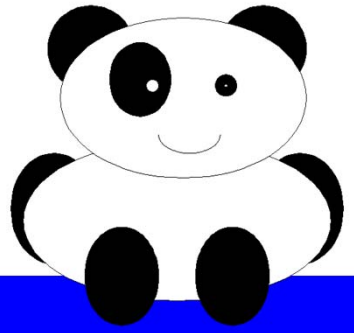
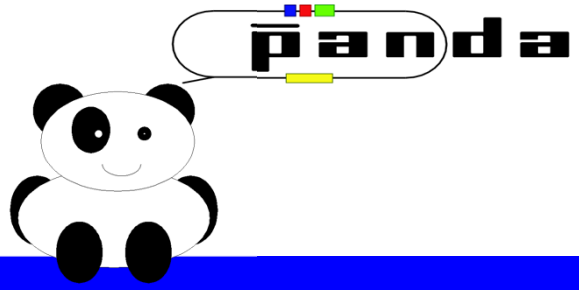


MVD pre-assembly at Julich

Pre-assembly parallel session
PANDA meeting, September 10° 2012

D. Calvo on behalf of the MVD



Points to be discussed

Space requirements

Staging (availability of other detector components…)

Mechanical construction to be available

…

What we have

In 2010 year …

Statement of the MVD group concerning early setup and commissioning at FZ Juelich

Positive aspects:

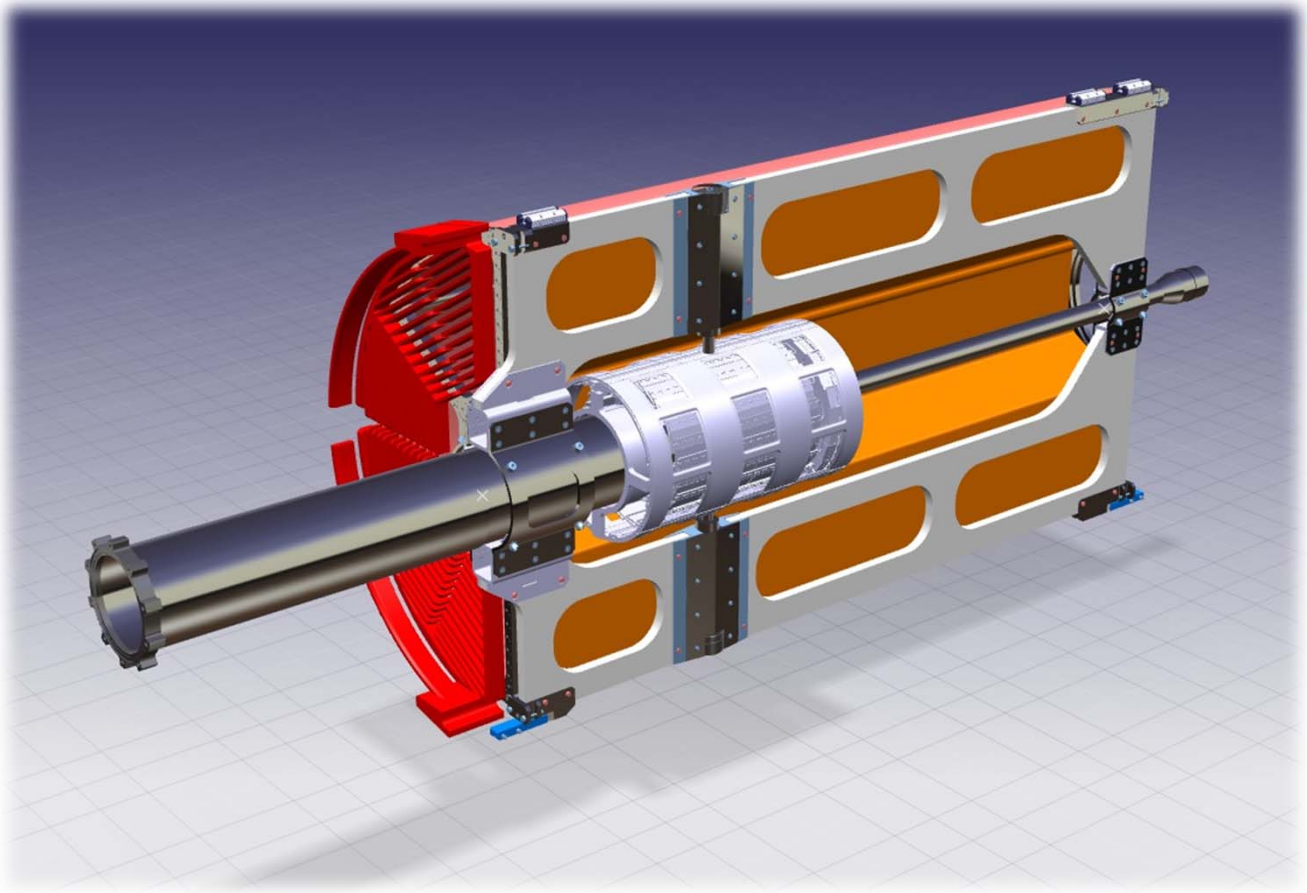
- Fitting more mechanical components, e.g. the MVD frame inside the outer tracker
- Running several tracking components in coincidence even if only a limited daq may be available

Drawbacks:

- Parallel activities, production for the final detector at HESR and pre-assembly at Juelich, could create interference in terms of components (and equipment) needed in both installation and experienced man power
- Additional man power
- Additional costs

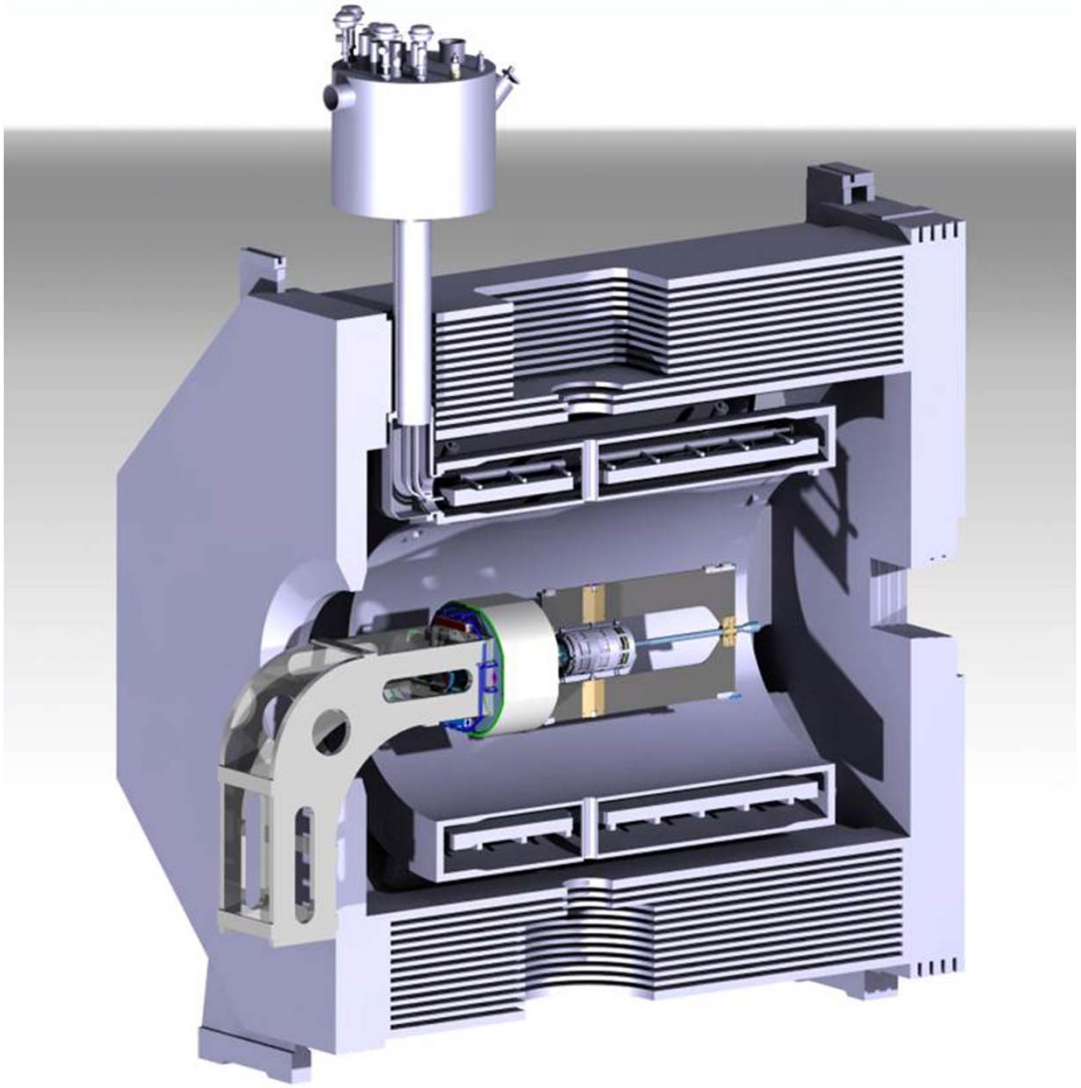
Fitting more mechanical components I

1) Check the MVD frame assembly with the BEAM PIPE/line and the STRAW support (pipe + tracking system)



Fitting more mechanical components II

2) Check the integration of the ‘pipe+tracking system’ in the apparatus using the rails fixed to the MAGNET mechanics and verification on the DIRC and backward EMC sides.



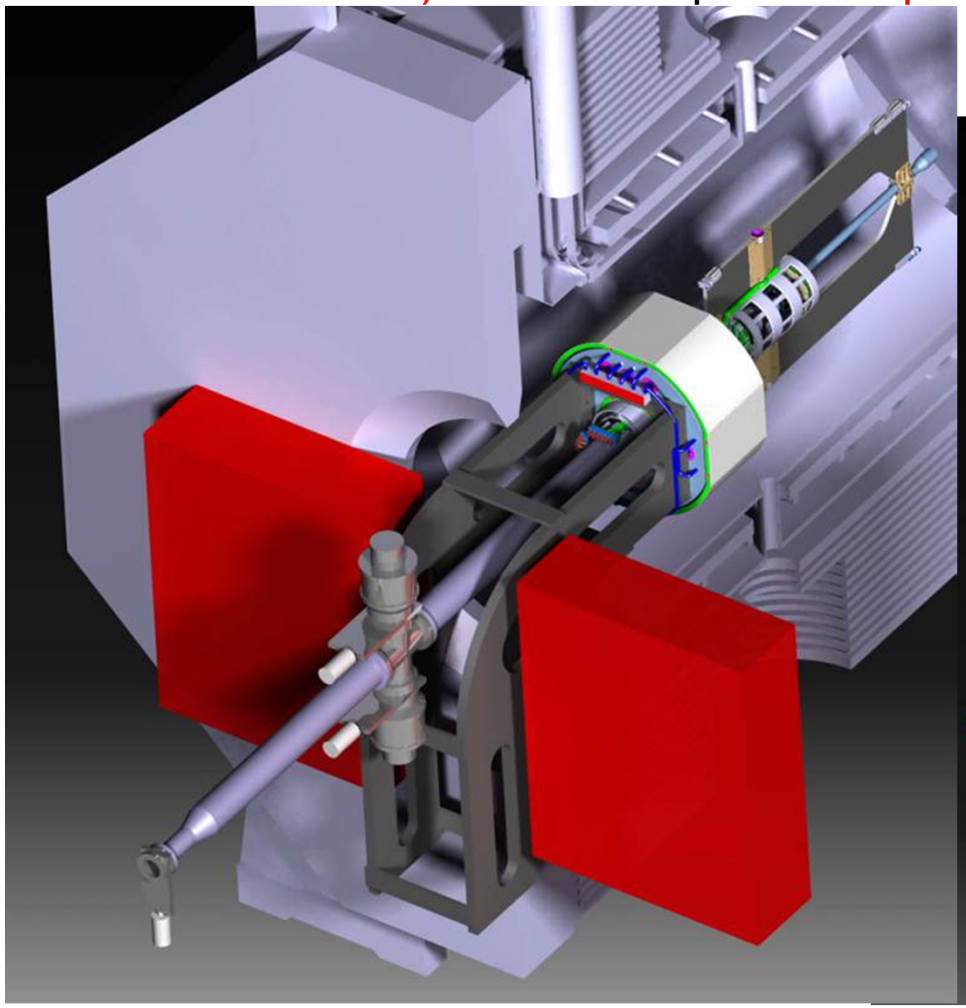
Fitting more mechanical components III

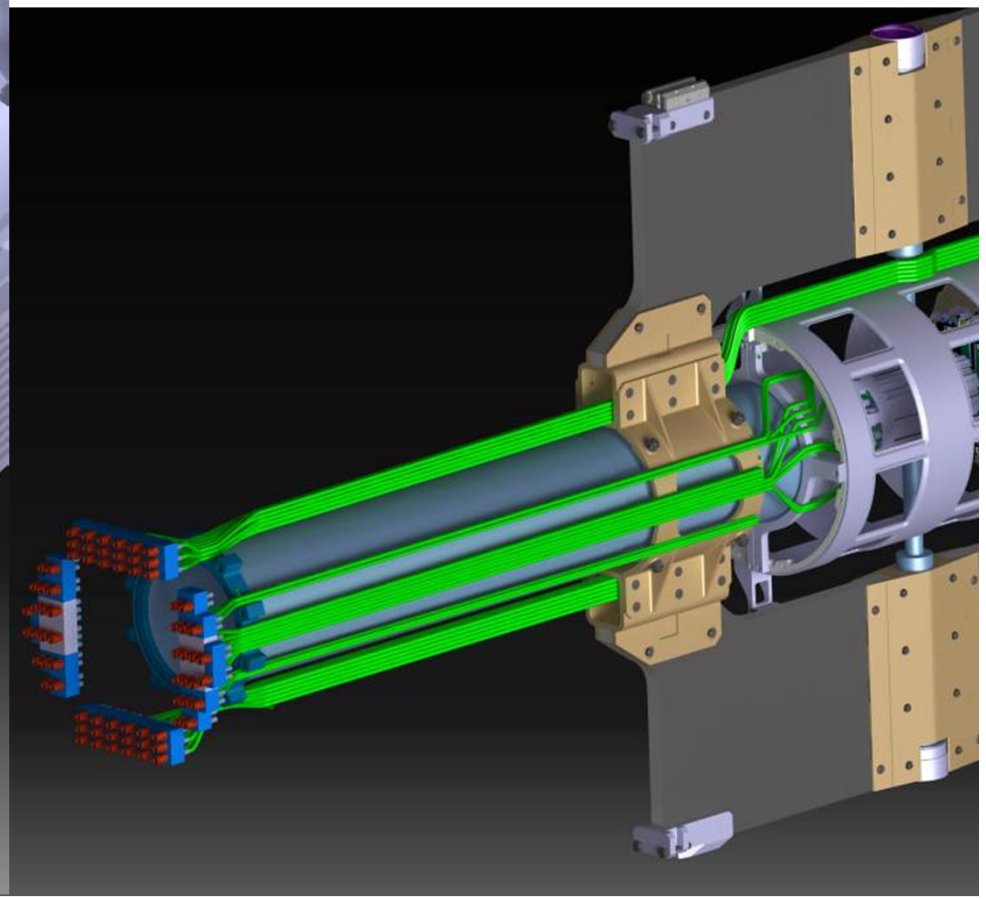
3) Check of the MVD service arrangement and partial routing (1/2 → 1/4)

from the staves and from the wheels up to the external boxes of services via the EMC central hole.

Interference with the routing and services of other detectors: EMC and STRAW

4) Installation phase sequence to be carefully checked



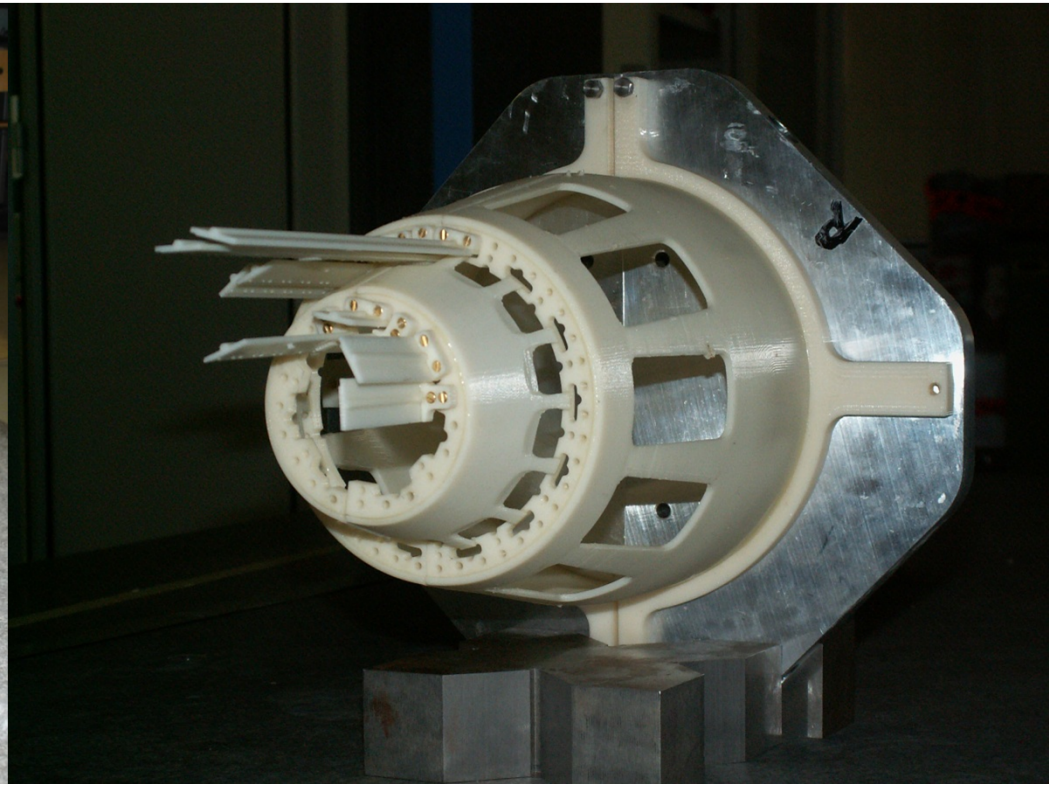


What we need and what we have

Space: ~ 6m x 4m lab. → exp. area
Other detector component: the red ones

- The MVD mechanics parts are already partially available as first prototypes or plastic dummy components
- Services are under study as the routing of the detector

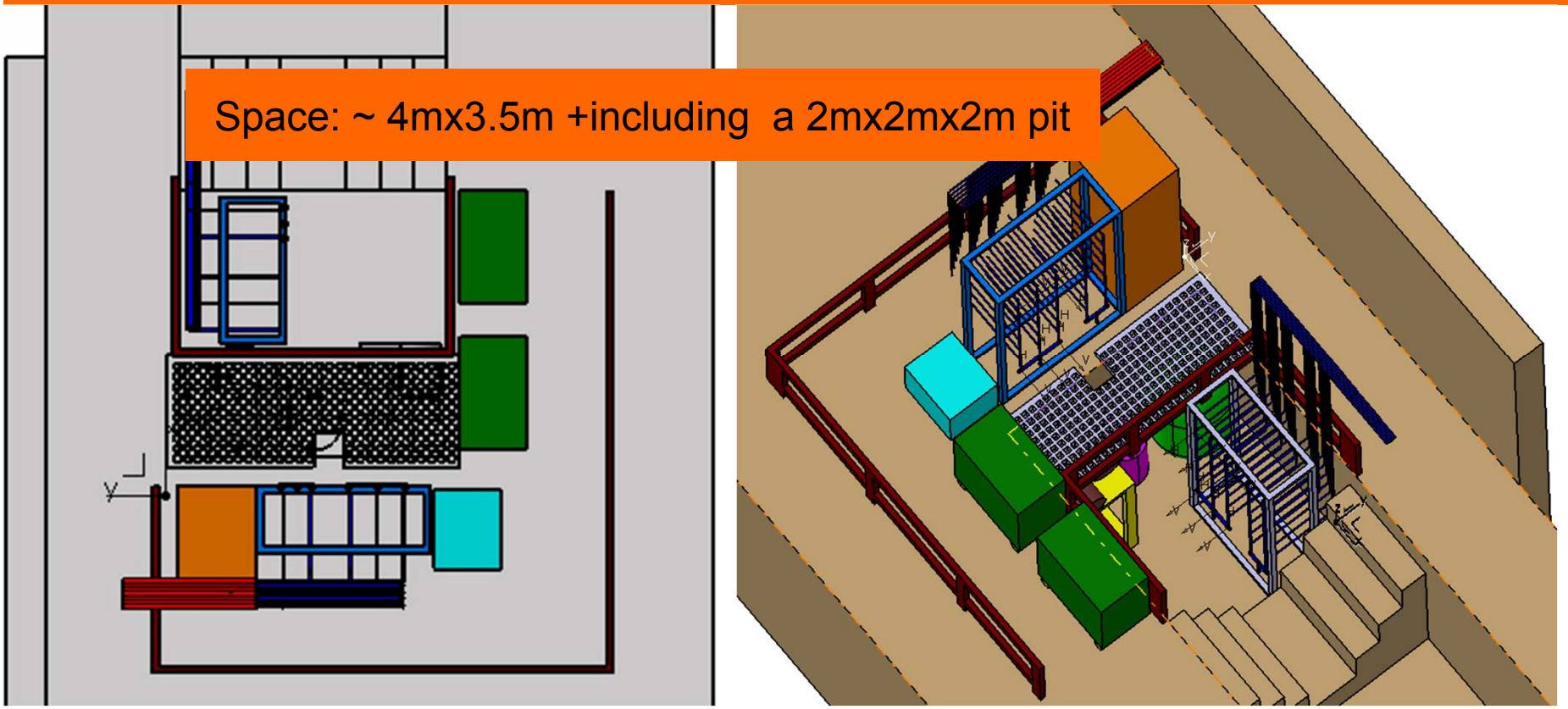
(this part is strictly interconnected to the EMC, bam pipe, STRAW)



Cooling test

1) Test of the complete chain of the MVD cooling system for a partial part (1/4 ?) of the modules, using silicon prototypes + dummy chips (resistors) to check the removal of several kW from a limited volume

What we need



Space: ~ 4mx3.5m +including a 2mx2mx2m pit

What we have

A first document ‘PANDA MVD COOLING PLANT’
with the general information of such system

Running several components

1. Free running of the first single chip pixel prototypes (pixel matrix: 3.2mmx2mm) is already ongoing. Test together similar system of other detectors (+ first daq) could be possible in a beam line sequence configuration
   - to evaluate free-running data handling
   - to check tracking algorithms
2. free running of some silicon modules in the final panda layout

What we have

1. The free running single pixel prototypes are available → small pixel matrix area; strip components are waiting for the dedicated free running readout

2. First free running silicon modules (staves or wheels) will be available in the 2016.

The clean room/ dedicated equipment (probe and bonding) of Juelich are needed also for the production