

STATO LABORATORI HANGAR

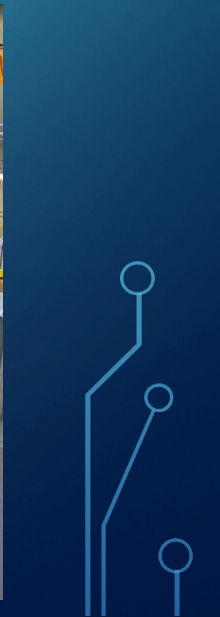
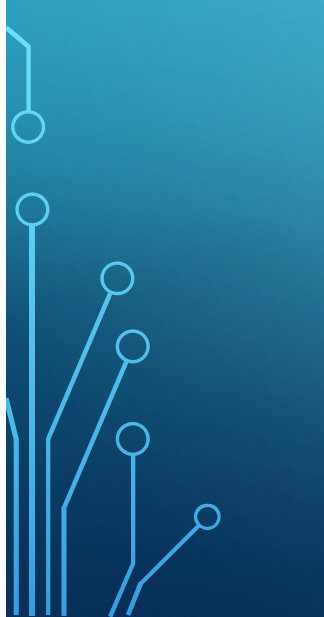
Riunione Gruppo-I

B. Rossi

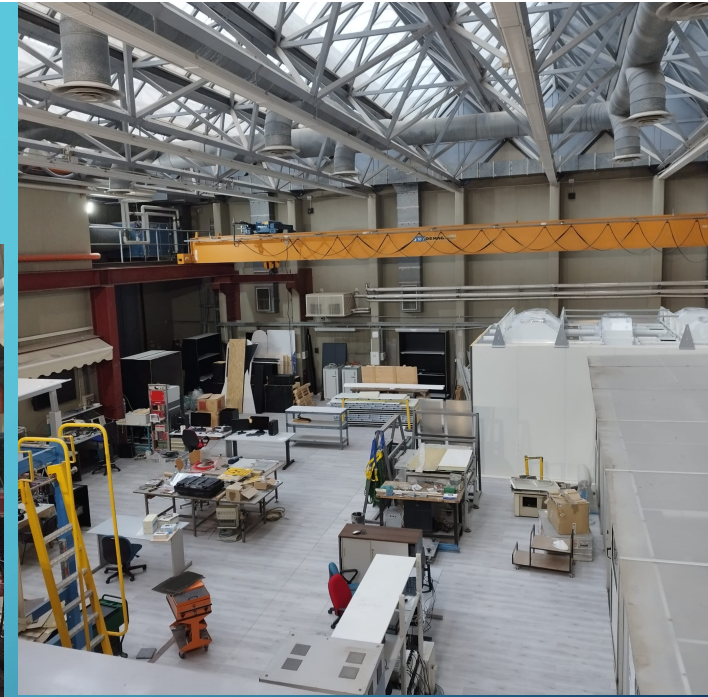
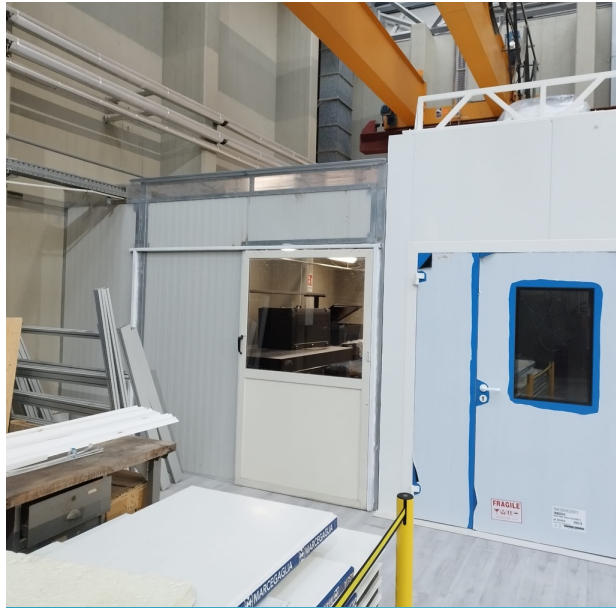
12.01.2023



HANGAR 2021



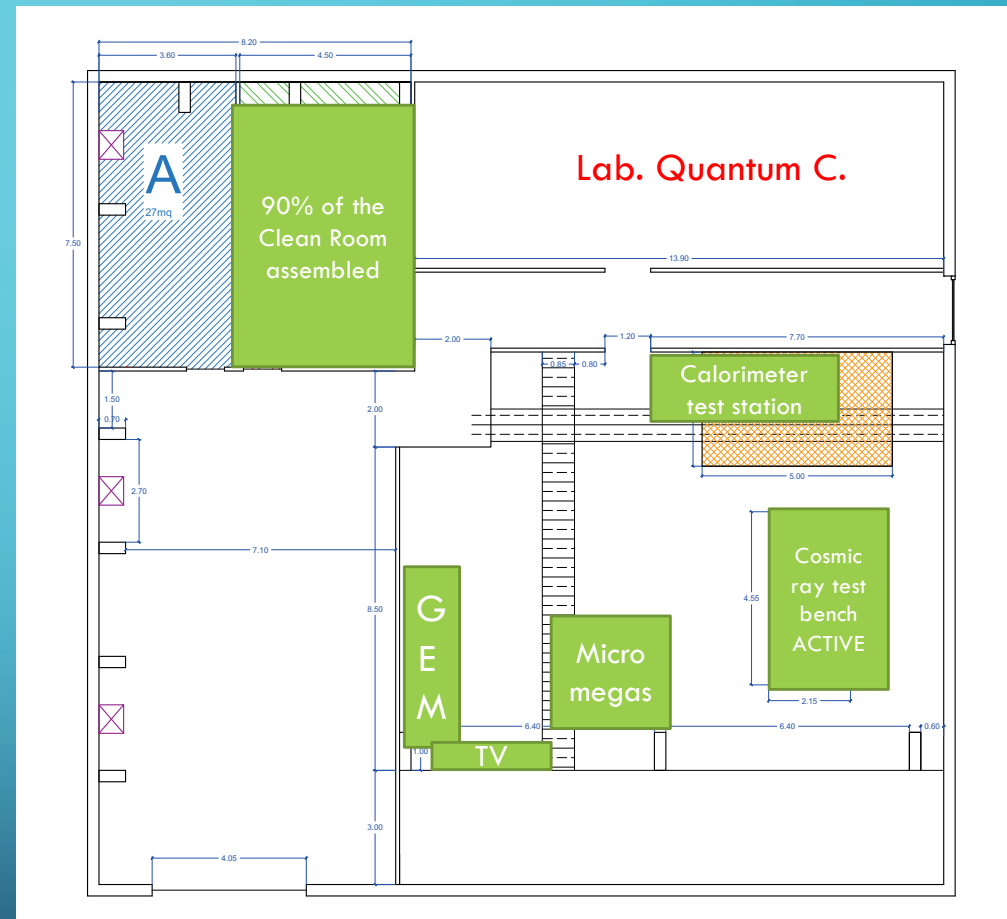
HANGAR 2023



PIANTA HANGAR 2023

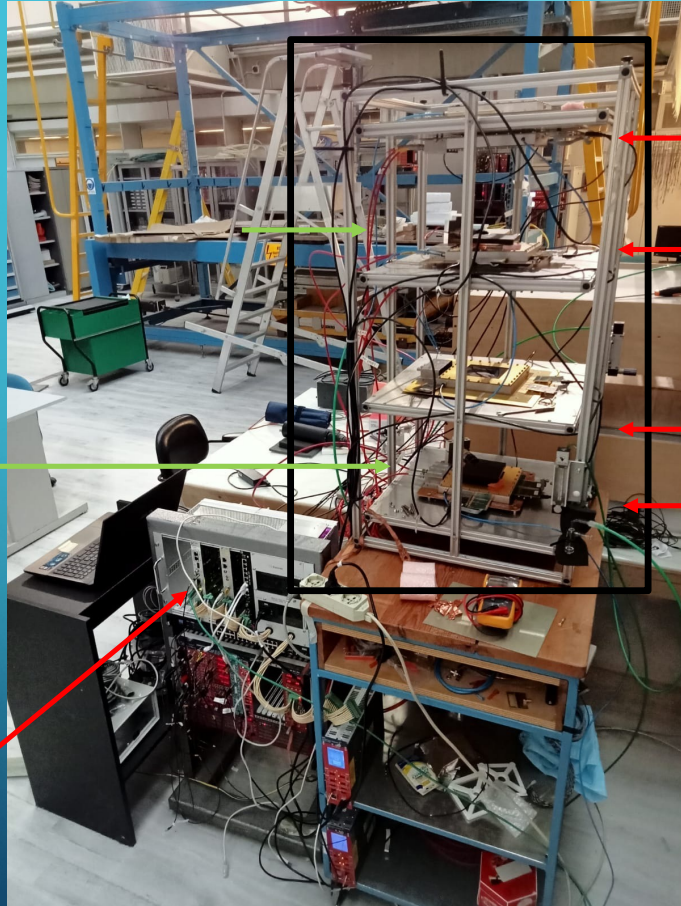
DOVE SIAMO A GENNAIO 2023

- Activities
- All steps accomplished:
 - Ripavimentazione completa (Federico II)
 - Restyling area Gruppo-I – open space
 - Eliminazione rifiuti – Razionalizzazione spazio
 - Laboratorio B Clean Room (Gruppo-I) 33 m²
 - Laboratorio A fotosensori (Gruppo-II) 27 m²
 - Laboratorio esterno per Camera termica+storage per Darkside
 - TV per monitor online degli eventi di LHC
- In the meanwhile:
 - Quantum computing PNRR new lab
 - Area Storage per Magazzino



ATLAS R&D: MicroMegas tracking performance with Cosmic-rays (Maria Teresa)

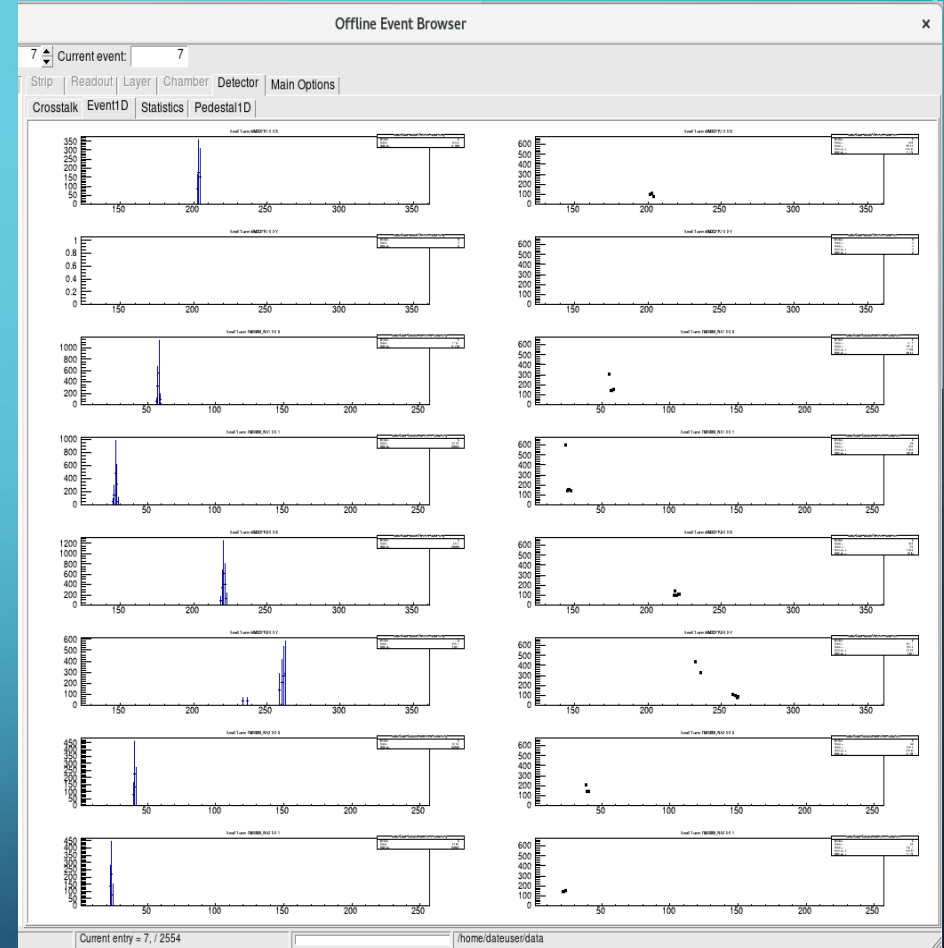
1. Studies of tracking performance with cosmic rays



Tracker/
detector

scintillator

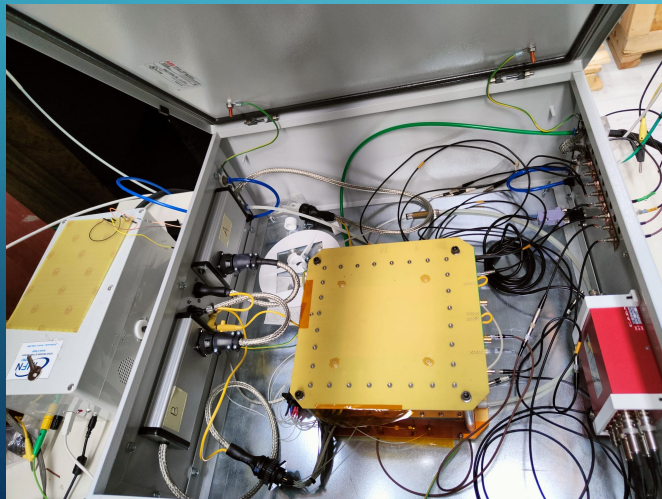
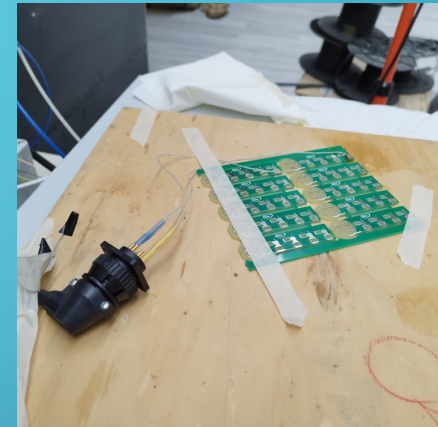
FEC



- External trigger system + 3 external trackers + 1 detector to study (1 FEC);
- Next step: External trigger system + 4 external trackers + 1 detector to study (2 FECs)

CMS: GEM activities @INFN Napoli (Antimo)

- Quality check and Quality control of the HV filters for GE2/1
- GEM Electric field characterization through PICO
- Future plans:
 - Dedicated study for discharge propagation @ different GEM Working Point (PICO+Oscilloscope)



Cosmic-ray test bench (MG)

Monitor online

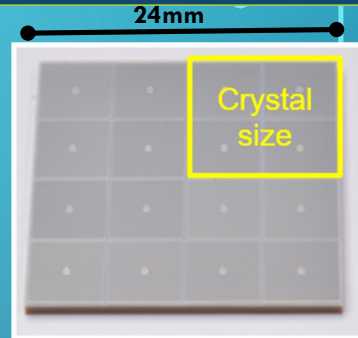
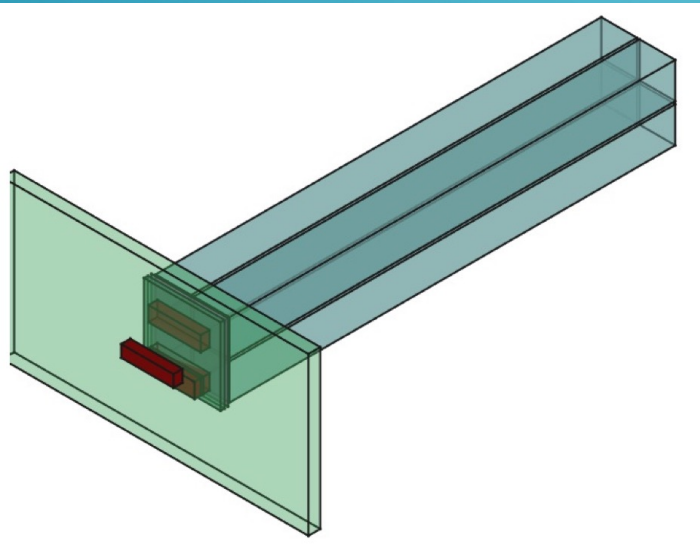
Nov 2022 fully refurbished:

- Read-out OK
- DAQ OK
- Detectors OK
- Small gas leak in drift chambers (will be solved by Kara-Givi at the end of Jan)
- Useful for calibration and QC of tracking detectors (MicroMegas, GEM) and for the development of the FCC calorimeter (crystal dual readout)
- Installazione TV per monitor online degli eventi



Dual Read-out Crystal calorimeter test bench (joint effort)

- ❑ Procurement of 16 different Crystals (12x12x50 and 12x12x150mm) to be characterized
- ❑ Design of a Dark box with temperature/humidity control
- ❑ Procurement of Light filters for Cherenkov light
- ❑ Cosmic trigger implementation (Cosmic-ray test bench ?)
- ❑ Assembly of the exp. setup to test up to 4 crystals
- ❑ First data taking in summer 2023
- ❑ Procurement of A5202 board from CAEN and of CAEN DT5751 2Gs/s 10 bit
- ❑ Hamamatsu MPPC matrices of 24x24mm² size:
 - 1x S14161-3050AS-08: 8x8 matrix of 3x3 mm²
 - 2x S14161-6050AS-04: 4x4 matrix of 6x6 mm²



Machine Learning applied to Nutrition Science (F. Conventi, A. De Iorio, E. Rossi, B. Rossi)

- Conto terzi INFN (15k) collaborazione con Antur s.r.l.
- Progetto INFN finanziato dalla Regione Campania (80k) attraverso il Fondo per l'ottimizzazione delle terapie nutrizionali e la riduzione del rischio cardiovascolare nella Regione Campania a valere sulla missione 14 – Programma 3 – Titolo 1 e contestuale prelievo dalla Missione 20, Programma 1, Titolo 1 del Bilancio di previsione 2023 – 2025.

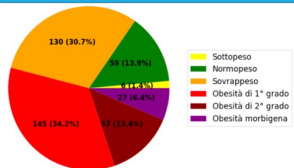
MLNS2022: Machine Learning applied to Nutrition Science workshop 2
 Friday 11 Nov 2022, 09:30 → 18:55 Europe/Rome
 Villa Buonanno (Cercola)
 Biagio Rossi (Istituto Nazionale di Fisica Nucleare), Elvira Rossi (Istituto Nazionale di Fisica Nucleare) **11 nov 2022**

BMI

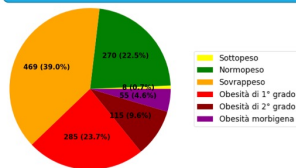
L'indice di massa corporea è un dato biometrico, espresso come rapporto tra peso e quadrato dell'altezza di un individuo ed è utilizzato come un indicatore dello stato di peso forma.

Valori di riferimento	
Sottopeso	≤ 18.5
Normopeso	18.6 – 24.9
Sovrappeso	25.0 – 29.9
Obesità 1° grado	30.0 – 34.9
Obesità 2° grado	35.0 – 39.9
Obesità morbigena	≥ 40

BMI Uomini



BMI Donne



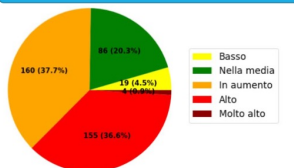
WHR

La variabile WHR è il rapporto adimensionale tra la circonferenza della vita e quella dei fianchi.

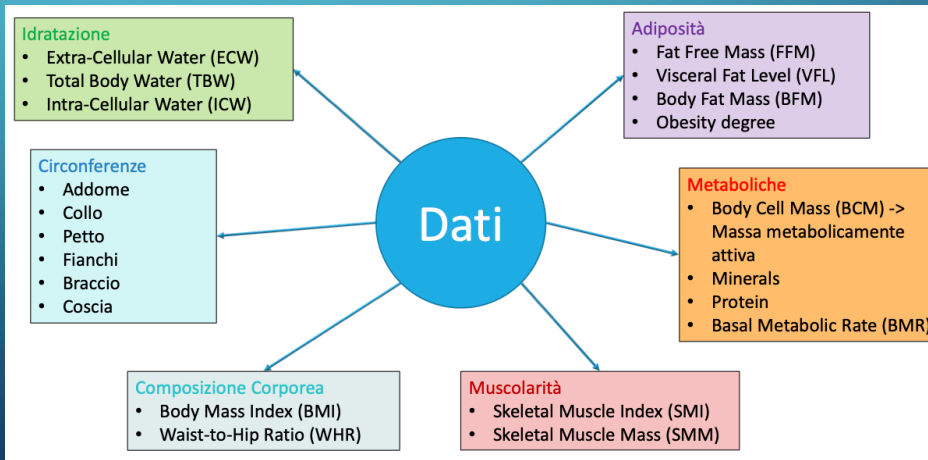
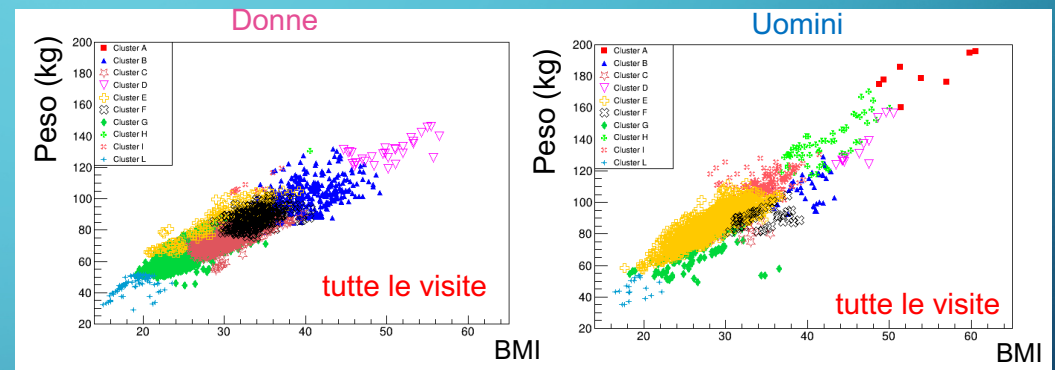
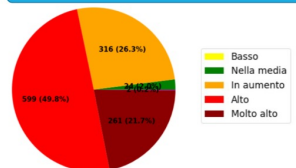
È associato al rischio di malattia cardiovascolare

Rischio di malattia	Uomini	Donne
Basso	< 0.80	< 0.70
Nella media	0.81 – 0.90	0.71 – 0.80
In aumento	0.91 – 0.99	0.81 – 0.89
Alto	1.00 – 1.19	0.90 – 1.09
Molto alto	1.20 – 1.29	1.10 – 1.19
Estremamente alto	> 1.30	> 1.20

WHR Uomini



WHR Donne



HARDWALL CLEAN ROOM 1/4

Fully funded by INFN in Dec 2021 and assembled at 90%

- ISO8 (almost ISO7) upgradable
- 5 filter units installed (indipendenti)
- Two tables for detector assembly
- Two electronic desks
- Armadietto
- Panca per indossare i calzari

Upgrades:

- Oxygen meter
- Temperature and humidity sensors with display and ethernet connection

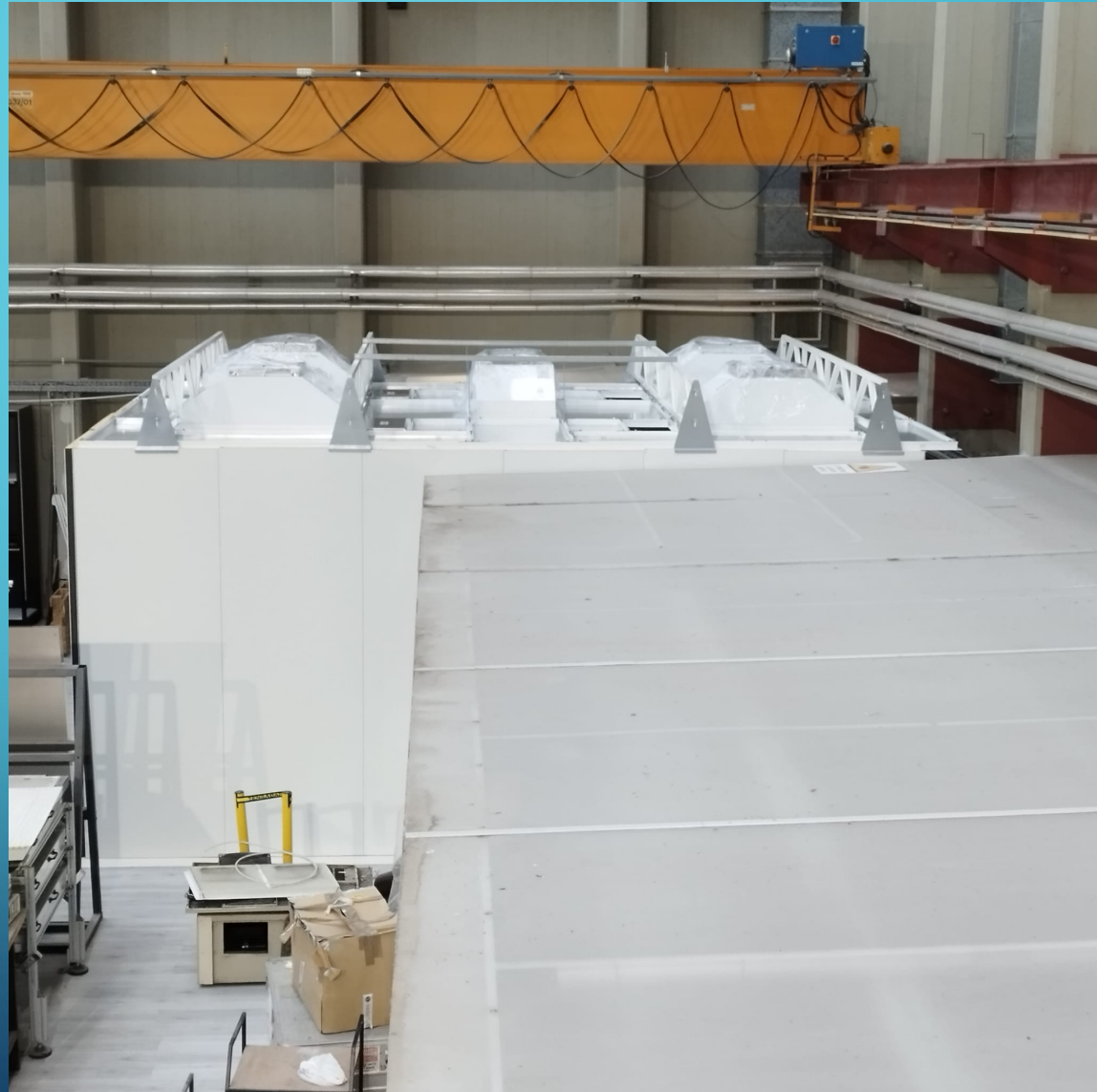
Arredi



HARDWALL CLEAN ROOM (FRONT) 2/4



HARDWALL
CLEAN ROOM
(TETTO) 3/4



CLEAN ROOM 4/4

Bottle-neck «Power connection»:

- Remove the rail to keep 3m height for the whole clean room (not easy – not quick)
- Gigabit ethernet cables (fiber ?) to be placed
- Quadro elettrico aggiuntivo per gruppo continuità (opzione)



EQUIPAGGIAMENTO INTERNO

STILL MISSING

- Power
- Ethernet
- Wifi ?
- Rack
- Stazione saldante
- Armadietto materiali ?
- HV power system CAEN SY1527
- Others ??

GENERAL PURPOSE EQUIPMENT

- Crate NIM 12 slots
- Waveform generator Keysight EDU33212A
- Power supply Rohde&Schwartz 100V - 2A - 2 ch
- Power supply Keysight 30V – 1 A - 3ch
- Multimetro Fluke 175
- Tester per componenti RS PRO ICT76
- Misuratore temperatura
- Gruetta mobile (if needed from LArNal)



THANK YOU