# News from PANDA Magnet

Lars Schmitt,  GSI

*MEC Session at CM XLVIII, GSI, March 10$^{th}$ 2014*

**Discussion Topics**

**Received Recommendations**

**Impact on PANDA Infrastructure**

**Conclusions**

FAIR

# Discussion Topics

- On March 6$^{th}$ a Magnet Meeting took place at GSI
- Participants:
  - CERN ATLAS Magnet group: Herman TK, Alexej D, Gabriella R
  - PANDA Magnet coordination: Alexander V
  - PANDA Technical coordination: Lars S, Jost L, Herbert O
  - FZ Jülich: Maxim M, Jim R
  - Partially from FAIR support groups Cryo and Power Supplies
- Discussion topics:
  - Proximity cryogenics
  - Power converter
  - Controls
  - Conductor

# Recommendations on Cryogenics

- Cryo cooler for shutdown at 80K instead of RT

  Shorter shutdown time to re-cool, less mechanical stress
- Smaller LHe inventory: Cover only ~8h with LHe in valve box

  *Consequences:*
    - Removal of 3000l dewar on top of cryo platform
    - Reduced safety issues with large inventory
    - Slightly larger valve box

- Detachment of LHe line in special dry atmosphere

- No recovery line to FAIR: PANDA He would spoil FAIR He

  Recovery to bottles at 200 bar via recovery compressor

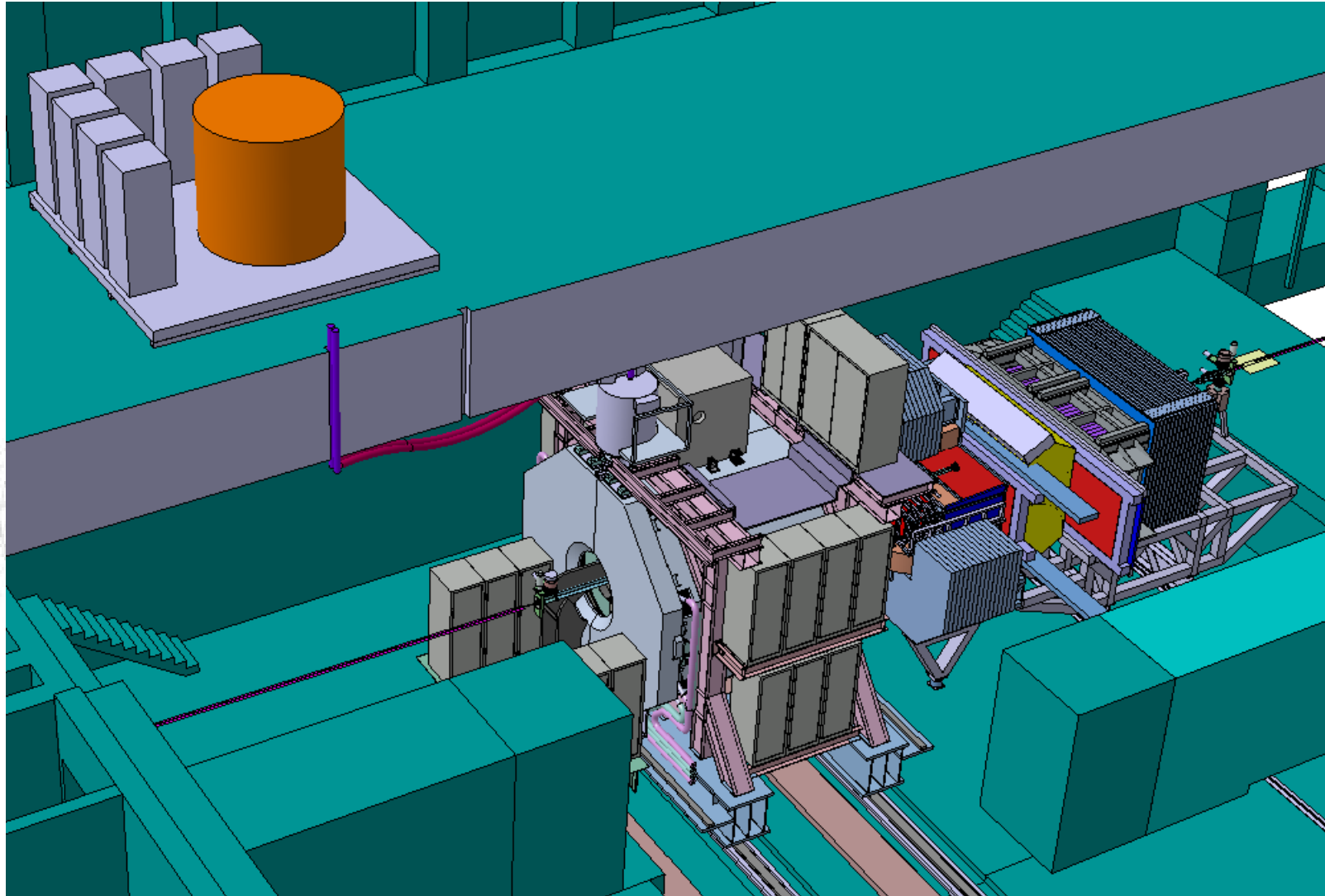L. Schmitt, FAIR

**Power Converter:**

- Avoid placement in radiation area:
  - modern switching supplies are cheaper and better
  - do not tolerate radiation

  *Consequences:*
  - Power supply not anymore on target platform
  - Larger power rods from the cryo platform to solenoid
- Controls either via FAIR scheme or HESR scheme, or a PANDA group takes over

L. Schmitt, FAIR

- Cryogenics
  - Magnet yoke and cryostat design to modify
  - Reduced safety requirements in the hall,
    LHe now stored only directly at solenoid (and outside the hall)
  - Larger valve box requires slightly more space on top of magnet

- Power Supply
  - Additional feed through in ceiling
  - More free space on top of magnet
  - Additional connection to open for magnet movement

- Adapt LHe household according to recommendation

- Readjust infrastructure planning

- Allocate space according to new scenario

- More safety (80K parking, less LHe), more space

L. Schmitt, FAIR