

# Status at CIEMAT

## Electronics Overview

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# CIEMAT Status

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CERN. March 14th, 2006.

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# RO-MC production status

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- Up to 246 MCs have already been delivered to Legnaro (242 final ones and 4 that are being used as spares).
- By beginning of April we will send the last batch with:
  - 8 final MCs + 9 spares.
- One spare (MB2-L) will remain in Madrid.

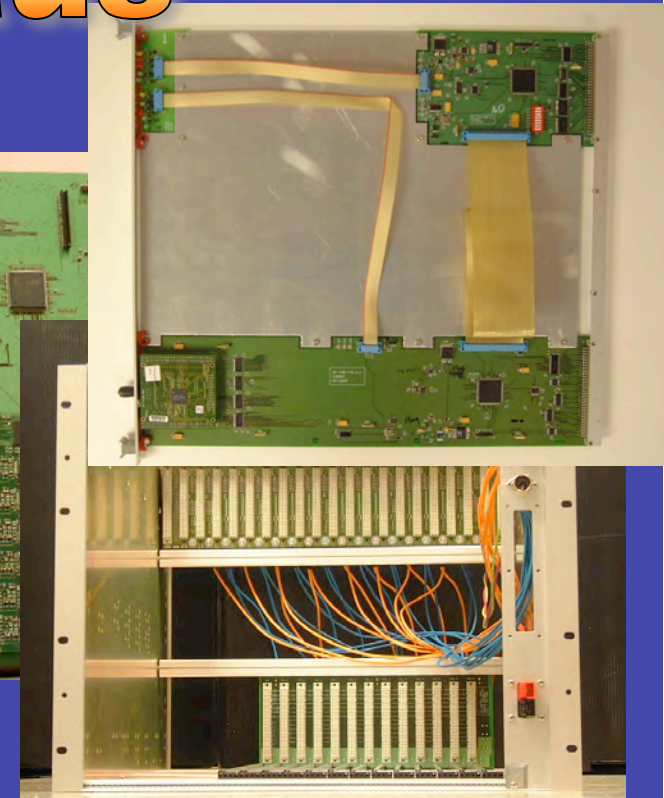
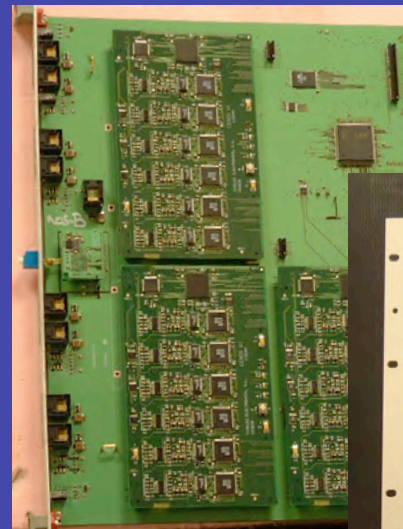
## LIST OF SPARES (14)

- 1 MB1-R. (Aachen)
- 1 M1B-L. (Legnaro)
- 1 MB2-L. (Madrid)
- 1 MB2-R.
- 2 MB3-L (Legnaro)
- 1 MB4(s)-L.
- 1 MB4(s)-R.
- 1 MB4(8,12)-L.
- 1 MB4(8,12)-R.
- 1 MB4(4)-L.
- 1 MB4(4)-R.
- 1 MB4(9,11)-L.
- 1 MB4(9,11)-R.

# ROS-25 status

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- At the moment at Legnaro:
  - 1 ROS-25 without optical link. (end Dec.)
  - 1 TIM board.(end Dec.)
  - 2 Sector Collector crates, one of them with the 6U boards adaptor => Satisfactory.
- By end of January, the optical link ROS-25 - DDU was tested at Torino with satisfactory results.
- At CIEMAT some work has been done to set-up all the ROS-25 functionality: some synchronization bugs, interruptions capability, etc
- Next week, another TIM+ROS-25 with the optical part will be taken to Legnaro. Integration tests MC+ROS+DDU and Sector Collector will take place.



# ROS-25 status

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PROTOTYPES

## SC crate: 3 units

- 2 SC crates at Legnaro (One of them without the 6U boards adapter).
- 1 SC crate at CIEMAT under assembly.

## ROS-25: 5 units

- 1 ROS-25 without optical link at Legnaro.
- 1 ROS-25 only with optical link at Torino.
- 1 ROS-25 with optical link to be taken to Legnaro.
- 2 more PCBs under assembly.

## TIM: 3 units

- 1 TIM at Legnaro.
- 1 TIM ready to be taken to Legnaro.
- 1 more assembled and to be tested. Could be ready as soon as needed.

# ROS-25 production plan

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**FINAL**

## ROS-25: 60 units + spares

- Production + tests will take 6 months, starting after validation tests.

## TIM: 10 units + spares

- Most parts already produced.
- Production + tests could take 3 months, starting after validation tests of ROS-25 + SC.

## Still to be done:

- ROS-25 to SC tests: March Q3.
- Radiation tests: Dates to be confirmed.
- At CIEMAT still some tests will be performed during the following months in order to set-up full ROS-25 functionality.

Basically:

programmable flags,  
FPGA configuration from VME,  
I, V, T sensors read-out,  
automatic registers loading from  
FLASH

# Electronics Overview

## News since MUON week

- **DDU: FPGA configuration problem solved.**
- **WS & BS: successful combined test with PHTF–WS–BS–GMT .**
- **LV: CAEN will produce A1676 & A3486 with connectors on the front.**

- **Next week will take place in Legnaro first integration of Sector Collector Crate (trigger and readout) and DDU.**

**HW: MC, TIM, ROS, SC, DDU, backplane, links**

# Status of DT DDU/FED

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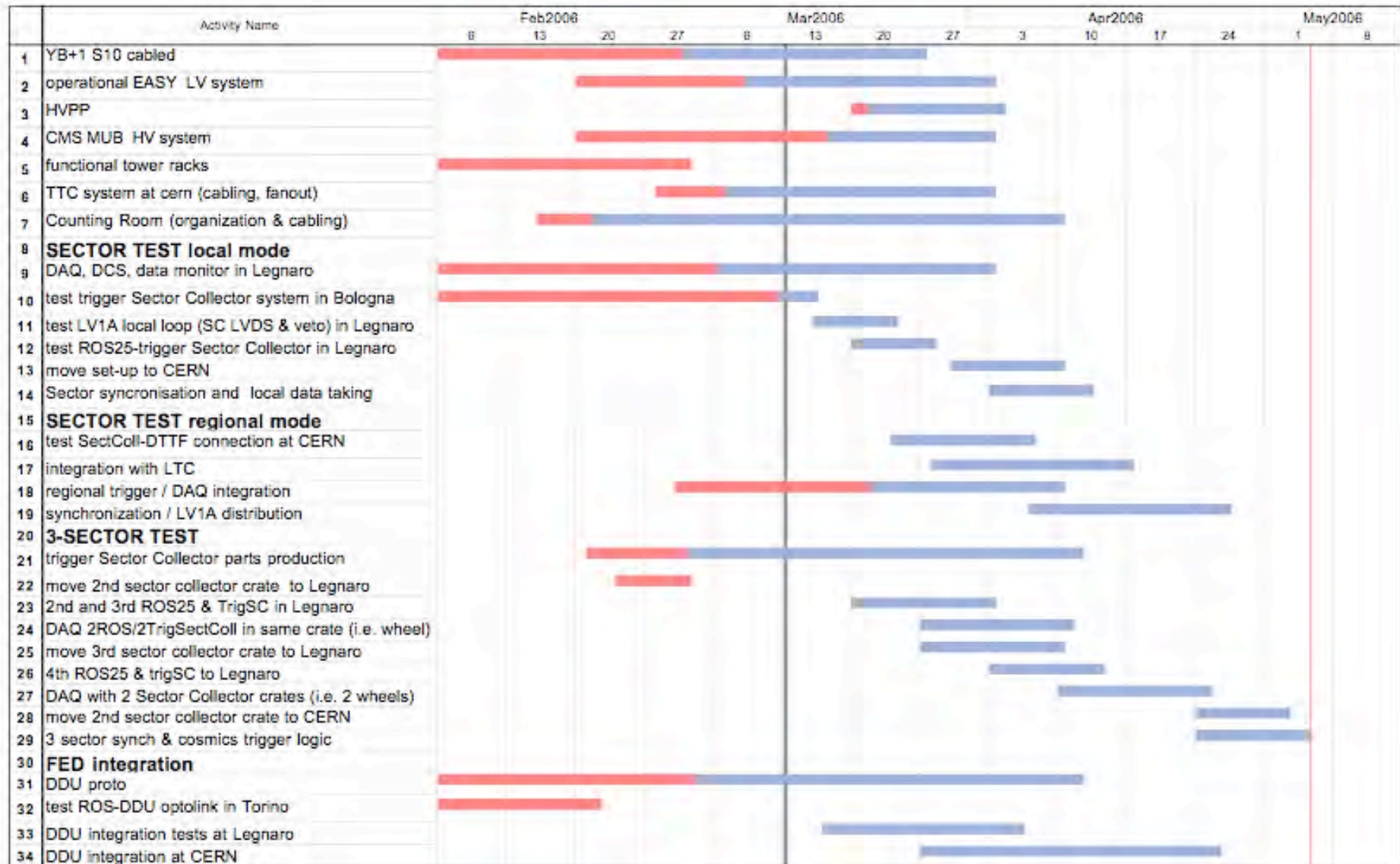
**1 DDU pre-production board ready to be integrated in Legnaro, according to a schedule agreed two weeks ago.**

- **Data flow from optical input to the S-link tested**
  - **ROS-DDU optical communication OK**
  - **S-Link output tested with FEDkit and the FRL.**
- **A simulation showed a bad behaviour of the 64-bit internal bus when working at 80 Mhz. We lowered its frequency to 40 Mhz (the DDU band-width is still well above the maximum acceptable data rate of the FRL).**
  - **no data corruption observe up to now at 40 Mhz**
- **Merging of data** from different channels under debug (could be ready in the next days).
- **TTCrx still not working** (we gave priority to prepare a board for the MTCC; the TTCrx problem will be debugged on another board after/during the integration tests in Legnaro).

14/3/2006



# DT MTCC workplan -- update: march 13, 2006



- HV, LV EASY tested
  - Missing modules and PP ready end March
- ROS25, TIM and SC crate fine with XDAQ.
  - Use of TTCci problematic
- One TrigSC system tested in Bo, moving to Legnaro.
  - Parts production started, ready begin April
- Regional trigger integration proceeding smoothly
- One DDU channel (1 sector) complete and tested in To & CERN.
  - Moving to Legnaro