

EMC Forward Endcap Assembly and System Test at Jülich

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- EMC Forward Endcap
- System Test at Jülich
- Infrastructure Requirements
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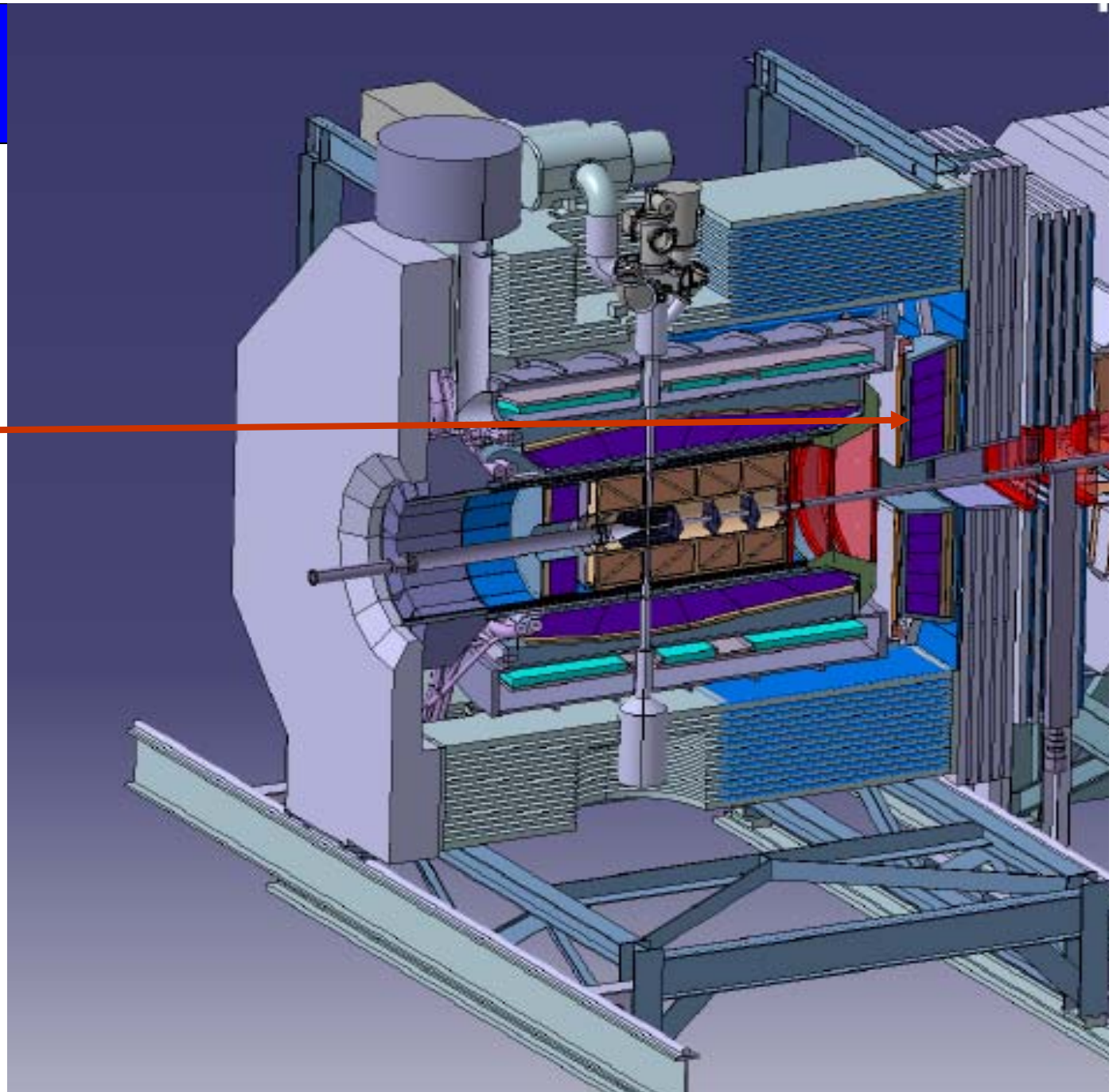
PANDA

Forward

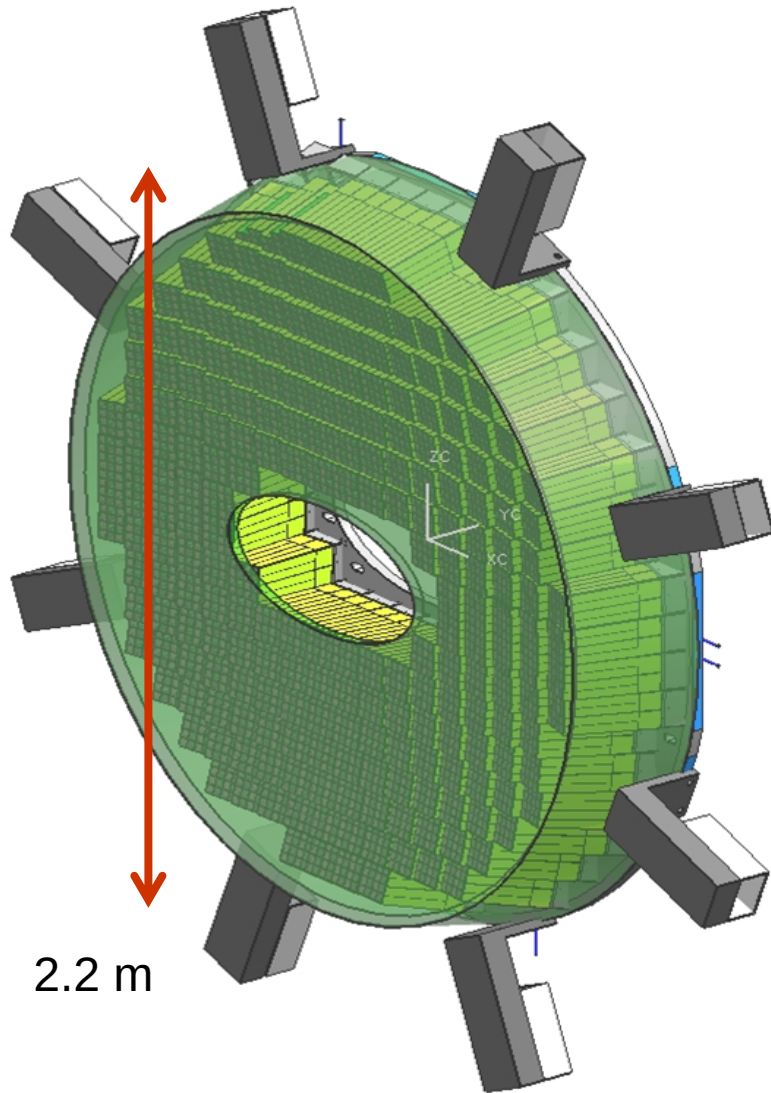
Endcap

EMC

3856 PWO
Crystals

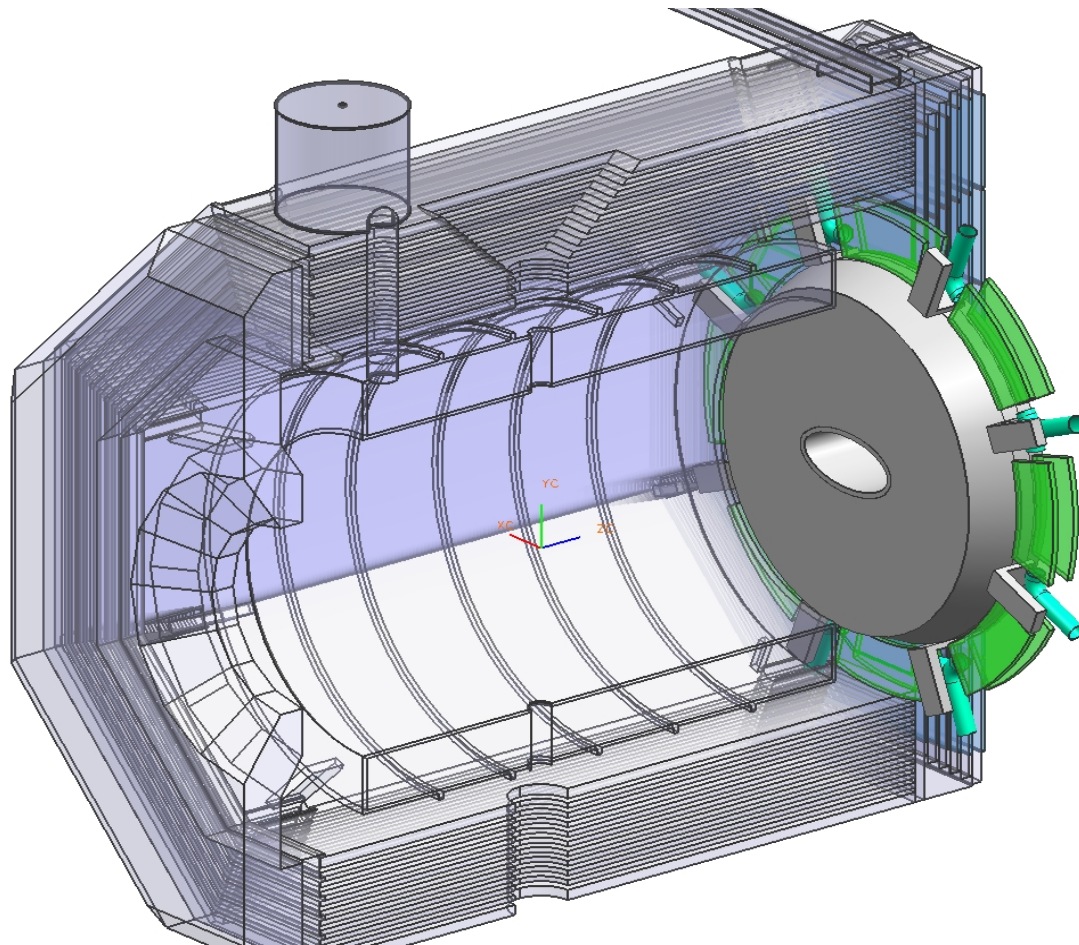


Forward Endcap EMC



- 3856 PWO crystals
- Cooled @ -25 °C
- $E_\gamma = 10 \text{ MeV} - 15 \text{ GeV}$
- Readout
 - 2 APD / crystal (80%)
 - 1 VPTT (20%)
 - Low Noise Preamplifier
 - SADC
- Weight: ~5.1 t

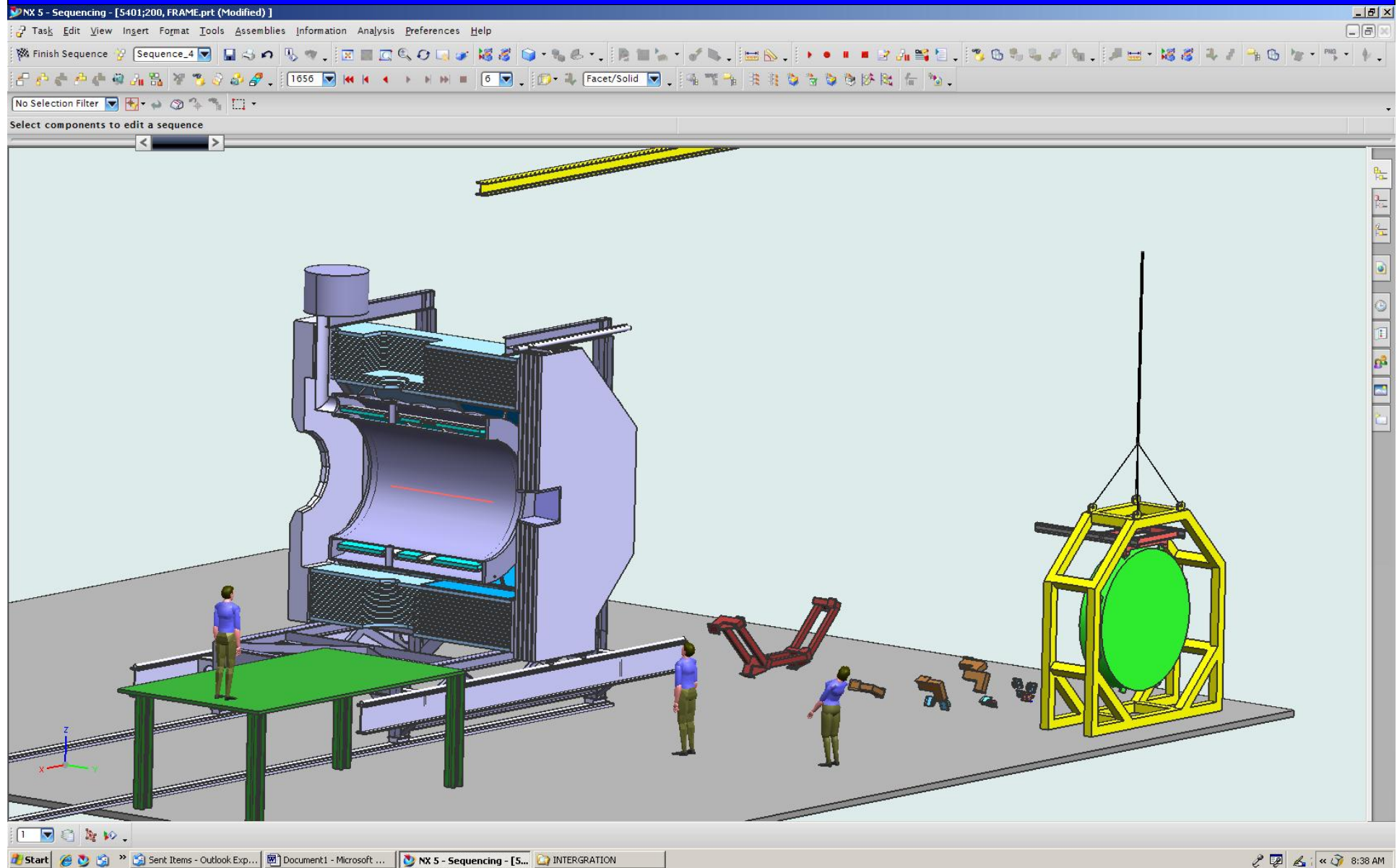
- Mounting of the full Endcap including readout electronics
 - in beam test and precalibration
- Mounting inside magnet in the test hall
 - test of mounting procedure
 - full test of cooling, readout, monitoring, detector control system
- Readout with DAQ together with other detectors
 - light pulser running
 - cosmics



Infrastructure Requirements

Crane	weight 5.1 t
Power (without cooling)	40 kW
Dry air flow	< 100 l/min
Space in racks for power/DAQ	~18 crates
Space for cooling machine prototype	Orsay design
Space for mounting	see next slide
Control room with PCs	
Network, fibers to DAQ	

Mounting of the Endcap



Timelines

- Funding available July 2012-June 2015
- Production of first parts started
- Assembly and test of 16 crystal packages
 - 2013-2015 in Bochum/Bonn
 - Crystals, wrapping , temperature sensores, alveole, inserts, photodetectors, preamplifiers, cables, mountplate
- Start of mounting in Jülich: April 2014
 - Setup of support frame with backplate
 - mounting of 16 crystal packages
 - cabling, cooling, isolation, ADCs etc.
- Ready for test: 2015
 - Need PANDA DAQ

16 crystal subdetectors

