

The ePIC SiPM prototype moves to Irnerio

Nicola Rubini⁽¹⁾

⁽¹⁾INFN Bologna
28th May 2025

SiLab start



After being in the SiLab for almost a year, following its way back from the 2024 beam test, the prototype has been the subject of visits, studies and R&D efforts to better understand problems and improve the read-out.

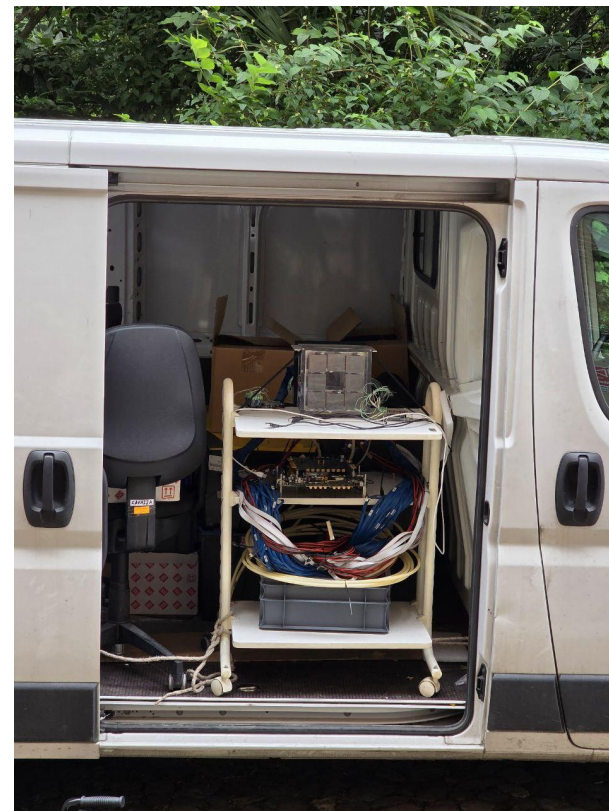
SiLab start



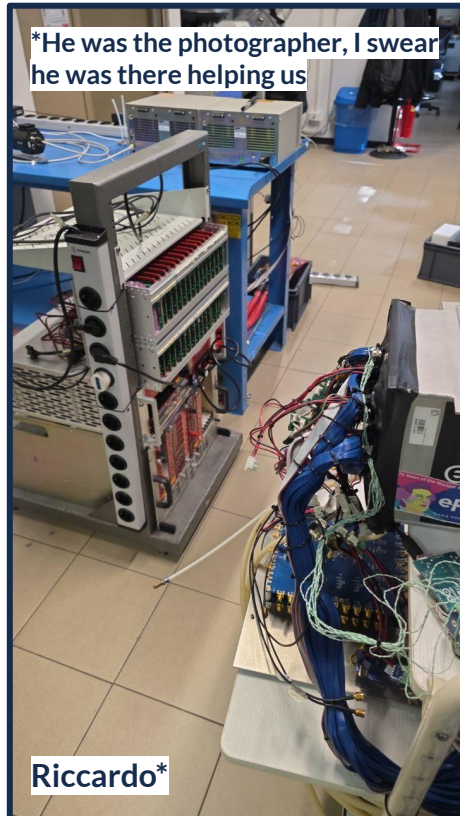
It has now been moved to the ground floor Irnerio Lab, to continue the R&D saga



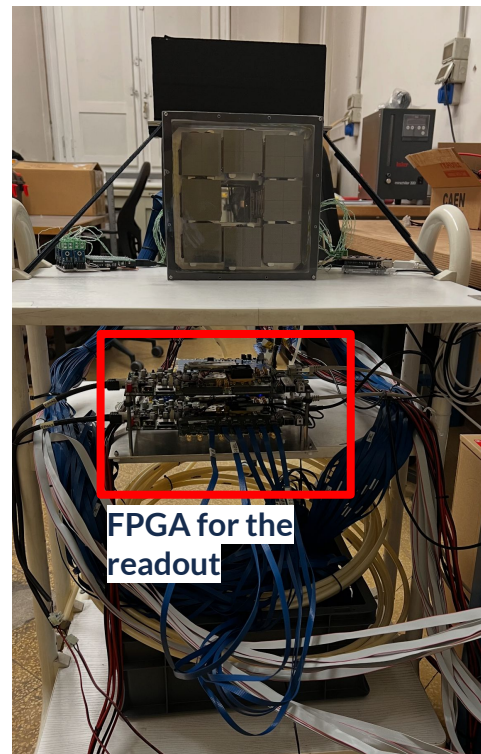
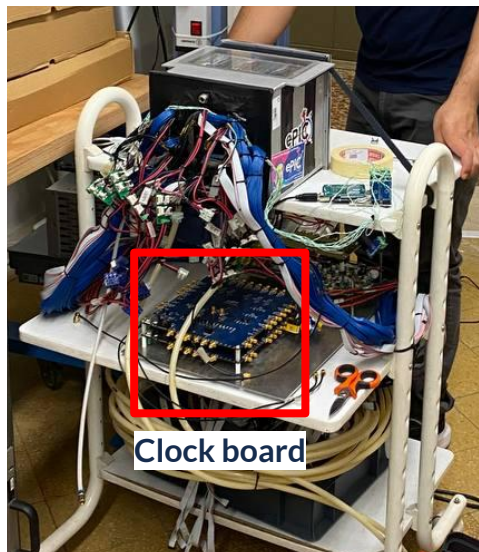
On the way to its new home



Prototype in the Irnerio ground floor Lab



Prototype in the Irnerio ground floor Lab



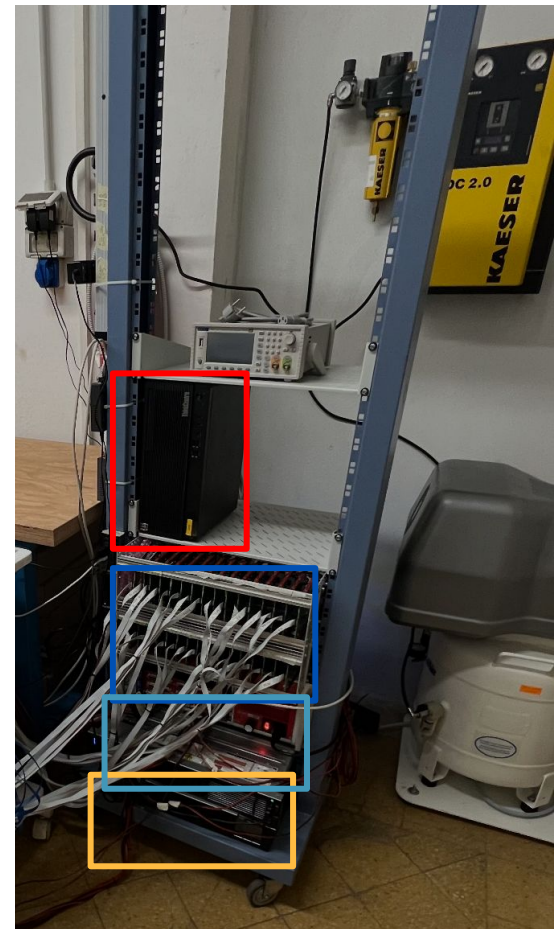
Prototype in the Irnerio ground floor Lab



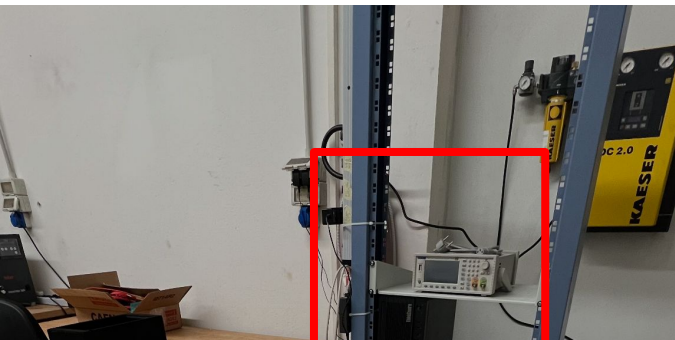
The service rack hosts:

- Caen compact power supply
- **DCS pc**
- **Server for data handling**
- Master Logic boards for HV piloting and temperature control

Behind, the compressor and air dryer to reach sub-zero temperatures

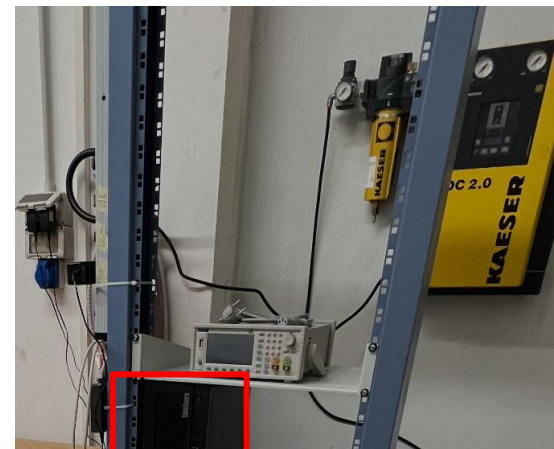


Prototype in the Irnerio ground floor Lab



The service rack hosts:

- Caen compact power supply
- **DCS pc**
- **Server for data handling**
- Master Logic boards for HV piloting and temperature control



DHT22 sensor

Connor's K-probes

Alberto's K-probes

NTC probes

No data

Mean

30.4 °C

Min

29 °C

Max

31.3 °C

Mean

28.4 °C

Min

25.4 °C

Max

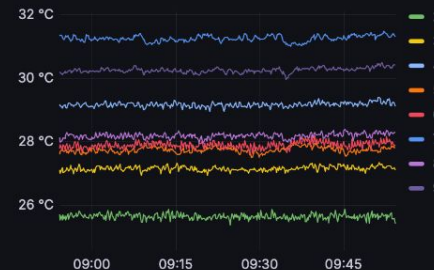
31.3 °C

Mean
24.2 °C

Min
23.8 °C

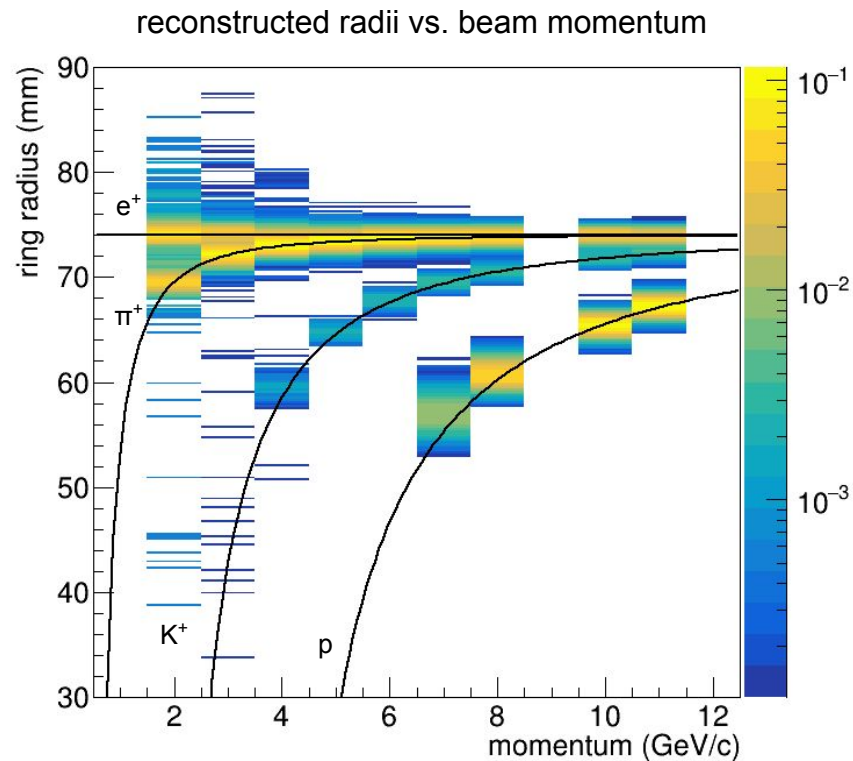
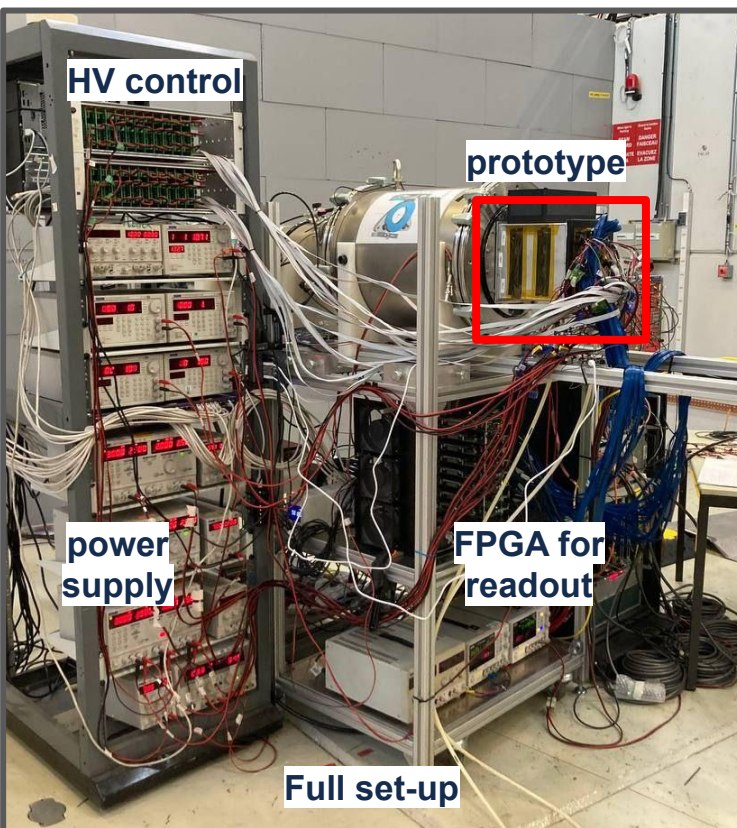
Max
24.9 °C

back in business with
Grafana monitoring on
temperatures and voltage
piloting



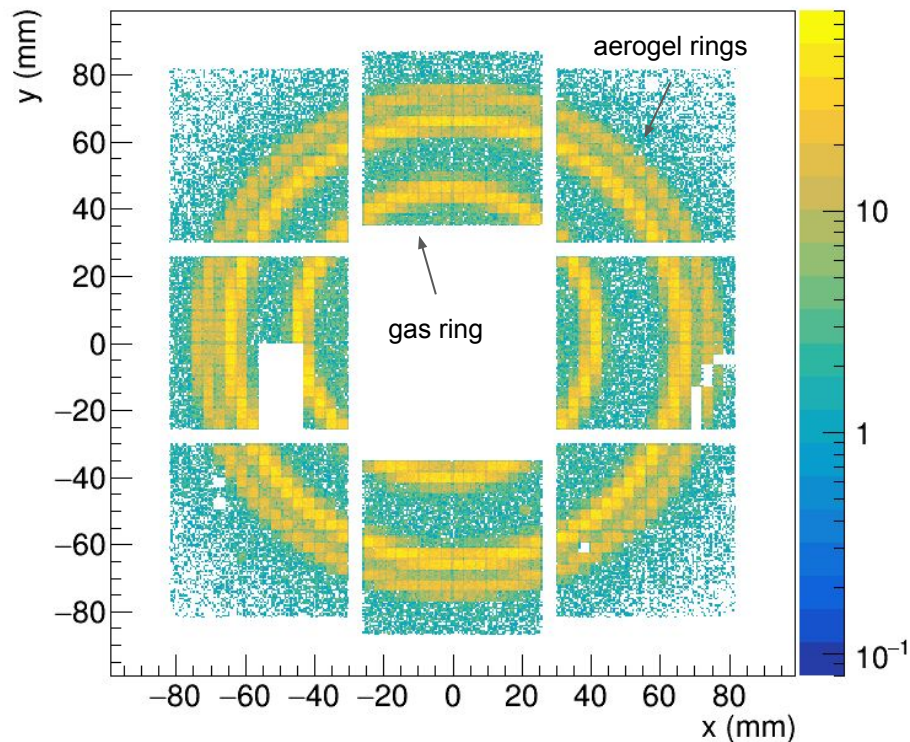
Readout status

Prototype on the beam

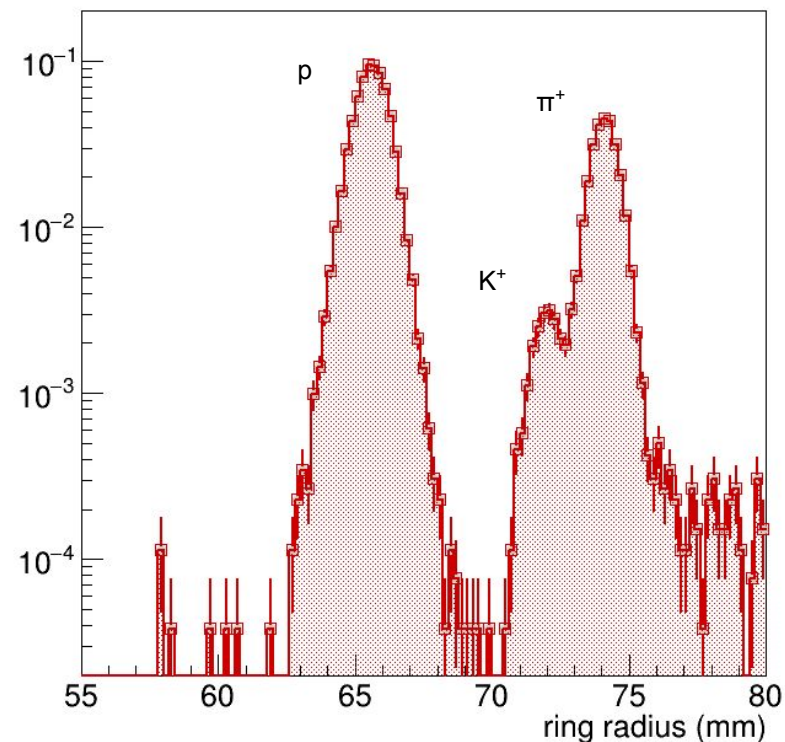


PID w/ Gas & Aerogel

10 GeV/c positive beam with no selection applied

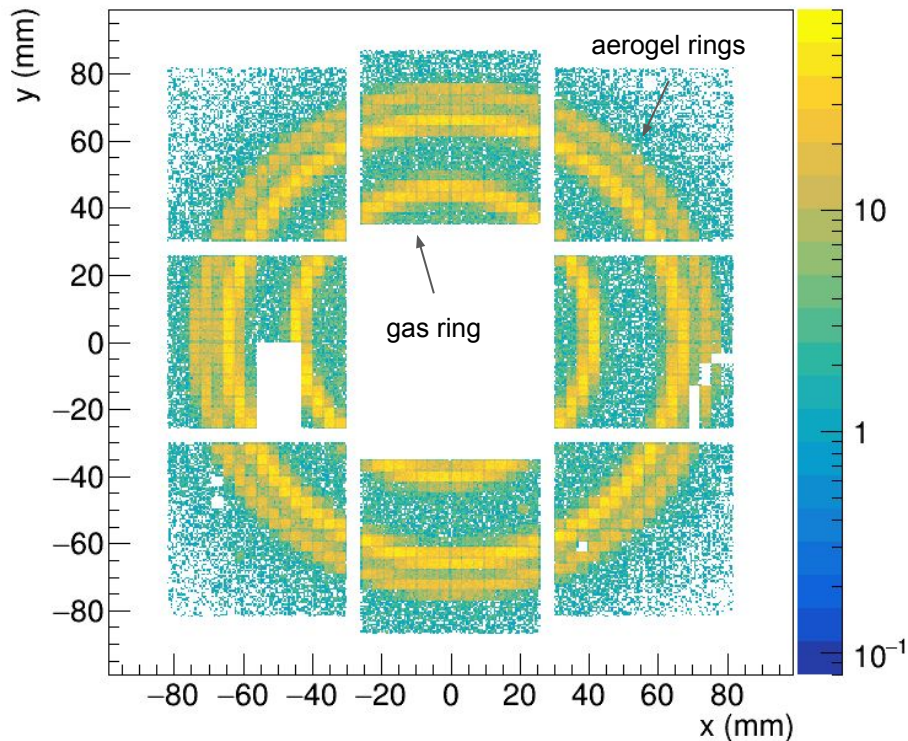


reconstructed radii at 10 GeV/c with no selection applied

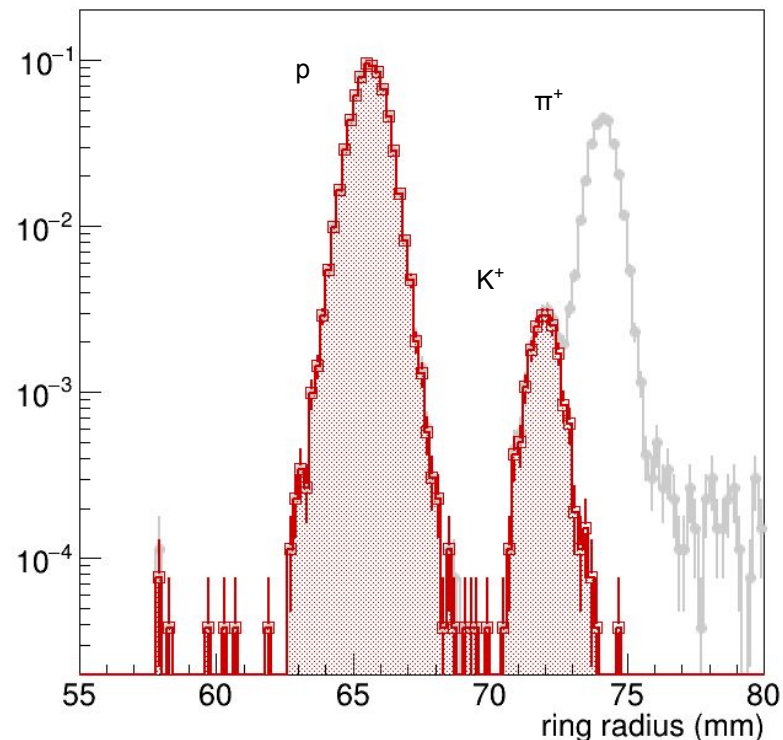


PID w/ Gas & Aerogel

10 GeV/c positive beam with no selection applied



reconstructed radii at 10 GeV/c with gas veto applied



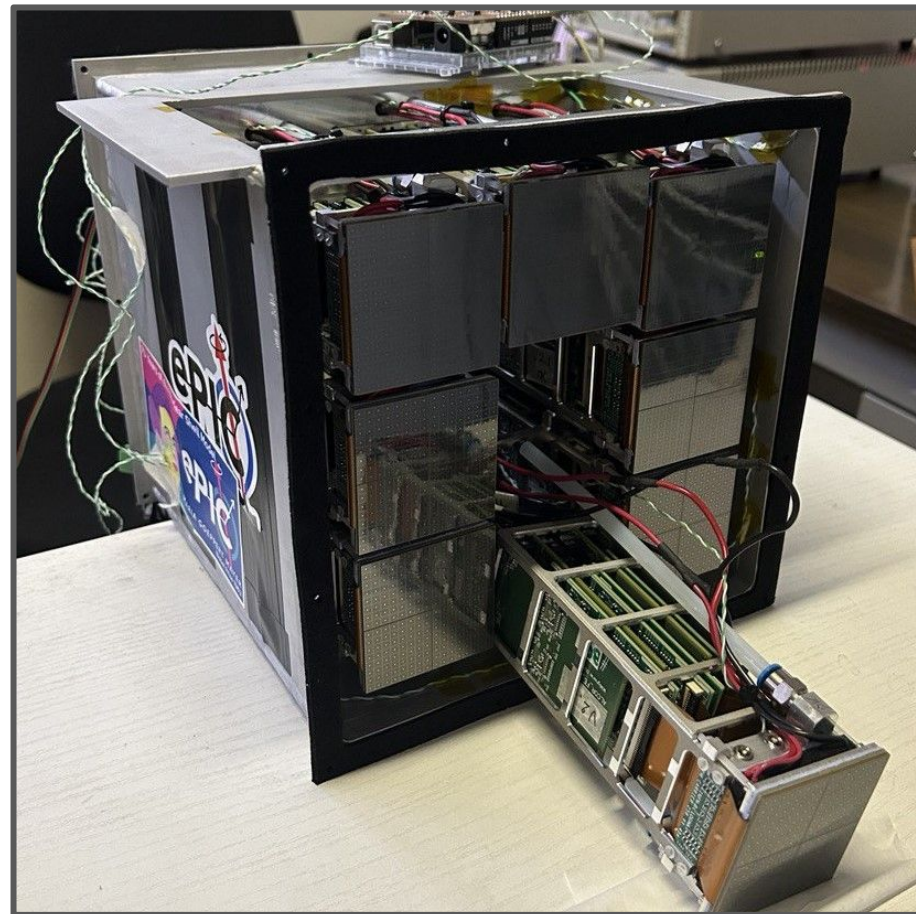
Summary

The prototype moved to the Innerio ground lab to continue R&D efforts

Many opportunities to help on many topics:

- Data analysis from the beam test
- Sensors characterisation
- Electronics testing
- Readout
- ... and more!

If you want, we can have a visit at the end of the meeting!



Thank you!

Back-up