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# **SAND General Meeting** **KLOE-to-SAND and ECAL-WG Status Report**

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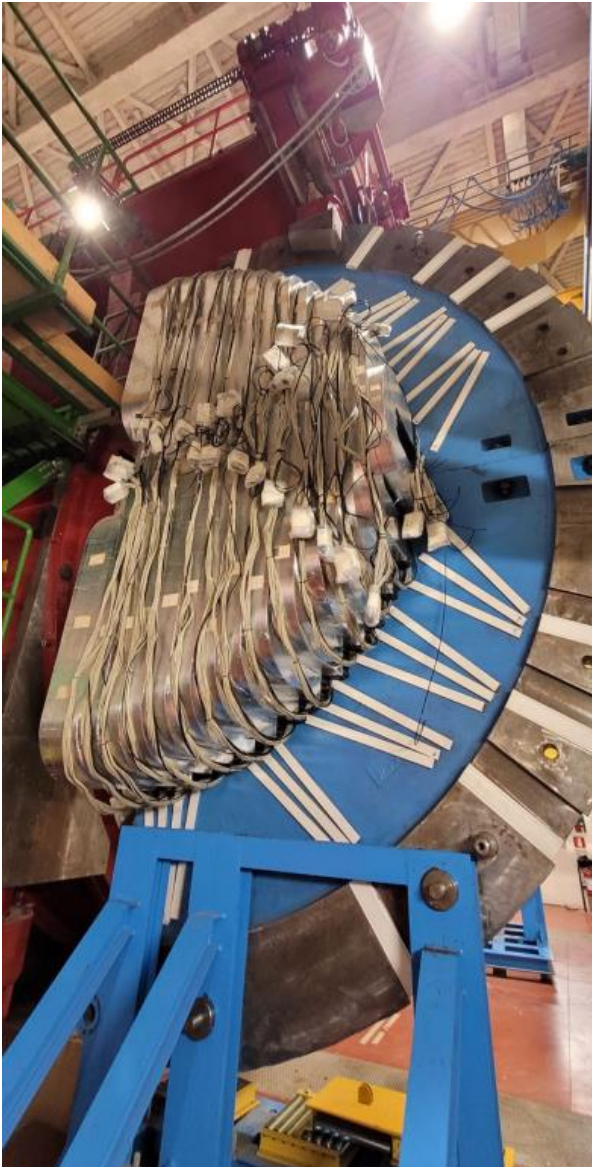
# KLOE-to-SAND Project Activity

- Removal of all the cables and the FEE+HV racks
- Extraction of the Drift Chamber
- Extraction of the ECAL-Barrel (24 modules)
- Detaching of 4 End-Caps
- Operational test of ECAL modules
- Studies for ECAL electronic choice
- Installation of new Magnet power supply
- Cooling of coil
- Operational test of magnet
- Extraction of the Magnet
- Dismounting of the Iron Yoke
- Shipping





# KLOE ECAL Dismounting: where we were



End-caps cables removed from iron



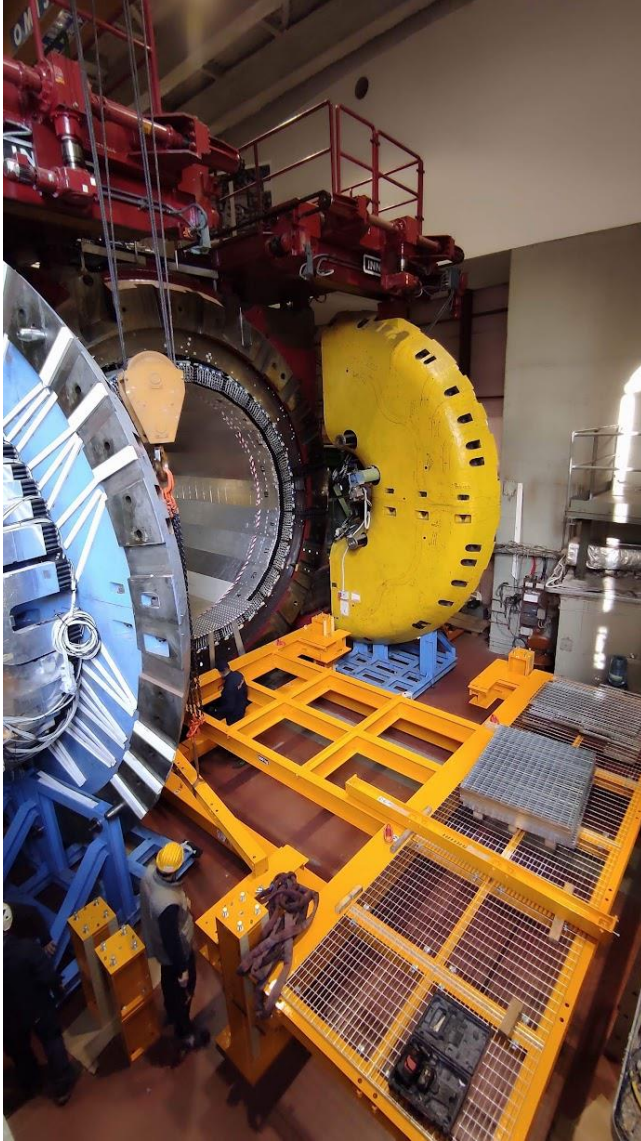
End-caps opened for barrel extraction

Extraction machine ready but still waiting for platform

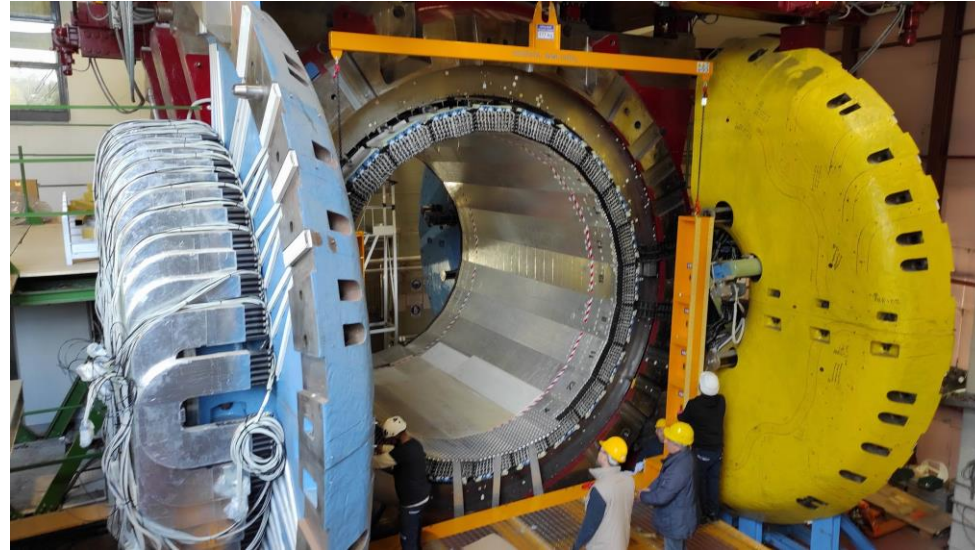




# February: delivery of extraction platform



6x8 m<sup>2</sup> platform  
mounting



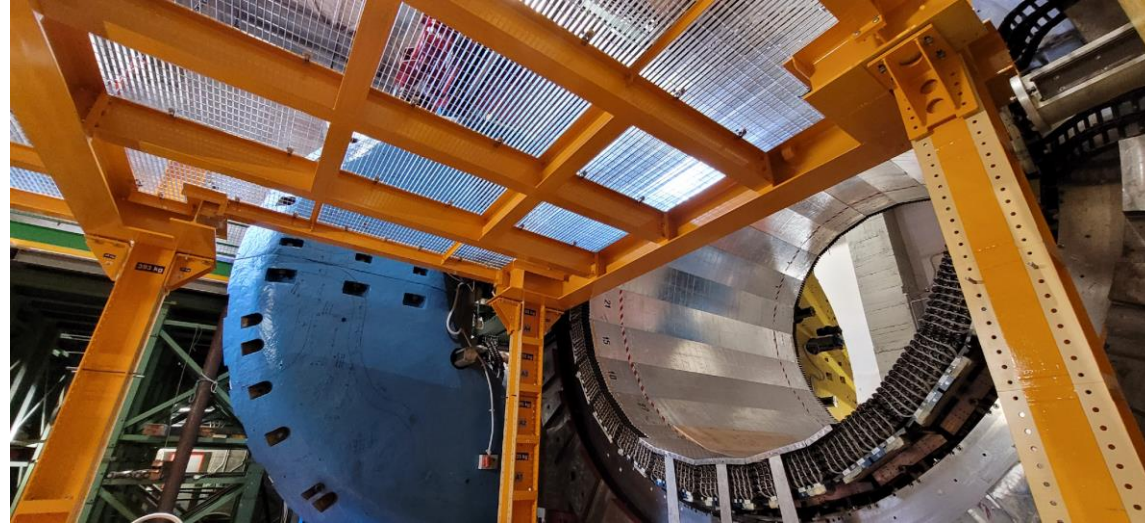
6 m high columns made in  
several pieces

working deck can be set  
with 6 cm pitch



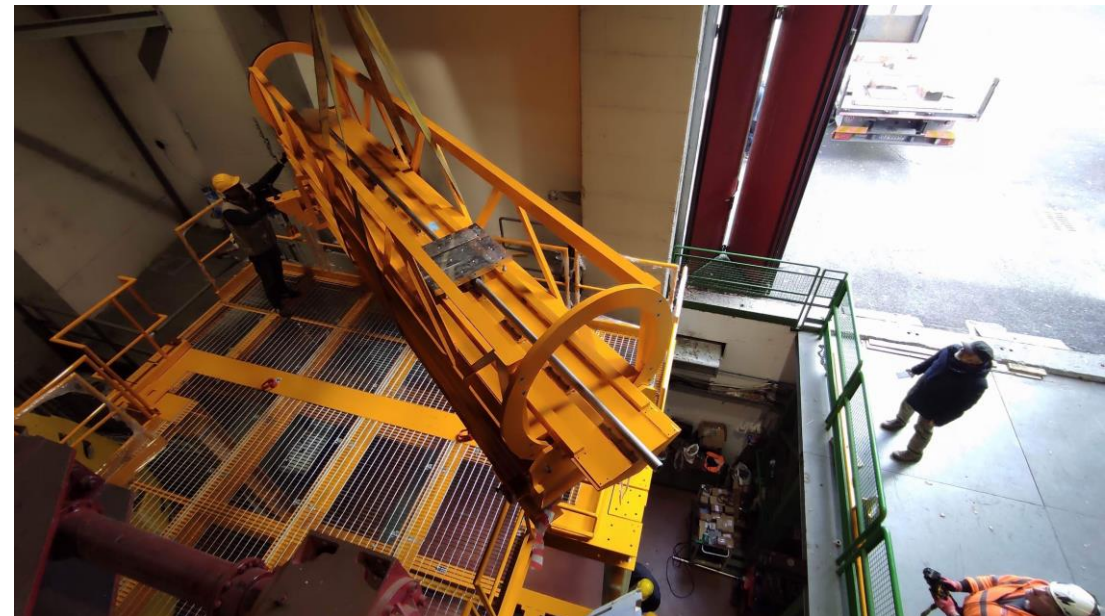


# February: delivery of extraction platform



view from below

finally extraction machine  
is positioned



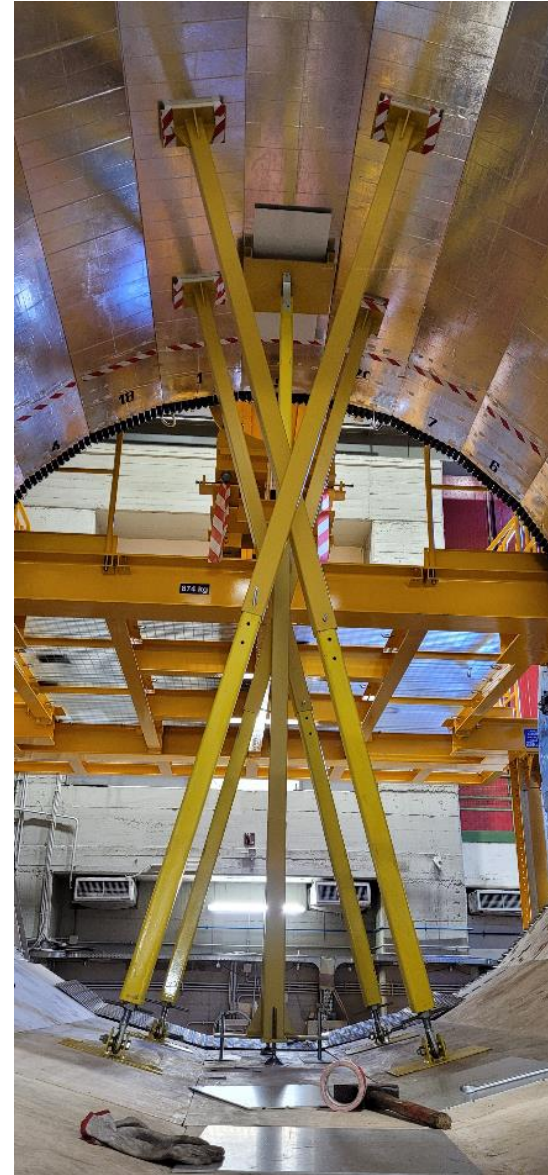
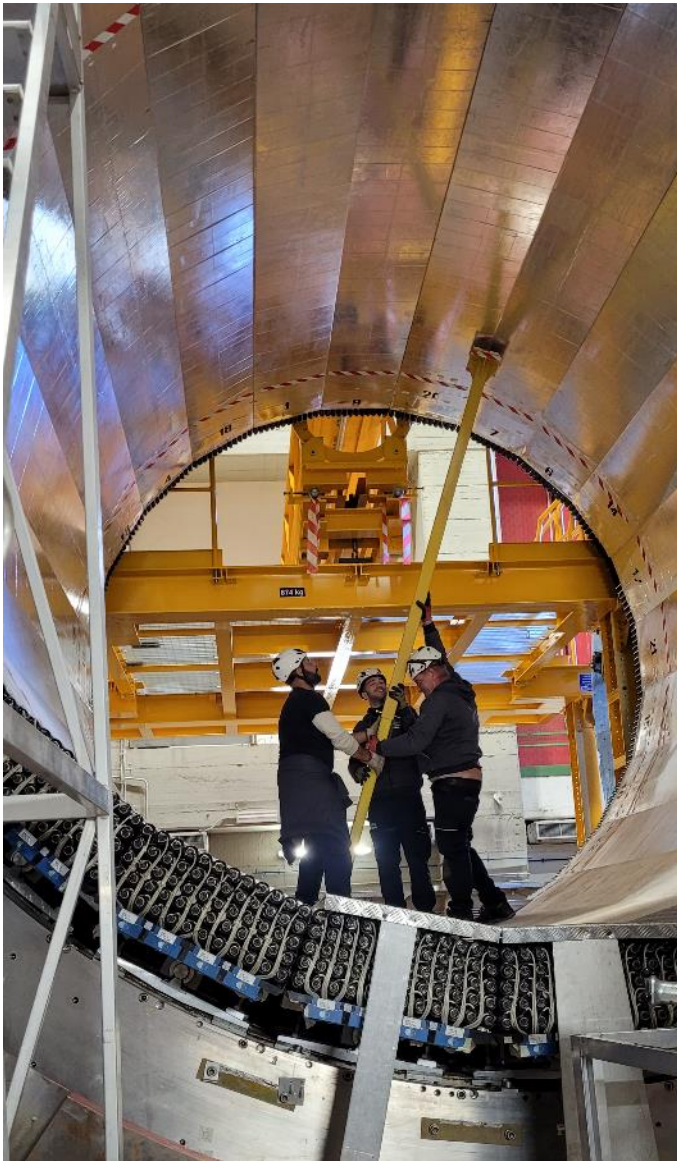
platform completed  
with railings



# Extraction of first module

fixed pillars are placed below next modules

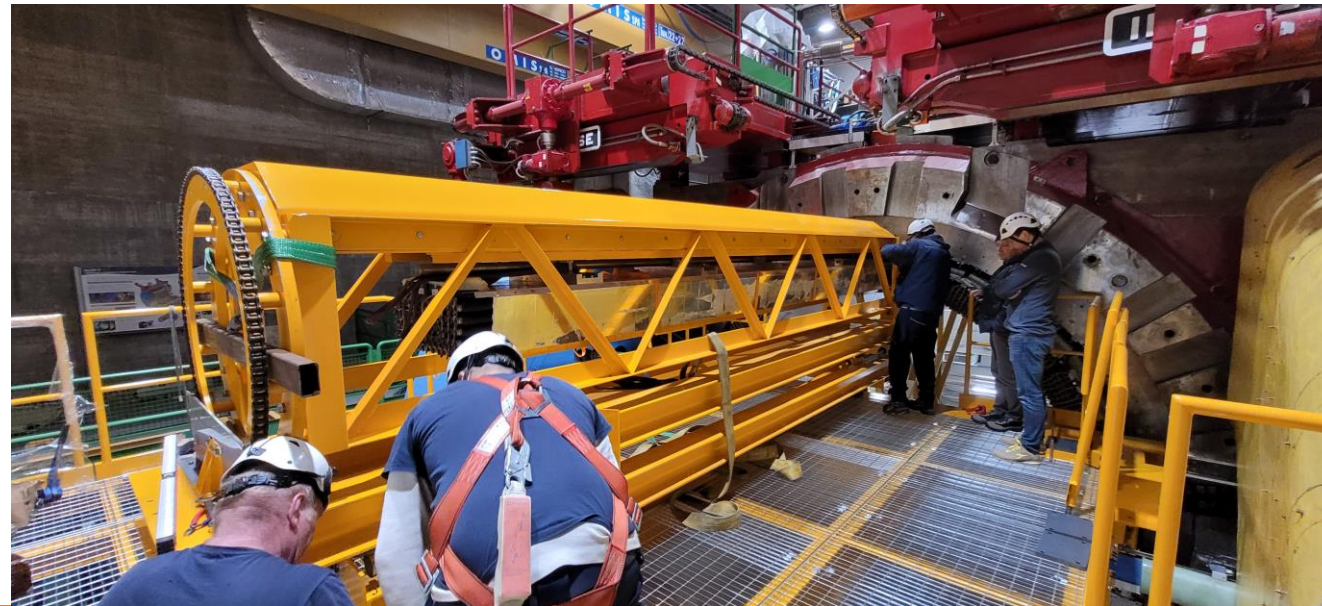
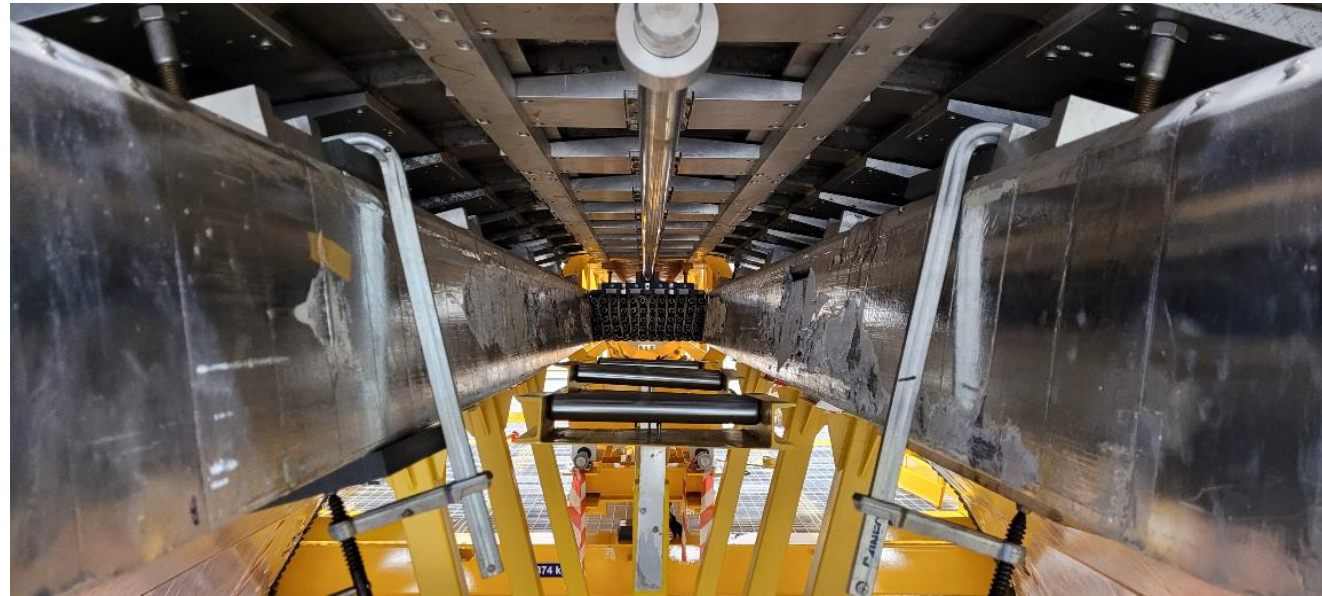
extracted module is supported by 3 rolling pillars





# Extraction of first module

next modules are also tightened by clamps

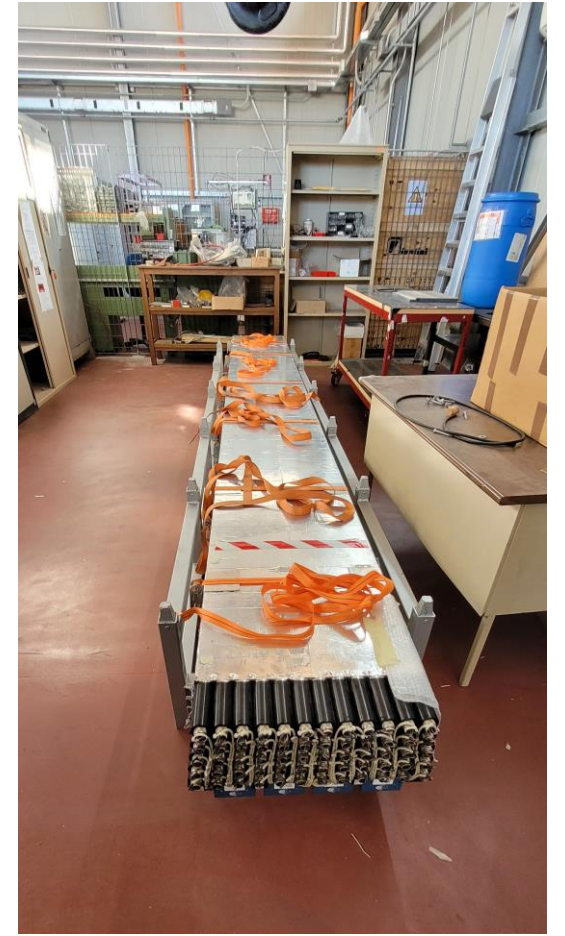
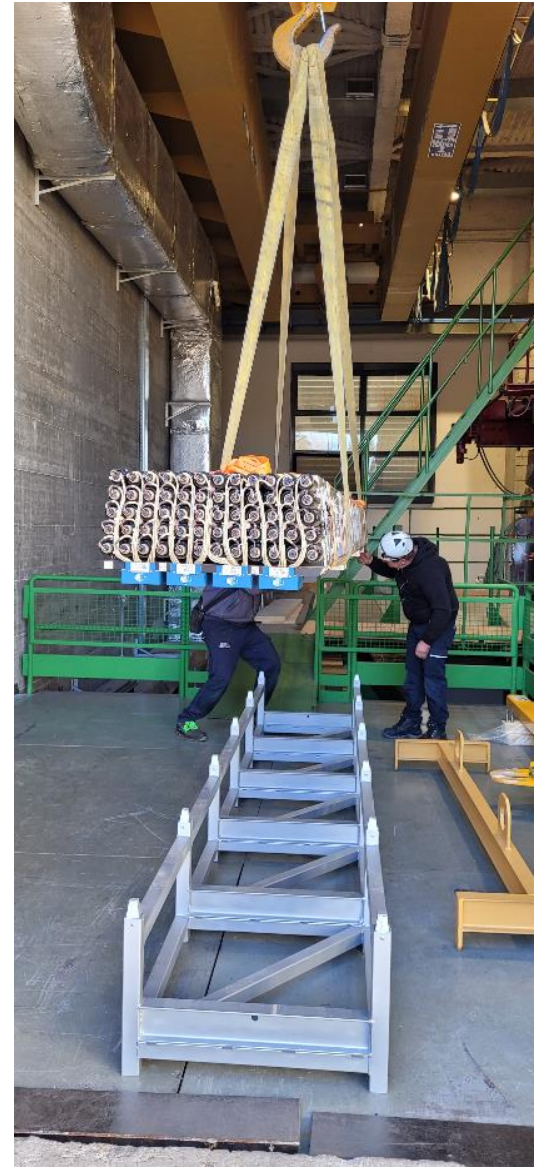


first module nearly completely extracted on the machine cradle



# Extraction of first module

eventually the module is placed on its bedding support and stored in the lab for refurbishing



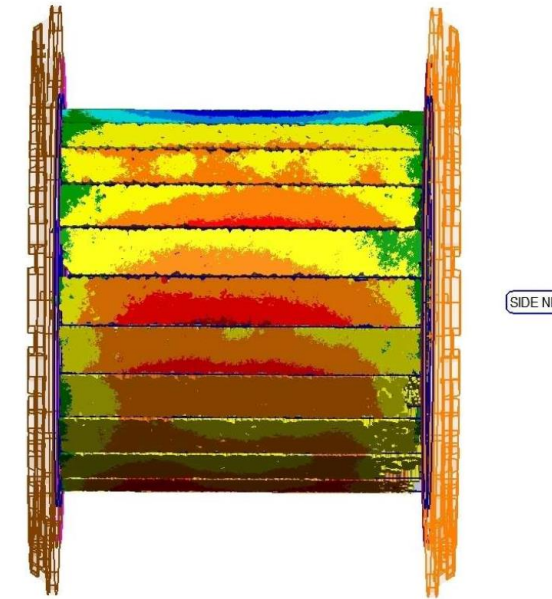
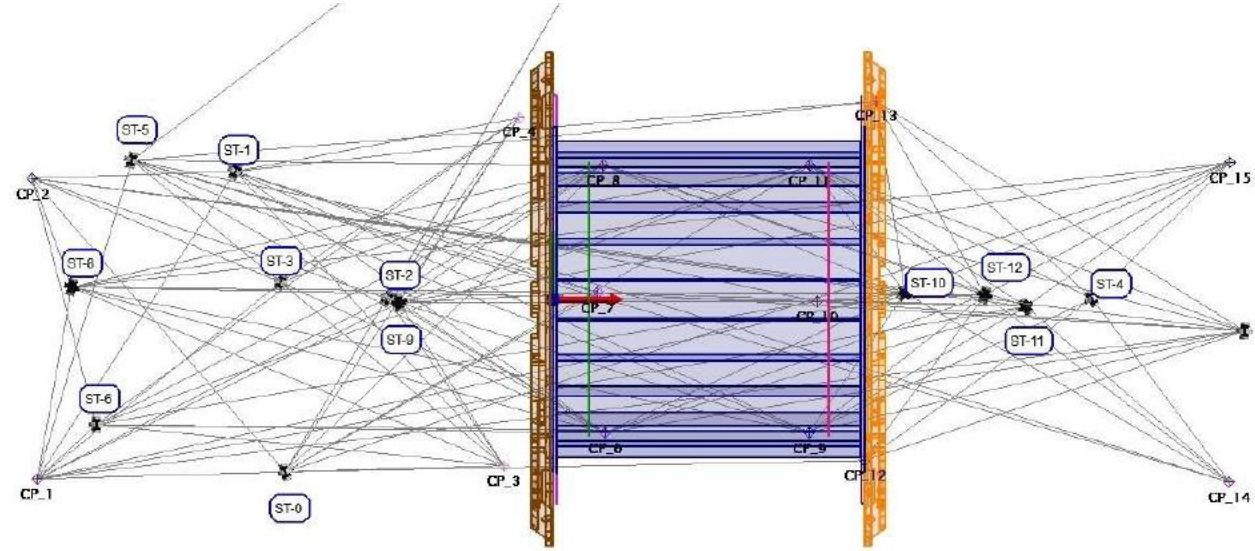
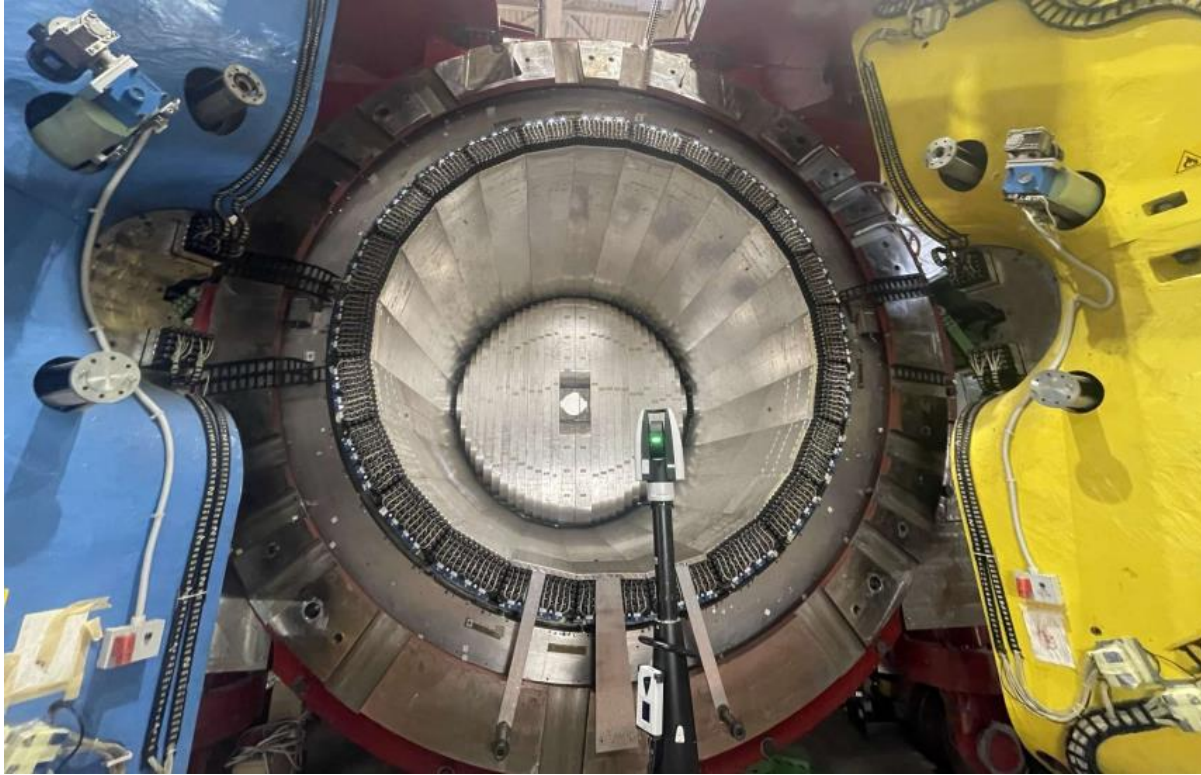


# Status as of yesterday 11 March





# ECAL Dimensional Inspection Report

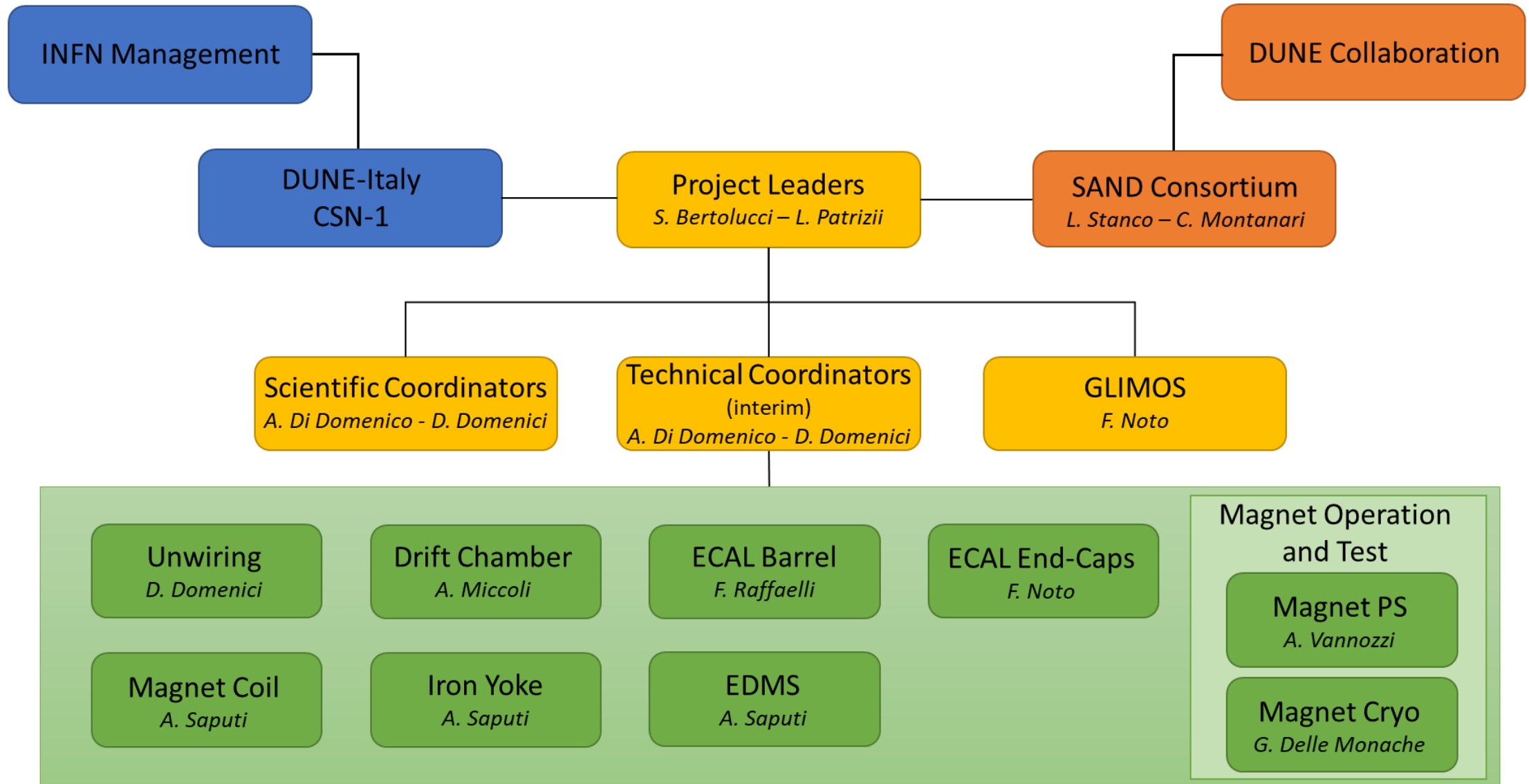


Laser tracker measurement of dimensions and position of ECAL

3D model of real detector obtained from cloud of space points

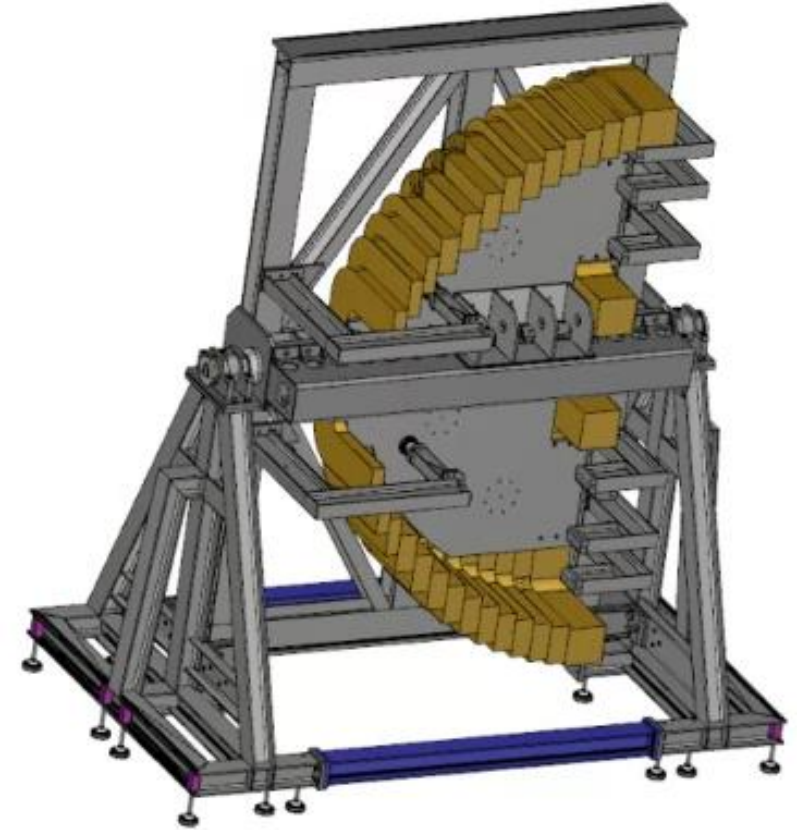
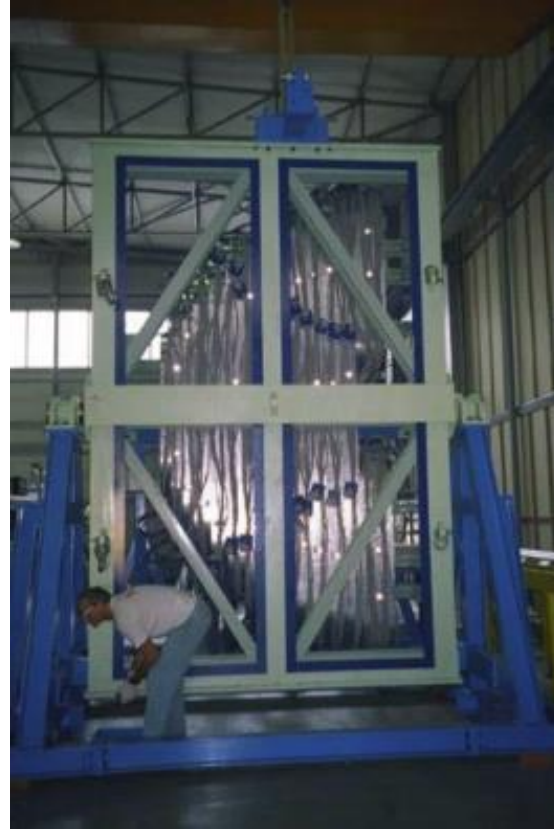


# KLOE-to-SAND Organization Breakdown Structure





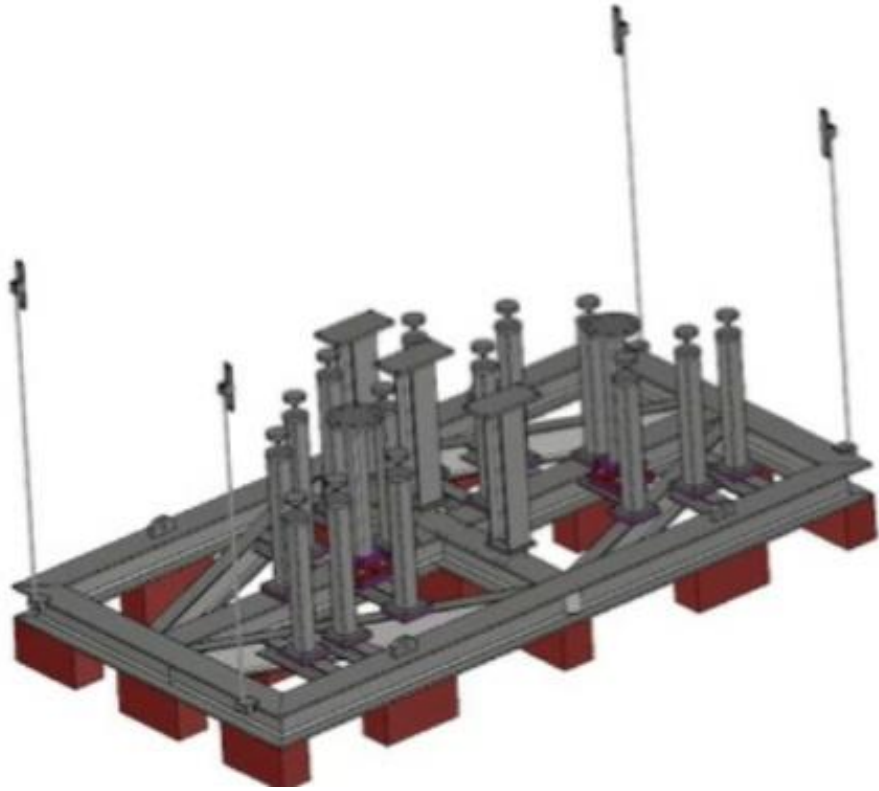
# Preparation of End-Caps Dismounting



Old tool used to dismount end-caps from iron, rotate and handle will be partially refurbished and partially built as new

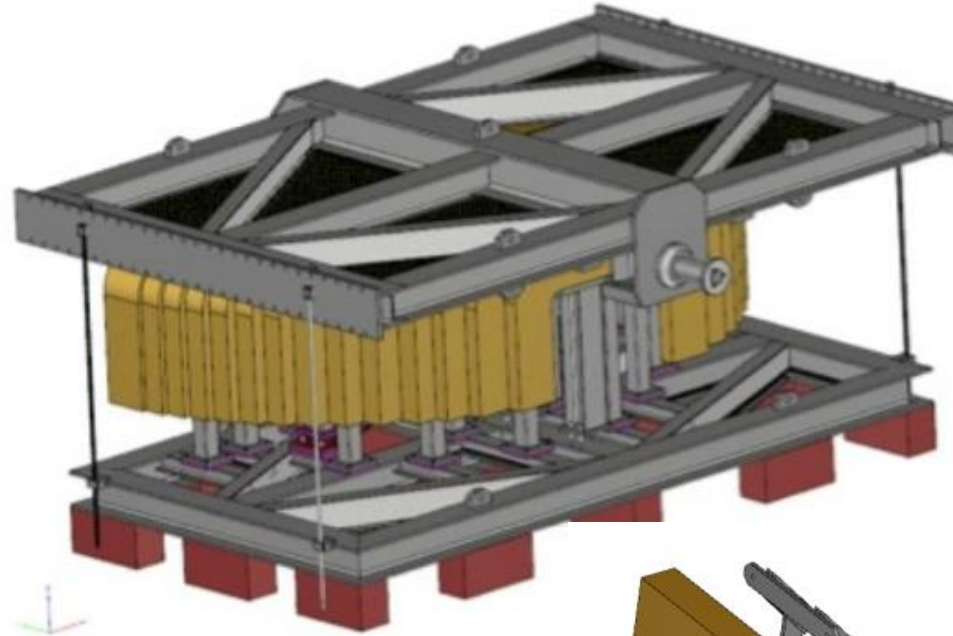


# Preparation of End-Caps Dismounting

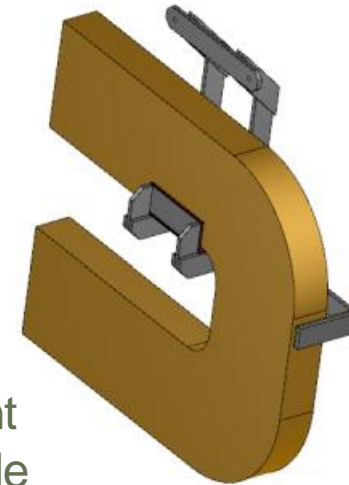


A new support bedding for storing and shipping has been designed

All tools are under construction  
Foreseen in May



Special tool to dismount  
smallest end-cap module





# Modules Refurbishment and Test

Operation on dismantled modules:

- check light-tightness
- repair possible damages
- replace adhesive tape
- test basic performance

(possibly using new HV/LV/FEE)



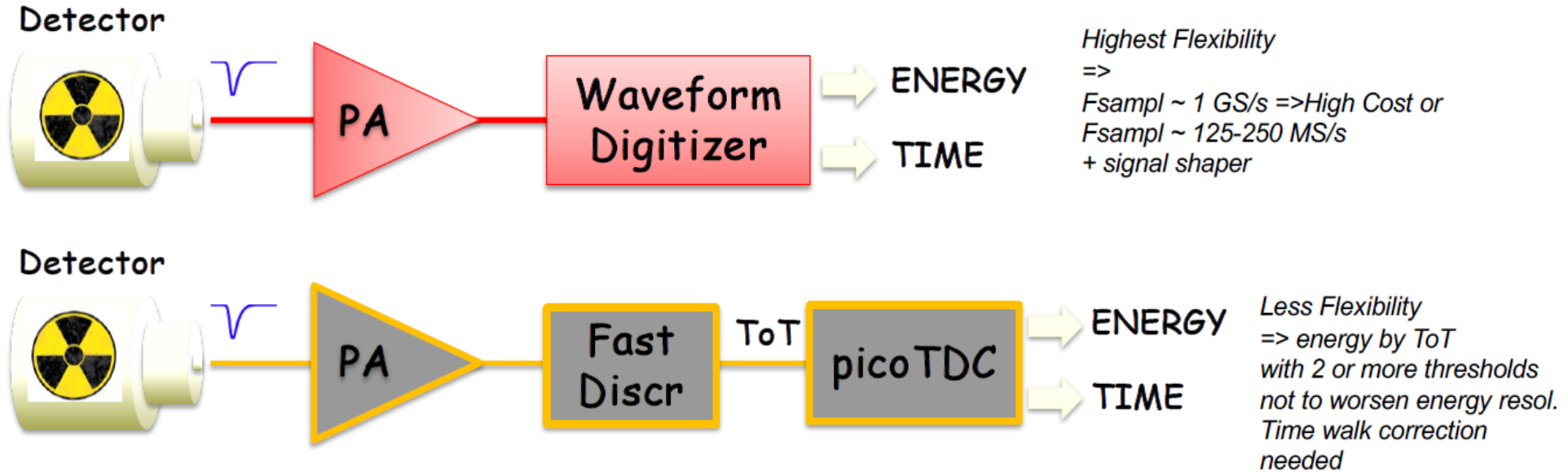
new  
100 m<sup>2</sup>  
DUNE  
area



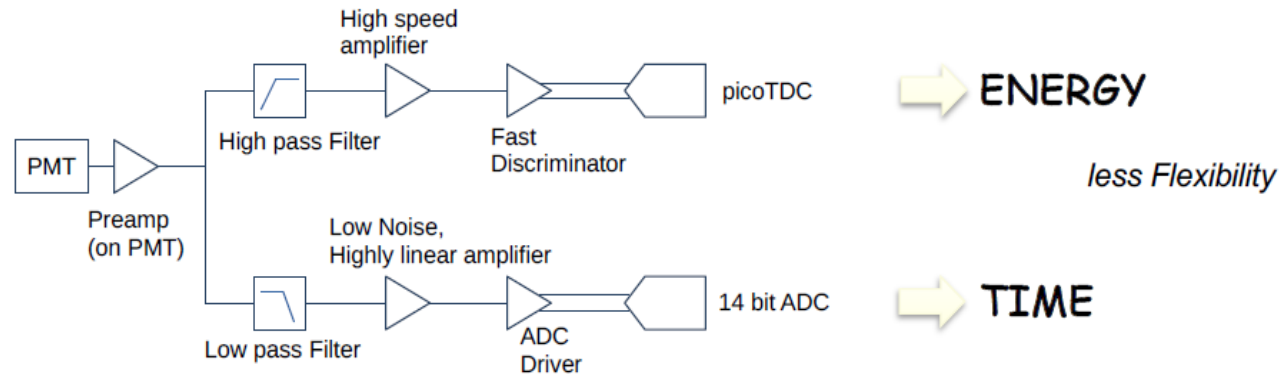


# Choice of Electronics for ECAL

3 possible choices for FEE



Conventional approach  
with TDC + ADC



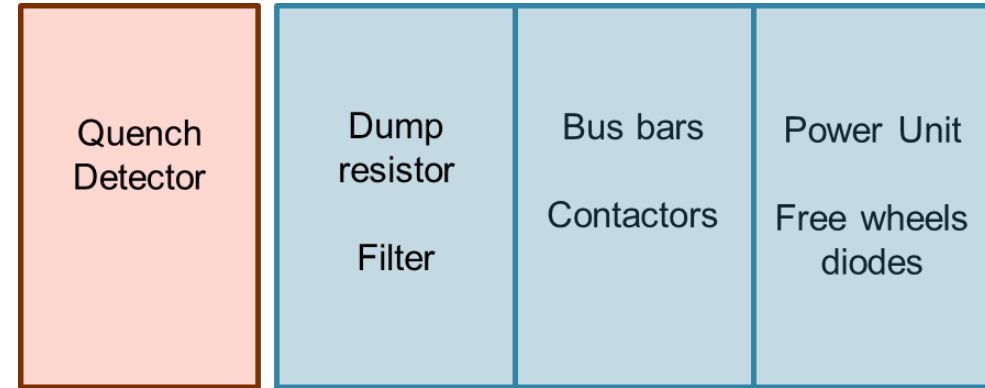
Note: some stages may be folded into a single active component



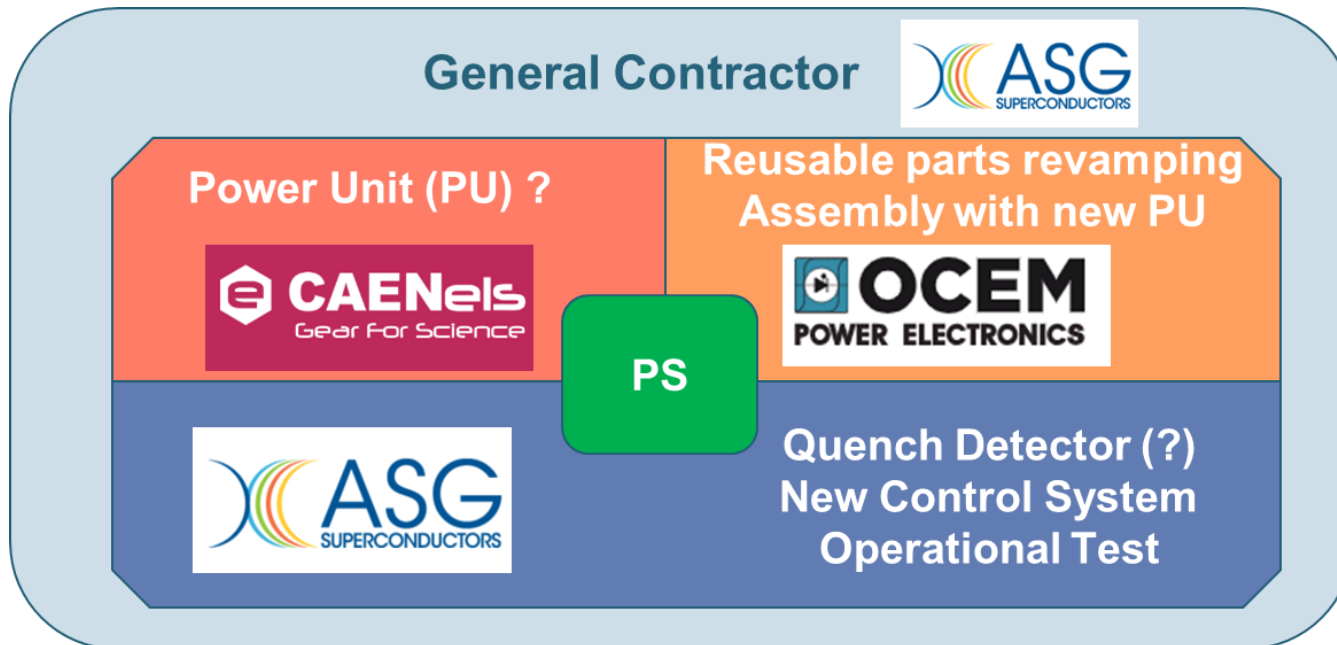
# Magnet New Power Supply

Purchasing new Power Supply (PS) and Control System with same performances and layout of the old one

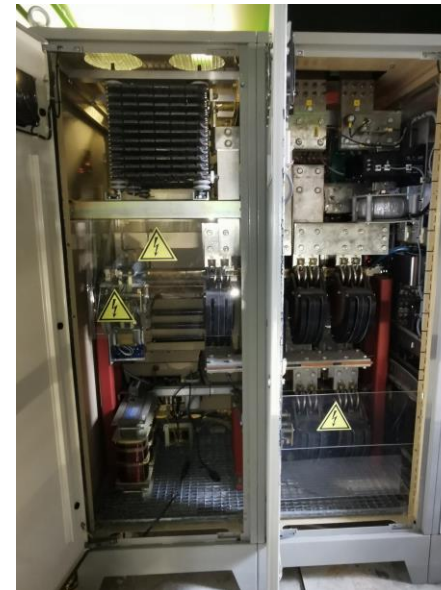
Possibly saving working electro-mechanical components



Currently negotiating with 3 companies



Old system now in OCEM for inspection



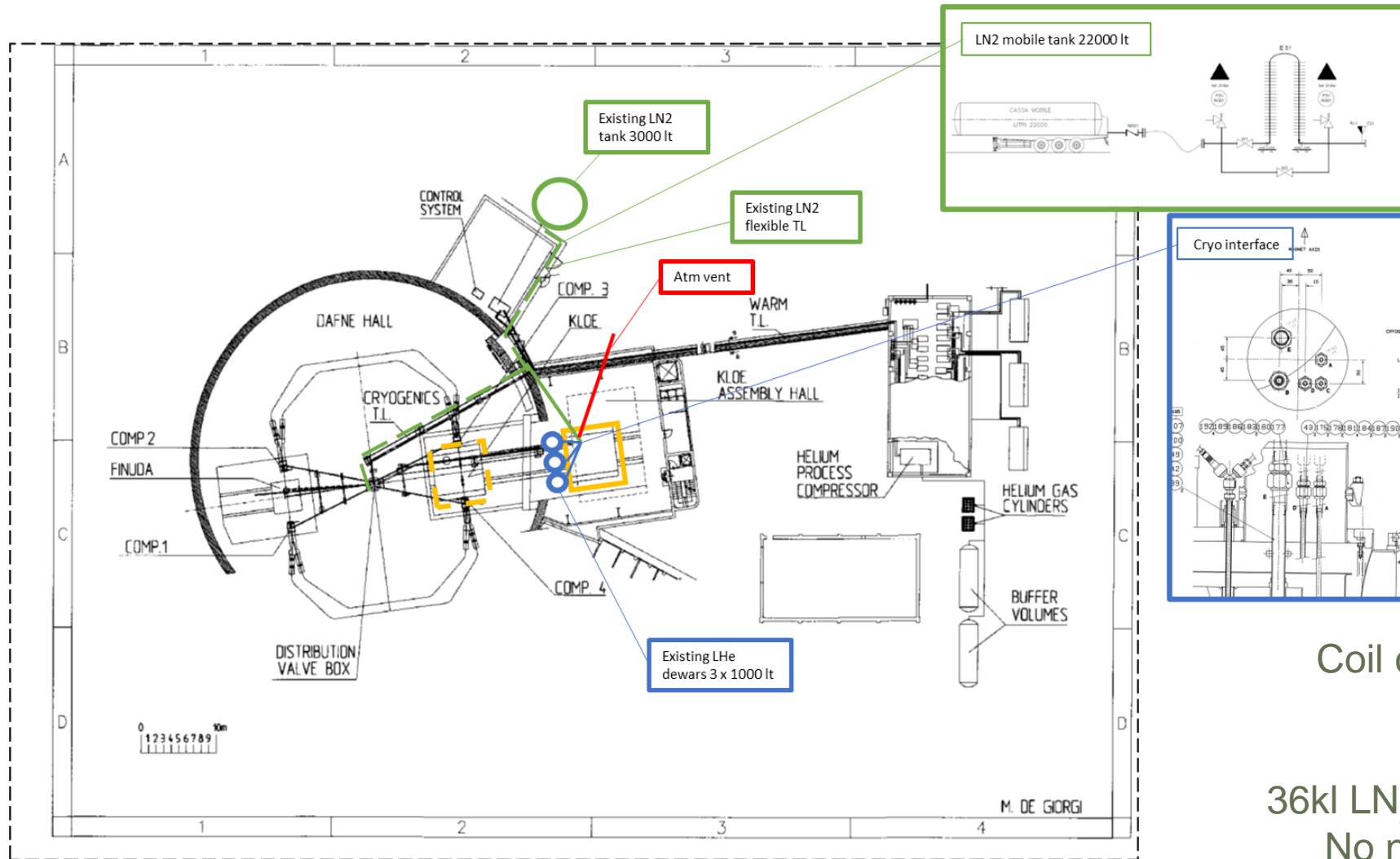
KLOE PS Dump resistor and contactors



KLOE PS delivered to OCEM



# Magnet Operational Test



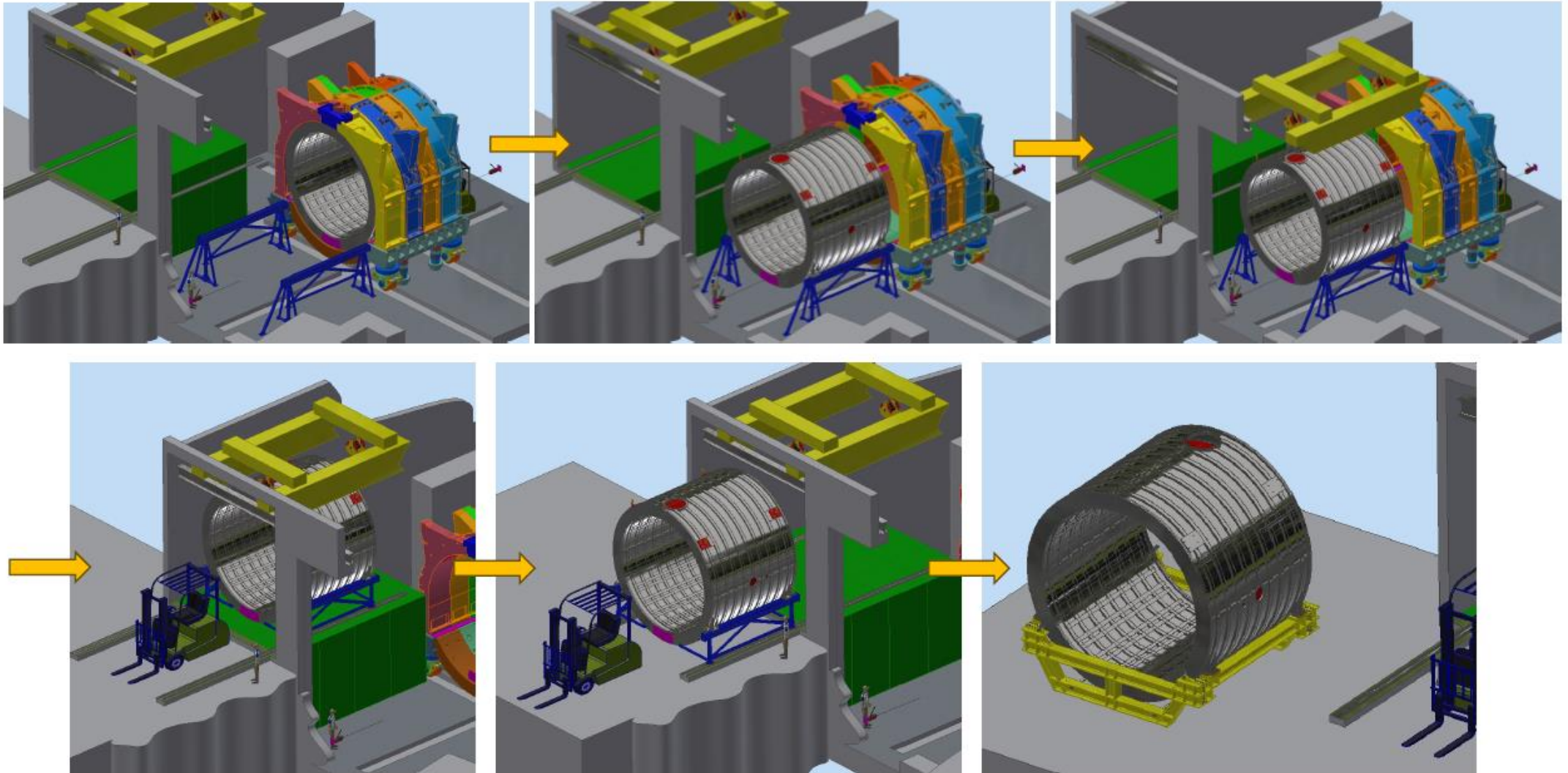
Test of Cryostat + Coil + PS + Control System before shipping

Coil cool-down with cryo-liquids can be repeated in US

36kl LN<sub>2</sub> + 6kl LHe from mobile tanks  
No need for DAFNE cryo plant  
Non-complex cryo interface



# Magnet Extraction and Transportation







# 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