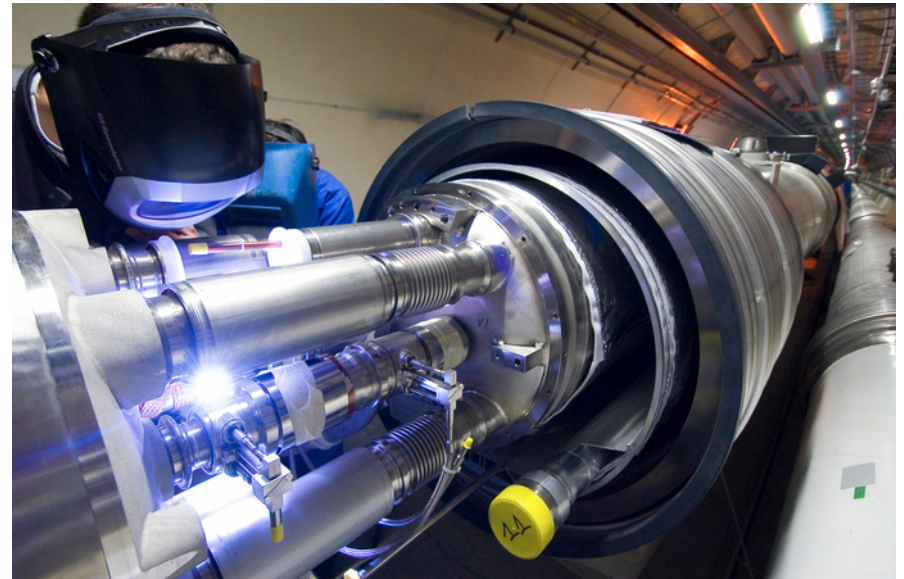
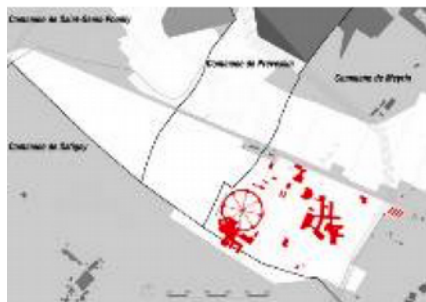




Ulteriori informazioni riguardanti i principali settori ingegneristici

MAURO MORANDIN - INFN
JEROME PIERLOT - CERN

Lo sviluppo del CERN



1950-1960



1960-1975



1975-1985



1985-2010

- Numero di edifici :~ **674**
 - da 10 m² fino a 20.000 m² - totale: 425,000 m²
 - 60% degli edifici hanno **più di 30 anni**
- e inoltre:
 - **60 km di tunnel**, 30 km di strade
 - 1000 km di condotti sotterranei

Ingegneria civile e industriale: dai grandi interventi...



... alle realizzazioni di
grandi edifici ...



M. Morandin - CERN ILO

... agli interventi di ristrutturazione



Future and ongoing “Call for Tender” 1/2



Accelerator's related (2017-2022)

- ~6 Contracts 3500kCHF ÷ 10000kCHF
- ~10 Contracts 200kCHF ÷ 750kCHF

HL-LHC (2017-2022):

- 2 construction contracts 45000kCHF ÷ 60000kCHF
 - MS-4270/SMB/HL/LHC
 - IT-4271/SMB/HL/LHC
 - IT-4270/SMB/HL/LHC



Future and ongoing “Call for Tender” 2/2



Implementation of the Consolidation of the infrastructure program and new buildings (2017-2022):

- ~ 3 contracts 3,5 MCHF to 10 MCHF
- ~ 15 contracts 0.75 MCHF to 2,5 MCHF
- ~ 45 contracts 0,2 MCHF to 0,75 MCHF

Hotels interior renovation (2017-2022):

- ~ 3 Contract ~ 2,0 – 8,0 MCHF

Renewal of frame contracts (2017-2019):

- ~5 contracts 1 MCHF/Y to 8,0 MCHF/Y



Cooling

Cooling plants (raw, demineralised water, C_3F_8 , C_6F_{14})	150
Pipelines	800 km
Hydrants	800 points
Cooling towers (450 MW)	22
Chilled water plants 6-12 °C (73 MW)	35
Water network (3 pumping stations)	5'400 m ³ /h

*Equivalent to a small town of 45'000 inhabitants
10% of the water needs of Geneva*



Future tenders (1/3)

Cooling systems

Project	Foreseen IT date	Foreseen schedule	Remarks
Consolidation SEQ stations	2018	2019 or 2020	Small cooling stations in 4 LHC points
Supply and maintenance of chillers	2019	2020 - 2023	Frame contract (3+1+1+1+1)
Consolidation chilled water pipes in NA	2018	2018	Work in controlled area
Supply & installation cooling plant for cryogenics Pt 4	2018	2019	
Consolidation power & control system for NA cooling towers	2018	2019	

Future tenders (2/3)

Cooling systems

Project	Foreseen IT date	Foreseen schedule	Remarks
Consolidation SEQ stations	2018	2019 or 2020	Small cooling stations in 4 LHC points
Supply and maintenance of chillers	2019	2020 - 2023	Frame contract (3+1+1+1+1)
Consolidation chilled water pipes in NA	2018	2018	Work in controlled area
Supply & installation cooling plant for cryogenics Pt 4	2018	2019	
Consolidation power & control system for NA cooling towers	2018	2019	

Future tenders (3/3)

Detector cooling systems

Project	Foreseen IT date	Foreseen schedule	Remarks
Supply new chiller LHCb	2019	2019	Reach -65 °C working temp.
Supply & installation SciFi lines	2018/2019	2019	

Ventilation

Heating,
ventilation and air
conditioning

1'500 units
from 2'000 to 120'000 m³/h
each

Compressed air

14 stations
200 km network

	km	m ³ /h
<i>Eurotunnel</i>	50	540'000
LHC	27	290'000



Future tenders (1/3)

Ventilation systems

Project	Foreseen IT date	Foreseen schedule	Remarks
Consolidation HVAC in SR1	2019-2020	2020	
Consolidation of AD target HVAC	2019	2020	Work in controlled area
SPS fire safety project	2018	2019-2020	6 locations. Work in controlled area
HVAC for new EL buildings in SPS	2017	2018	6 locations
Consolidation of regulation of Linac 2 HVAC	2020	2021	Work in controlled area
Consolidation of Linac 3 HVAC	2018	2019	Work in controlled area

Future tenders (2/3)

Ventilation systems

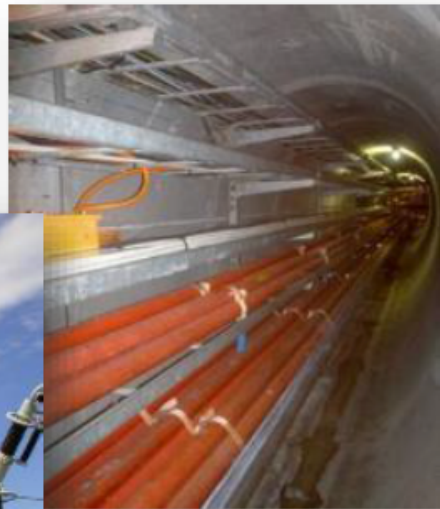
Project	Foreseen IT date	Foreseen schedule	Remarks
Consolidate the ventilation in bldg 269	2019	2019	
Consolidation of EA ventilation	2018	2019	Ventilation of hall

Future tenders (3/3)

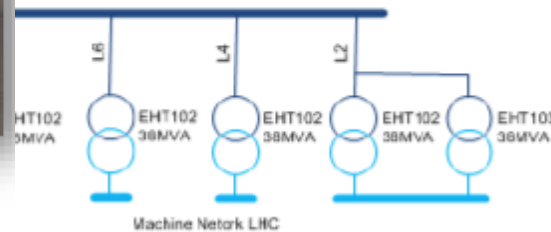
Tendering for HL LHC

Project	Foreseen IT date	Foreseen schedule	Remarks
Ventilation Plants	2019 – 2020	2022–2023	Pt 1 & 5 At least 2 contracts.
Cooling Plants	2019 – 2020	2022–2023	Pt 1 & 5 At least 2 contracts.
Cooling towers equipment	2019 – 2020	2022	Pt 1 & 5

Electricity Distribution

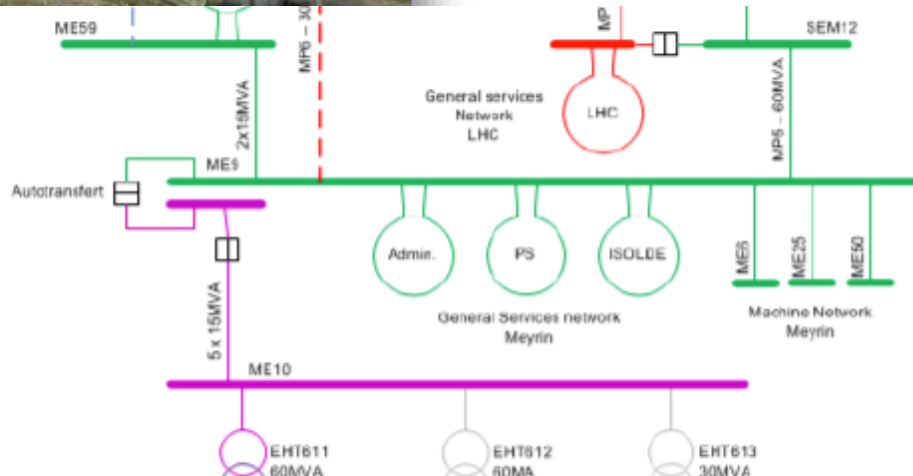


Normal source EDF > 300 MW



Annual Consumption 1.26 TWh
 $\frac{1}{6}$ of Geneva

Instantaneous Power 180 MW
 $\frac{1}{2}$ - $\frac{1}{3}$ of Geneva

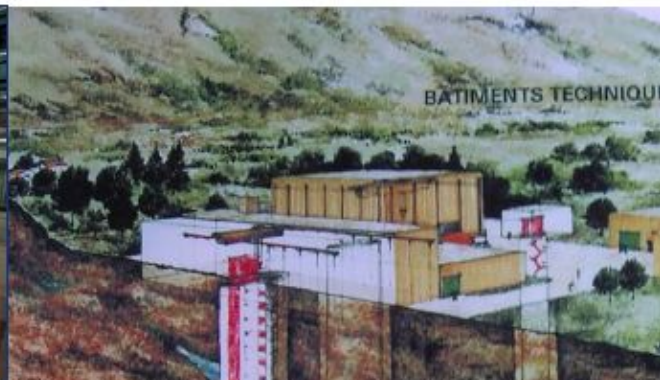
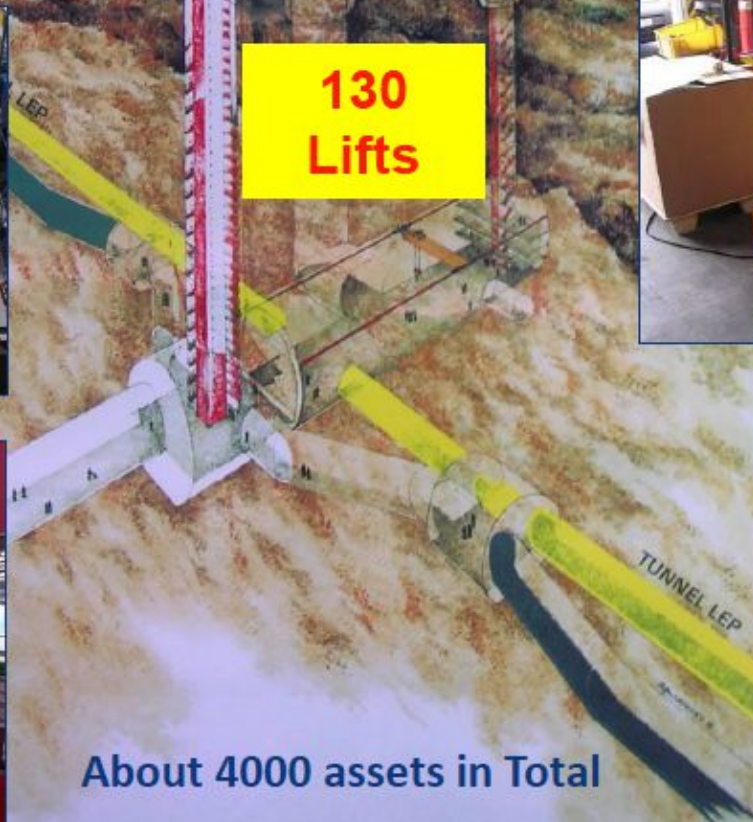
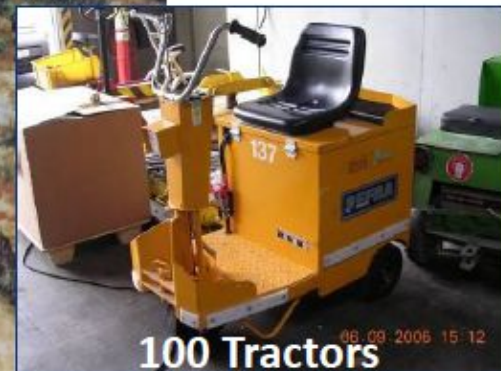


Future tenders

Electrical Engin.

Replace contract n°	Contract Description	Comments
(IT-4329/EN) --	Provision of Electrical Installation Services on the CERN Site	New contract S218/EN (01.01.2018)
(MS-4247/EN) --	Supply of high voltage cable accessories for rated voltages from 3.3 kV to 30 kV and the provision of installation and connection	IT end 2017
--	Supply of optical fibre terminal equipment, patch cables and patch cords	MS + IT 2017
B1377/EN/LHC	Supply Of Flexible Water-Cooled Copper Cables For HL-LHC	MS + IT 2017
B1368/EN	Supply Of Cast-Resin Dry-Type Power Transformers 18/0.4 kV, 18/3.3 kV And 3.3/0.4 kV	MS 2017 + IT 2018
--	Fire walls and deported catchment pit on 400 kV park	MS 2017 + IT 2018
B1354/EN	Supply, Installation, Commissioning And Maintenance Of Static Uninterruptible Power Supply (Ups) Units	MS end 2017 + IT 2018
B1369/EN	Supply, Installation, Commissioning And Maintenance Of 48 V Dc Production And Distribution Battery-Based Systems	MS + IT 2018

HE : Transport and Handling Group



Ref.	Unit	Description	Contract Type	Scope	Year
IT-4328	EN-HE-HM	EOT cranes above 10t capacity	Supply	Consolidation + New Equipment	2018
DO	EN-HE-HM	Refurbishment of transport platform LASTRA	Supply	Consolidation	2018
DO	EN-HE-HM	Refurbishment of electrical sideloader HUBTEX	Supply	Consolidation	2018
IT-4325	EN-HE-PO	Maintenance of road trucks	Service	Maintenance	2018
DO	EN-HE-PO	Replacement of road tractor 80t for semi-trailers	Supply	New Equipment	2018
DO	EN-HE-PO	Replacement of semi-trailer for the transport of floor operating vehicles (MEWPs, forklifts etc.)	Supply	New Equipment	2018
DO	EN-HE-PO	Road transport of ATLAS small wheels	Service	Special Transports	2019
DO	EN-HE-HM	Replacement of diesel forklift 14t capacity	Supply	New Equipment	2019
DO	EN-HE-HM	Refurbishment of SPS trailer DUMONT	Supply	Consolidation	2019
DO	EN-HE-PO	Replacement of road truck with 8m flatbed	Service	New Equipment	2019
DO	EN-HE-PO/HH	Mobile platforms rental	Rental	French Territory	2019
DO	EN-HE-PO/HH	Mobile platforms rental	Rental	Suisse Territory	2019
DO	EN-HE-PO	Replacement of road tractor for trailers	Supply	New Equipment	2019
IT	EN-HE-LM	Replacement of 2 lifts in North Area	Supply	New Equipment	2020
DO	EN-HE-PO	LHC inner triplet transport and installation vehicle	Supply	New Equipment	2020
DO	EN-HE-HM	1 x MAFI convoy electrical refurbishment	Supply	Consolidation	2020
IT	EN-HE-HM	EOT cranes for HL-LHC project	Supply	New Equipment	2020
DO	EN-HE-HM	Replacement of electrical forklifts CH519 & CH520	Supply	New Equipment	2020
DO	EN-HE-PO	Replacement of road truck with 6m flatbed and tarpaulin	Supply	Consolidation	2020

Evento principale del prossimo anno

Big Science Business Forum 2018

26-28 February 2018, Copenhagen, Denmark

Big Science Business Forum 2018

[ABOUT BSBF](#) [PROGRAMME](#) [EXHIBITION & SPONSORSHIP](#) [HOTEL & REGISTRATION](#) [NEWS](#)

Overwhelming interest - BSBF2018 exhibition space sold out in 15 minutes

On Friday 1 September 2018 12:00 CET, BSBF2018 opened its exhibition space registration and within 15 minutes the exhibition space was sold out. We are looking into ways to expand the exhibition space.

[Stay updated here](#)