

Construction: 2011-2018

Cost sharing for FAIR

Germany 75 %

Russia 17 %

Others 8 %

Finland-Sweden - FAIRNORD

~ 1 % (FAIR)

~ 10 % (NUSTAR)

**FAIR CONVENTION
2010**

Finland

- Super FRS in-kind 3.5 M€

- NUSTAR Collaboration

- Future: APPA collaboration ?

FAIR project organization - Finland

FAIR project in Helsinki Institute of Physics (HIP):

Project leader: A. Jokinen

Super-FRS project

GEM-TPC tracking:

- Francisco Garcia & detector laboratory at HIP

Beam profiles and actuators:

- Technical coordination: Kari Rytönen

MATS:

Co-spokesperson, A. Jokinen

Laspec:

Co-spokesperson, I. Moore

HISPEC/DESPEC:

Neutron detection: H. Penttilä and S. Rinta-Antila

IGISOL as a test facility providing new physics data

PreSpec campaign: Tuomas Grahn + ...

Gas catcher development:

I. Moore and S. Rinta-Antila

FAIR management links:

FAIR council: J. Äystö

Nustar Board: A. Jokinen

Resource Review Board: A. Jokinen, J. Äystö

Nustar Resource Board: I. Moore

FAIR/AFC: M. Sainio (deputy chair)



HELSINKI INSTITUTE OF PHYSICS 1997 -



- **NATIONAL RESEARCH INSTITUTE OPERATED BY**
Helsinki and Aalto* Universities (1997)
Jyväskylä University (2002)
Lappeenranta Univ of Technology (2007)
Tampere Univ of Technology (2008)
- **MANDATE (part of National CERN Strategy)**
fundamental and applied physics, research at frontier facilities
technology development at accelerator labs
graduate training in physics and technology
- **HIP COORDINATES FINNISH ACTIVITIES AT**
CERN, FAIR construction

*Formerly Helsinki Univ of Technology (+Helsinki School of Economics & School of Art and Design)

Helsinki Institute of Physics 2014

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Accelerator Technology
Kenneth Österberg

Green Big Data
Tapio Niemi

PET Project
Ulla Ruotsalainen

Detector Laboratory
Eija Tuominen

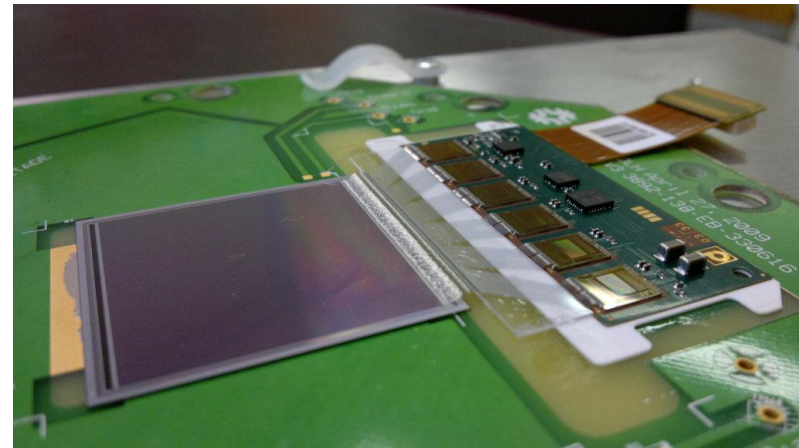
Forward Physics
Risto Orava

PLANCK/EUCLID
Hannu Kurki-Suonio

CLOUD Experiment
Markku Kulmala

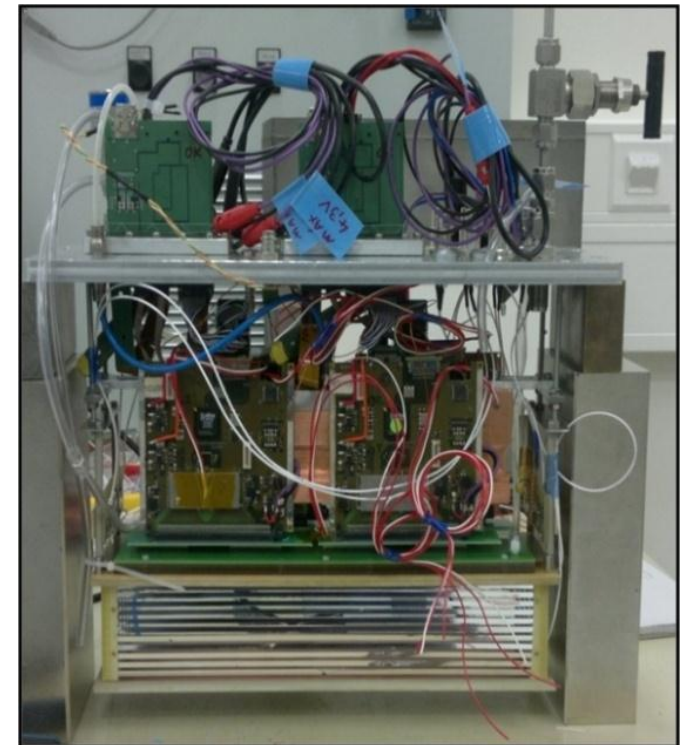
Helsinki Detector Laboratory

- Joint infrastructure of Helsinki Institute of Physics (**HIP**) and University of Helsinki / Department of Physics (**UH/Physics**).
- Offers **premises, equipment and know-how** for research projects developing semiconductor and gas-filled detectors.
- **Cooperates** with HIP, UH/Physics, universities, research institutes and companies (e.g. Aalto/Micronova, JYU, LUT, CERN).
- Supports **education** by laboratory exercises and theses works.
- Participates in **outreach** by hosting high school and other visitors.

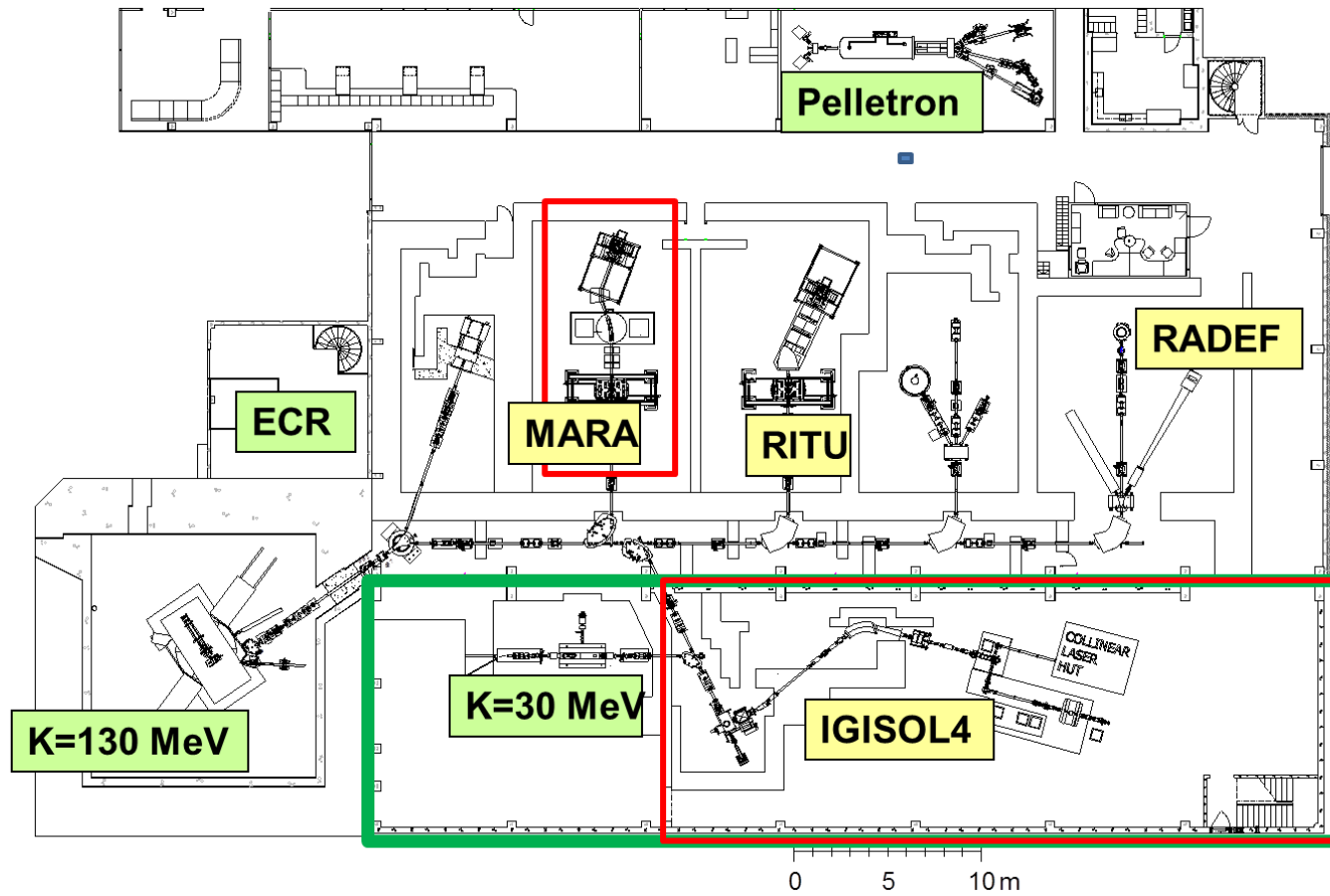


3. Instrumentation of FAIR in Detector Laboratory

- In the framework of **HIP Nuclear Physics Program / FAIR Project**.
- GEM-TPC (Gaseous Electron Multiplier – Time Projection Chamber) detectors are needed for the beam diagnostics of FAIR Superconducting Fragment Separator (**Super-FRS**).
- The **ongoing R&D** includes detector design and simulations, prototype construction, electrical testing incl. Quality Assurance (QA), and in-beam testing.
- The work is done together with **GSI**, University of **Jyväskylä** and Comenius University **Bratislava**.
- Currently, **the fourth GEM-TPC** prototype is being developed.



JYFL-ACCLAB



NuSTAR - complementary to JYFL programme

