



# Combined test beam with LCTPC - an update on present status and schedule

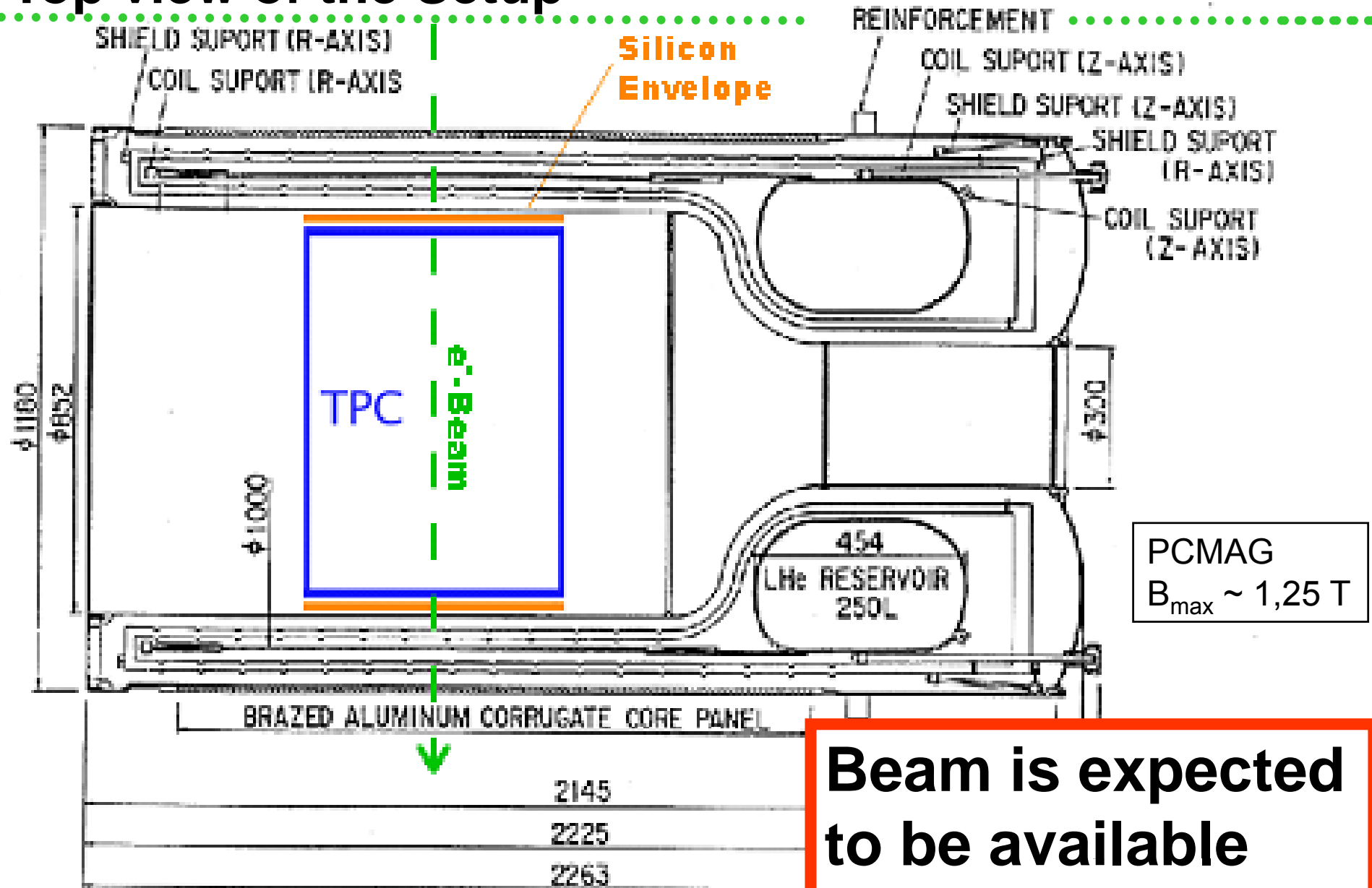
## 7th SiLC Meeting - CERN

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# Top view of the Setup



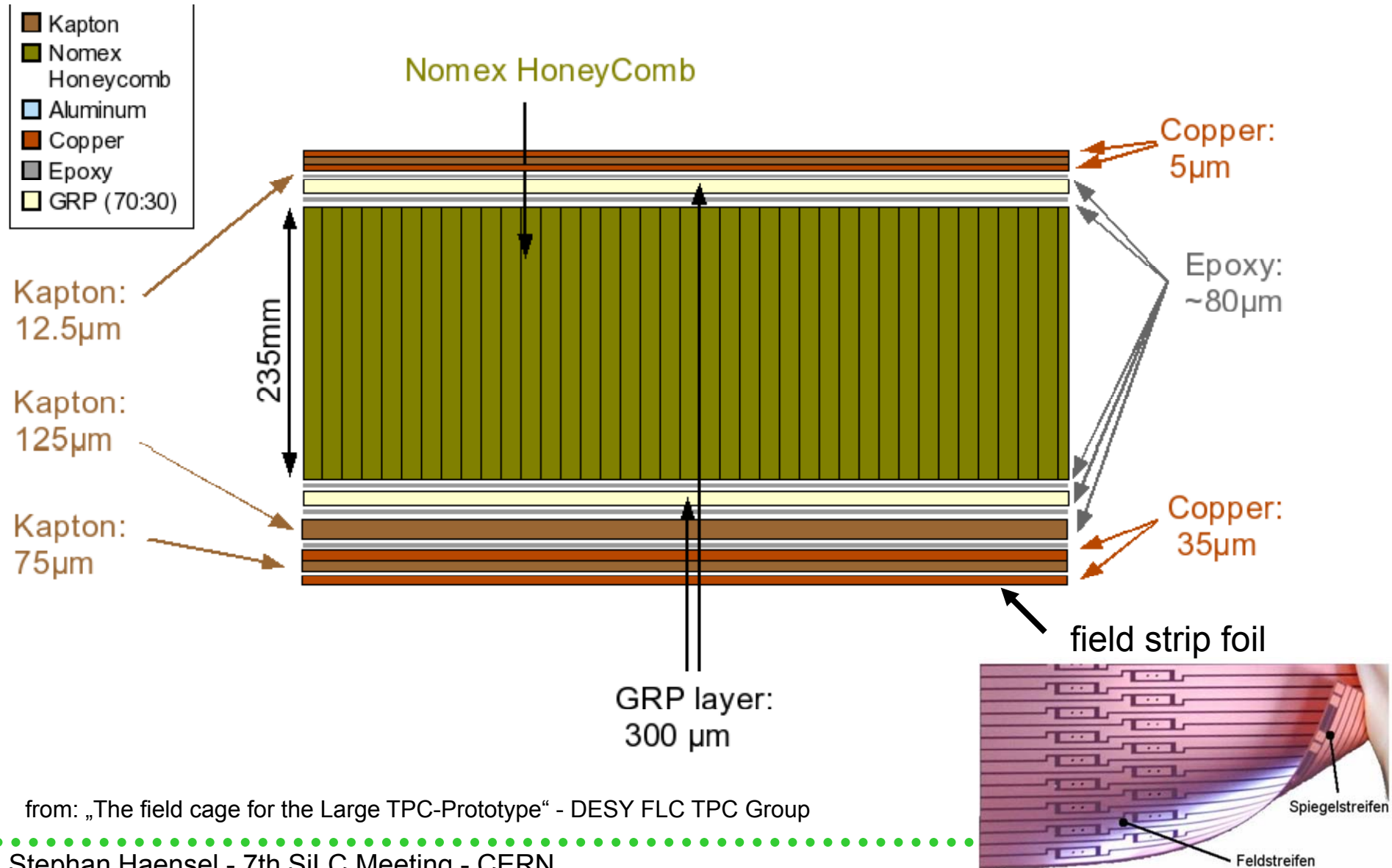
PCMAG  
 $B_{\max} \sim 1,25 \text{ T}$

**Beam is expected to be available end of August ?**

(Drawing from: <http://www-flc.desy.de/tpc/>)

# Status LPTPC – Field Cage

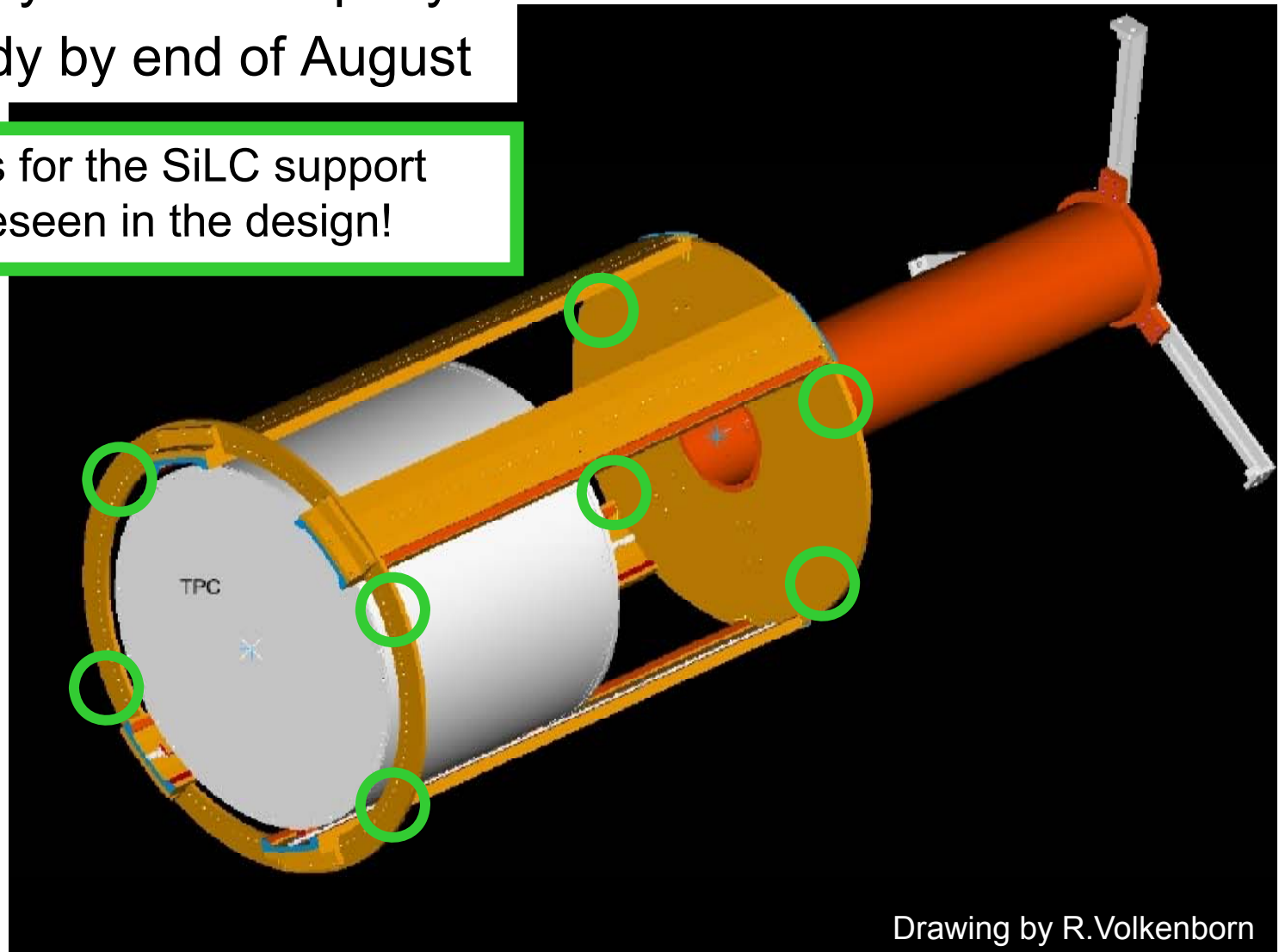
- field cage will be available at DESY end of June



# Status LPTPC – mechanical TPC support

- design is ready <http://ilcagenda.linearcollider.org/getFile.py/access?contribId=2&resId=0&materialId=1&confId=2802>
- gets build by extern company
- will be ready by end of August

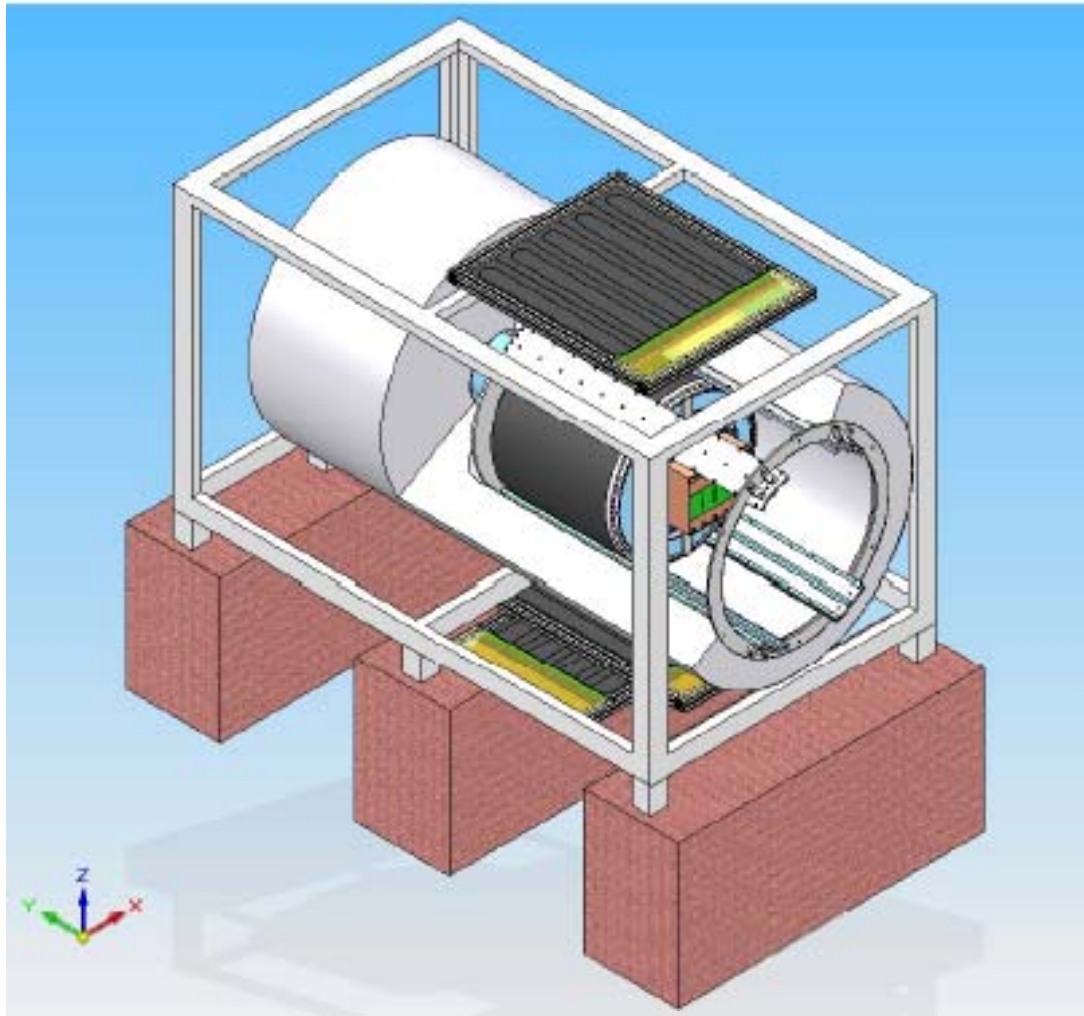
Threaded holes for the SiLC support are already foreseen in the design!



Drawing by R. Volkenborn

# Status LPTPC – Cosmic Ray Setup

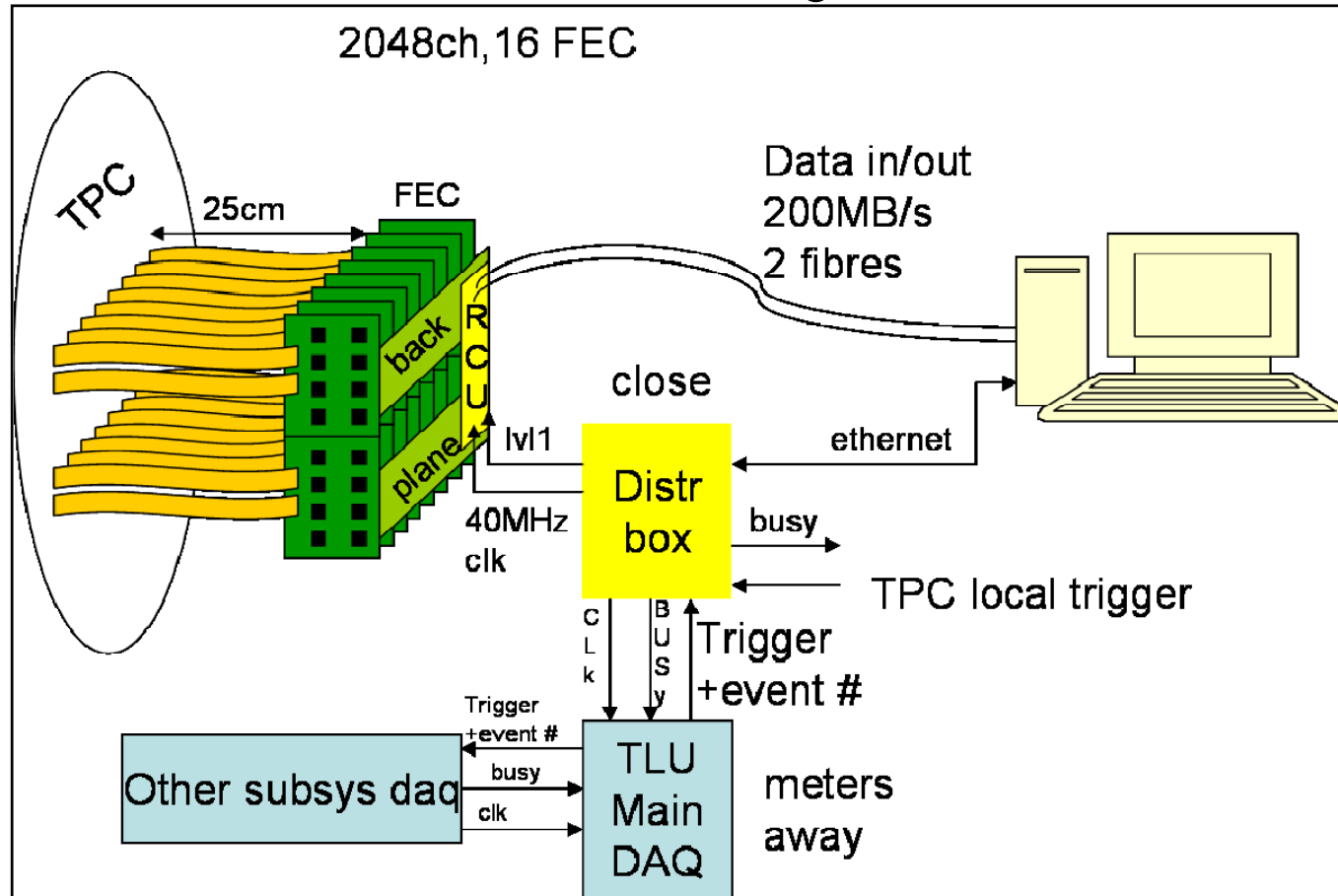
- Installation and commissioning at PCMAG: mid Juli



- the scintillators are delivered and tested
- mechanics will be delivered end of June
- all 15 amplifier cards received: 2 have been tested good

# Status LPTPC - TPC-Electronics

- ALTRO: 2k channels available for testing: end of September
- ALTRO: 10k channels available for testing: mid Oktober

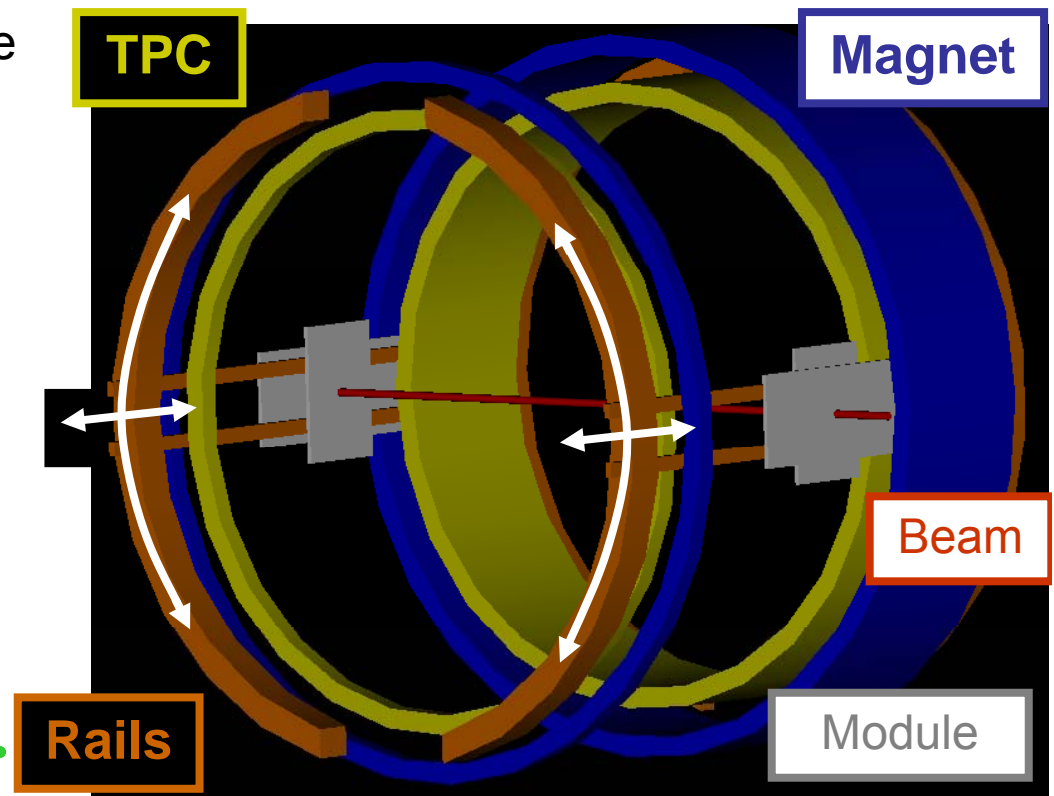


- Support for Electronics needs to be designed

- **Large Prototype DAQ** will be ready in August

# Silicon Envelope – SiLC

- **four silicon modules** will be installed:
  - two in front and two behind the TPC, with respect to the e<sup>-</sup>-beam
    - two independent support structures are needed
  - on each side:
    - one horizontal module consisting of two daisy-chained sensors
    - and one vertical module consisting of one sensor
- **movable support system** is needed because it must be possible to scan the TPC
  - the TPC and the magnet will move relative to the beam
    - the sensors have to stay inside the beam line
      - sensors must be movable orthogonal to the beam and along a curved rail
      - this movement must be coupled with the movement of the TPC and the magnet
      - in addition the two sides have to move independently from each other





# Mechanical Support for SiLC

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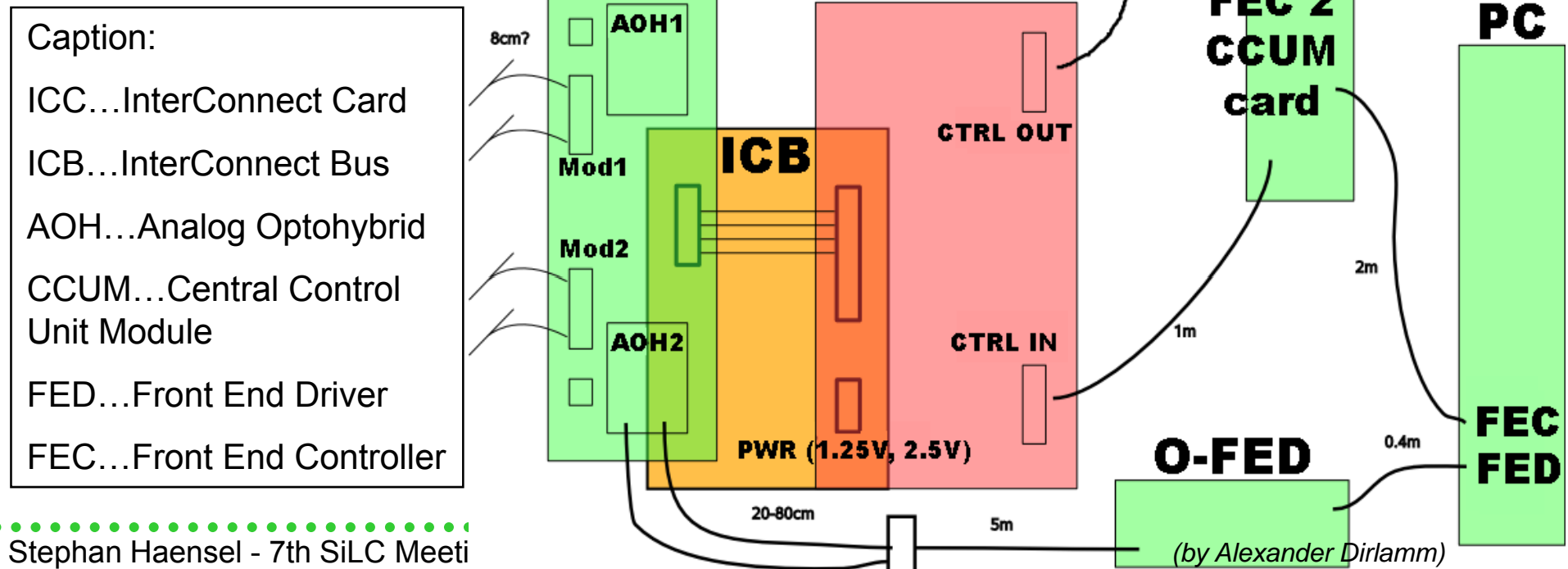
- statement from Peter Blum (IEKP):
  - “...because of the very late arrival of the mechanical TPC support design ... we will hardly find time for this project before end of September.”
- it will be a difficult task to insert our support structure after the TPC support structure was inserted into the magnet
  - (and very time-consuming if the TPC and its electronics are installed – they have to be removed from the setup)
  - > it was really important that threaded holes for the SiLC support are already foreseen in the TPC support!
- Maybe it is possible to insert rails from the beginning
  - then it would be possible to insert two simple temporary support structures only moveable in TPC axis
  - > first measurements would be possible



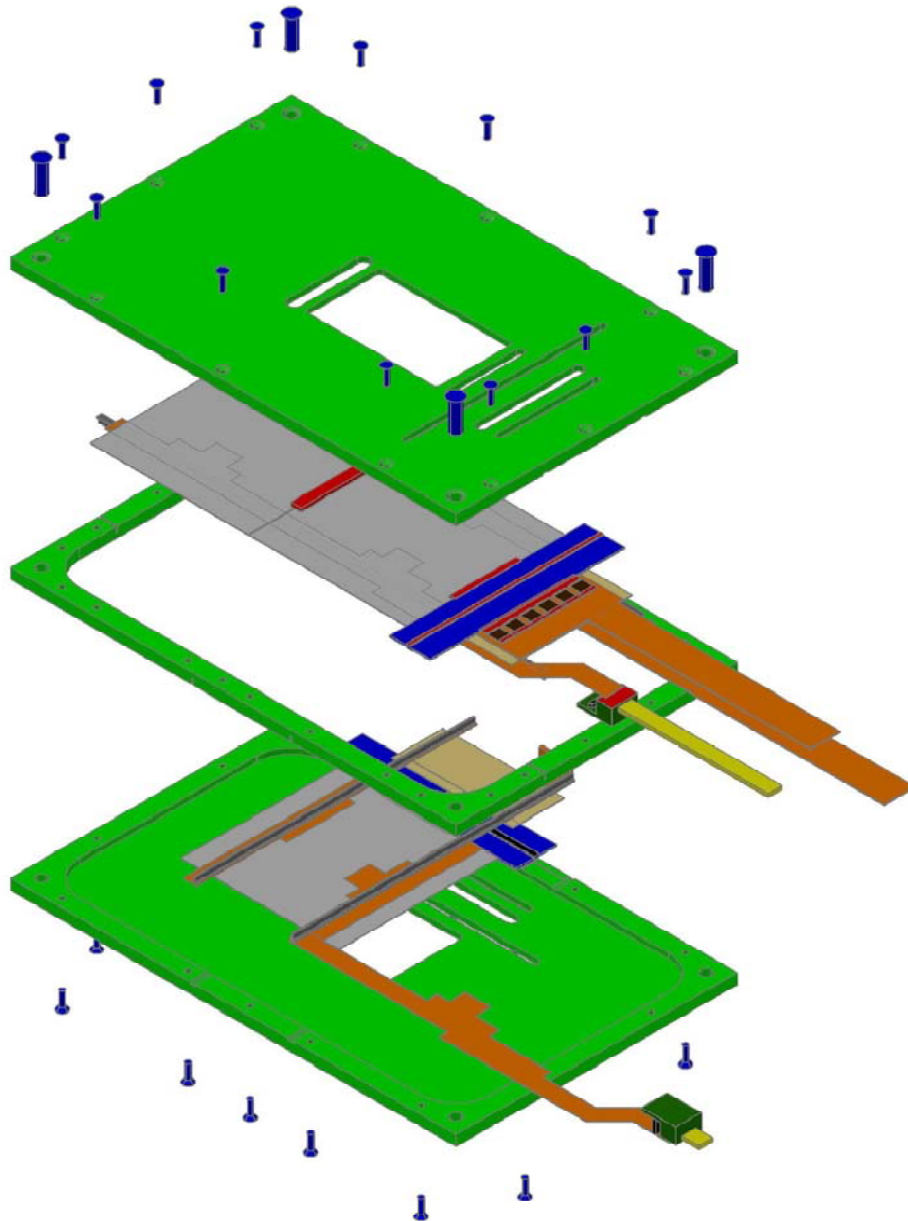
# Readout System = Adopted CMS Readout

(based on APV25 readout chip)

- ) two working CMS TEC CCUMs found
- ) two ICBs are in production
- ) new motherboard to combine TEC and TOB concepts is in development
- ) Kapton, Cables and Adapters for signal transfer are designed and will be ordered this week



# SiLC Modules



**will be ready by August**

## Status

- final design is ready
- Sensors tested good (HEPHY, IEKP) and back in Vienna
- 1,5 m twisted pair cables ordered

## To Do:

- Frames are not yet produced
- Kapton cables for 1 sensor module designed – ready for production
- adapter cards ready for production
  - module to twisted pair cables
  - cables to ICC board