LNF CSN1 Meeting
DUNE/SAND Report

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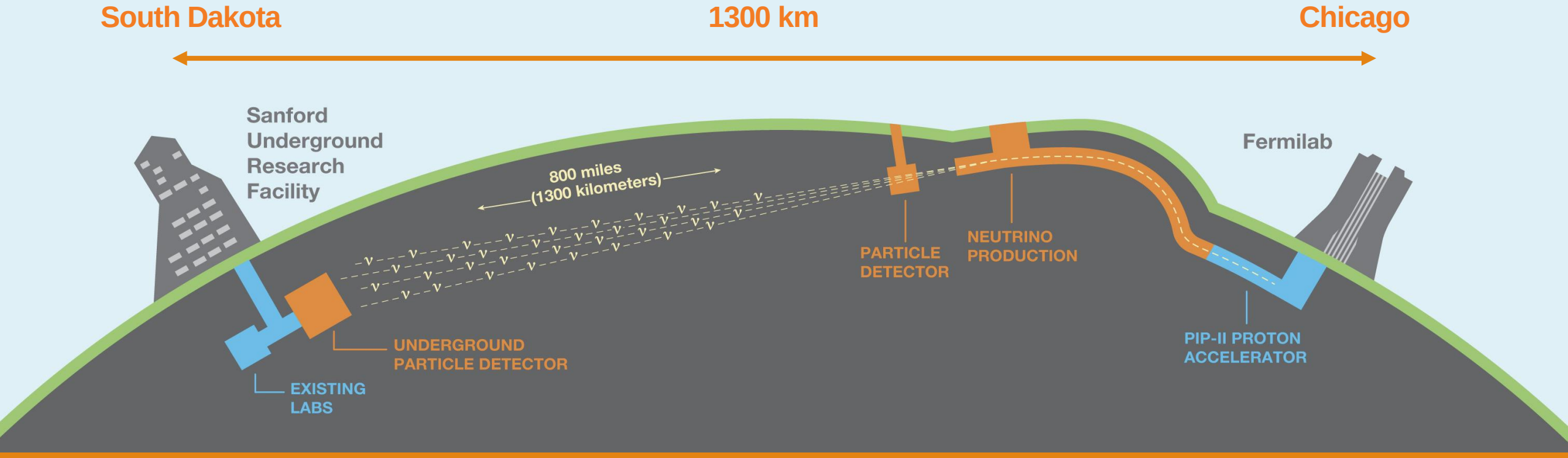
Deep Underground Neutrino Experiment (DUNE) based at Fermilab Long Baseline Neutrino Facility

Muon neutrinos/antineutrinos from **high power proton beam (1.2 MW)**
Massive underground **liquid Argon TPC** (4 x 17 kt – **40 kt fiducial volume**)
Near Detector (ND) to characterize the beam

determine the mass hierarchy and measure the value of δ_{CP}




SAND
ND-GAr
ND-LAr
ν

SAND – System for on-Axis Neutrino Detection

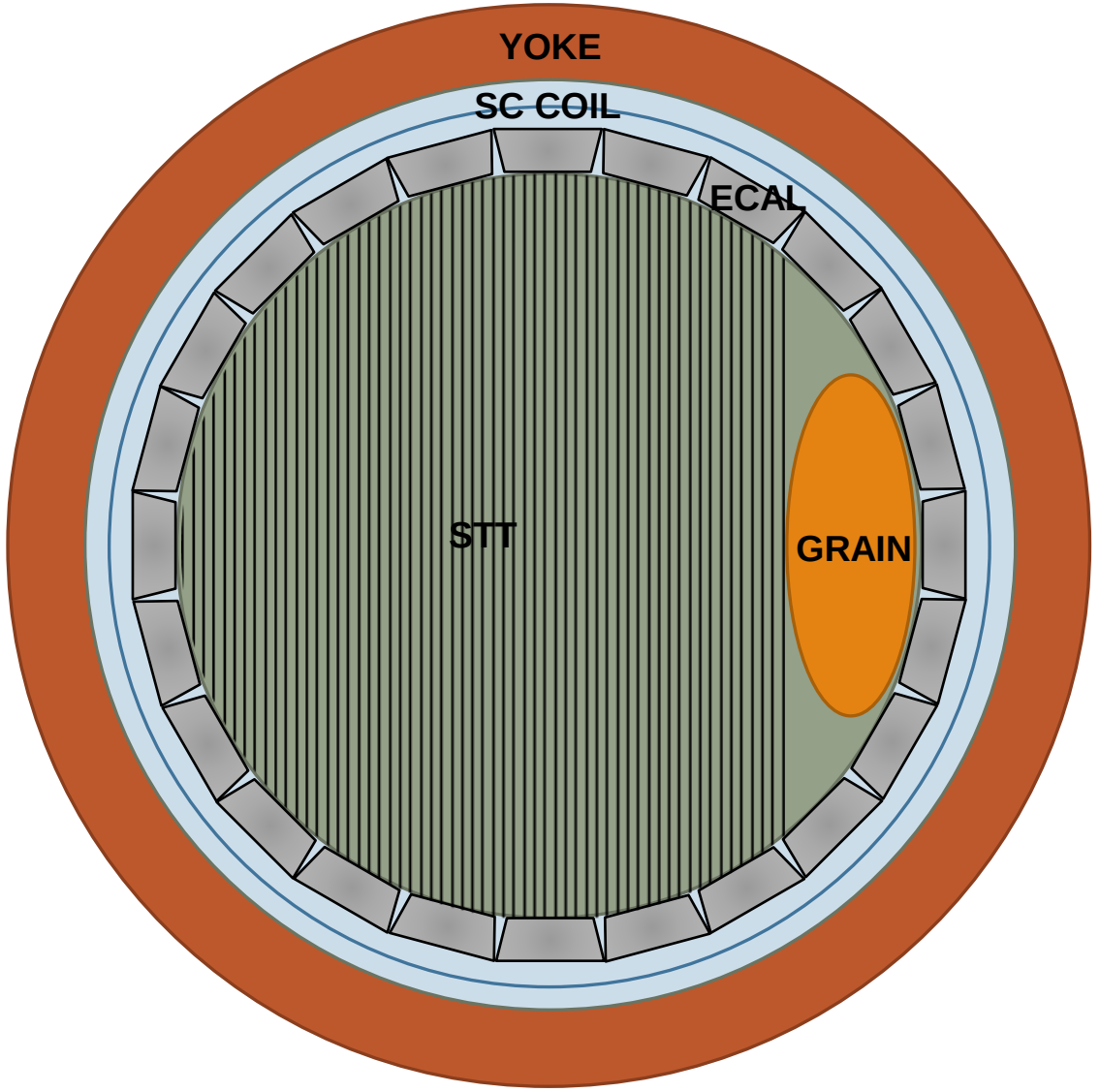
Multipurpose detector
high performance ECAL, light-targeted tracker,
LAr target, all in magnetic field, always on beam axis

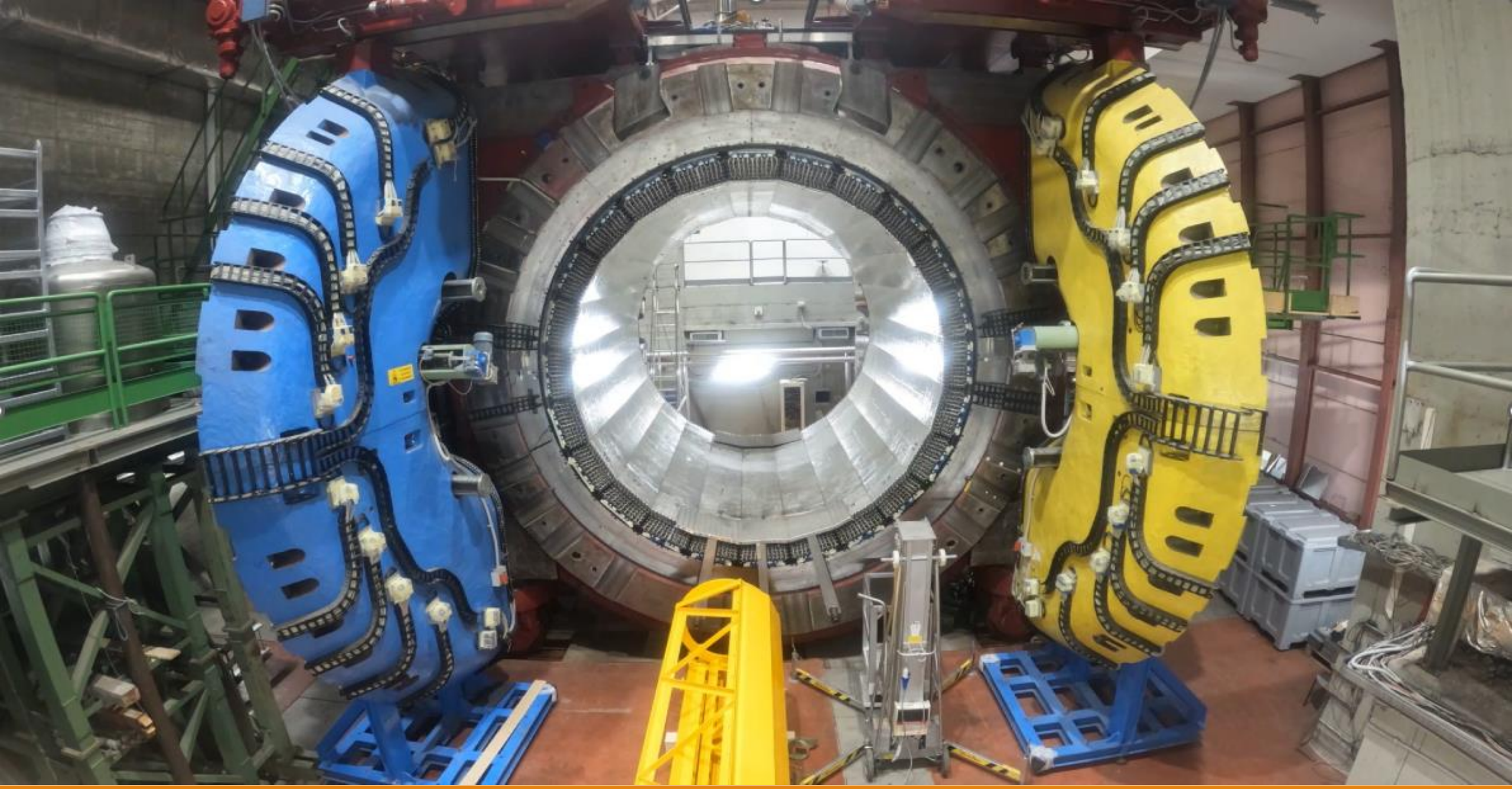
GRAIN – 1 ton liquid Argon target with VUV imaging system (fully optical read-out)

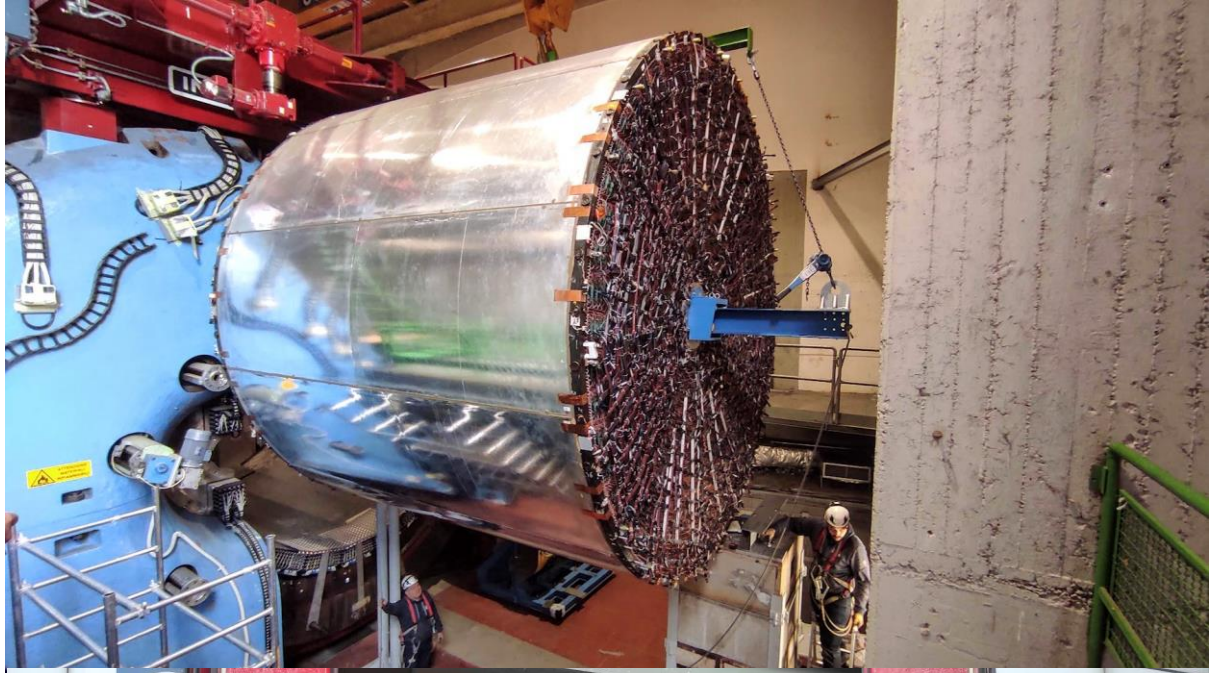
STT – 5 ton Straw-Tube tracker with “solid-H” target CH_2 and C interleaved slabs

ECAL - KLOE Lead Scintillating Fibers calorimeter (Barrell + EndCaps)

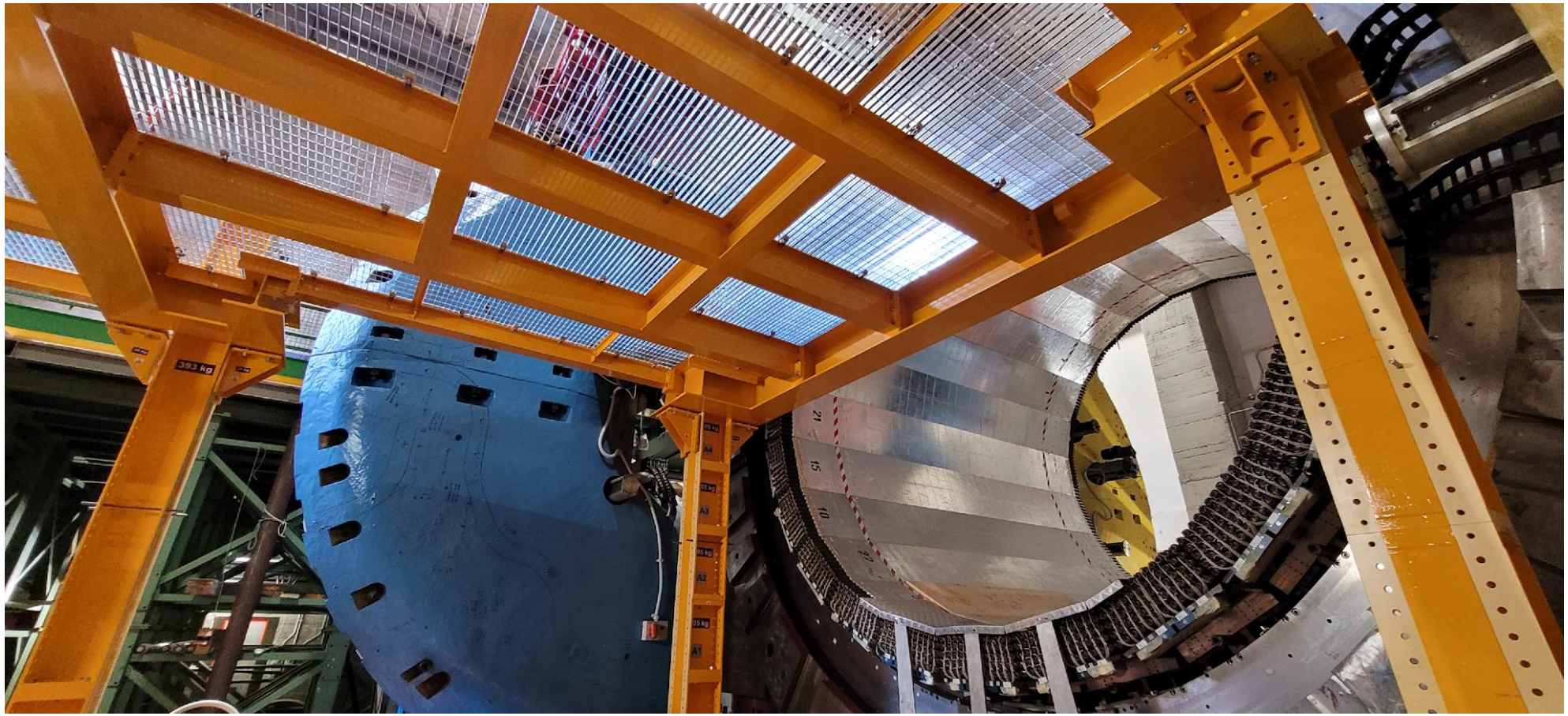
MAGNET – KLOE 0.6T superconductive coil + Fe Yoke



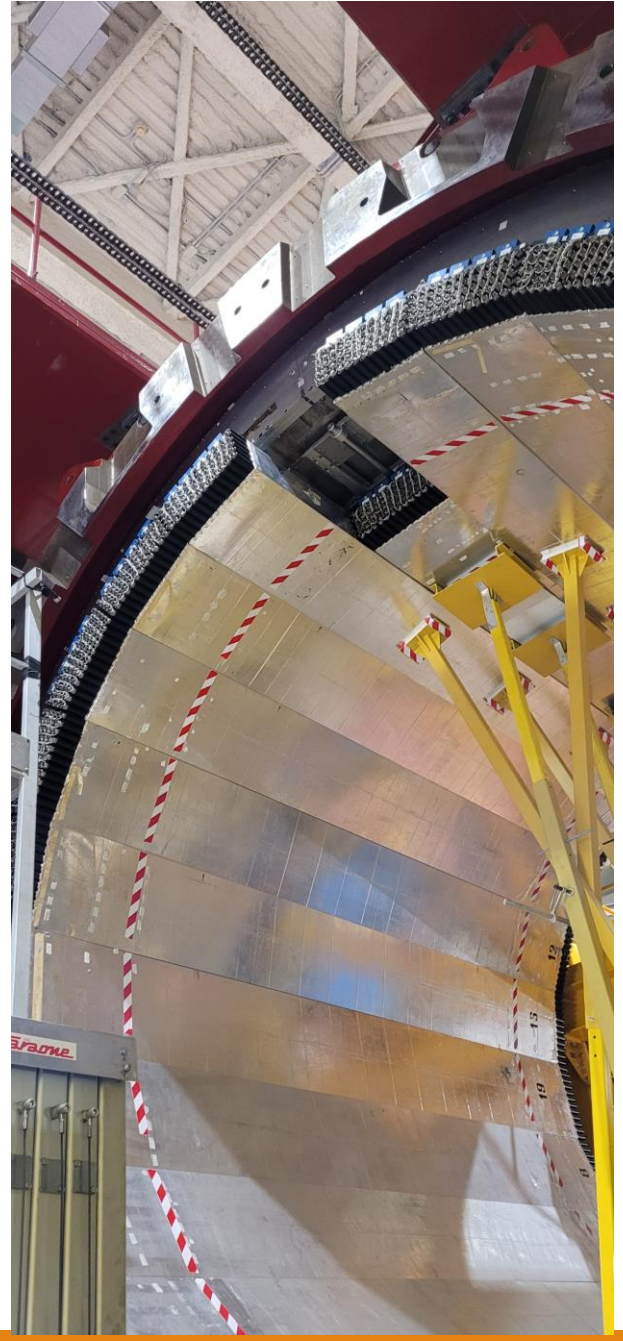


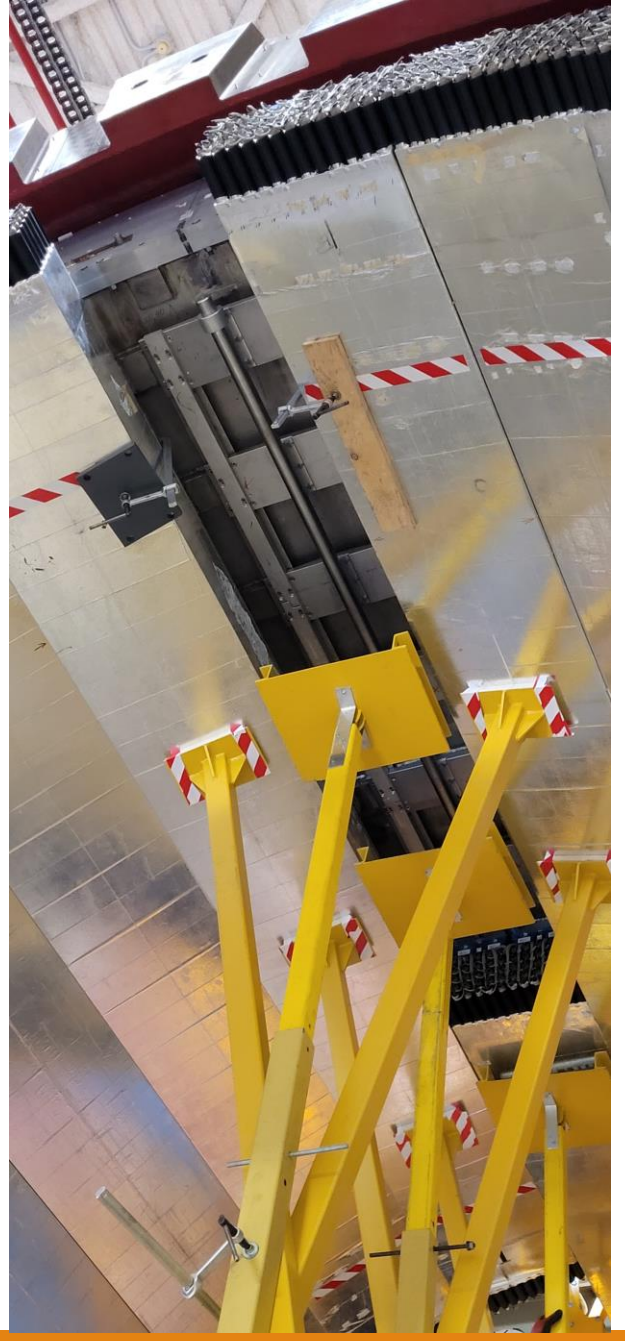


Extraction Platform

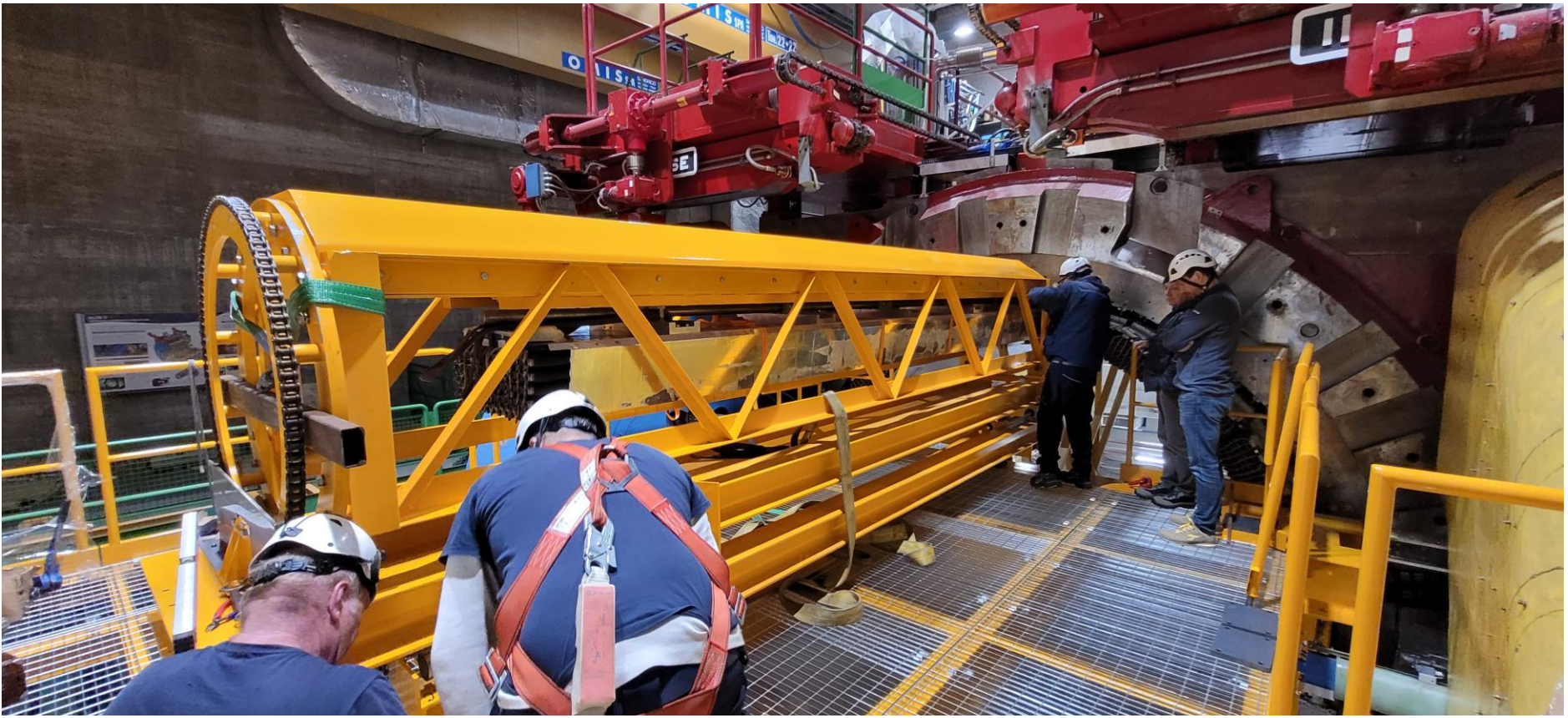


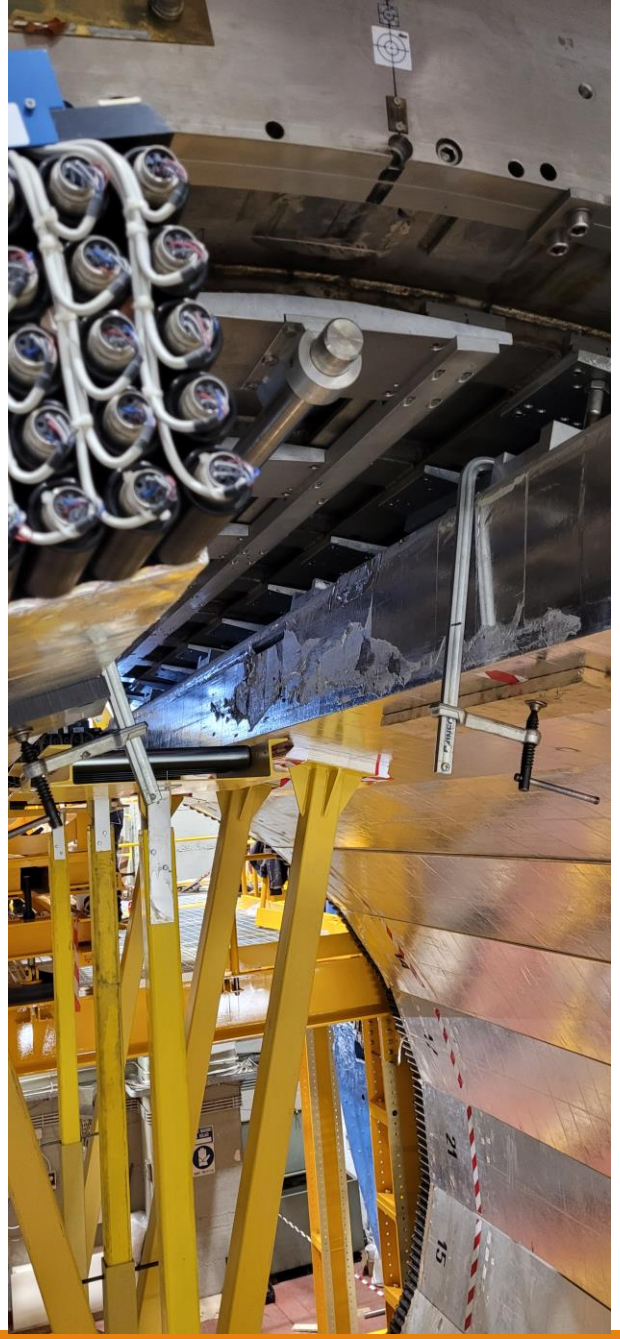
Extraction Machine

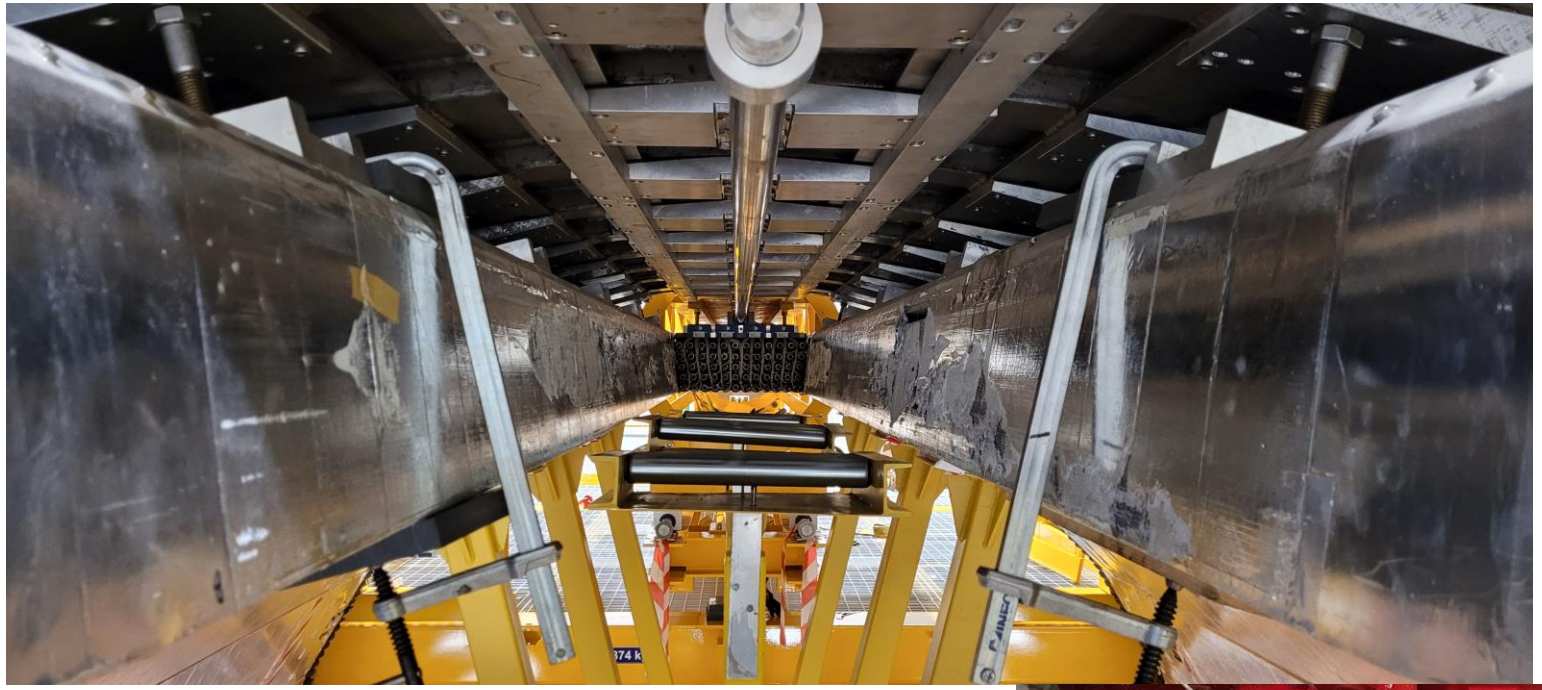


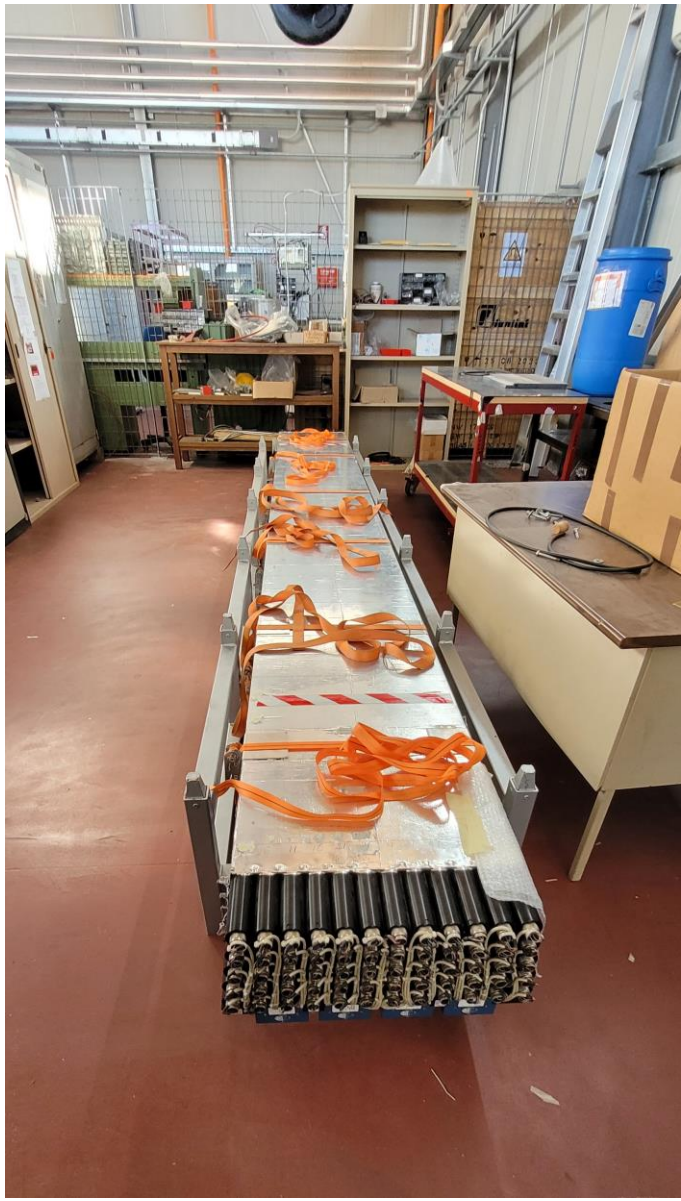


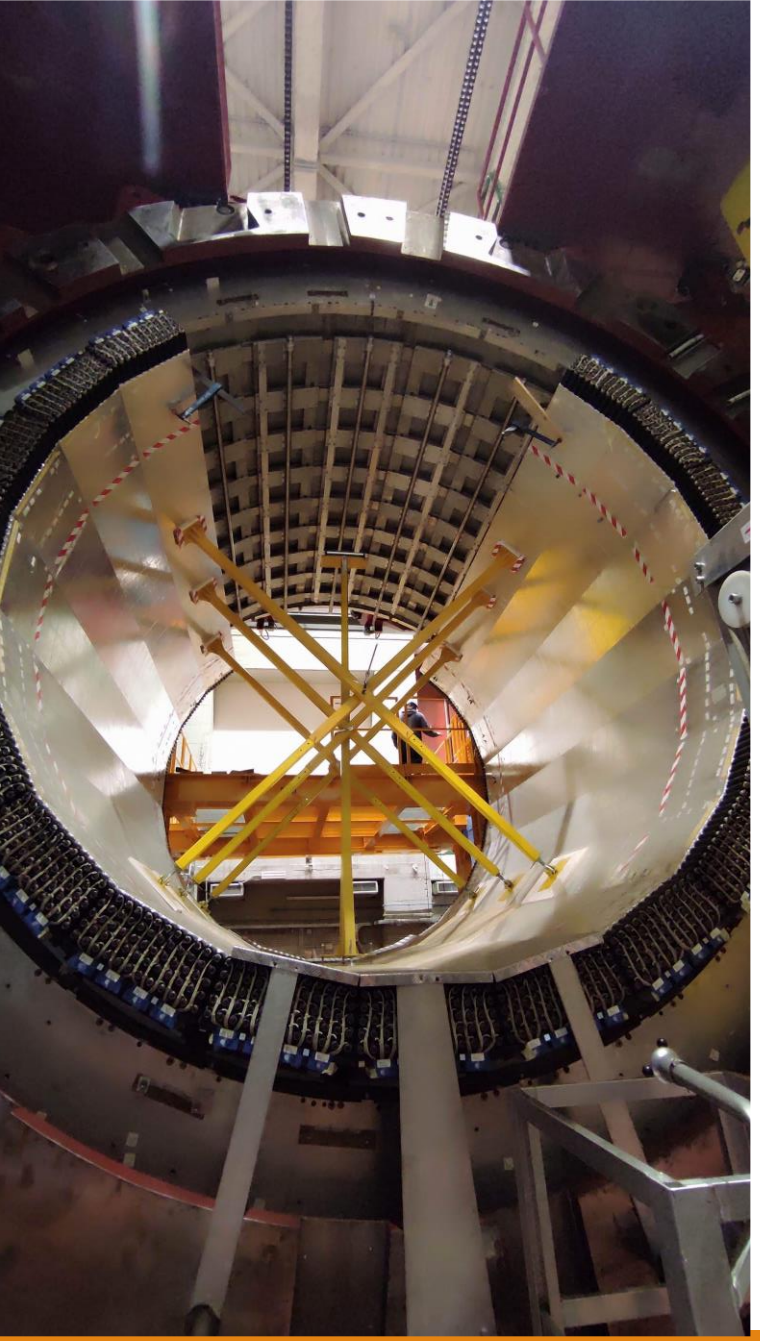
Module 1 Extraction











Status as of 28 Feb 24
5 modules removed