

# **DT @ ISR status**

## **Chamber readiness for installation**

**(Update from AR06)**

**CMS week June 06, DT session**

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# ISR status



- **116 DT chambers@ISR.** All shipments delivered. Only 7 spare chambers remain at the sites.
- **Last installation in YB0, YB-1, YB+1 in May**
- **Expanded zone (thanks to P. Levchenko & CSC people!)**
- **HVB replacement finished!**
- **Last alignment round next week.**
- **Inventory in progress (some critical parts already identified)**
- **Additional infrastructure & testing systems from the sites. HV & scaler systems are (at least) duplicated.**



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# Manpower



- The 2006 ISR crew:
- **ISR crew: Physicists/Engineers:**
  - Chamber tests: JPP, M. Fernandez (UAM), M. Cordero (TO,PD), A. Benvenuti (BO, 1/2), M. Chamizo (CIEMAT, 1/2)
  - MC tests: F. Gonella (PD), M. Nervo (TO), G. Masetti (BO), A. Perrotta (BO), T. Rovelli (BO)...
  - HV system: M. Giunta (CERN, BO), P. Giacomelli (BO)
- **Technical staff (permanent):**
  - S. di Vincenzo (CMM)
  - J. M. Ahijado (CIEMAT)
  - MC installation: V. Caffaro / V. Giordano (BO)
  - D. Francia (CIEMAT)
  - Feng He (IHEP).
  - Gas system: G. Fetchenhauer (Aachen)
  - **Shorter periods:**
    - Eventual technical help from all institutes (Aachen, CIEMAT, Padova, Bologna, Turin, IHEP...)

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# Progress



- Since December we keep a stable rate of 3 certified chambers/week (previously the rate was 2/week) thanks to:

- Extension of the crew
- Web-based versatile DB & e-log

<http://cern.ch/isr-muon>

- Experience

Date	RTI @ ISR (MC)	RTI+ installed DTs
06.Dec.05	30	82+30=112
16.Mar.06	10	133+10=143
06.Jun.06	30	146+30=176

- We will be able to maintain or even increase this rate but:
  - Installation periods slow down the tests due to lack of manpower.
    - Reinforce ISR crew during those periods
  - Holidays
    - Speed up during full-presence periods
  - We have to make sure all required material is present.
    - Inventory in progress
  - We strongly depend on some elements (ex. : a failure in the cosmic DAQ setup would be fatal...!)
    - Clone critical setups

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# Chambers status

(as of 06/06/06)



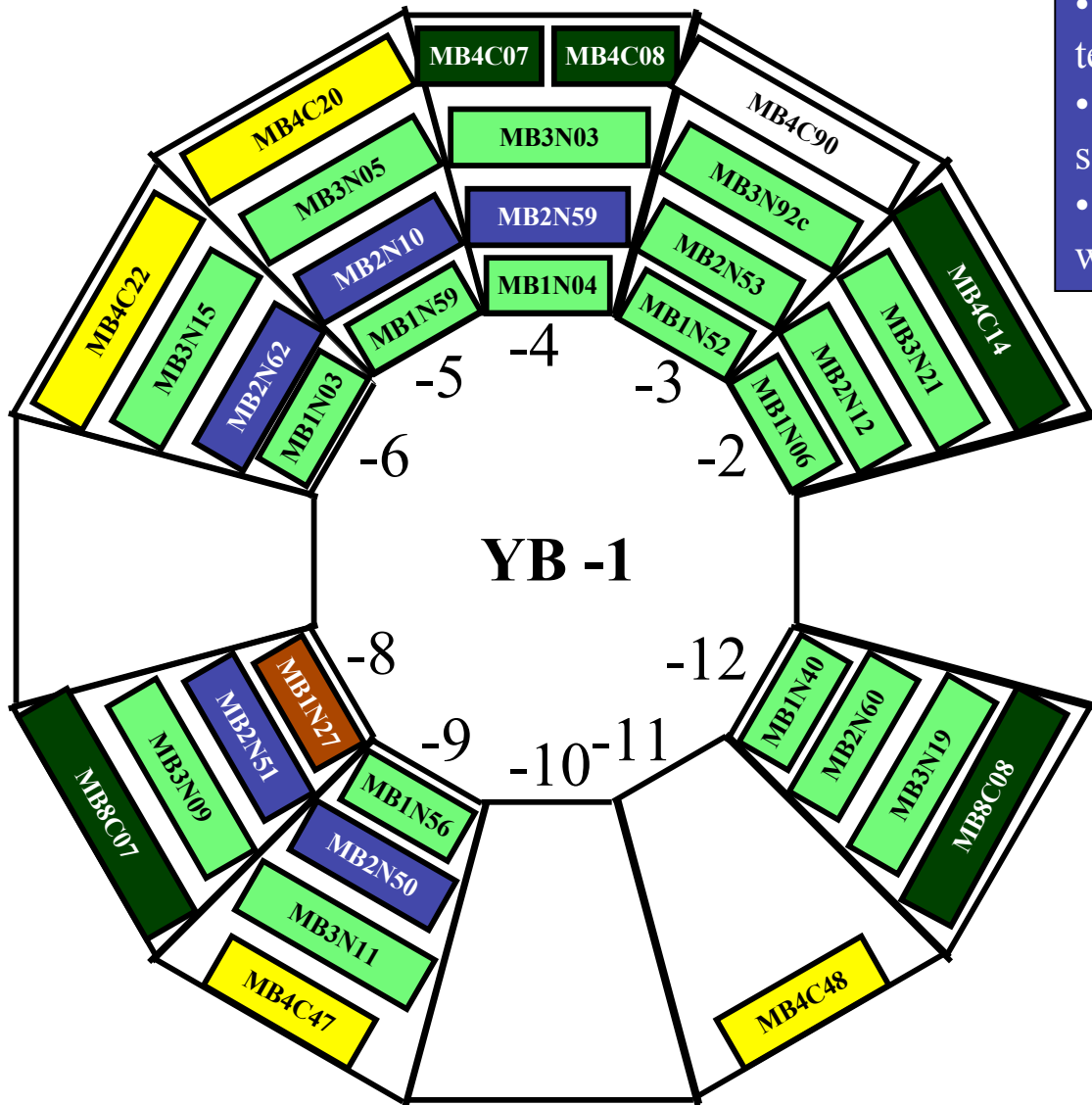
Type	@ISR (to be installed)	Under test / Tested	HV/Cosm OK (Certified)*	RTI (MC)
MB1	29 (26)	24	13	9
MB2	30 (26)	24	12	5
MB3	27 (26)	24	16	9
MB4/1-7	18 (16)	11	4	4
MB4/9-11	7 (6)	4	2	2
MB4/10	0 (0)			
MB4/4	3 (2)	2		
MB4/8-12	2 (2)	2	1	1
<b>Total</b>	<b>116 (104)</b>	<b>91</b>	<b>48</b>	<b>30</b>

\* Certified chamber: Minimum 2 months under HV, all problems fixed, electronics & cosmic tested (Only MC missing).

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# YB-1, remaining sectors



- To be installed in November (Feet chambers late December)
- MB1,2,3 are certified (only MC tests missing)
- MB4s in good progress (at ISR only since end of March)
- MB4 chimney will be aligned next week

Not yet received
OFF
Under test

Chamber certified, MC to be tested
MC tested, to be coupled to RPCs
Ready to install
Installed

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# Perspectives



- **DRESSING & ALIGNMENT**: Last alignment round in the next weeks. Dressing in good progress, but keep an eye on material availability & procurement.
- **CERTIFICATION**:
  - November installation: 86 chambers needed end of October, certification in 38 missing, 20 weeks to go, 3 chambers/week... 😊
  - February installation: 18 chambers left (November/December) 😊
- **DT+RPC COUPLING**: It becomes the next bottleneck. The amount of chambers we can couple in advance is limited to 34 due to transport frames and supports availability.
  - During installation period in November the daily coupling rate must be increased to 3 chambers/day to catch up with the installation rate. In order to cope with it, a dedicated team must be present at ISR for coupling operations (Technical: 3 RPCs + 3 DTs, Physicists: 1 RPCs + 1DTs). Another spot for coupling will be made available in order to parallelize operations.



# Summary



- HVB replacement finished. No failures detected in new HVBs (in more than 2 years).
- Last shipment arrived last Friday! Last alignment round next week.
- The certification procedure has speeded up (mostly due to the extended working crew, thanks to everybody involved!) and we'll be on time to cope with the installation requirements. Chambers to be installed will be ready by the end of this year or beginning 2007.
- Spare chambers preparation will be left for next year
- At this point is fundamental to pay close attention to possible weak points (material, setup failures, manpower...)
- FUNDAMENTAL to reinforce the ISR crew during installation periods for RPC coupling. Installation strongly depends on the capability of the ISR crew to match the installation rate.