



ISOLDE



ISOLDE in the ESPP

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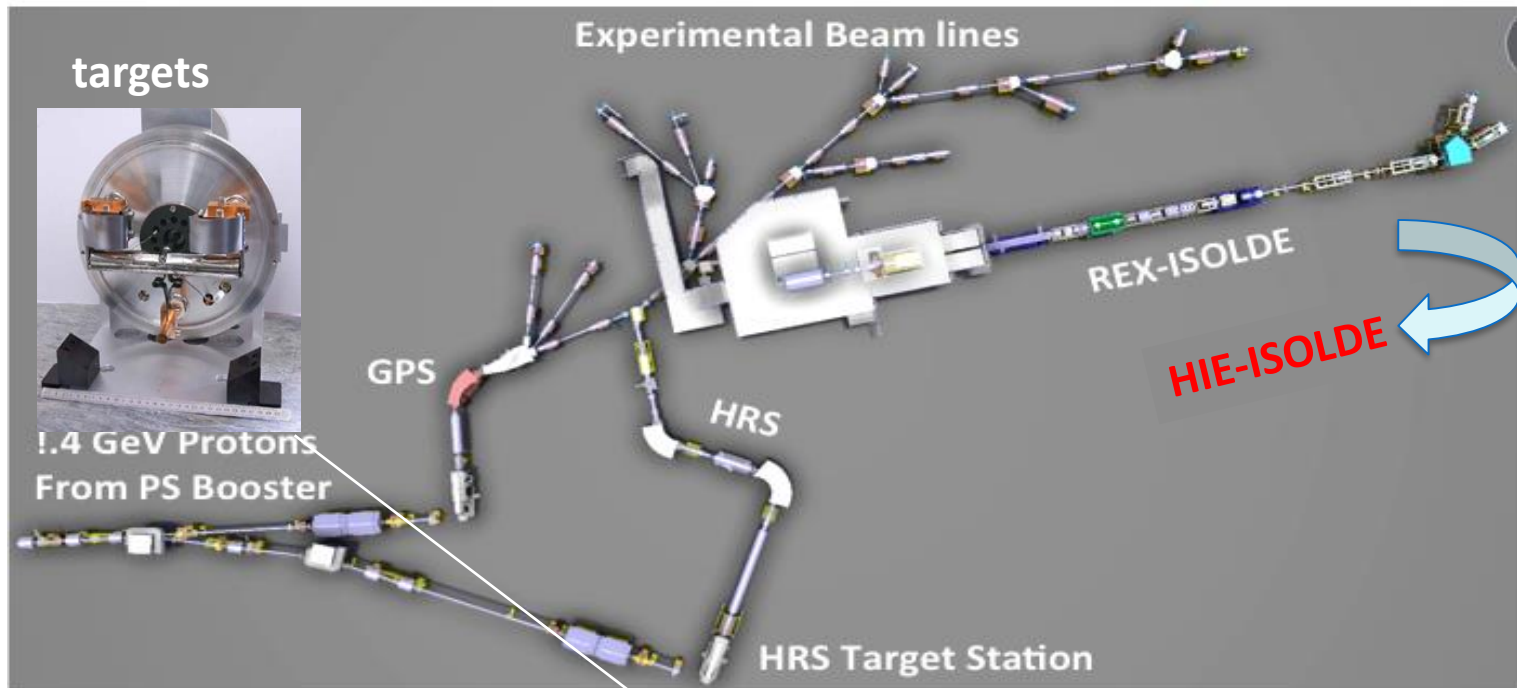
Aarhus University / INTC chair

ESPP

- CERN as laboratory for Particle Physics ?
- Vs CERN as a high energy accelerator laboratory
- ISOLDE is part of CERNs "diversity program"

Why is ISOLDE at CERN?

- ISOLDE is the CERN radioactive beam facility
- **High-energy proton beam the “ultimate ISOL driver”**
- Provides low energy or post-accelerated beams
- > 500 Users from 100 Institutions, 50 experiments / year



Linac4
PSB upgrade (2020)

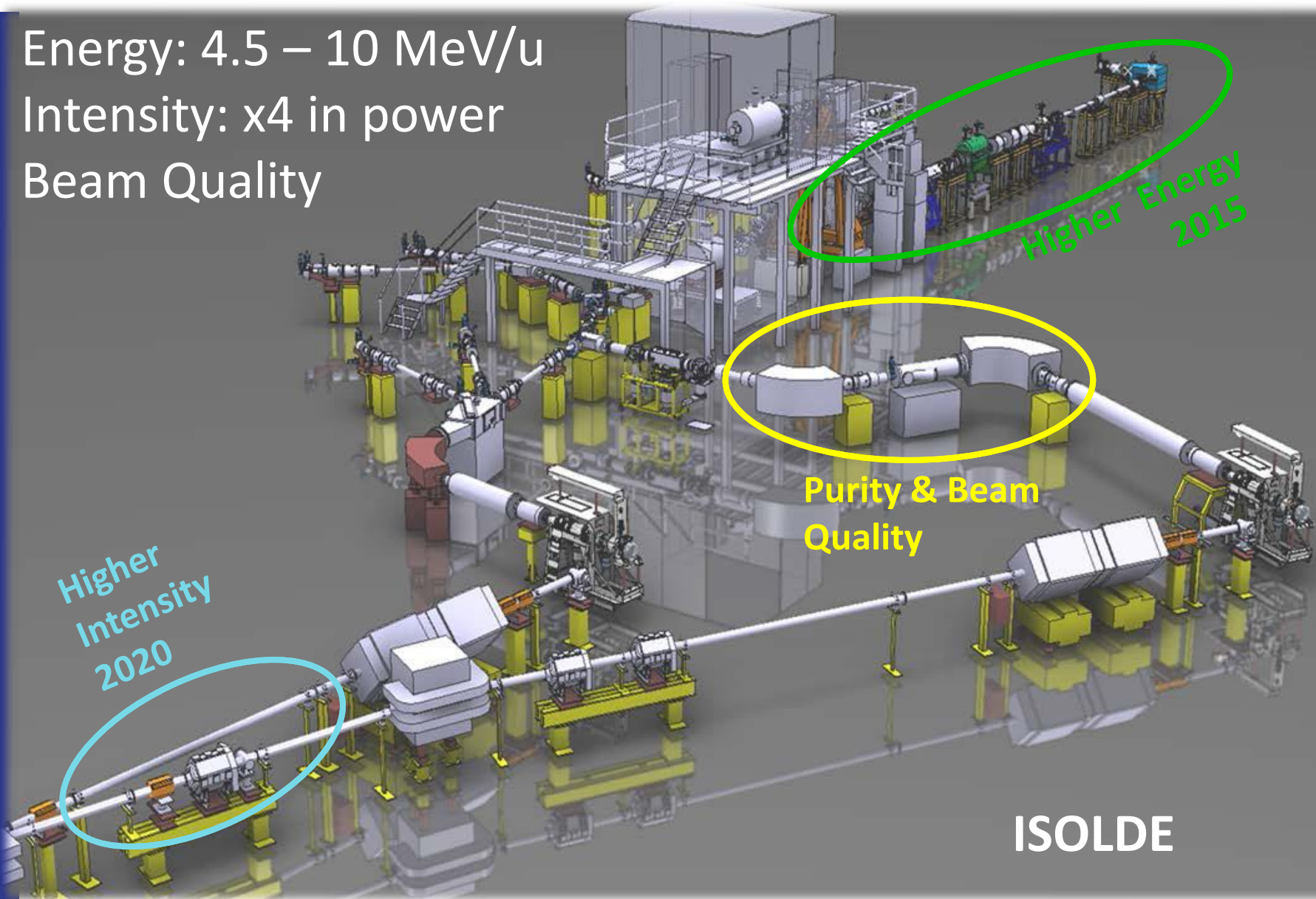
{ intensity (2uA -> 6uA)
energy (1.4 -> 2GeV) }

The HIE-ISOLDE project (2010 -)

Energy: 4.5 – 10 MeV/u

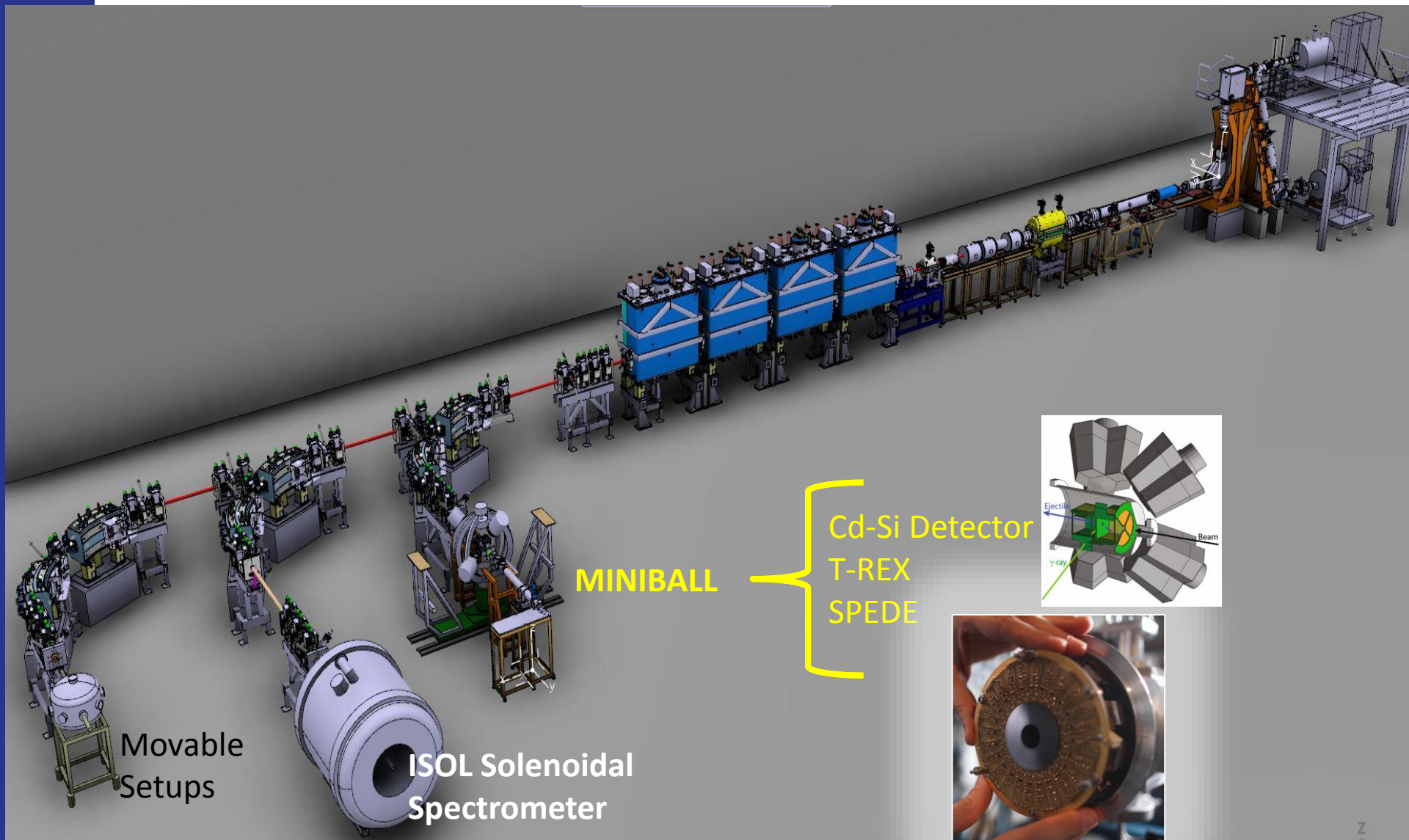
Intensity: x4 in power

Beam Quality



ISOLDE

HIE-ISOLDE Phase 2 (2017-2018)

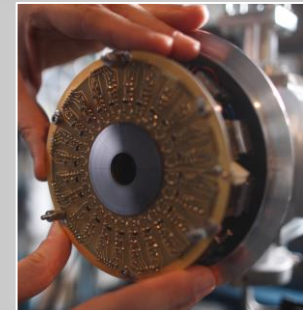
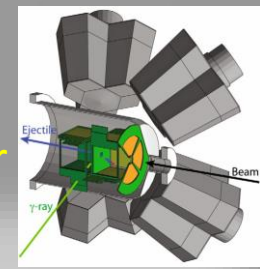


Movable
Setups

ISOL Solenoidal
Spectrometer

MINIBALL

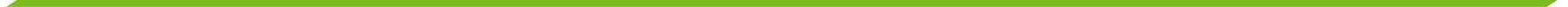
Cd-Si Detector
T-REX
SPEDE



Major projects

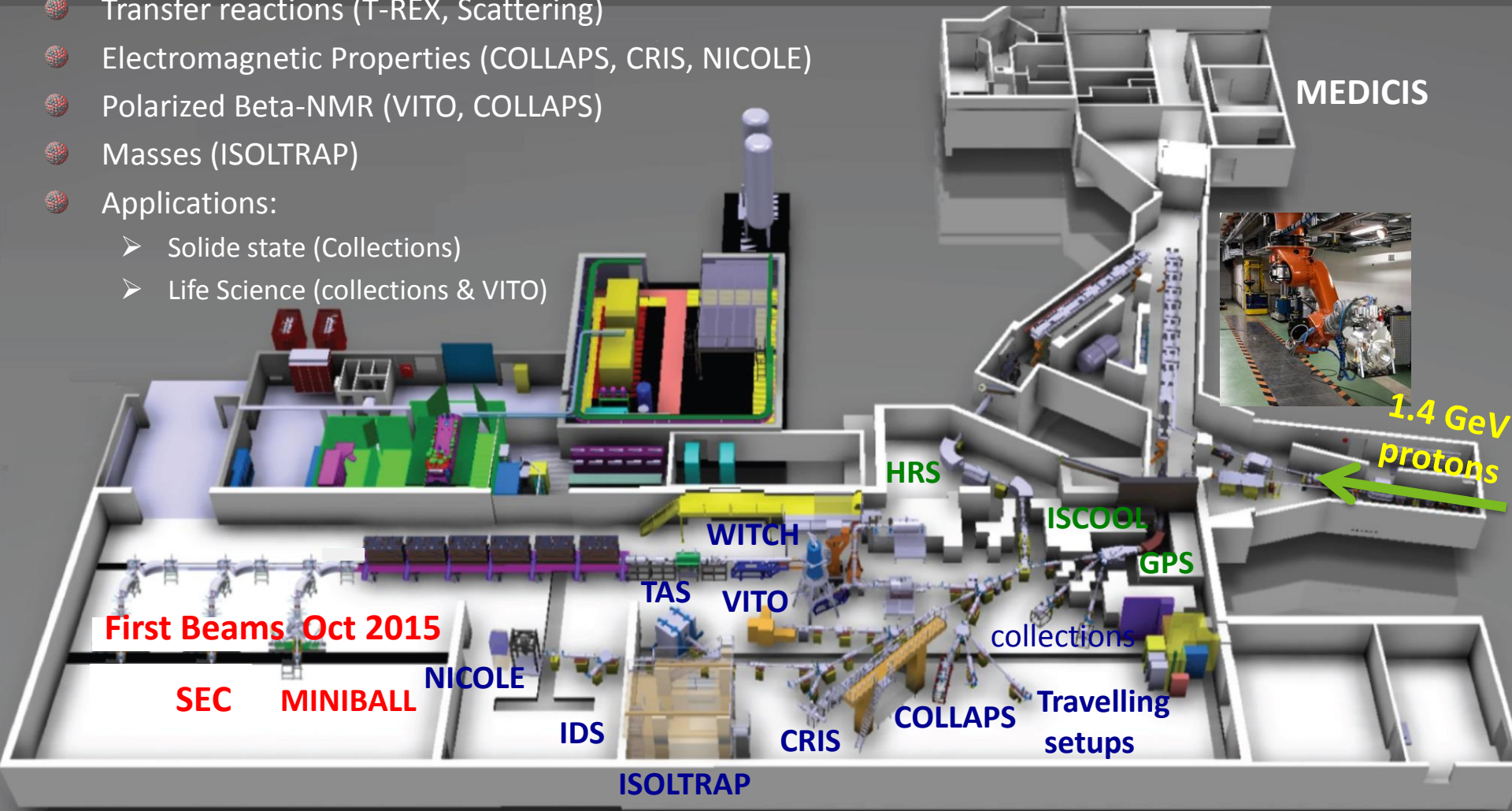
- 1) Take full advantage of LINAC4 = full intensity at 2 GeV
- 2) New experimental possibilities: storage ring
- 3) Superconducting low-energy section = HIE-ISOLDE phase 3

Long list of smaller (experiment) projects



ISOLDE

- Decay spectroscopy (IDS, TAS,..)
- Coulomb excitation (MINIBALL)
- Transfer reactions (T-REX, Scattering)
- Electromagnetic Properties (COLLAPS, CRIS, NICOLE)
- Polarized Beta-NMR (VITO, COLLAPS)
- Masses (ISOLTRAP)
- Applications:
 - Solide state (Collections)
 - Life Science (collections & VITO)



— Post-accelerated Exps (5.5 MeV/u); — Low Energy (30-60kV) Exps, — Machine elements

