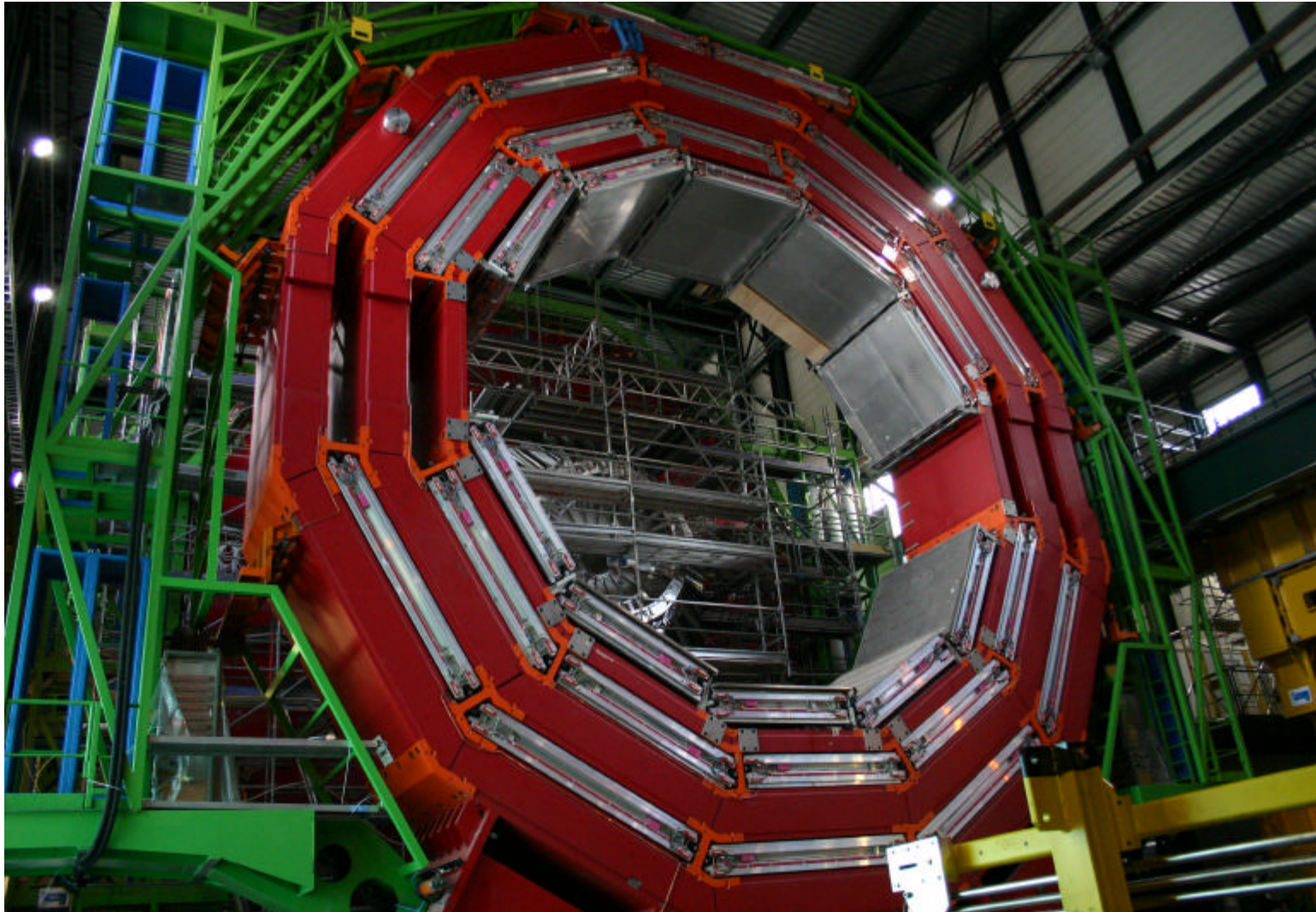


Chamber Commissioning

Marco Zanetti, K.Hoepfner & The commissioning team



History

- Commissioning crew continues to grow: Michael Sowa, Tiziano Rovelli, Chiara Mariotti, Gianluca Cerminara, Enrico Conti, Andrea Parenti, Gianni Siroli, Marco Zanetti, Francesca Cavallo, Pierluigi Zotto, Jesus Puerta, Marcos Fernandez, Marina Giunta, Ezio Torasso, Andrea Perrotta, Stefano Marcellini, Philipp Biallass, Emanuel Jacobi, Maria Chamizo, Kerstin Hoepfner
So far: 2 people on shift
- Commissioning procedures were set-up along with YB+2 commissioning and used for commissioning of YB+1 → see talks by Marco Z.
- There was more time for commissioning than it is available for YB0.
- Most chambers are performing well but some effects were found which had/have to be understood. Presented by Marco in the past: swapped connected, synch.noise, noise, many afterpulses...

Spring Commissioning of YB0

- In YB0 chambers are installed in 8 sectors, only S04, S05 are missing wrt regular above-ground installation
- **Access is time limited** due to MTCC preparations (e.g. HB insertion)
We have to deal with the schedule constraints and stay flexible for weekly changes of the schedule. **A new challenge!**

We need people from outside institutes to participate in the commissioning.
Thanks for the collaboration and efforts to accommodate the requirements.

- So far: commissioning shifts are foreseen for the period 20/03 – 28/04 with some of them being "stand-by" shifts (means, shifts might get cancelled if we don't have access) → Shiftlist
- If available, a second set-up (with DAQ PC from Bologna) will be installed and allows parallel commissioning.
Note that **we need a second set-up for commissioning after the MTCC to keep up with the schedule requirements.** It is foreseen, material should be available by then.

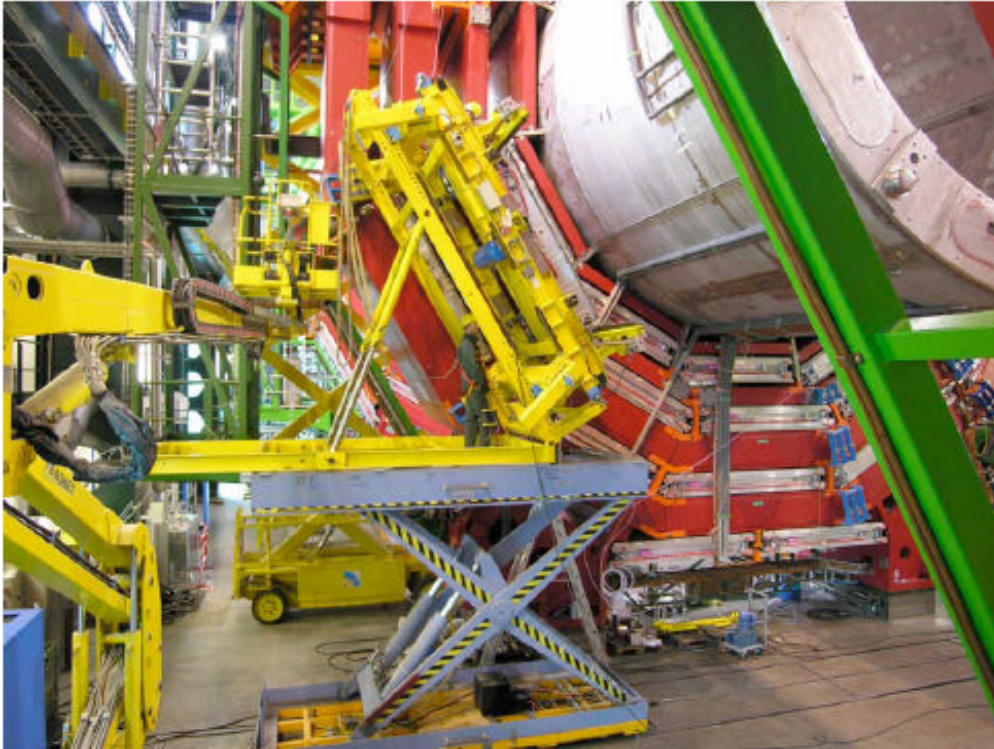
Shift list as of 13/03/2006

- 13/04 - 17/04 CMS week. Potential commissioning done by available people at Cern...
- 20/03 - 24/03 Kerstin Hoepfner
Marco Zanetti
Gianni Masetti
- 27/03 - 31/03 Marco Zanetti
Enrico Conti
- 03/04 - 07/04 Tiziano Rovelli
Francesca Cavallo
- 10/04 - 12/04 Kerstin Hoepfner
Marcos Fernandez (??)
Tiziano Rovelli
- 19/04 - 21/04 Kerstin Hoepfner
Emanuel Jacobi
- 24/04 - 28/04 Marina Giunta
Carlos Villanueva
Gian Piero Siroli (if three)

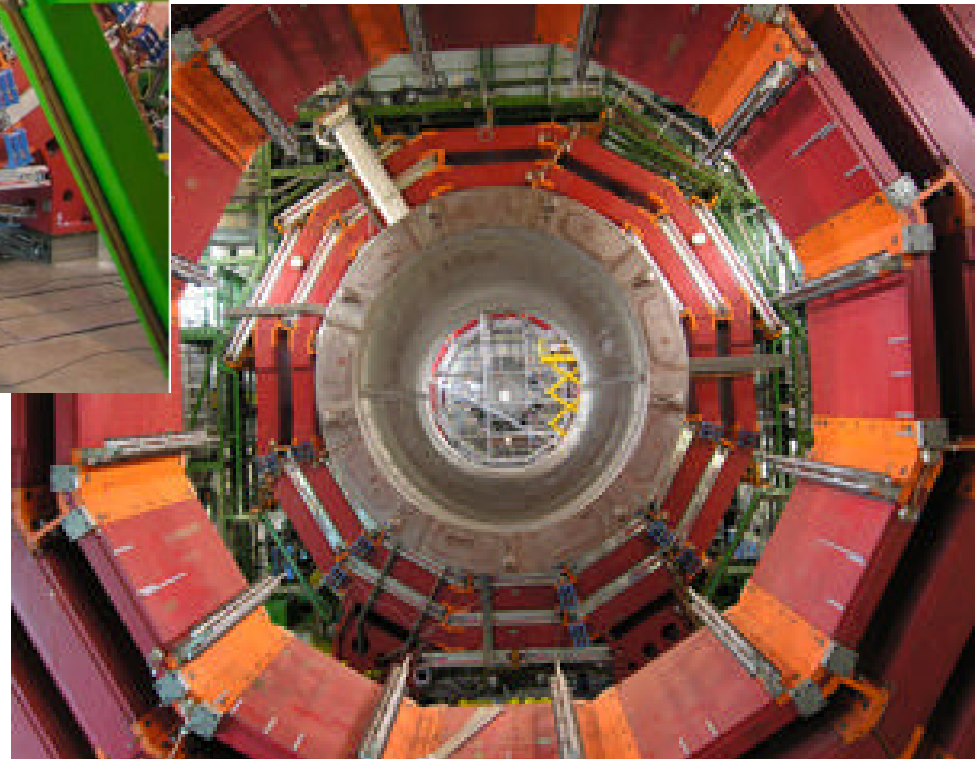
Best commissioning rate last time:
6 chambers per week for **trained shifters** (incl. problems left for repair)
→ take average 1 chamber/day

For YB0: 8 sector (33 chambers) would require 33 working days. With permanent access we would have 27 days.....with one DAQ set-up

Access chambers in YB0



Access chambers is more difficult with the solenoid in place!
Scissor lift (as in the past) is not sufficient....



Data Quality Monitoring

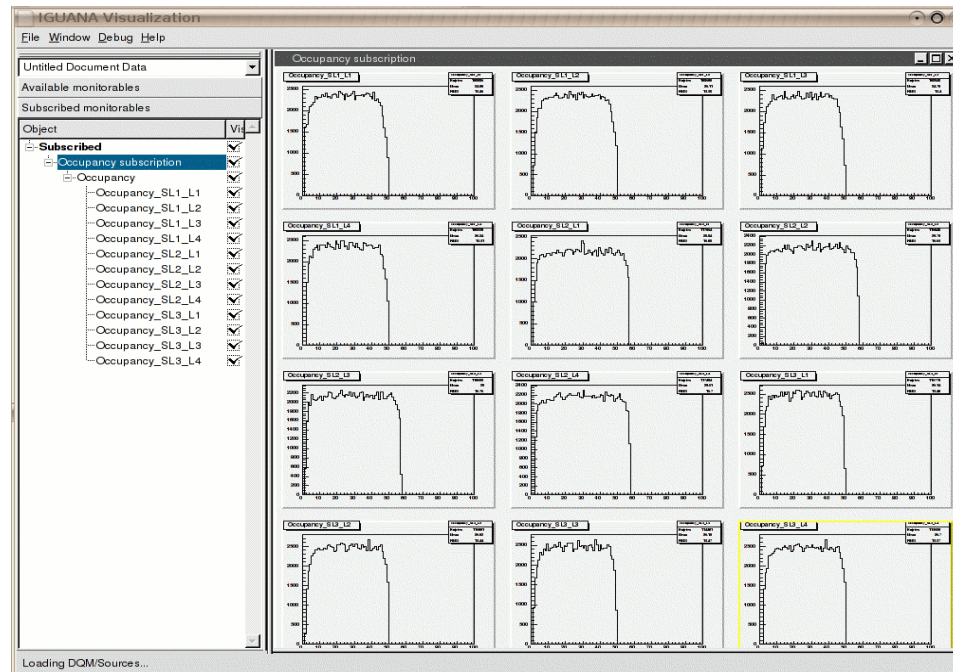
Marco Z.

- Marco Z. will test and develop the new DQM (CMSSW) during this commissioning period! Status see his talk in SW meeting. Will (at some point) replace the old **off-line** DQM/commissioning package by Marco and Gianluca.
- New DQM operates "**on-line**" → fast feedback
- Allows already to verify quality of individual drift cells (TDC spectra, occupancy).

See example →

More features are coming...

Use on a regular basis for commissioning

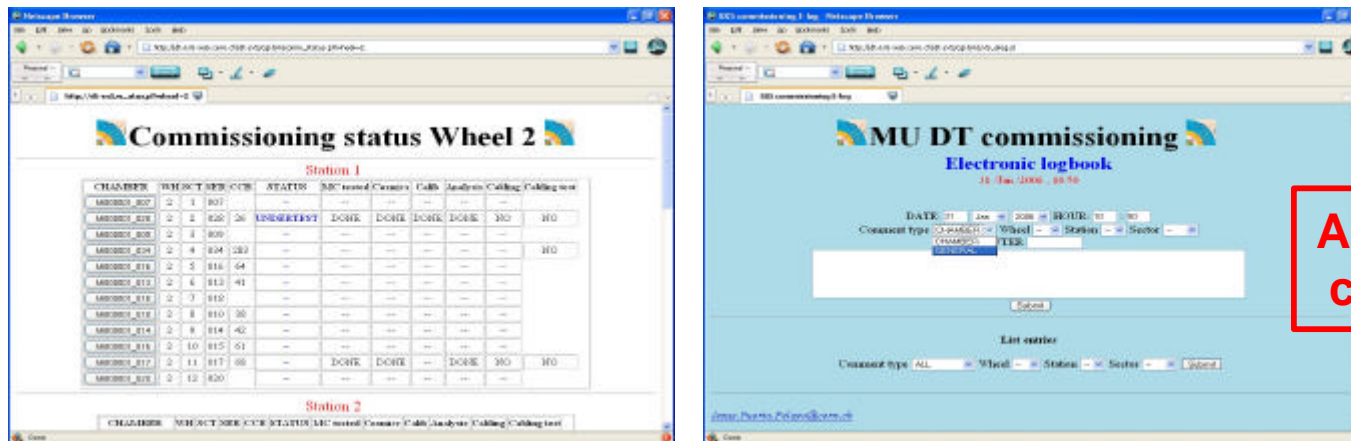


Commissioning Procedures

- Already done: electronics tools to ease the communication between CERN shifts and off-site analysis (e-logbook, e-runlist)

Jesus

<http://dt-sx5.web.cern.ch/dt-sx5/>



- **To be done:**
 - Monitoring and analysis of temperature and pressure → needs DCS
 - Reading of minirate parameters → needs DCS
 - More automatic feed-back → DQM, analysis procedures
 - Second set-up
 - Distribute minirate "repair knowledge" to more people

Analysis of Commissioning Data

- Analysis structure has been set-up and experience was gained with the analysis of YB+2, YB+1 data.
- Results from analysis of YB+1, YB+2 → see talk by Francesca (and talks given in the DT analysis meeting). Several effects are understood by now → see talk by Mary-Cruz on synch.noise
- This experience should help to provide a fast feedback to the commissioning shifts.

- Looking to the future: not only YB0, also YB-1 and YB-2 will be constraint in time and require fast feedback BEFORE the cabling of the wheels begins...