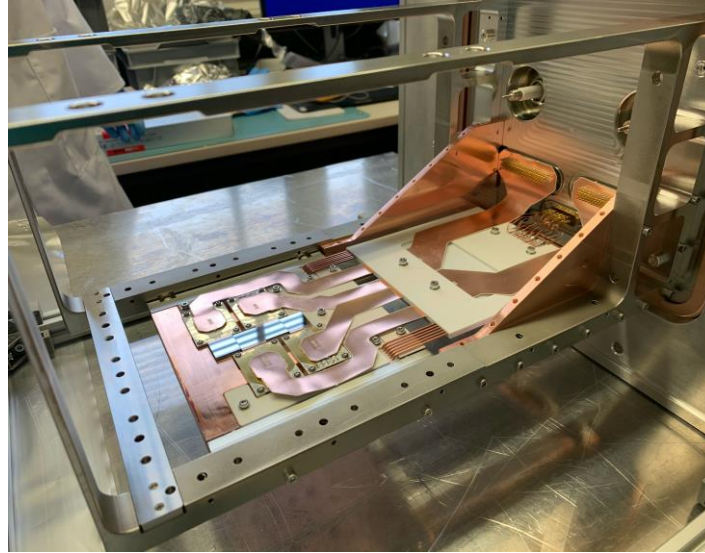


Beam Instrumentation

Mandate

The BI Group is responsible for > 10000 instruments that allow observation of the particle beams and the measurement of related parameters:

- Beam losses;
- Beam position;
- Intensity and Tune;
- Beam profiles;
- Associated equipment control systems and software.



Example of a Beam Instrumentation System 'Vertical Slice'



Electro-Mechanics

- Vacuum engineering
- Precision machining
- Exotic materials
- Motors

Sensors

- Optics
- Opto-electronics
- Radiation detectors
- Switches

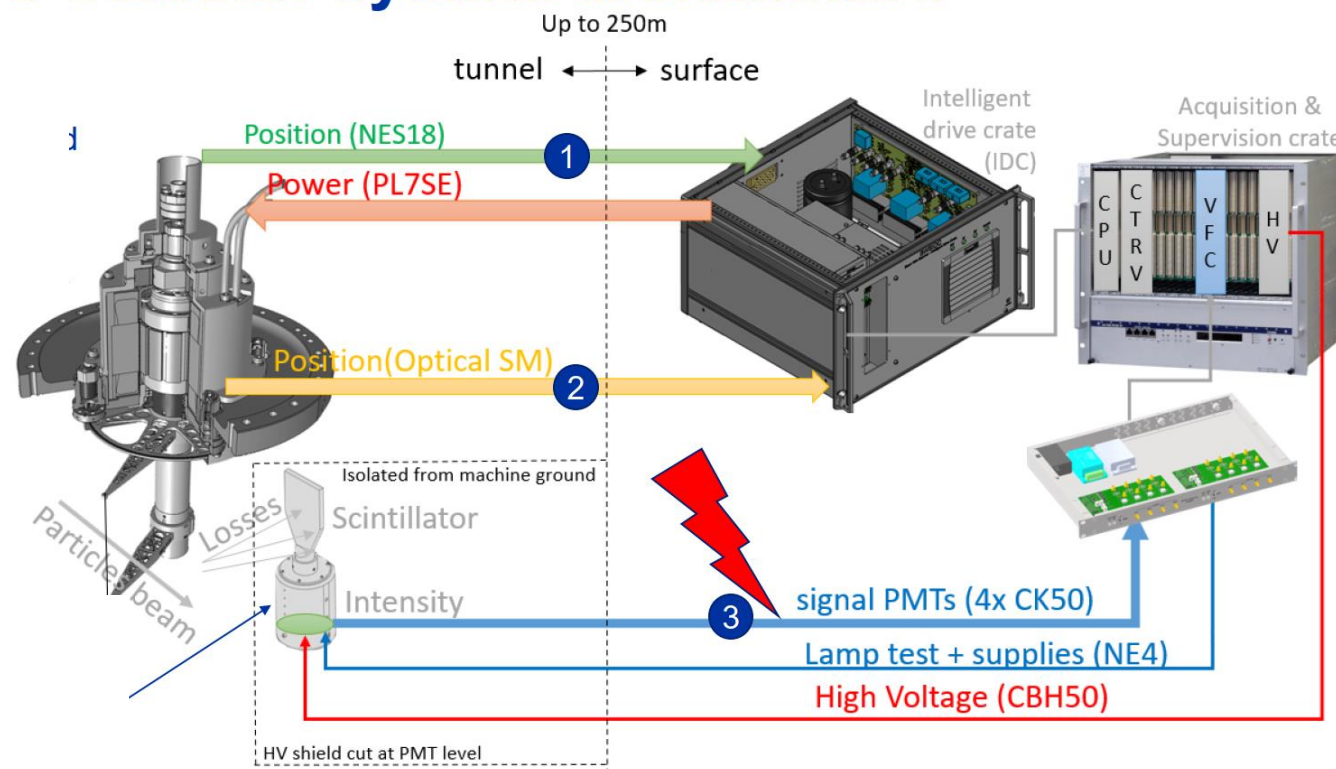
Control and acquisition electronics

- Analogue electronics cards
- Digital electronics cards
- Motor controllers
- Communications

Software

Special cables

LIU Wire-scanner system architecture



Beam Instrumentation: Current and Future Needs

- Production of electronics boards
- Production of mini racks for installation in accelerator tunnels
- Industrialisation and production of ionization chambers
- Production of specific cables and RF vacuum feedthroughs



Beam Instrumentation: Current and Future Needs

- Production of high precision UHV mechanical objects
- Production of electron gun and collector at 80kV

