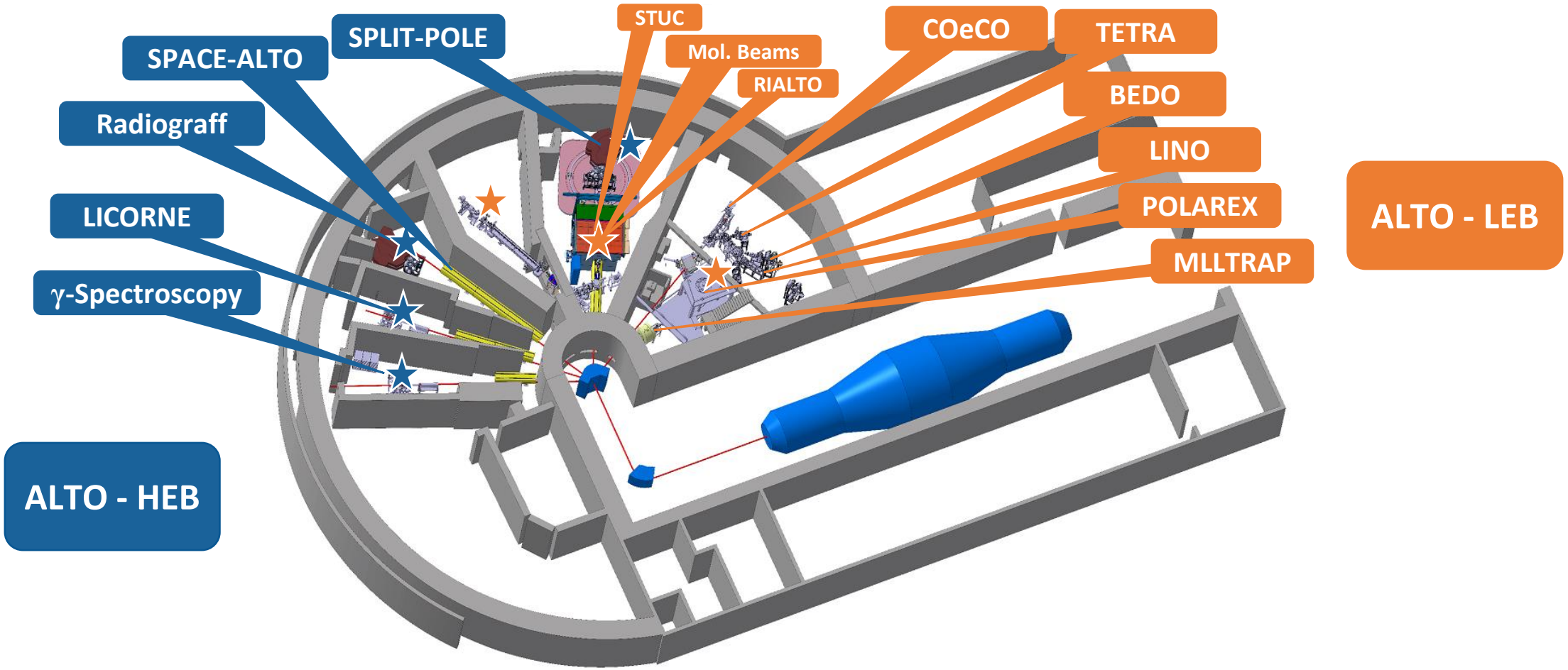
Operation at ALTO

Workshop on R&D for new ISOL beams (SPIRAL 1 and ALTO)

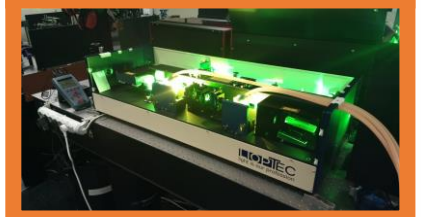
Florian Lemaitre, IJCLab

Research instrumentation and R&D supported by ALTO



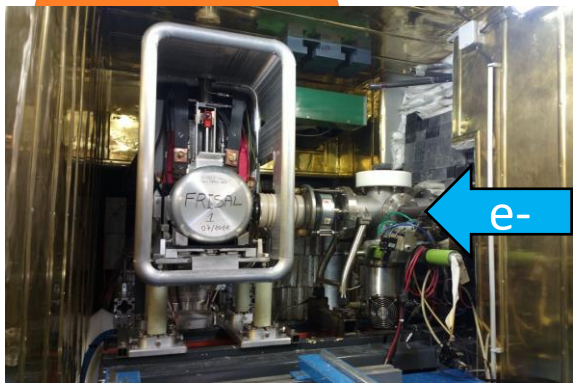
General presentation of the platform

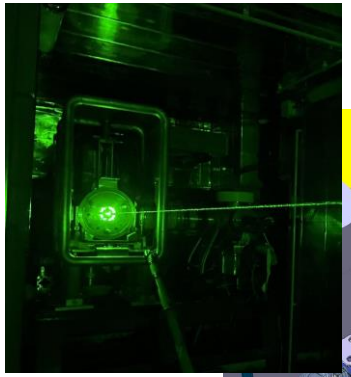
AL

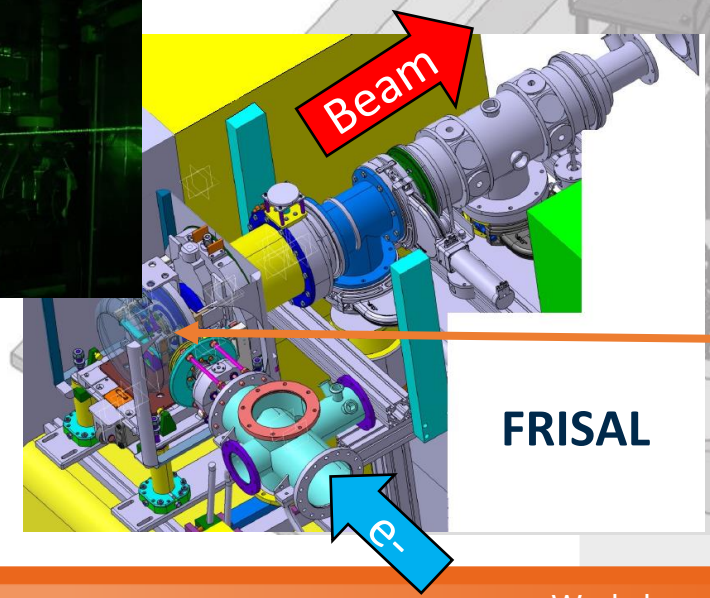


RIALTO

General presentation of the platform

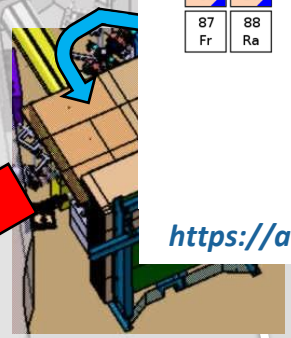




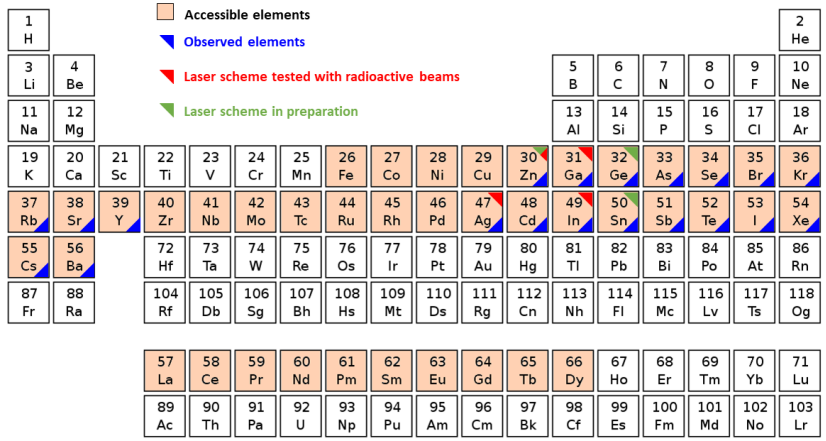


FRISAL

Mass separator (magnet dipole)



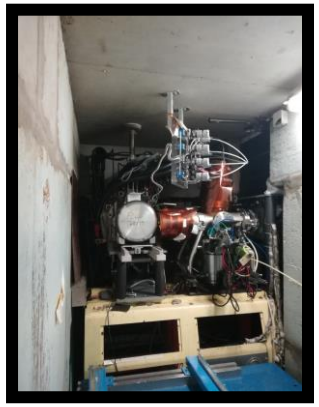
Target-ion source vault



https://alto.ijclab.in2p3.fr/en/facility/alto-leb/production/

FRISAL project : Robotic Frontend for ALTO-LEB

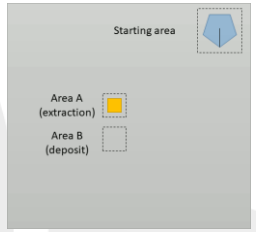
- **Objectives of phase 1**
  - Increase Frontend reliability for RIB production
  - Upgrade of the RIB acceleration from 30 kV to 60 kV
  - New Frontend mechanics adapted to the robot
  - 2023 upgrade of high power cables
    → stability of the temperature applied on the oven

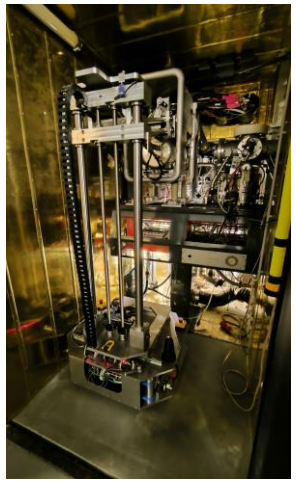


2019

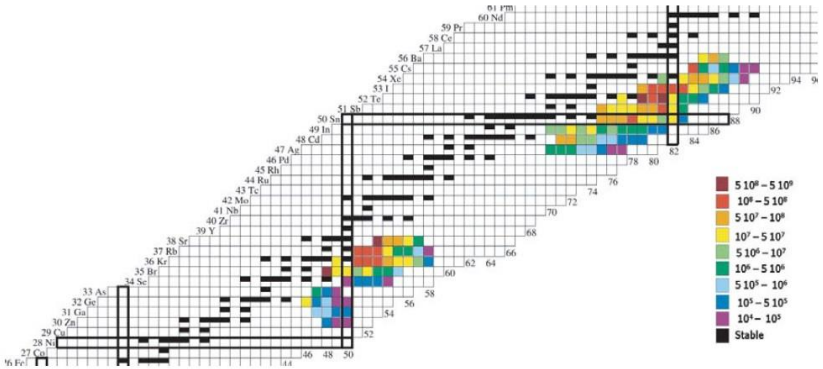
October 2022 : online commissioning

- **Objectives of phase 2**
  - Implementation of the Robot at ALTO-LEB
  - Increase the number of RIB experiments
  - 2023 : main movements validated
    → advanced tests at ALTO
  - Summer 2024 : first test in area of the target-ion source vault





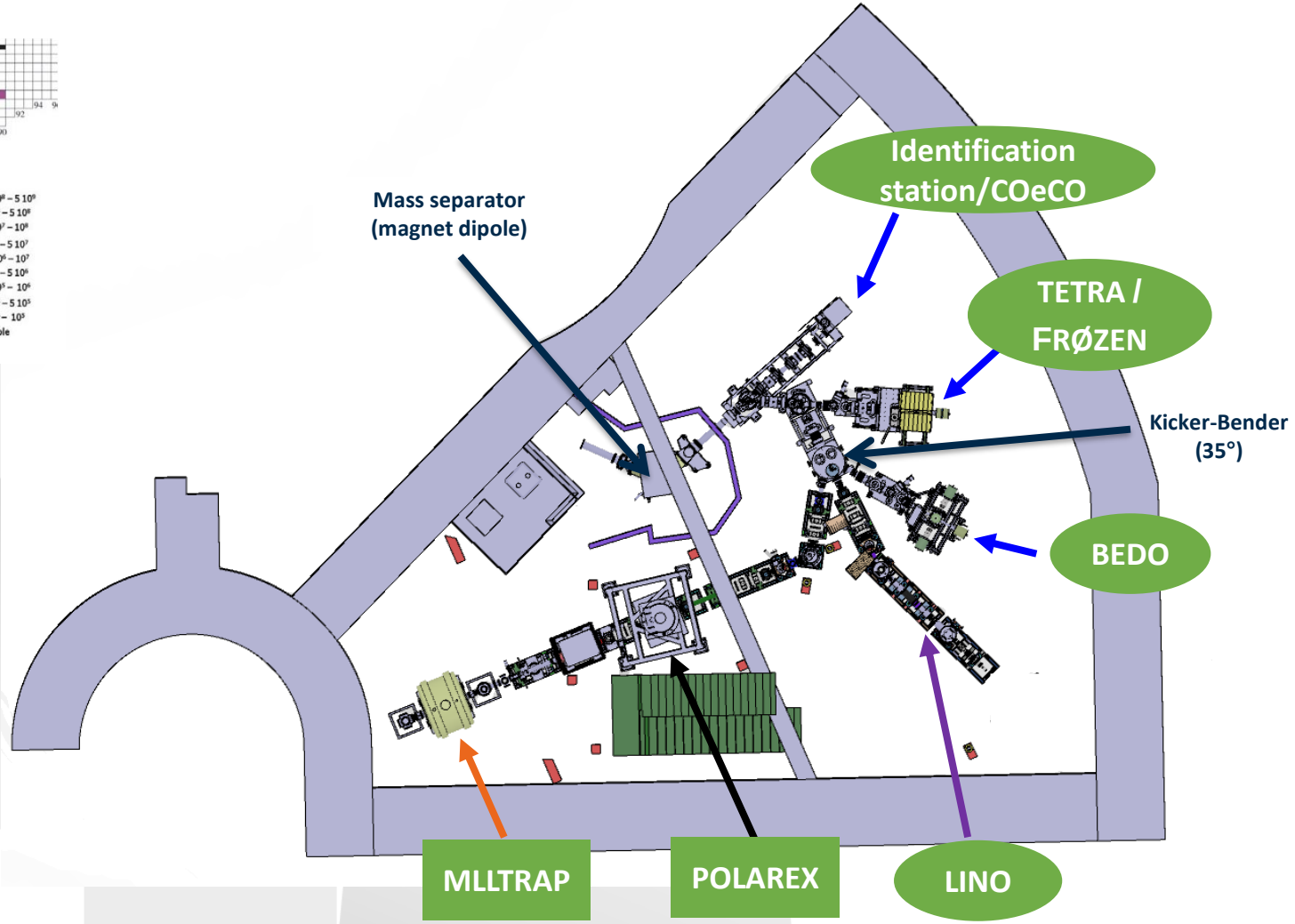
ALTO-LEB : observation



Nuclear structure studies of niche cases
→ currently 6 experiments at ALTO-LEB

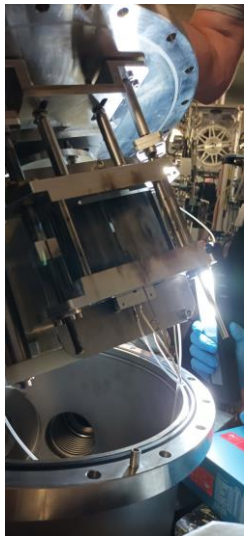
They allow measuring nuclear fundamental properties of ground and long-lived isomeric states.

Access to fundamental observables
[I, μ, Qs, δ<r²>, B(N,Z), β decay spectroscopy]
to test state-of-the art nuclear theories

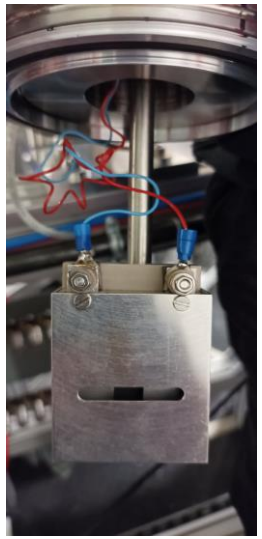


ALTO-LEB : Beam transport

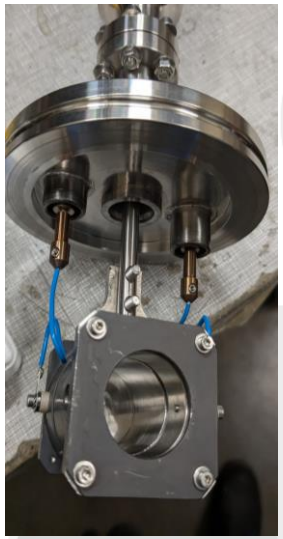
Different shapes for Faraday cups



CF2



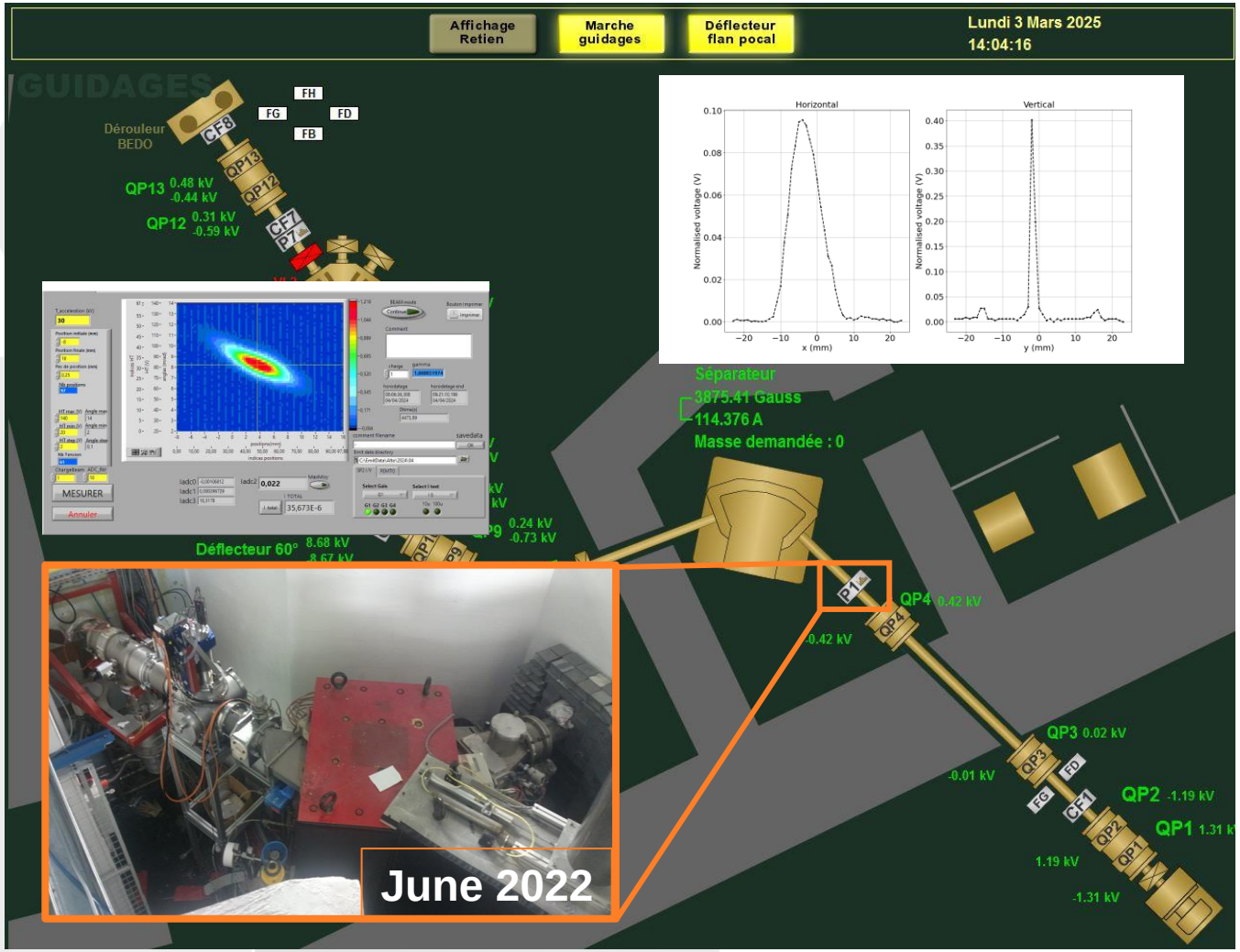
CF6



CF3

Objectives

- Standardize and optimise the beamline diagnostic system
- Automatisation of the beam transport thank to AI



Thank you for your attention !

Do you have any questions ?

If not yet.
Available at:

- Coffee breaks
- Lunch
- Everywhere you see me