completion	December 2002
Building owner	CERN Organisation Européenne pour la Recherche Nucléaire
Project designer	Ingenieurgemeinschaft Electricité de France (EDF) und Knight Piesold (England)
ARGE	✓

SERVICES

Tunnelling