

---

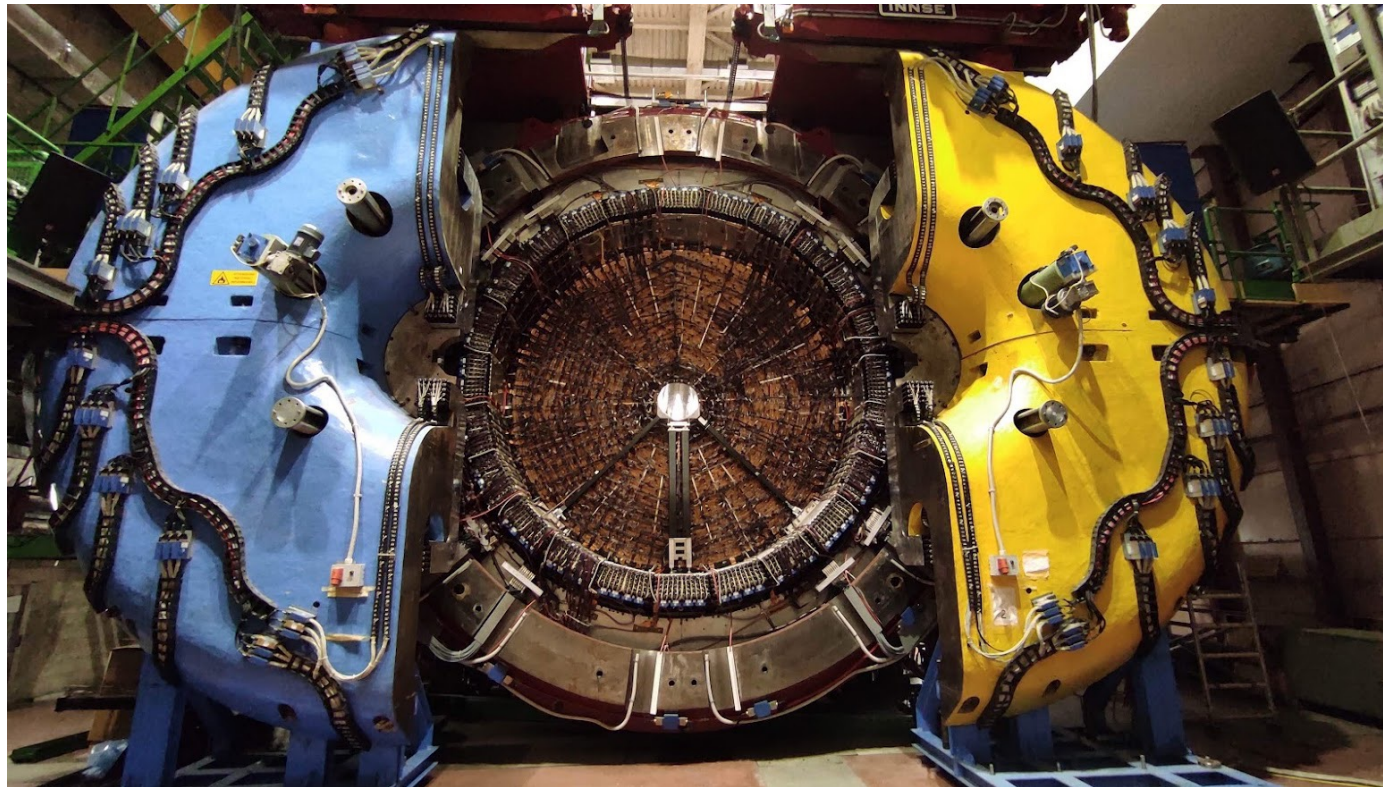
# KLOE to SAND Progress Report

Antonio Di Domenico

Dipartimento di Fisica, Sapienza Università di Roma  
and INFN-Roma, Italy



on behalf of the SAND-ECAL and SAND-Magnet WGs



SAND General Meeting – 23 April 2024

---

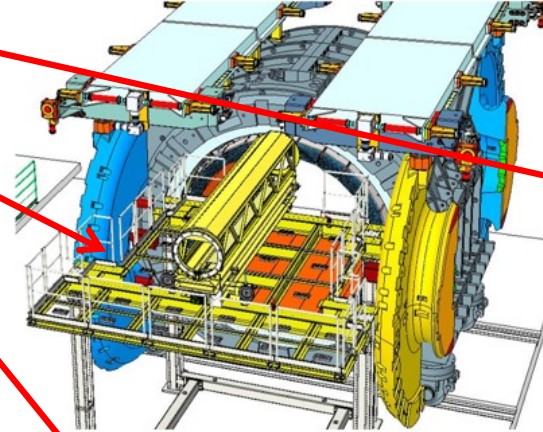
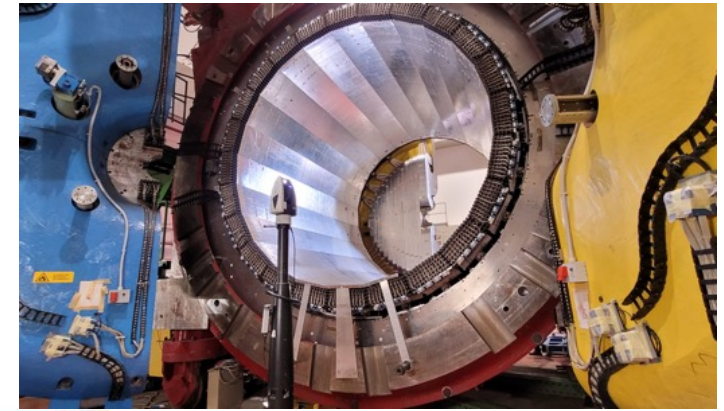
# KLOE-to-SAND activities at LNF

## Plan of operations:

- ✓ Removal of all cables and the FEE+HV racks
- ✓ Extraction of the Drift Chamber

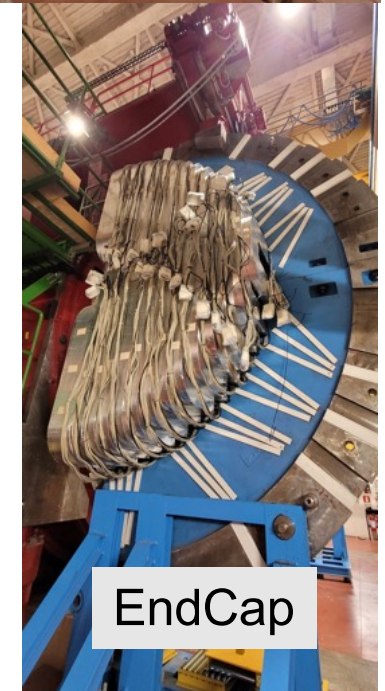
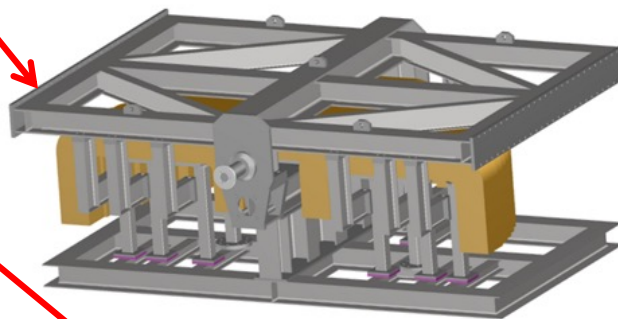
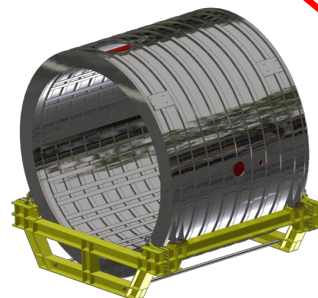
## Calorimeter

- ✓ Laser tracker survey before ECAL dismounting
- Extraction of Barrel (24 modules)
  - original insertion/extraction machine completely refurbished and operational
  - platform construction is being completed
- Dismounting of EndCaps
  - original insertion/extraction/rotation machine is being refurbished and modified
- Operational test of ECAL modules
- Studies for the ECAL working point & FEE



## Magnet and Yoke

- Installation of new Power Supply
  - new Power supply is being purchased (CAENels)
  - Power Electronics is being revamped (OCEM)
  - Control system and full support for magnet test/dismount/remount by ANSALDO ASG
- Cooling of coil
- Operational test of magnet
  - in preparation
- Extraction of coil
- Dismounting of Iron Yoke



## Packaging & Shipping at Fermilab

# Extraction of barrel modules: progress of operations

Status reported at the last SAND general meeting on 12th March



# Extraction of barrel modules: progress of operations

Extraction of 12th barrel module on 25th March

Pillars and rollers no more necessary!



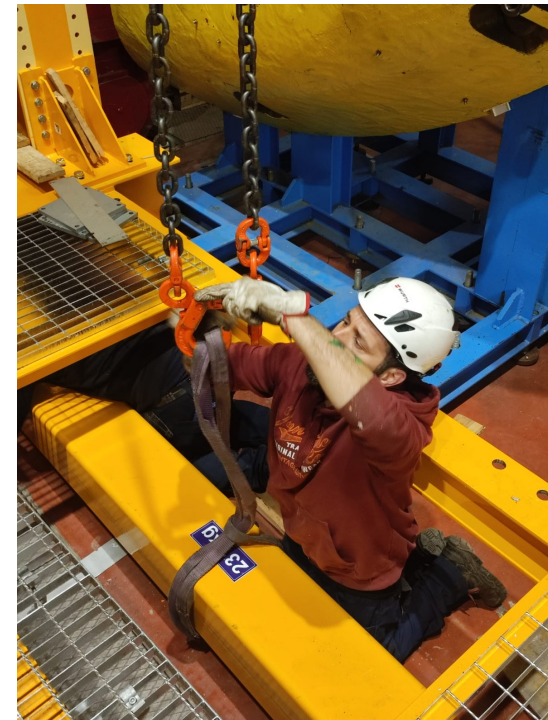
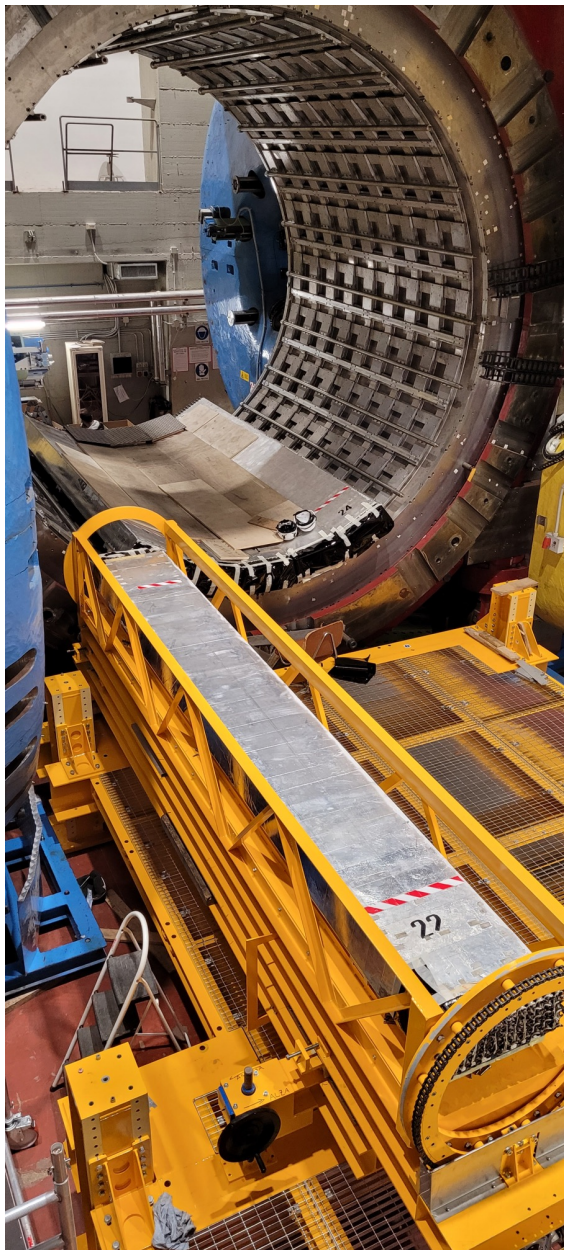
# Extraction of barrel modules: progress of operations



# Extraction of barrel modules: progress of operations



# Extraction of barrel modules: progress of operations



# Extraction of barrel modules: movable platform

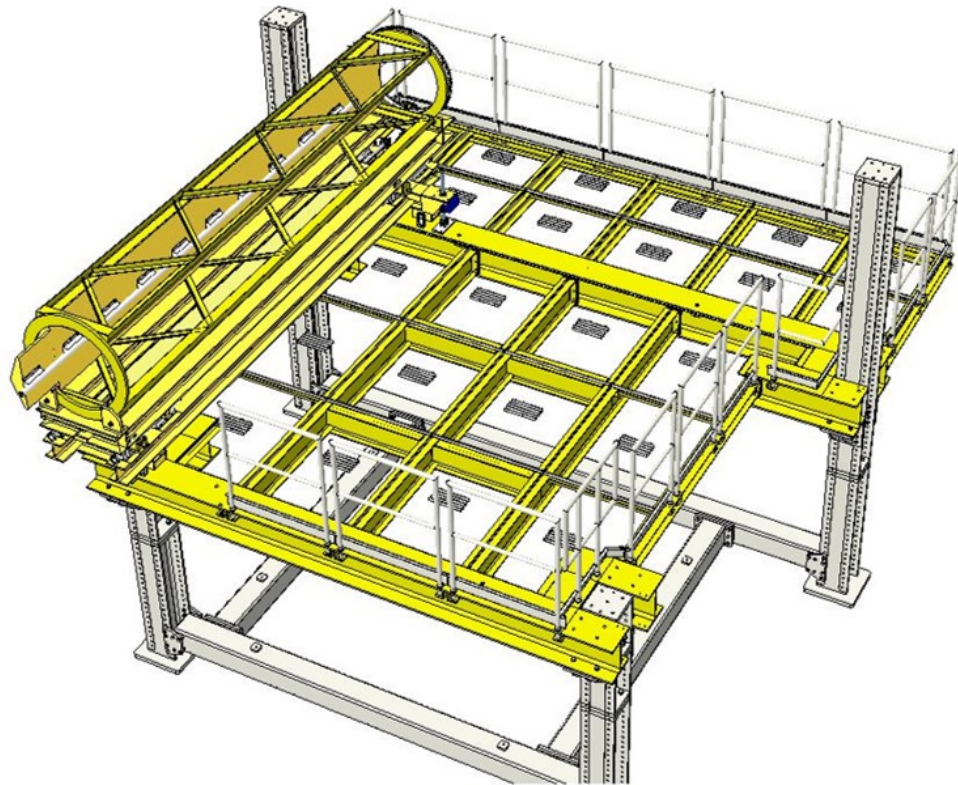


Figure 16 Removal of calorimeter module 1 at level 2458 mm.

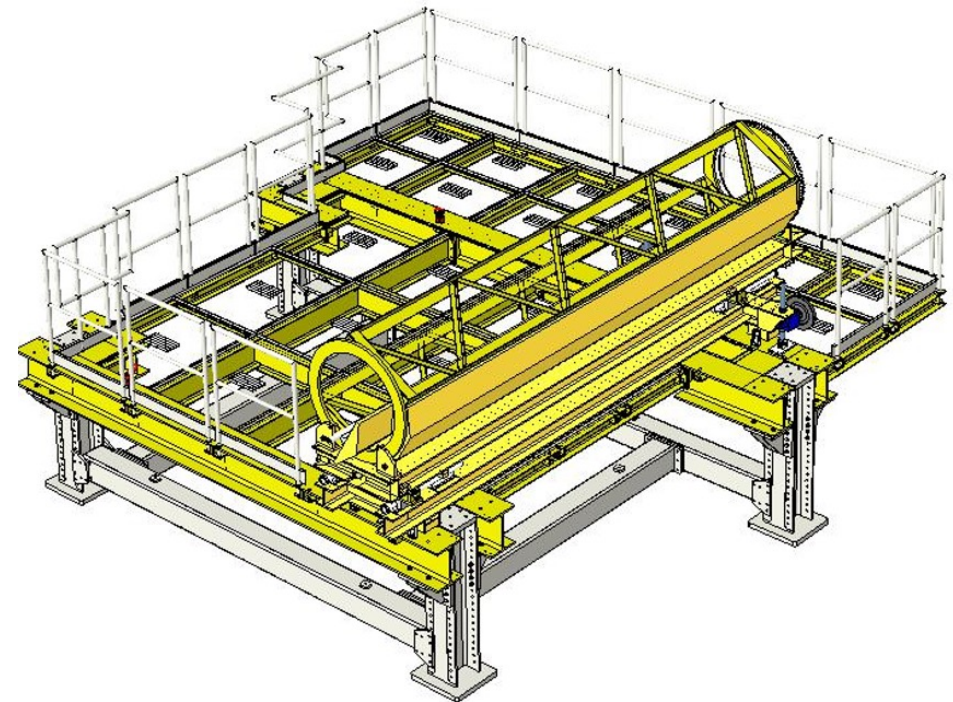


Figure 17 Removal of module 15 at level 1468 mm.



# Extraction of barrel modules: movable platform

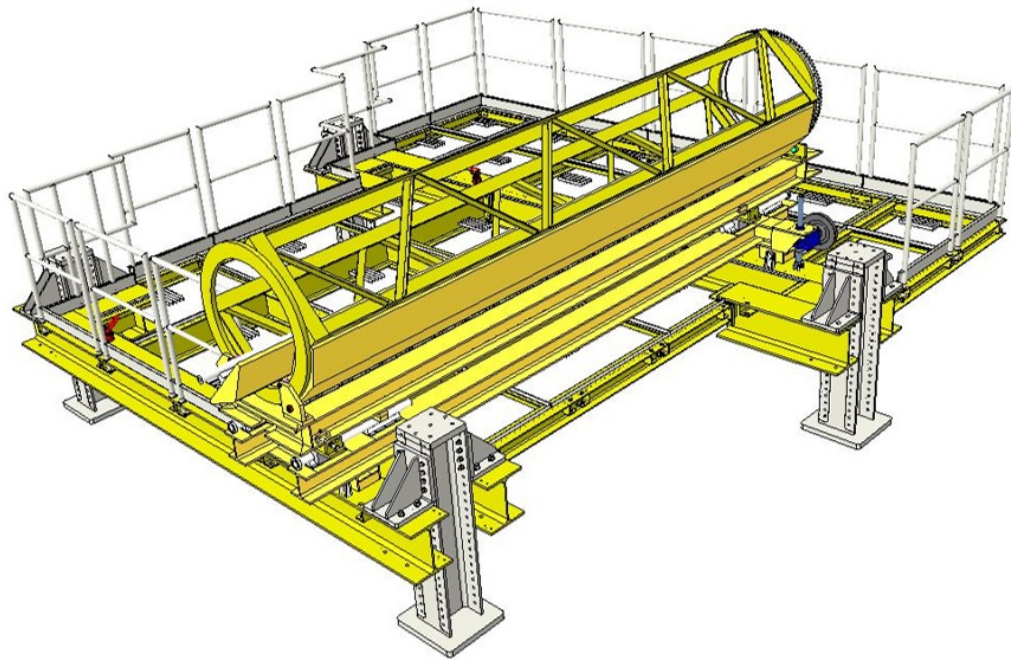
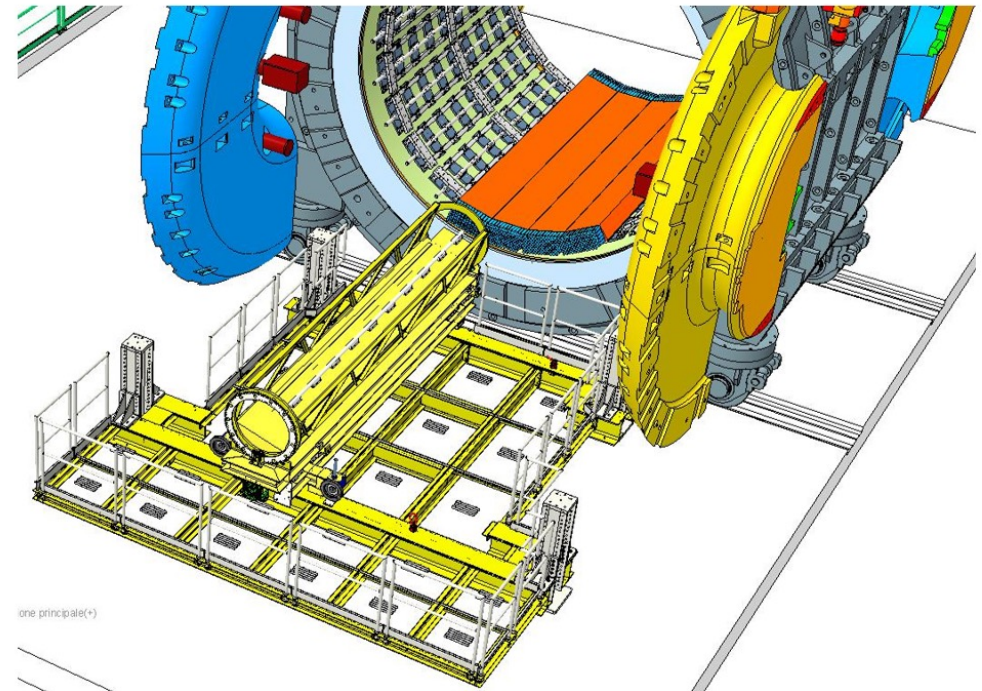


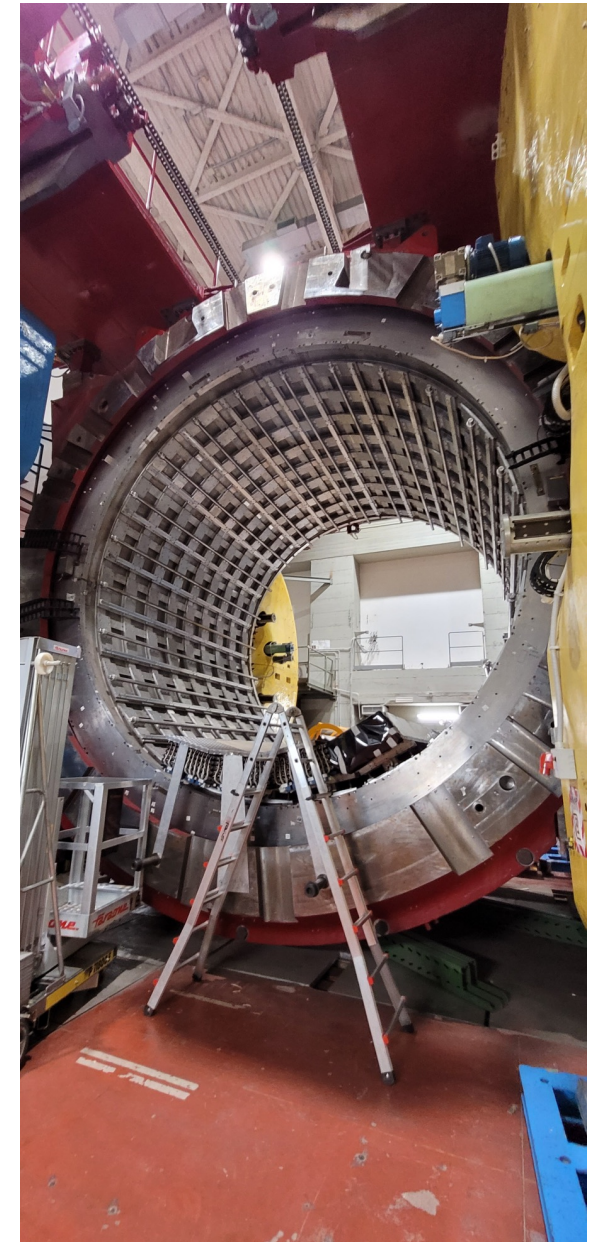
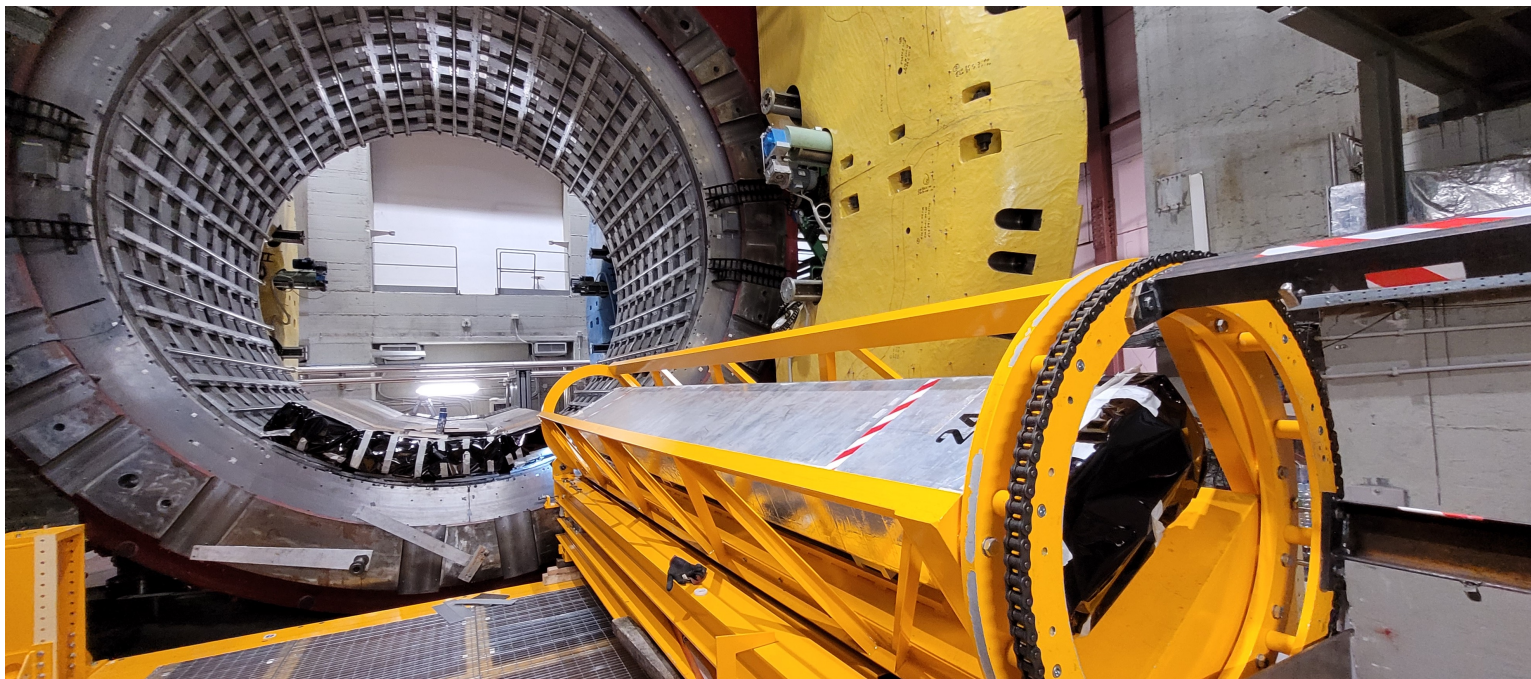
Figure 18 Setup to extract module 16 at level 1038 mm.



# Extraction of barrel modules: progress of operations

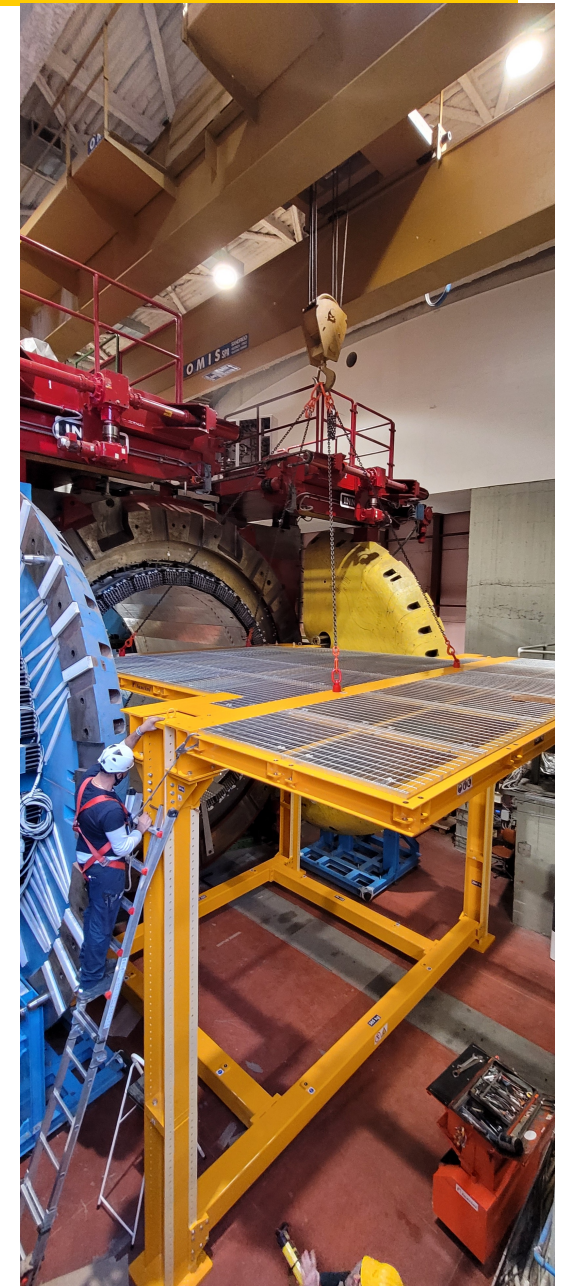
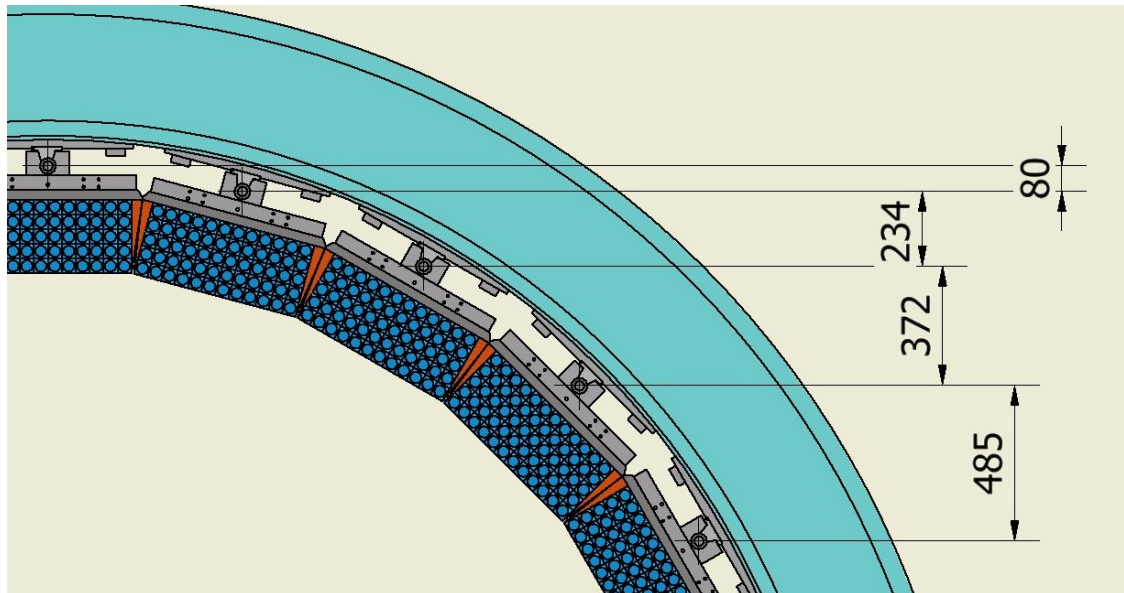
on 23rd April (this morning!):

20 barrel modules dismantled  
4 remaining



# Extraction of barrel modules: progress of operations

In total **11 different positions** of the movable platform are required to dismount/mount all 24 modules, one position for each symmetric pair of modules, apart top and bottom positions valid for 3 modules.



# Extraction of barrel modules: progress of operations

- Tested the “reversal” of the motion for on module

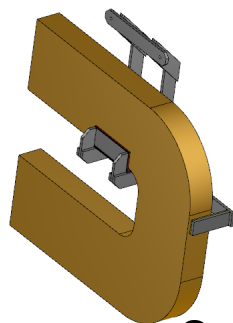
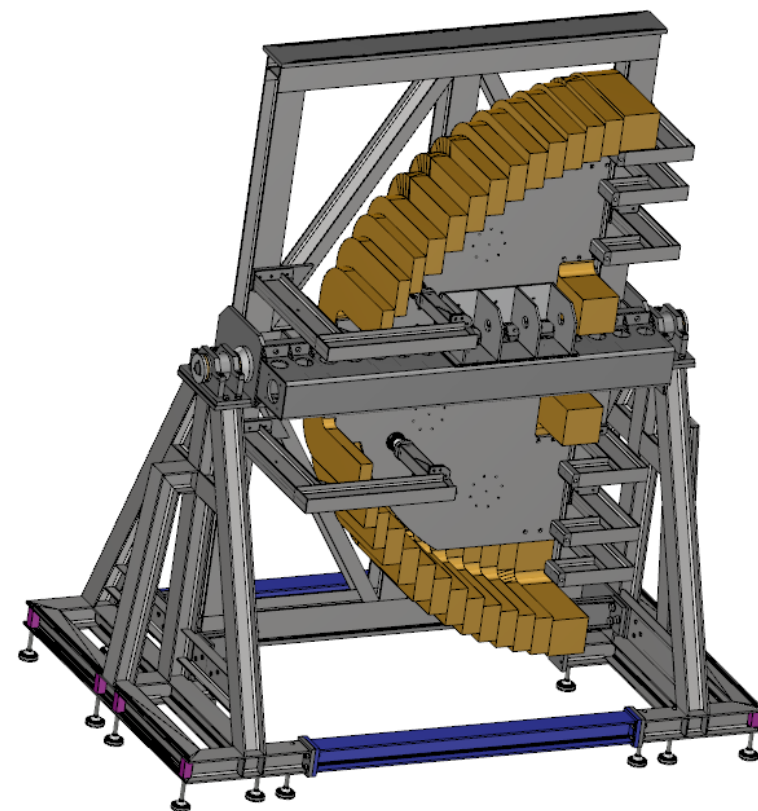
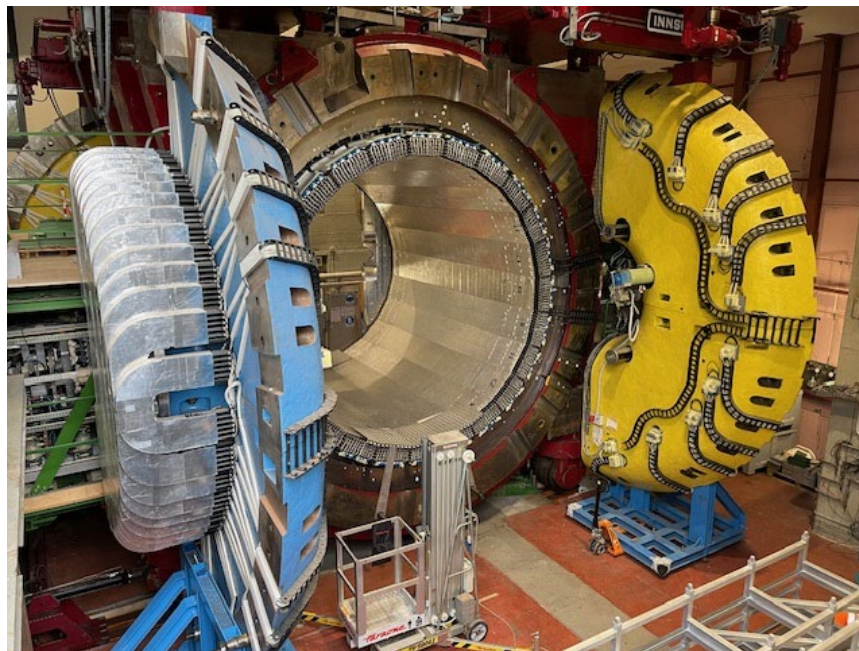
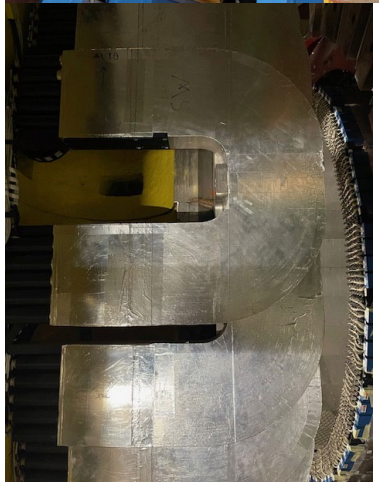
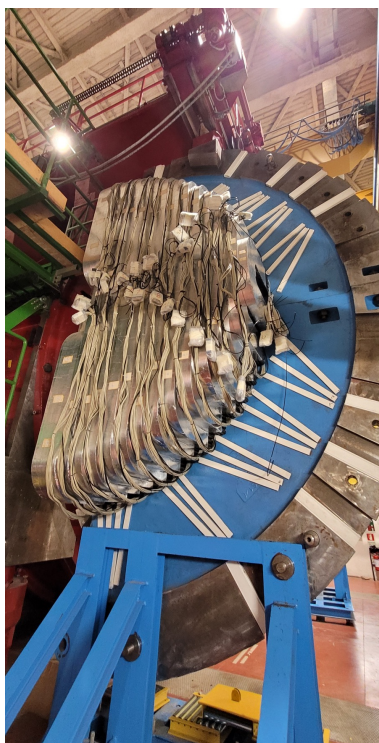


- Training of INFN technicians
- Small improvements of the tools to be implemented

# Storage and test area: in preparation



# Dismounting of End-cap modules

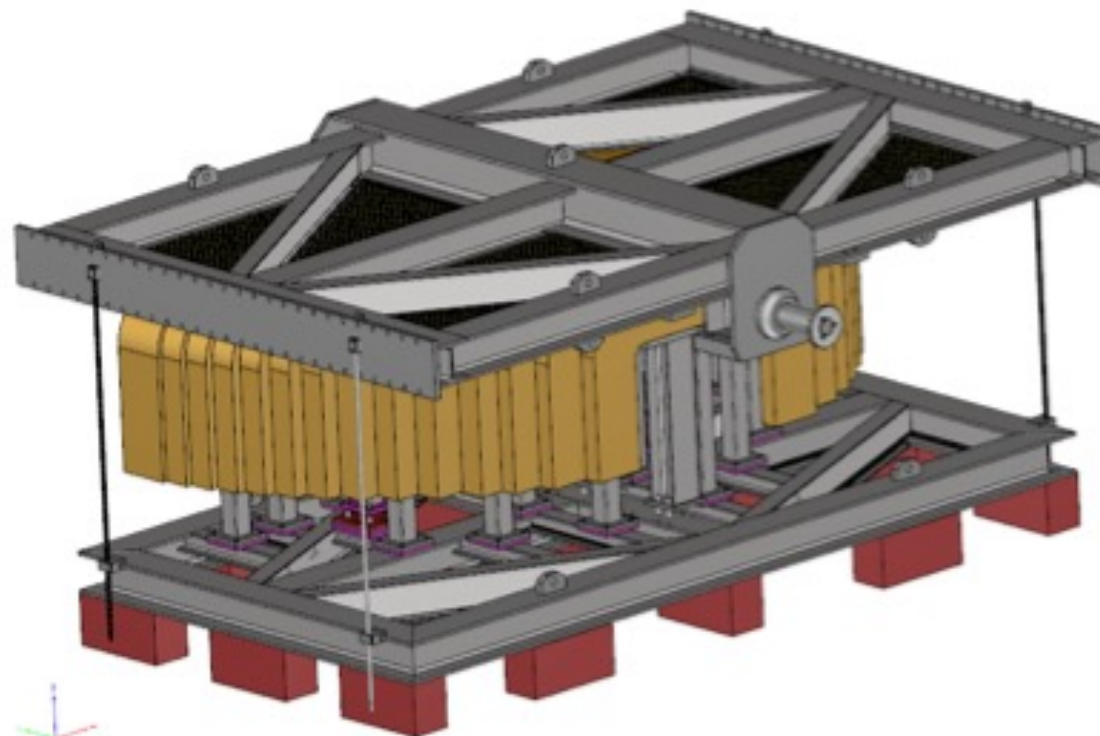
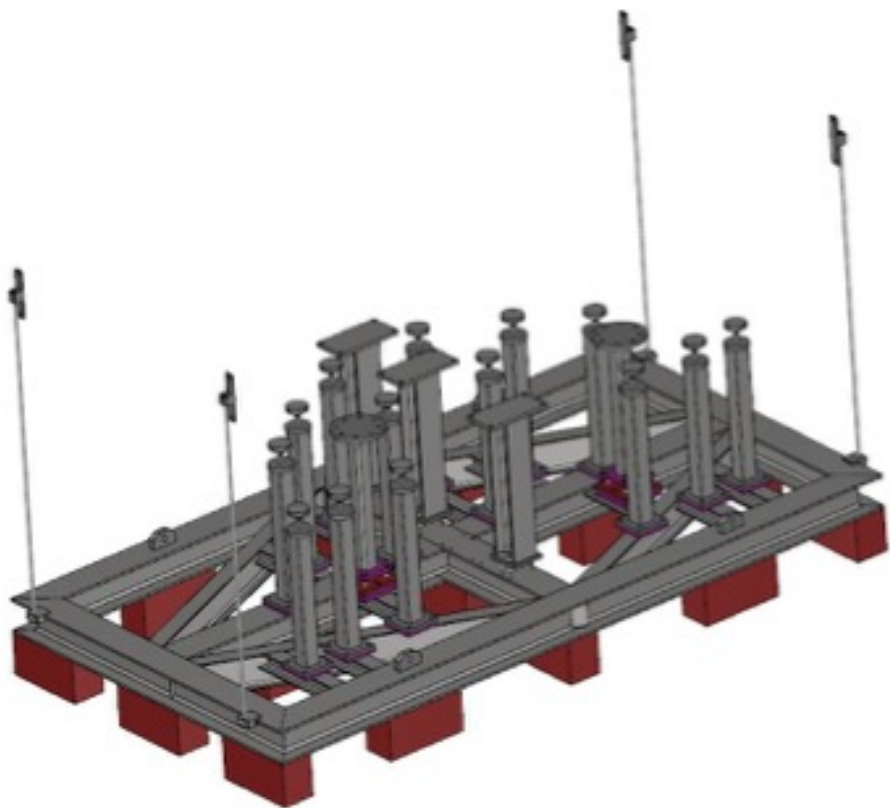


Design of supports for handling and transportation of each half End-cap completed

Special tool for dismounting the smallest module built and ready.

F. Noto – INFN LNS

# Dismounting of End-cap modules



Design of supports for handling and transportation of each half End-cap completed

Order done, construction started.

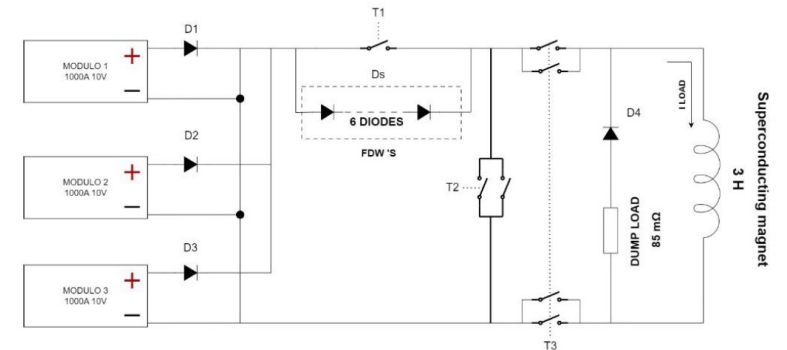
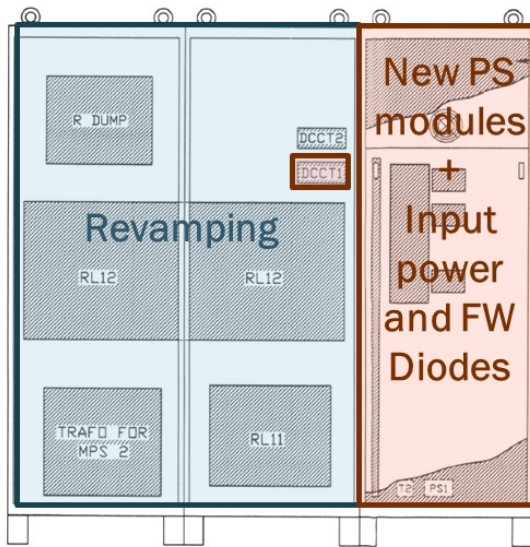
Dismounting End-Cap modules foreseen by April-May 2024

F. Noto – INFN LNS





# Magnet Power Supply Status



We are finally converging to a technical solution with OCEM, fulfilling our requirements

Scheduled meeting at the beginning of May by OCEM headquarter to define all technical, financial and delivery time aspects

## Conclusions

Activity of ECAL WG is focused on the dismount of the KLOE Calorimeter started at beginning of March

The plan is to finish before Summer with both Barrel and End-Caps

The ECAL refurbishing and test activity will extend over the whole year

Works are in progress to choose ECAL readout electronics

Negotiations with companies for the purchase of magnet PS and test is ongoing

Drawings of mechanical tools for extraction/handling/transportation of magnet are ready for final review