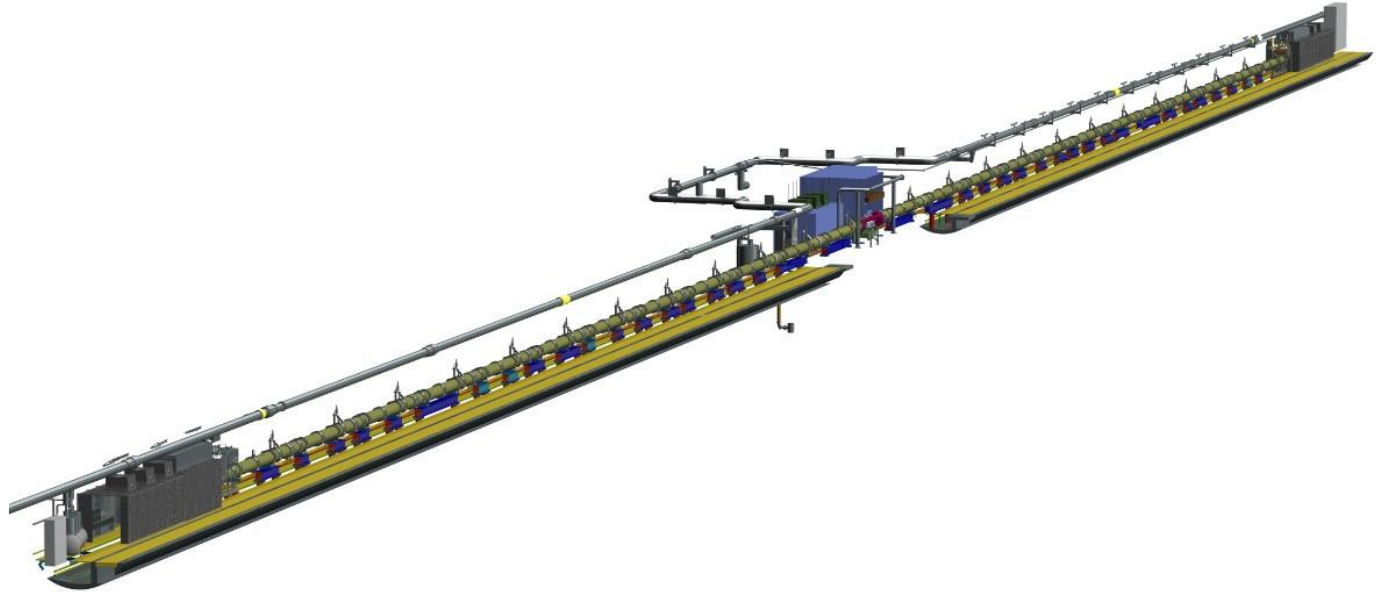
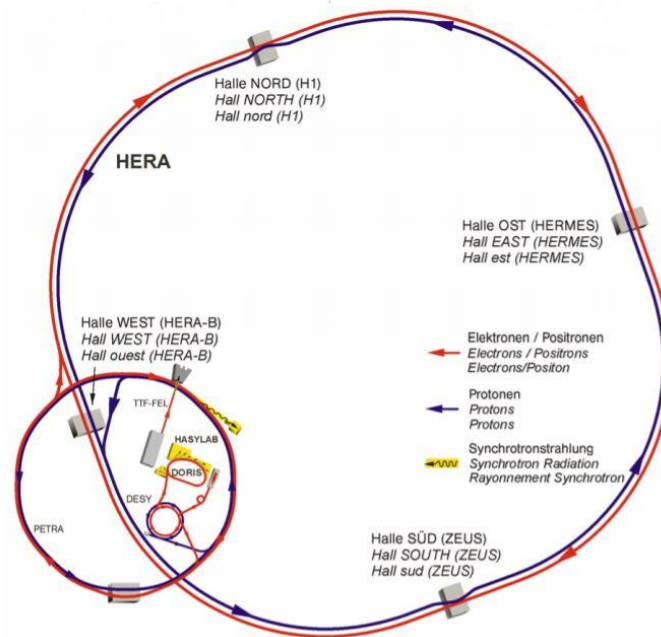
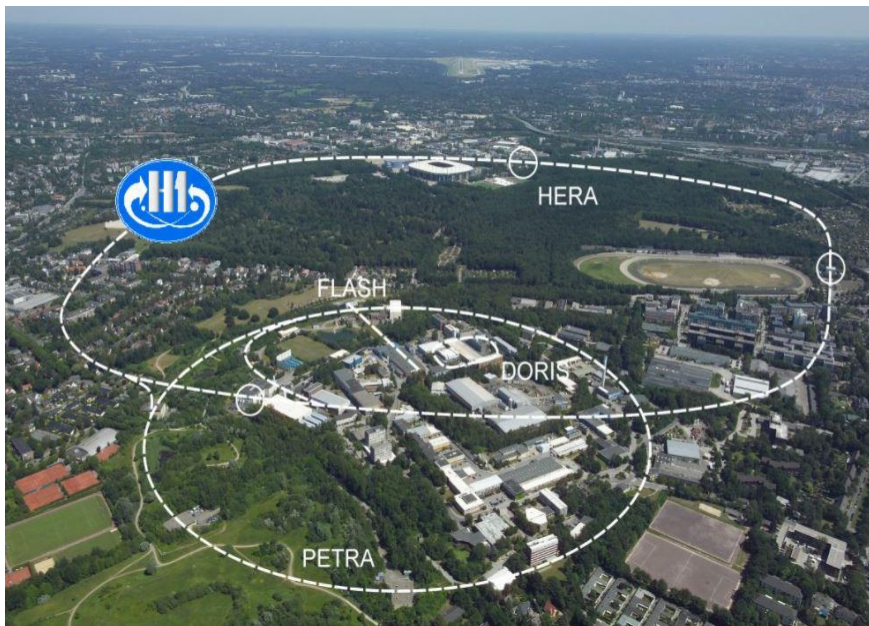


ALPS IIc SITE

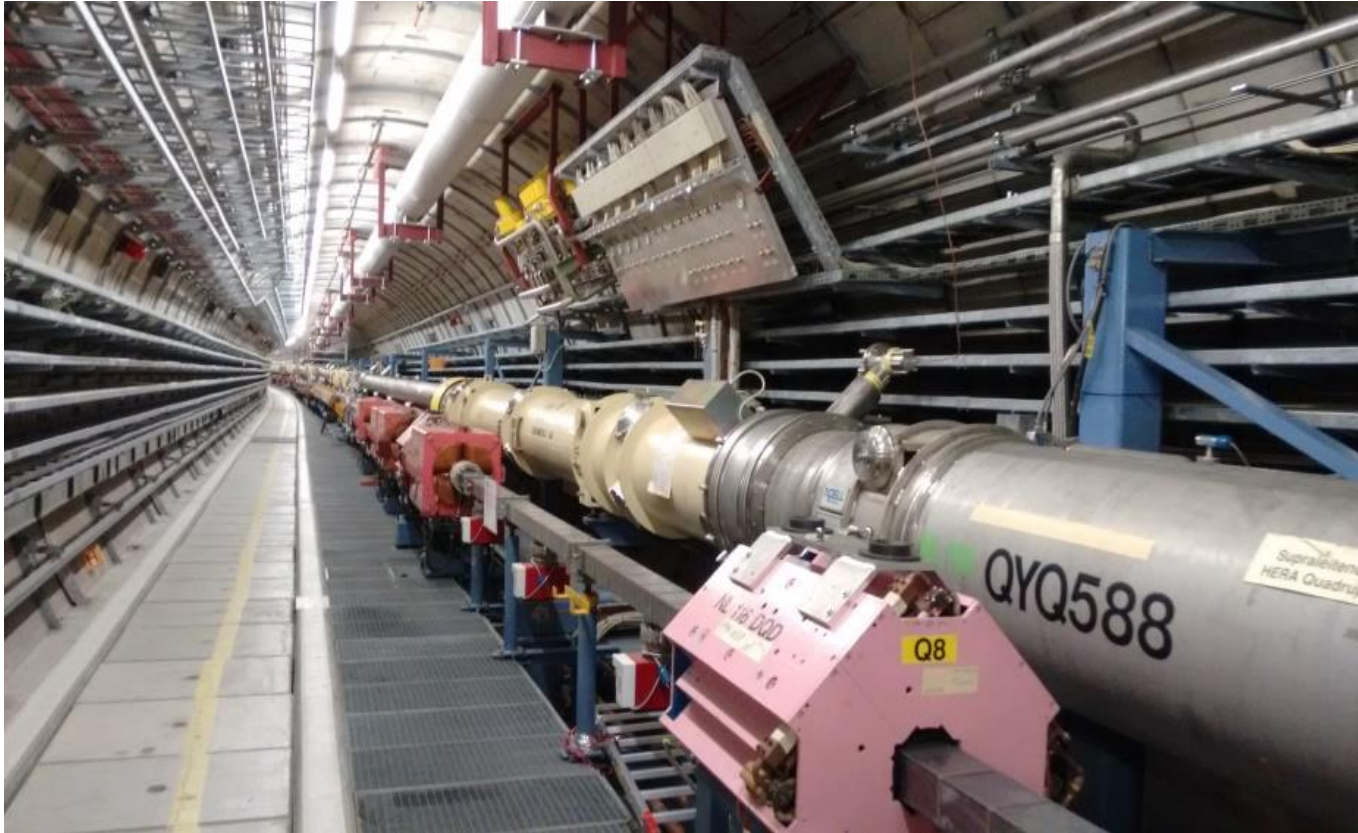
David Reuther
08.02.2021



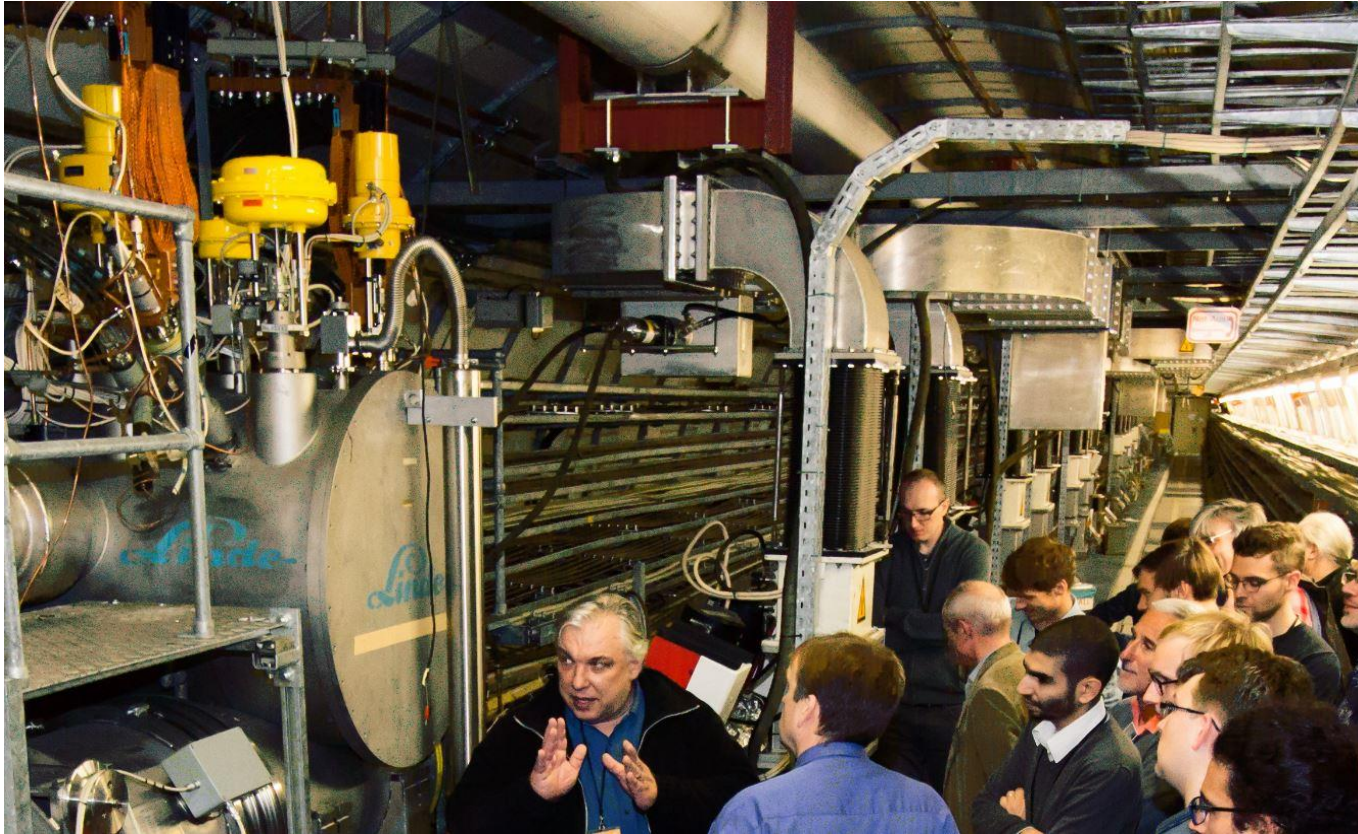
HERA NORTH



HERA NORTH



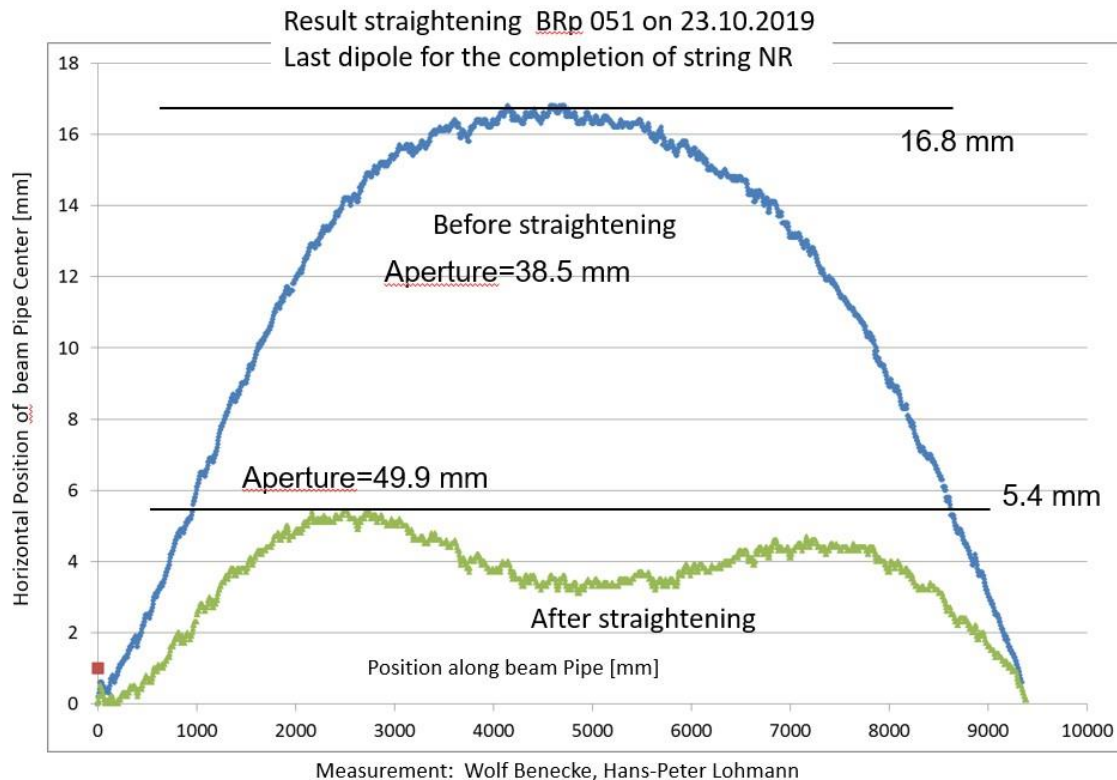
HERA NORTH



PREPARATION



PREPARATION

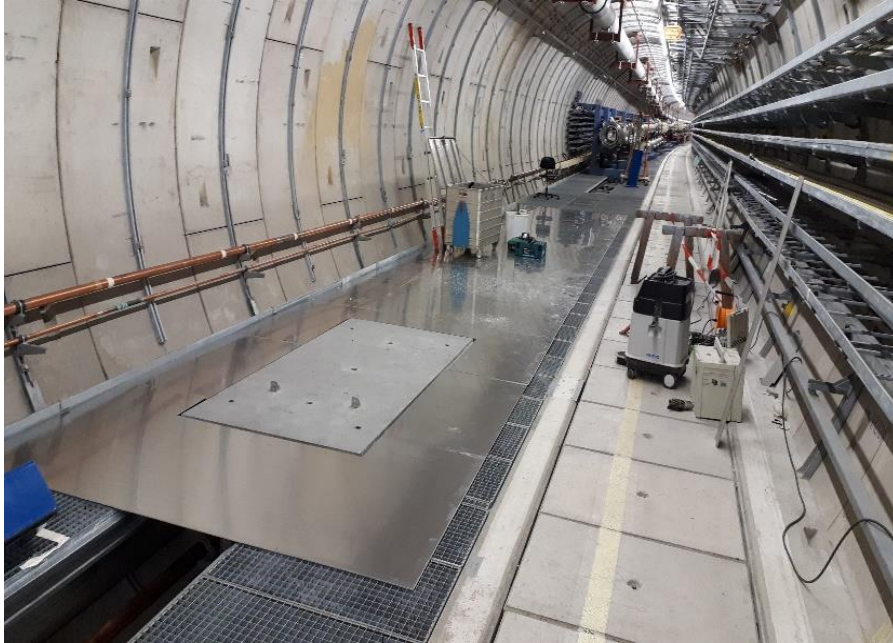


Dieter Trines

PREPARATION



SETUP CLEANROOMS



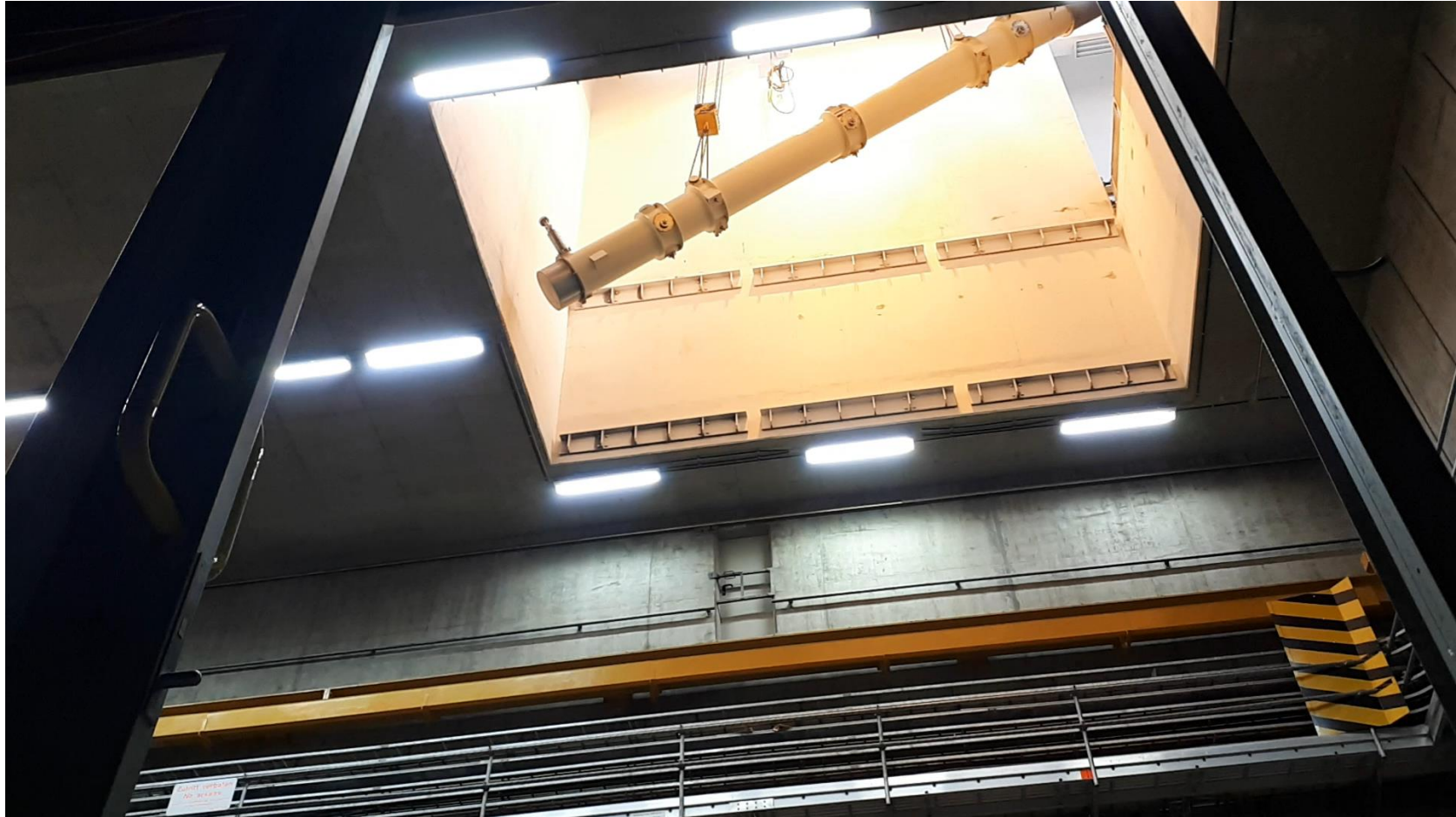
SETUP SUPPORTS



SETUP CRYOGENICS



DIPOL TRANSFER



DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



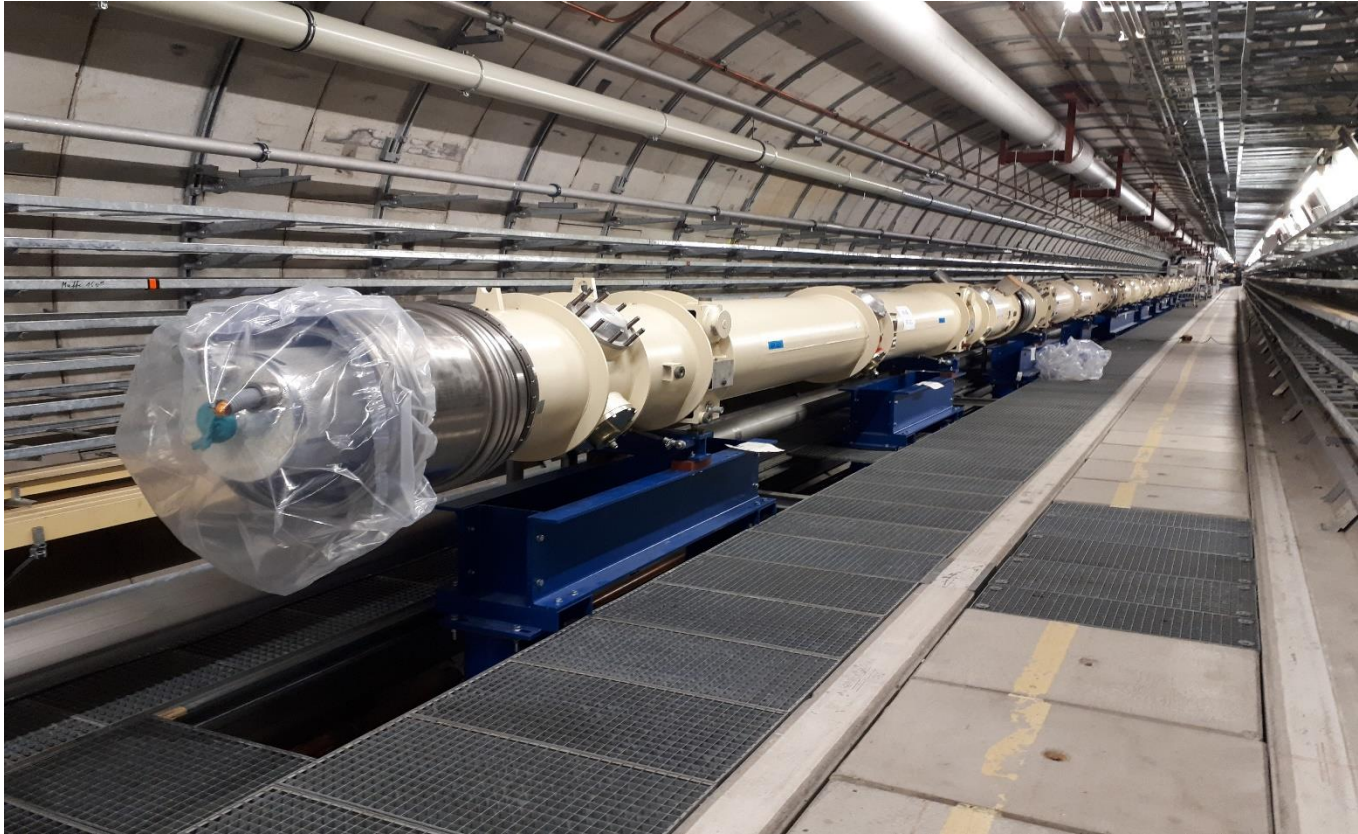
DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



DIPOLS STRING NR



REBUILDING CENTRAL AREA – TES ROOM



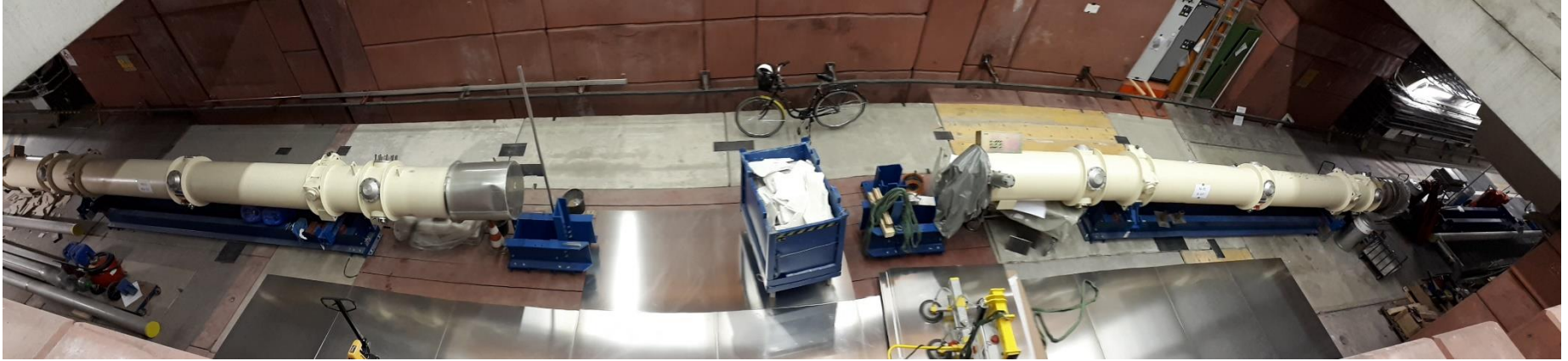
HE TRANSFERLINE



CENTRAL AREA



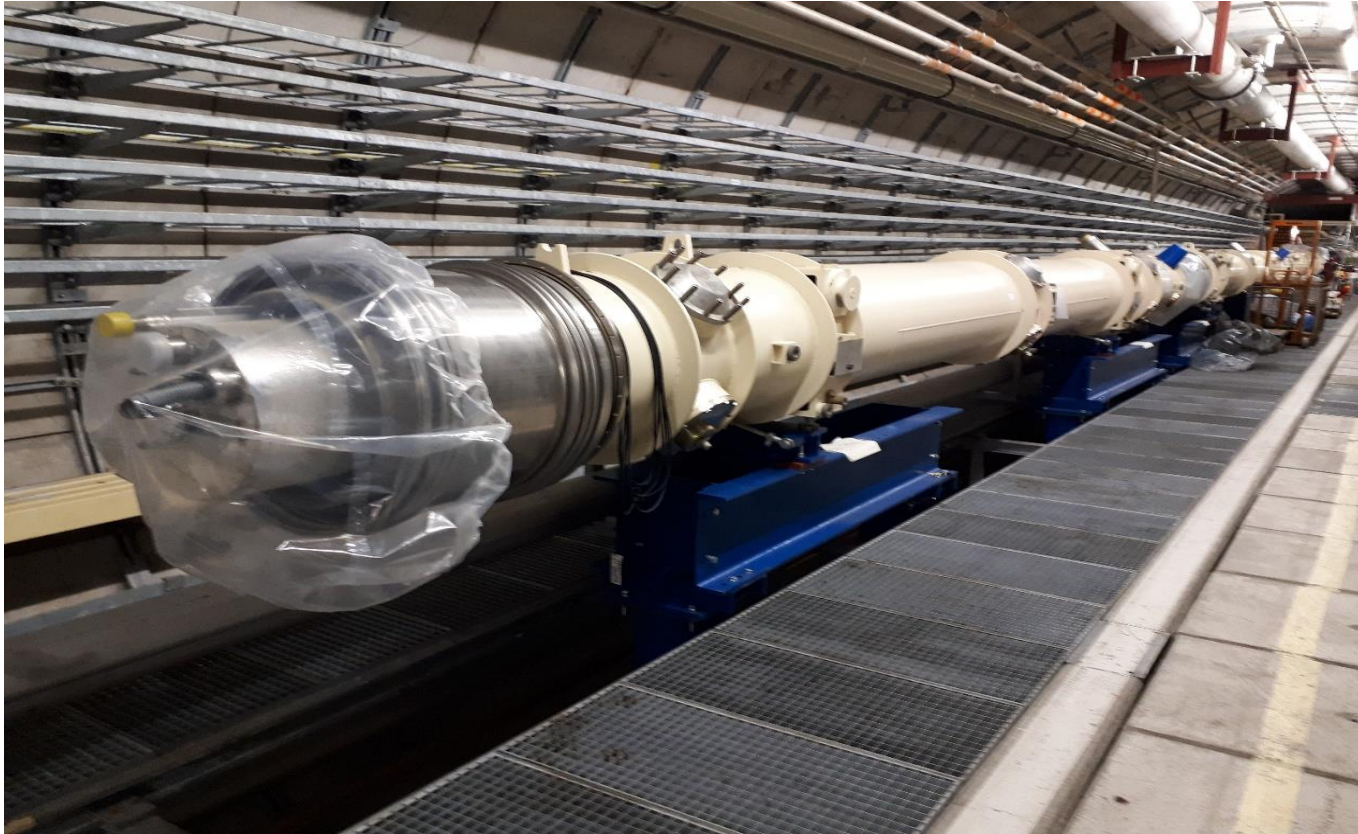
CENTRAL AREA



DIPOL TRANSFER



DIPOL ARRANGEMENT



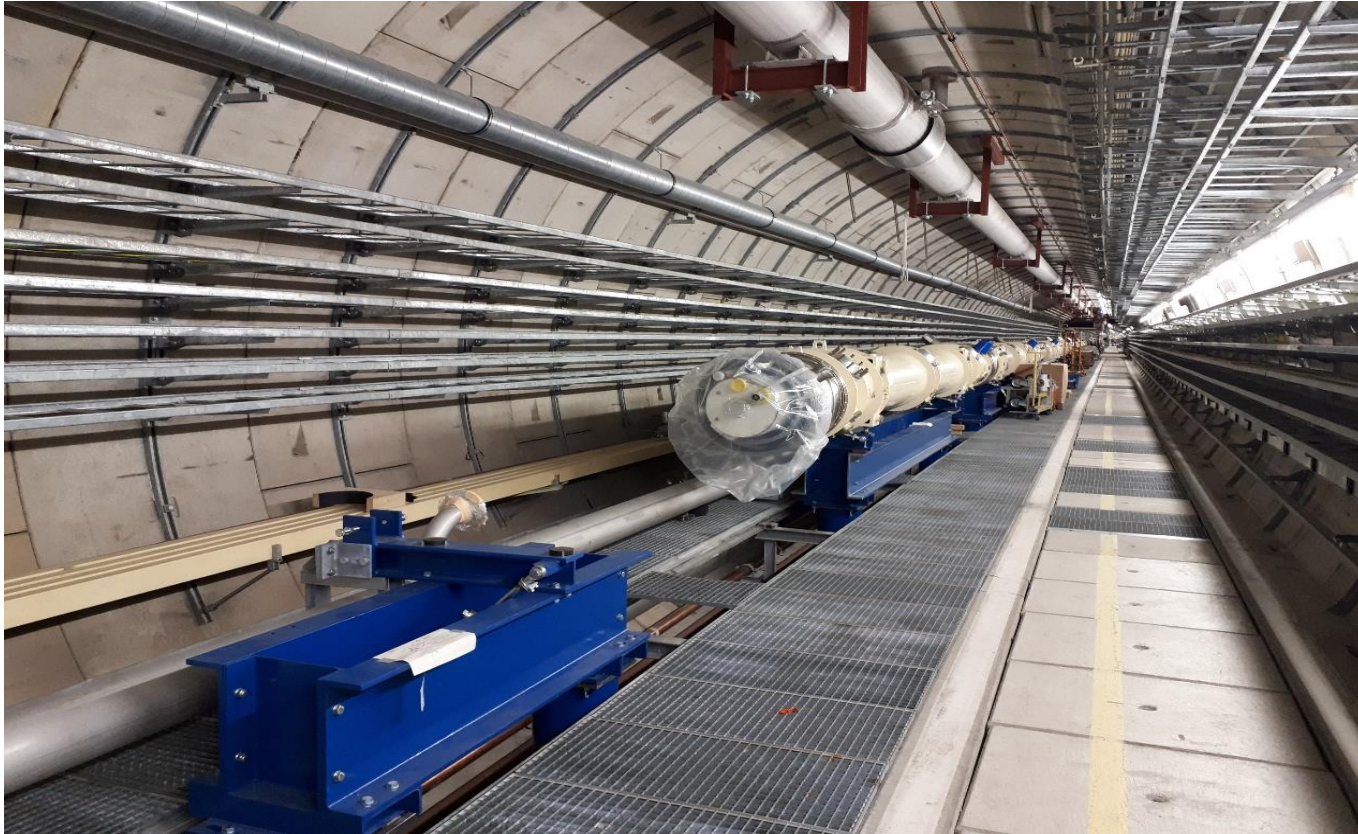
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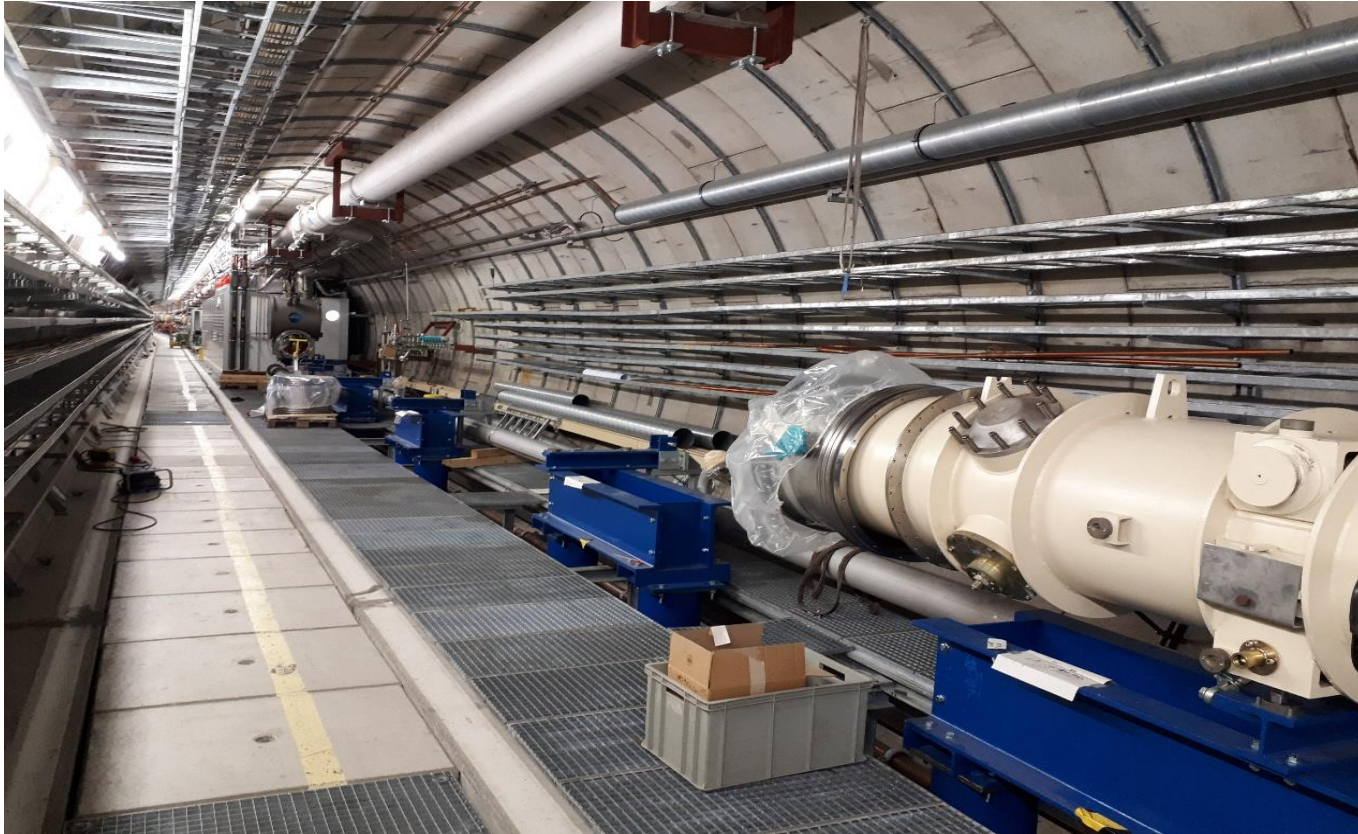
DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



DIPOL ARRANGEMENT



CLEANROOM NL



LAST DIPOL



Heiner Müller-Elsner

HELMHOLTZ SPITZENFORSCHUNG FÜR
GROSSE HERAUSFORDERUNGEN

David Reuther | ALPS Ilc site | 08/02/2021 | Page 32



CLEANROOM CENTRAL AREA

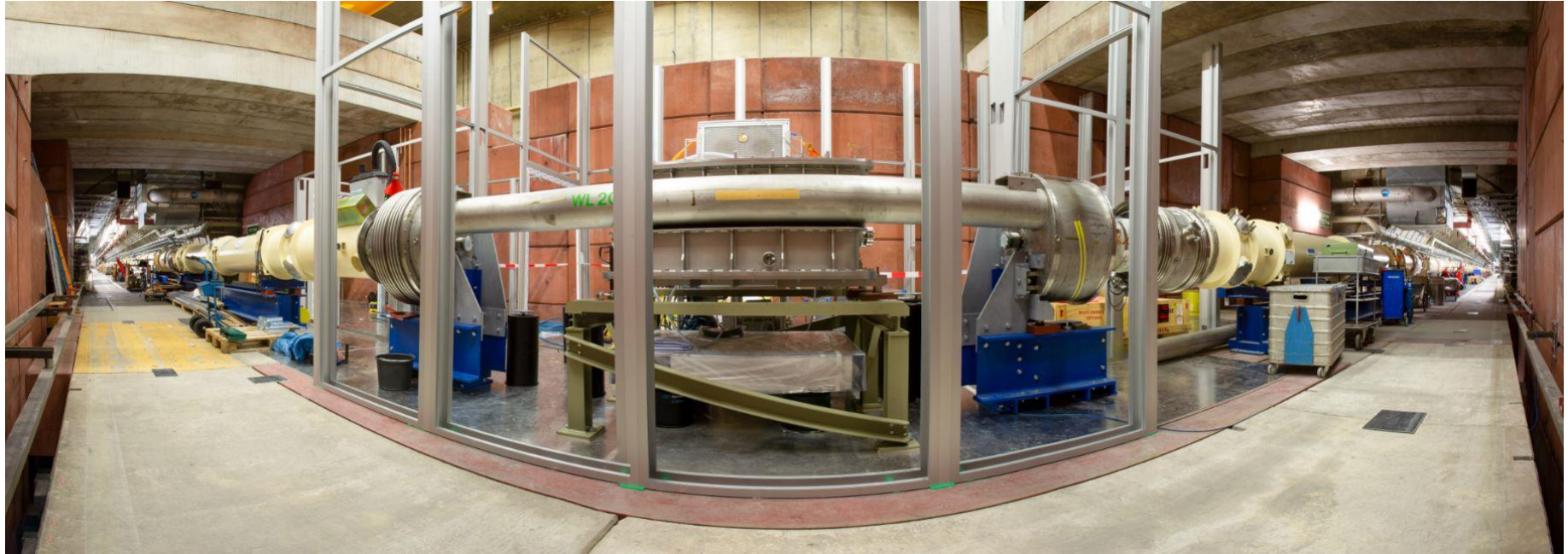


KICKERBYPASS



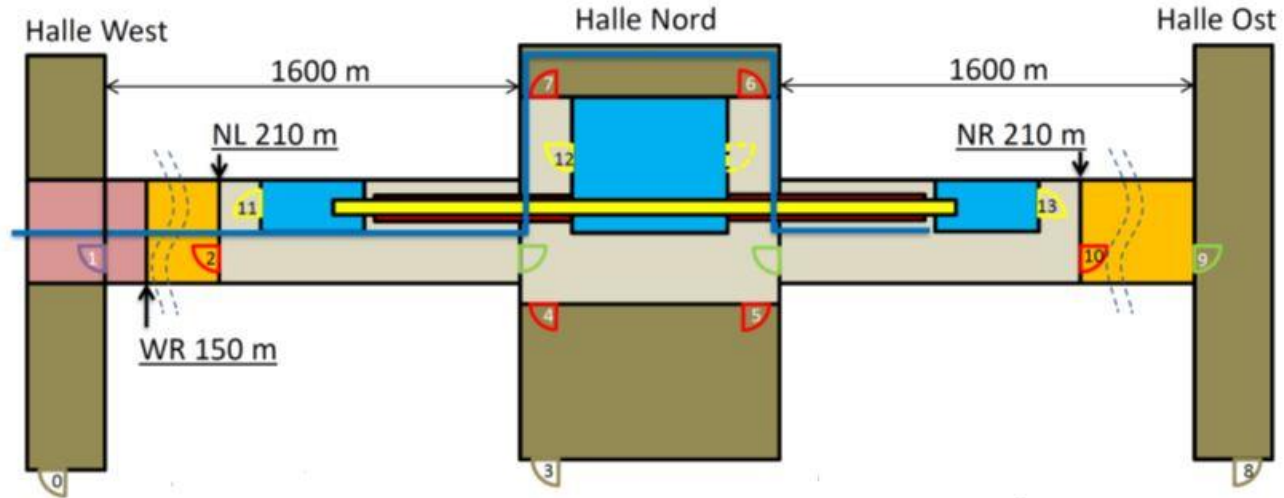
CLEANROOM CENTRAL AREA





Marta Meyer

SAFETY



ALPS PARAMETER

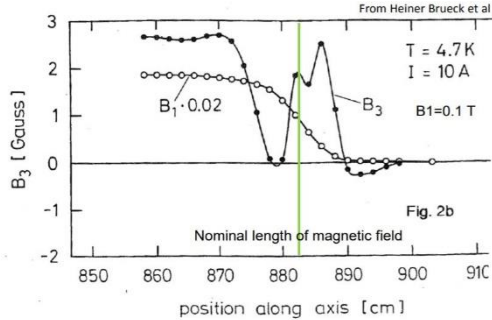
- > Power Supply : 20V; 120kW
- > Ramp Rate for 20V Power Supply: 2.6A/sec
- > Heatload @4K: 3.7W (~90W)
- > Heatload@40-80K: 21.4W (~510W)
- > He Transferline: 1185kg => 7110m³@300K, 1bar
- > He Subcooler: 123.2kg => 764m³@300K, 1bar
- > He String: 215kg => 1330m³@300K, 1bar

STRING PARAMETER

- > HERA Dipol: $B=5.3\text{T}$ @ $\sim 5700\text{A}$
- > Magnetic Length: $L_{\text{mag}}=8825.7\text{mm}$
- > $B \cdot L_{\text{mag}} = 46,8\text{Tm}$
- > 12 Dipols Per String $\Rightarrow 561\text{Tm}$
- > Aperture: $46.7\text{mm} > D > 51.3\text{mm}$
- > Quench Current: $I > 6000\text{A}$

STRING PARAMETER

- Due To The Interconnection Between The Magnets a Field Gap Appears
 - Physical Gap Between The Cold Masses : 550mm +/- 50mm



CLEANROOMS



CLEANROOM PARAMETERS

- > Cleanrooms NL / NR : ~ 57m³
 - Laserrooms: ~ 29m³
- > Cleanroom Central Area: ~ 100m³
 - COB Area and Assembly Room: ~70m³
- > Grayrooms : ISO 5 (aimed)
- > Laser/Assembly Rooms: ISO 4
- > Optical Tables: ISO 3 (aimed)
- > Air Changes Per Hour : 380
- > Overpressure: 50Pa
- > Pressure Cascade
 - (Laser > Gray > Gowning)
- > Temperature: 20°C +-0.5 °C
- > Humidity: 45% +-5%

LASERROOMS



CLEANROOM INTERIOR

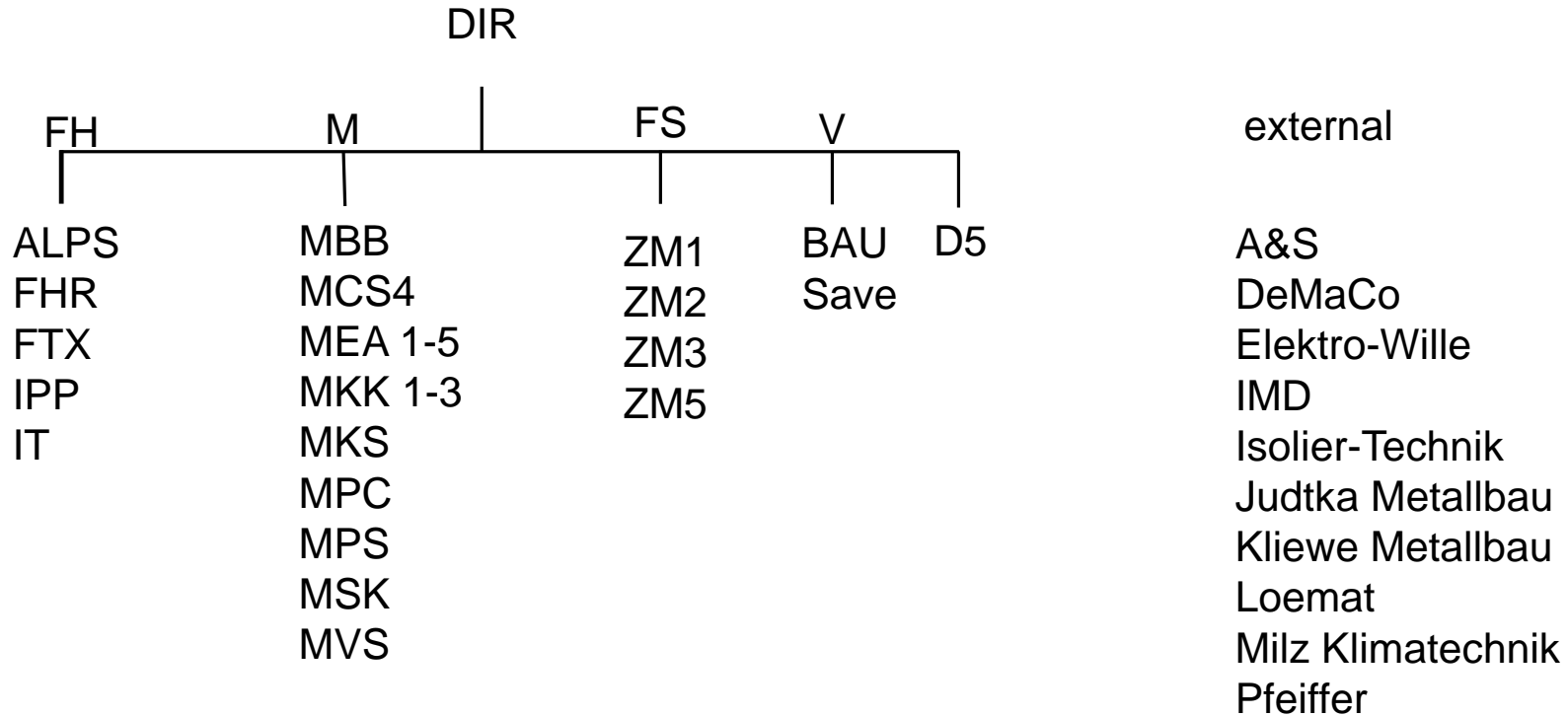
- > Gases
 - Synthetic Air
- > Solvents (Small Amounts)
 - Methanol, Isopropanol, Acetone,...
- > Flowboxes



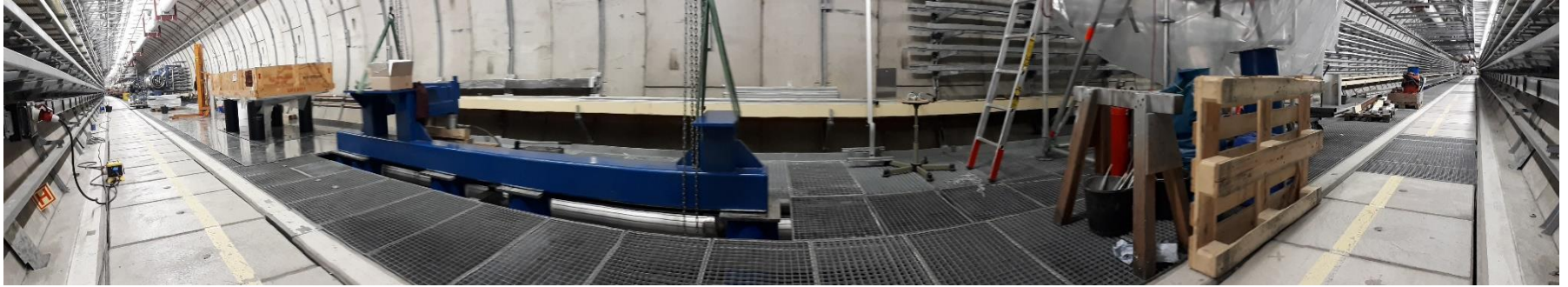
ALPSIIc

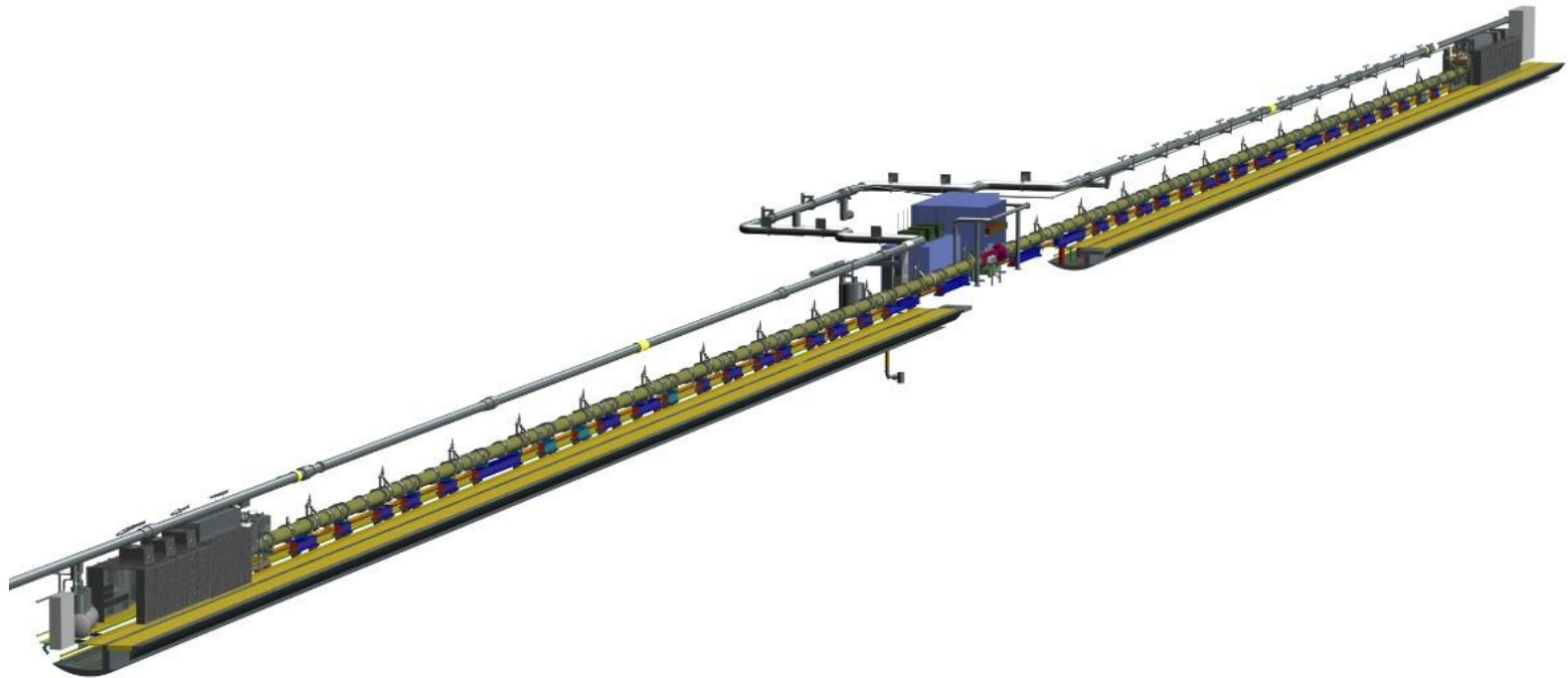


DESY / ALPS IIc Organigramm



STATUS NL & NR 21.01.2020





THANK YOU.

