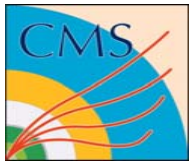


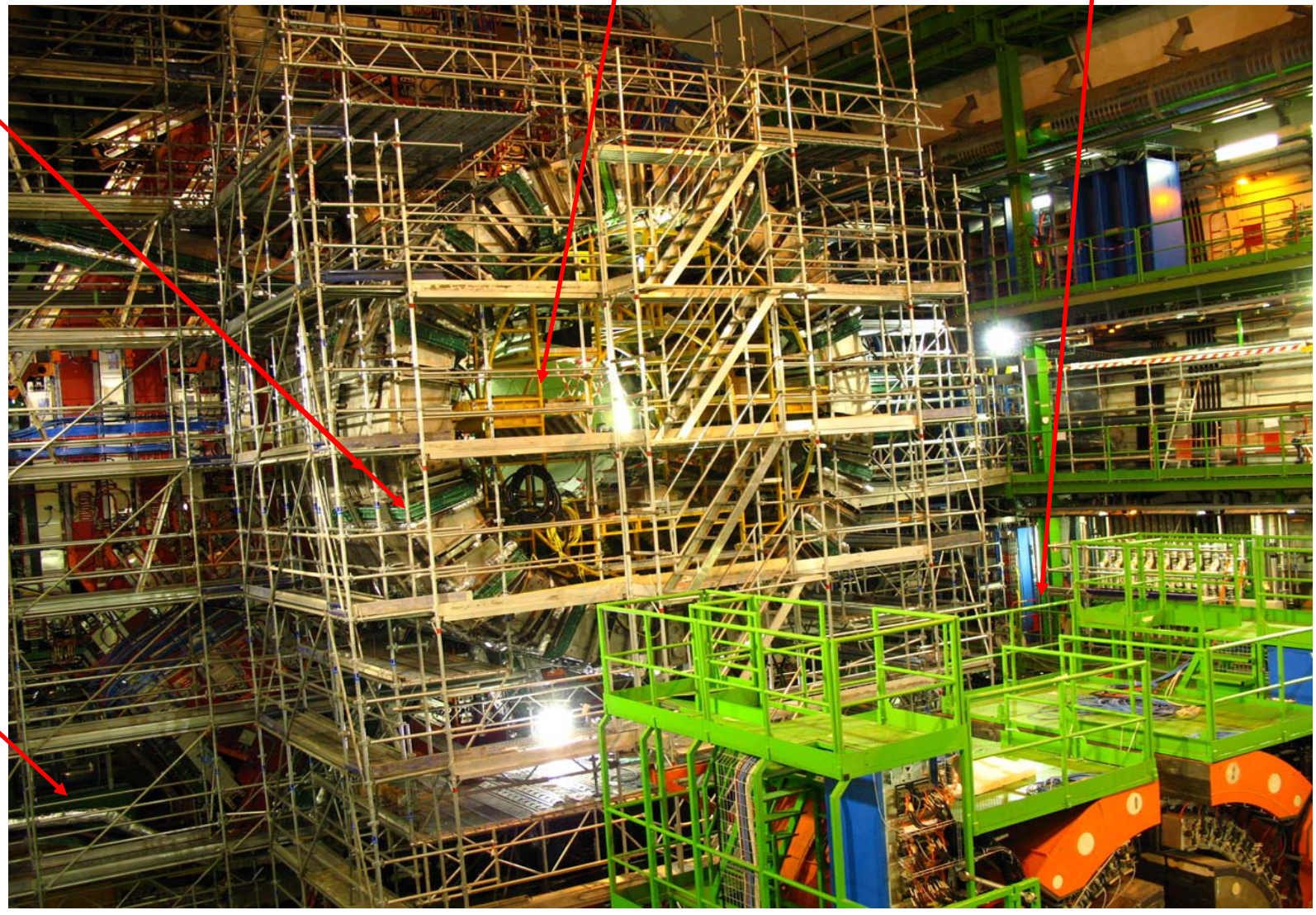
CMS Status

CMS Deutschland Meeting
Zeuthen, Sept. 2007

Wolfram Zeuner
DESY/CERN

- Status in the UXC
- Next steps
- Schedule
- Summary

Status in UXC



Status in UXC

- **Infrastructure installation at YB0 in full swing**
  Defines the critical path for tracker insertion

Tracker cooling installed – One Sector tested at -30^{0}C
Proof of principle, remaining sectors to be tested later

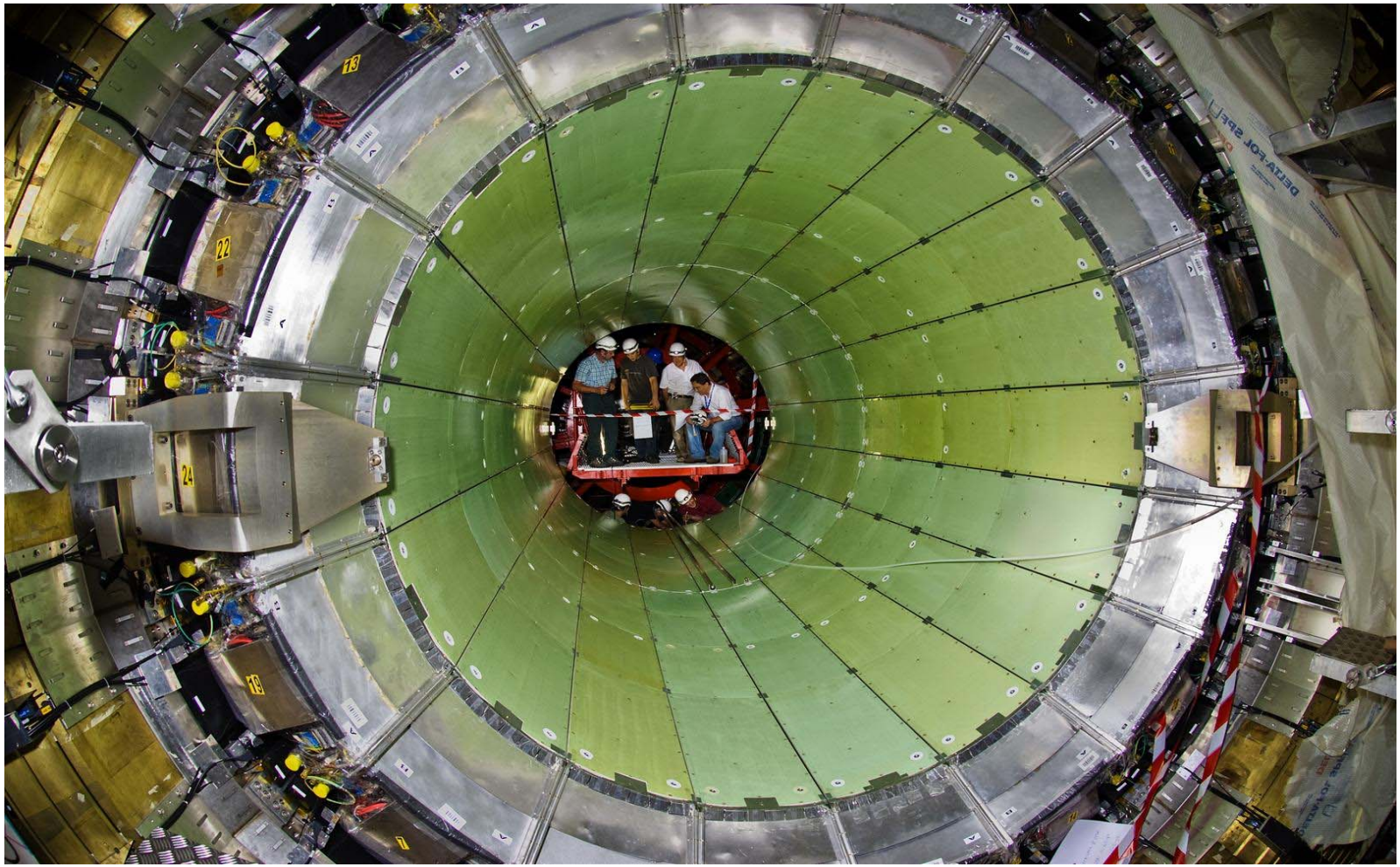
Tracker LV cabling almost finished
Very complicated path finding on the balconies

ECAL/HB cabling started
Difficult because of access problems and different requirements of the two detectors sharing the same cable space

Installation of ECAL cooling (HCAL finished)
Installation of cooled cable trays
Preparation of optical fiber installation (ECAL LV)
Preparation of heat shields

Status in UXC

ECAL Barrel Installation completed July 27



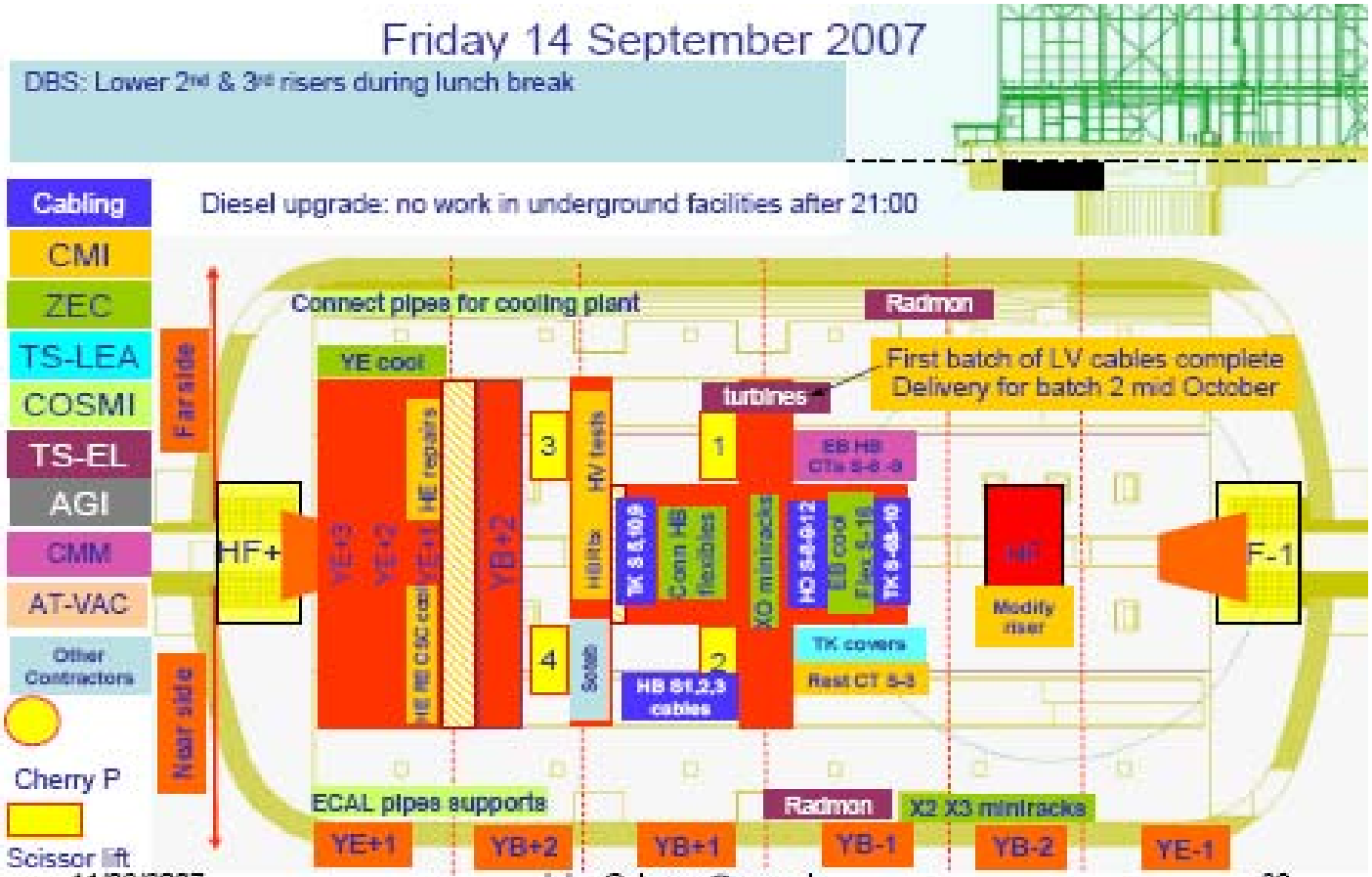
Installation plus test of 18 SMs at the plus end done in 12 working days !!

Status in UXC

- **Begin of August opening of the positive end of CMS at the head wall**
  Installation and repairs on the barrel wheels
  RPC HV cables
  DT fibers
  HO R/O boxes
  HE repairs

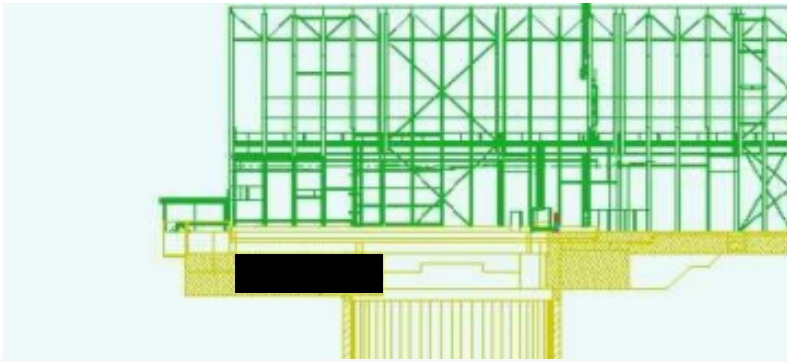
Now make access to endcap:

Cooling, CSC,RPC ES, HE



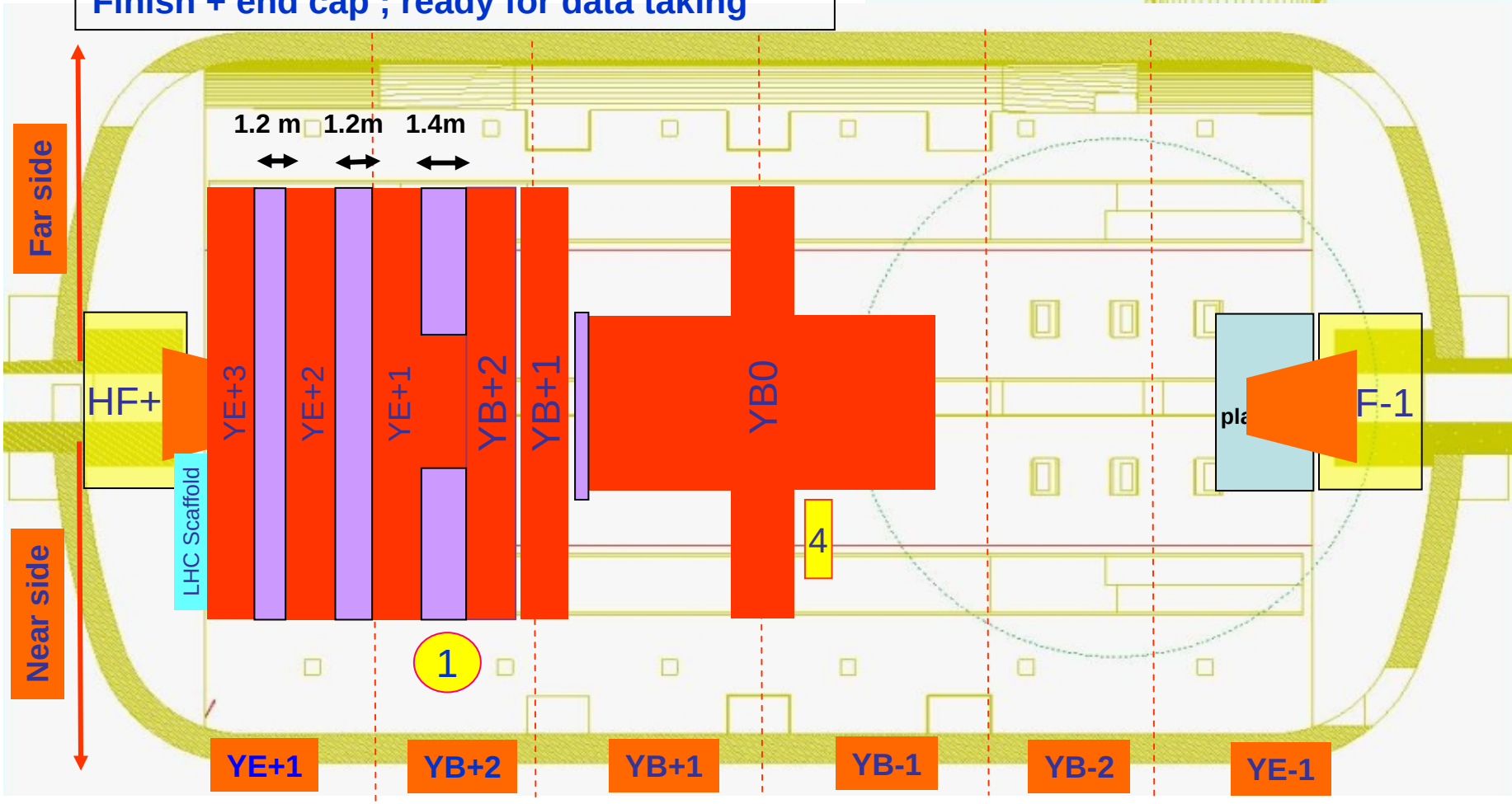
John.Osborne@cern.ch
Martin.Gastal@cern.ch

Status in UXC



AIM:

Finish + end cap ; ready for data taking



Cherry P

Scissor lift

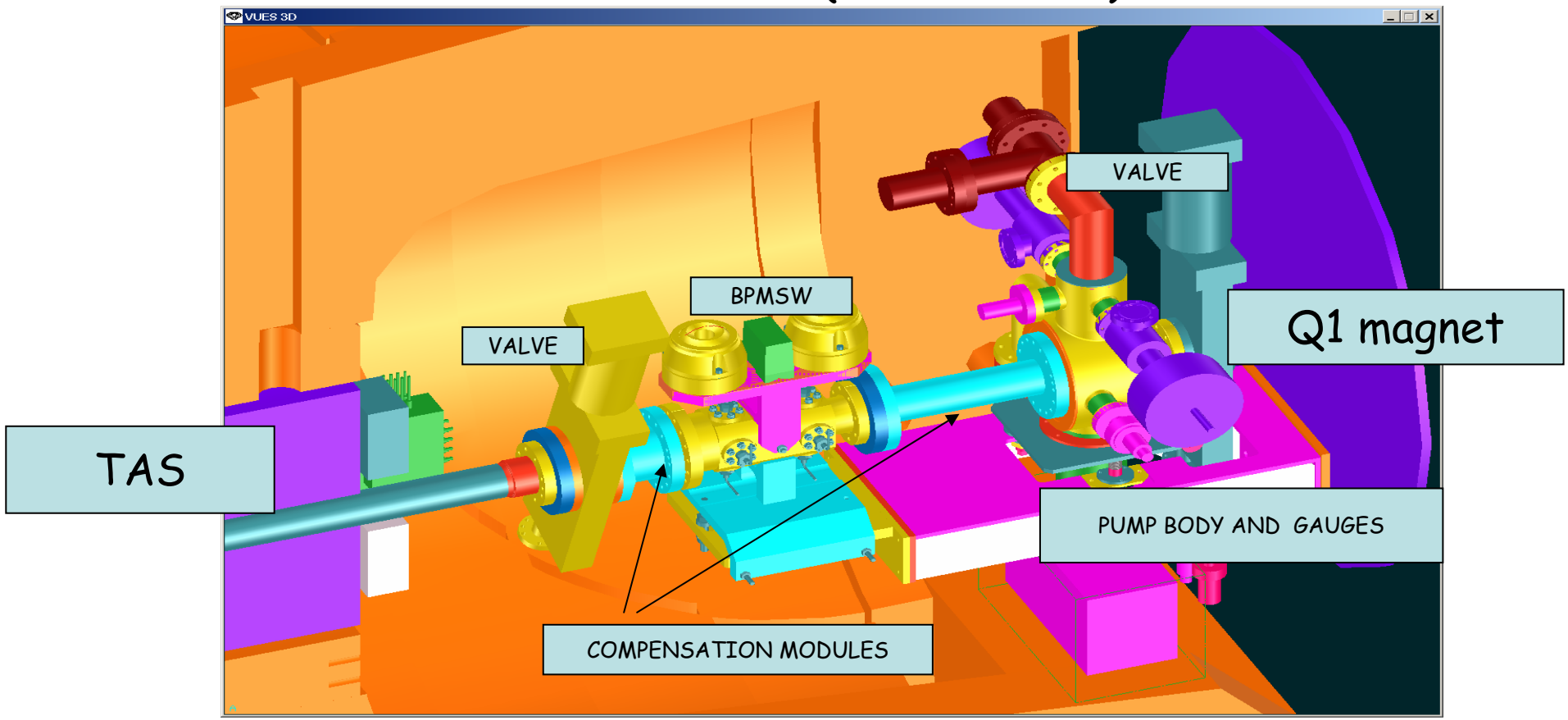
2 moves required **with cable chains for 1st time!**

Status in UXC

Forward Beampipe

-ALL VACUUM EQUIPMENT BETWEEN Q1 MAGNET AND TAS ON 56 SIDE WAS INSTALLED

DURING WEEK 34 (20-24 AUGUST)



P. Lepeule

Status in UXC

MECHANICAL ASSEMBLY

LEAK TESTED WITH HEATING JACKETS

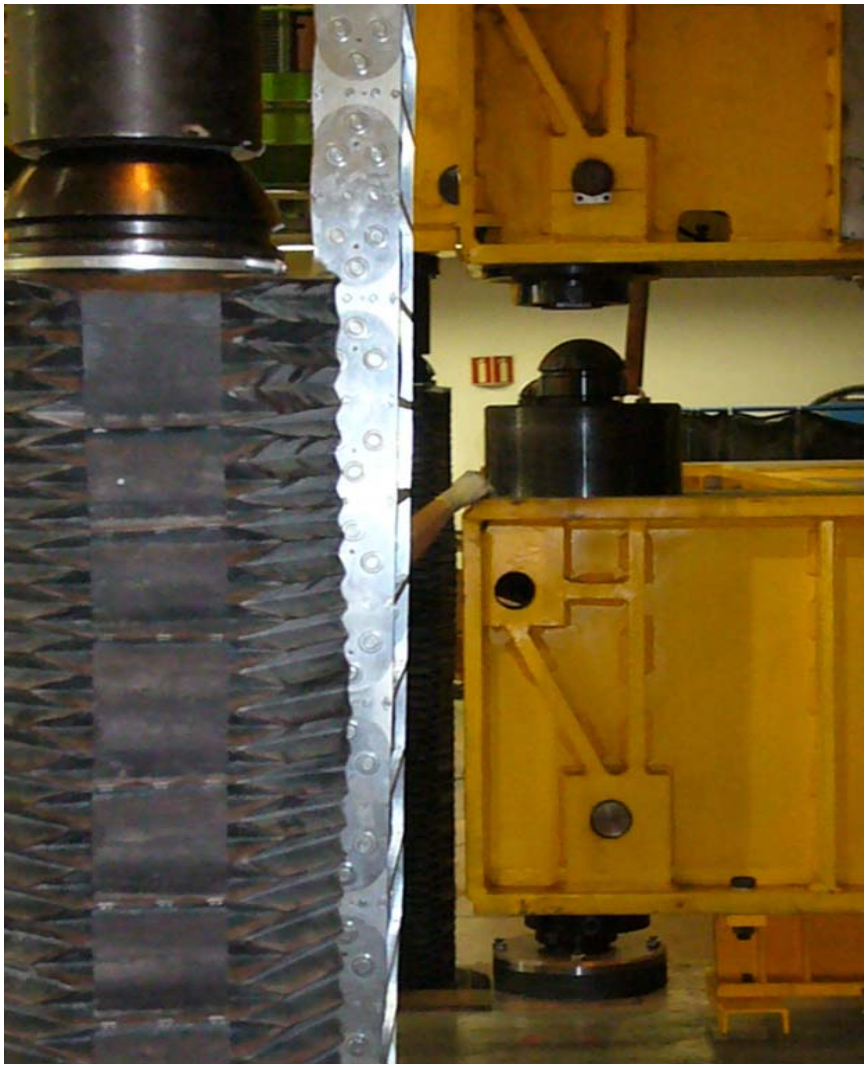
Many lessons learnt, installation on 54 side expected to be possible within 1 week

Status in UXC

Raiser test for HF-

Status in UXC

Raiser test for HF-



Status in UXC

Raiser test for HF-

Still to come: Install shielding collars
close rotating shielding
SURVEY !!

- Some problems found and solved
- Confident that final installation will work

- The test was definitely worth the time and effort !!

Status in UXC
Magnet

The magnet system relocation and recommissioning underground is on schedule

Plans for cool down and low current runs:

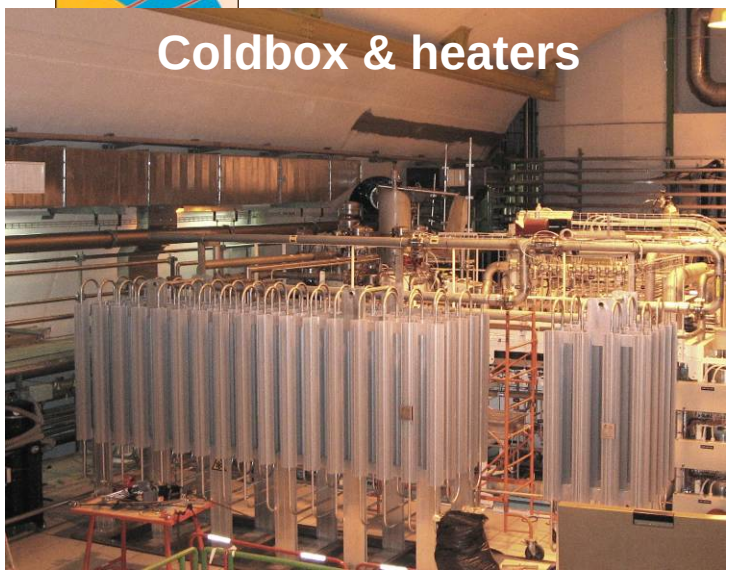
Start of vacuum pumping : **end of September.**

Start of magnet cool down: **end of October.**

Parallel activities : power tests of magnet powering ancillaries (20kA converter, DCCts, switch breakers, dump busbars and resistor), power test of the magnet feeding busbars in UXC5, without the coil connected.

Low current tests: with the yoke in the open position (short durations, repetitive testing)
end of November until mid-December.

Status in UXC Magnet



20kA DC Busbars

Next Steps

- Second lowering campaign will start Oct. 10

- YB-1 will be lowered Oct. 10
- YB-2 will be lowered Oct. 17

- YB-1 will be stored between YB0 and the shaft
- YB-2 will be left under the shaft

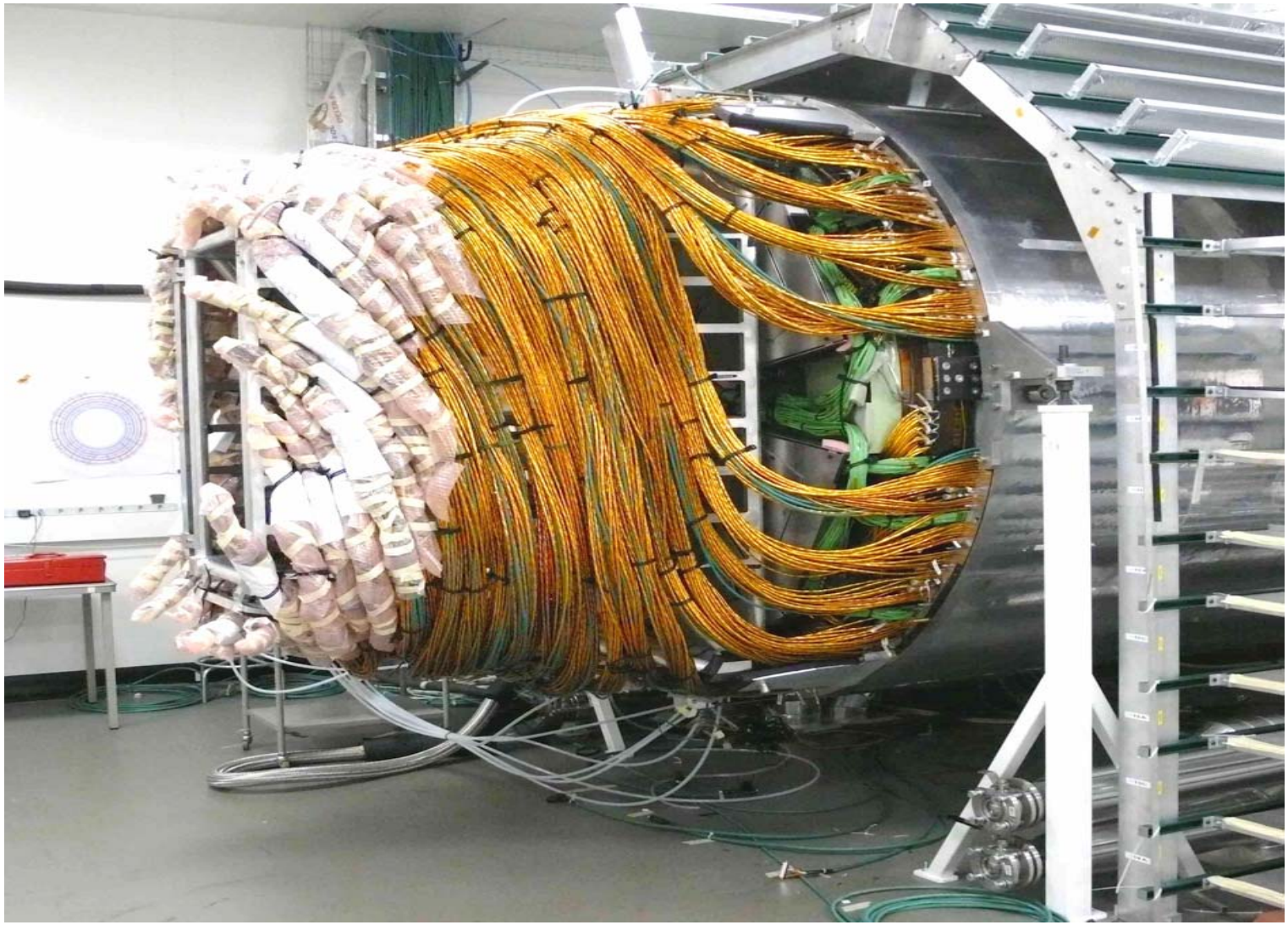
Independent access to both wheels until the Tracker arrives

For the Tracker installation both wheel will be moved to the head wall
Installation can start when ECAL/HB services are installed
(at least on the minus end)

Tracker transport to P5 is scheduled for Oct. 29
Storage place with a tent will be prepared at SX5
Tracker is currently being prepared for the transport

Next Steps

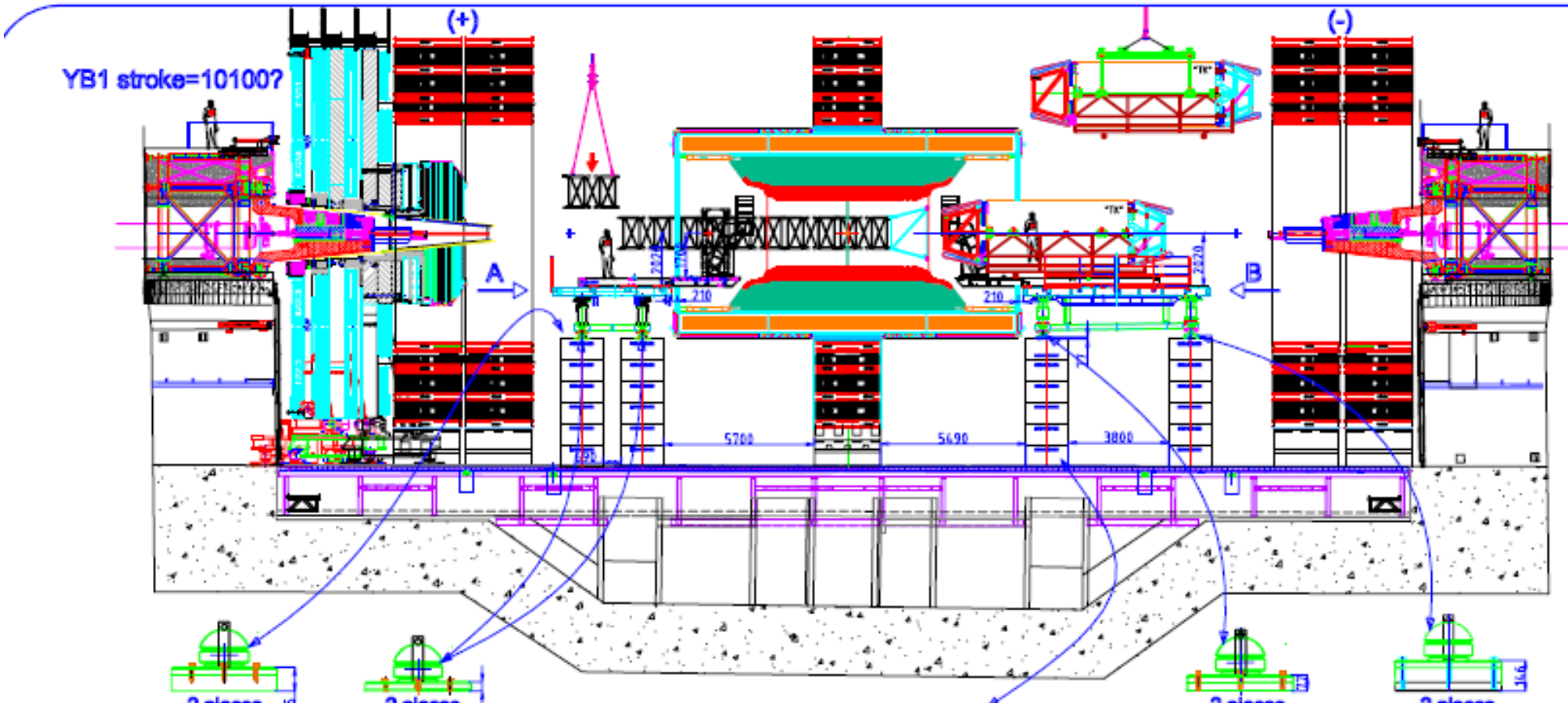
Tracker being prepared for the transport to P5



More on tracker in talks by Katja Klein, Erik Butz and Gordon Kausen

Next Steps

Lower YB-1 & YB-2 before tracker installation



Outer vac tank services need not be completely finished

2 barrel wheels lowered before Tracker: advance completion of heavy lowering (lowered wheels cannot yet be connected to cable chains).

Schedule

Work on YB0 is time-consuming: technical complexity (long foreseen)
limited space
field integration. modification., QC
practical cable path finding after exit from yoke.

--> Apply v36.0 contingencies, giving more time & minimising dependencies on YB0 work

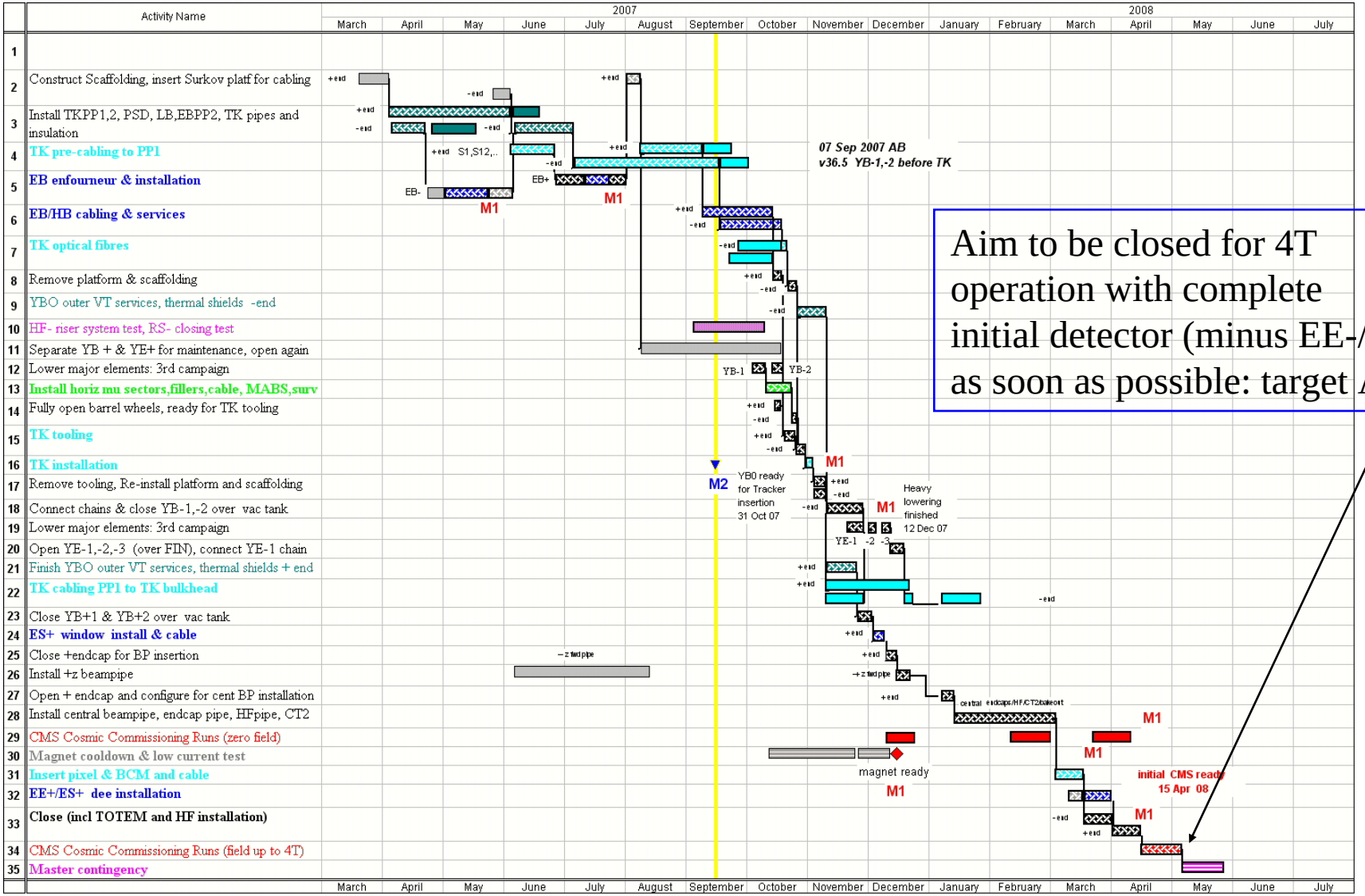
Aim to finish HB/EB as soon as possible at + and – ends (target end Oct)
--> needed to install TK

Lower YB-1 and YB-2 before Tracker in October (v36 contingency)

Finish entire YB0- as soon as possible; to allow YB-1,-2 to be moved over vac tank
--> needed to lower – z endcaps

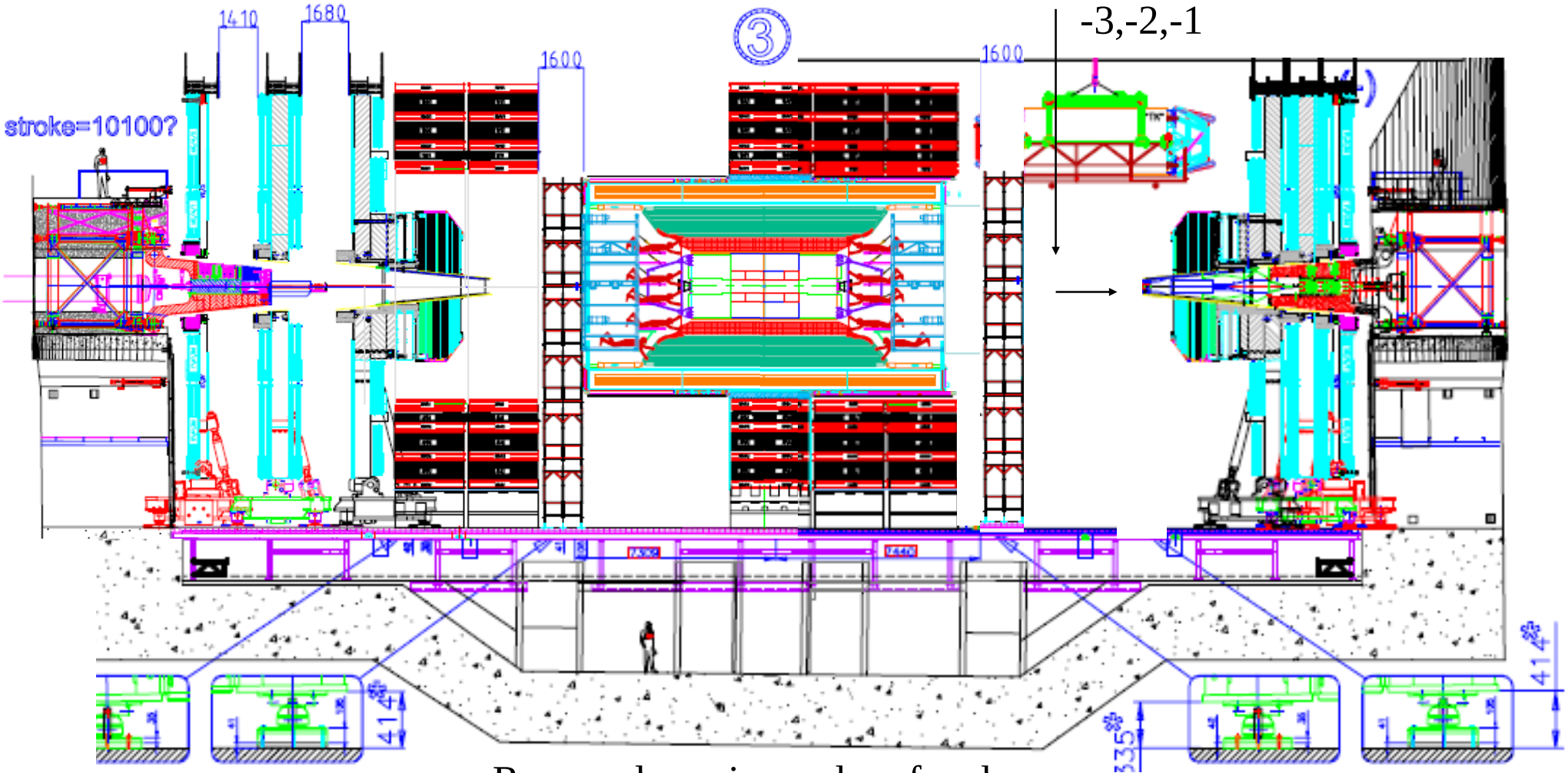
Giving priority to lowering –z end endcaps before end of year
--> ensures beampipe installation can proceed on time
--> may force end of TK to PP1 cabling at –z end in parallel with central beampipe installation (v36 contingency).

Current Schedule (v36.5)



Schedule

Option under study

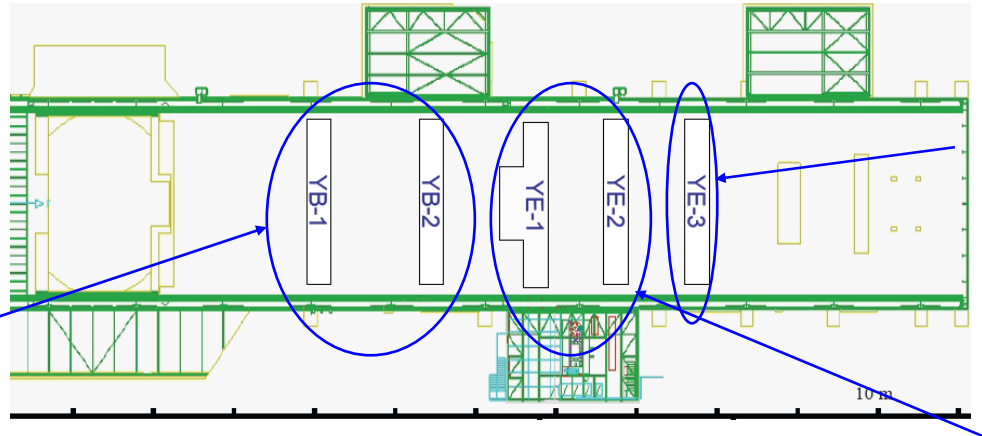


Reverse lowering order of endcaps

A.Ball

Schedule

Option under study – SX5

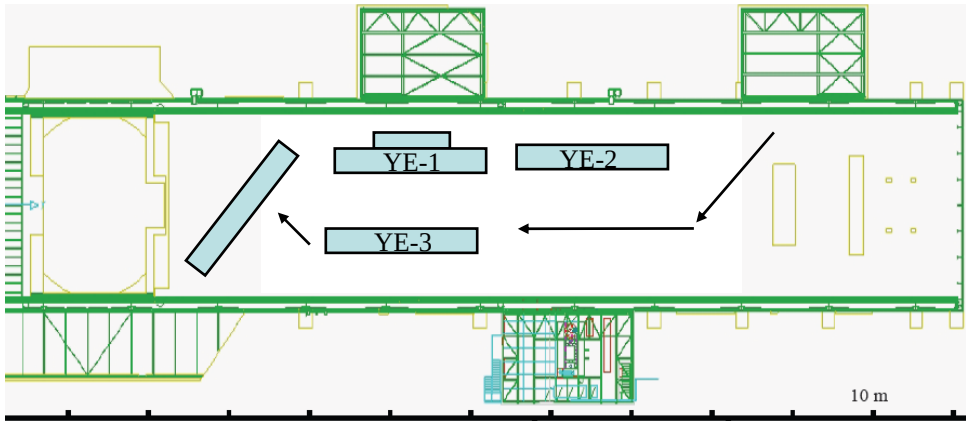


RPC installed
Services complete 1 month

HO cooling to do, otherwise ready to lower.
YB-1 10 Oct

EE/ES windows (YE-1)
Cooling modifications

Logistics for YE –lowering option under study



Incomplete list of other activities @P5

- Preparation of beam pipe installation
- BRM &BCM → talk by Wolfgang Lohmann
- Commissioning of Trigger, DAQ, DQM…
  ↓
  talk by Andreas Meyer
- Installation of infrastructure in the USC & UXC
  LV, Cooling, Gas, Smoke detection, Alarm, DSS, DCS…
  ↓
  talk by Frank Hartmann
- Commissioning of the Muon System (surface and underground)
  → talk by Kerstin Hoepfner
- Preparation of forward detectors → talk by Kerstin Borras

Summary

- Very good progress over the last couple of months
- YBO service installation is time consuming and stays on the critical path
- Study (and use) scenarios to allow more time to finish YB0 and disentangle work on YB0 from other tasks
- Aim to install tracker and finish heavy lowering by end of 2007
- Aim to be closed for 4T operation with complete initial detector (minus EE-/ES-) as soon as possible: target April 08
- Adapt machine schedule once it is clarified