

- Arc interconnections (Main points)
- DFBLs and DFBLMs status
- Inner triplets and LSS cryomagnets IC
- F523 Contract (IEG)
- Conclusions / Remarks

*Work done by the whole MCS-IC section in collaboration with MCS-ET, MCS-SC, AT-MEL, AT-VAC, TS-IC, TS-SU,... and IEG (F523 Contract) and especially :*

*LSSs (Including triplets)*

*C Garion / I Slits*

*DS*

~~*T Colombet / C Voffinger / P Galbraith /*~~

*F Bertinelli / ...X...*

*DFBA / DFBLM*

*F Laurent*

*DFBL / Cryo ext / WRL*

*I Slits*

*Arcs*

*P Fessia, A Musso, M Struik, ~~C Voffinger~~ (1...7)*

*A Poncet (7-8)*

*F Bertinelli (8-1)*

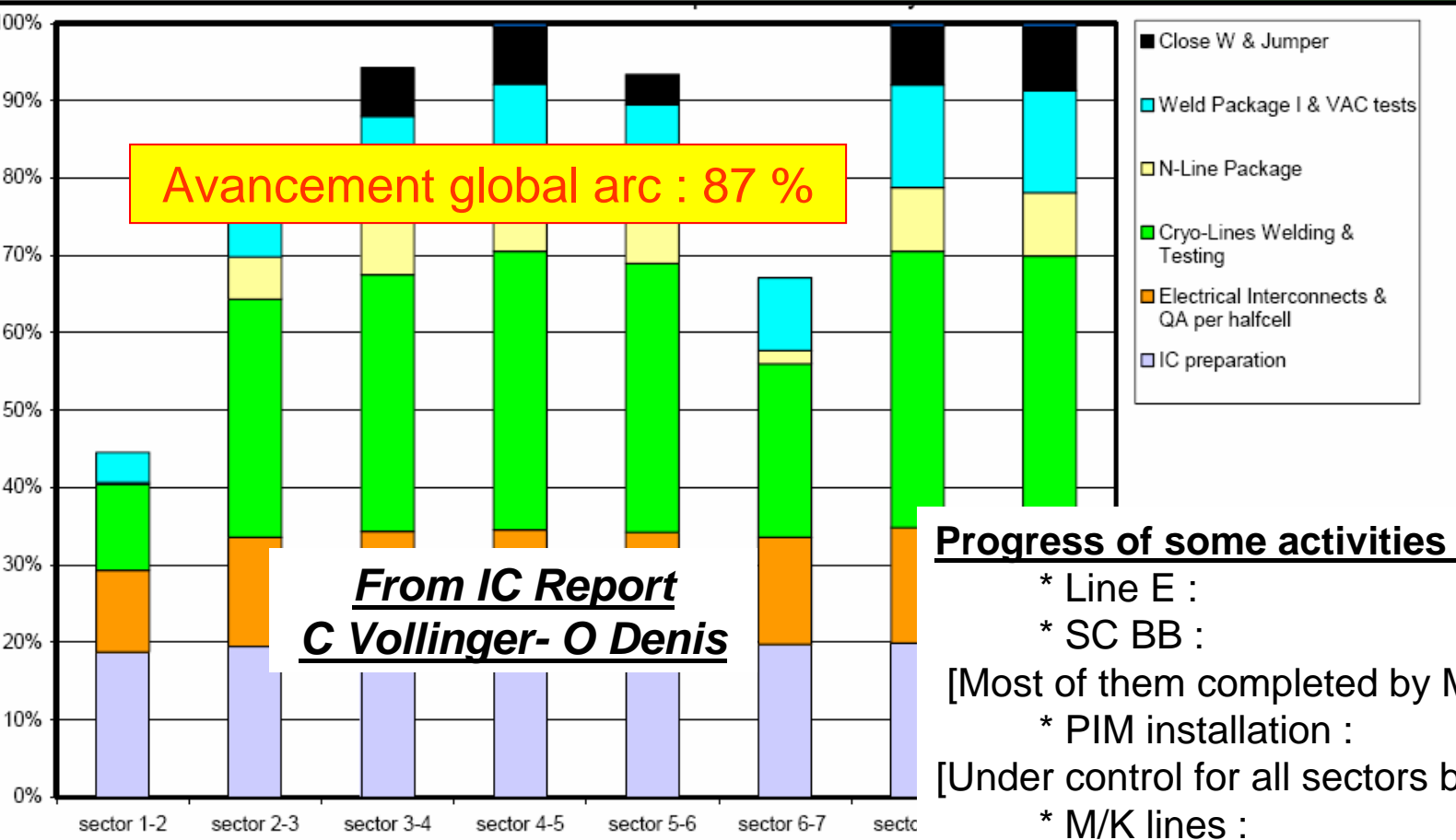
~~*C Voffinger*~~ – *O Denis*

MARIC

*Reporting*

# Progress status of the LHC interconnections

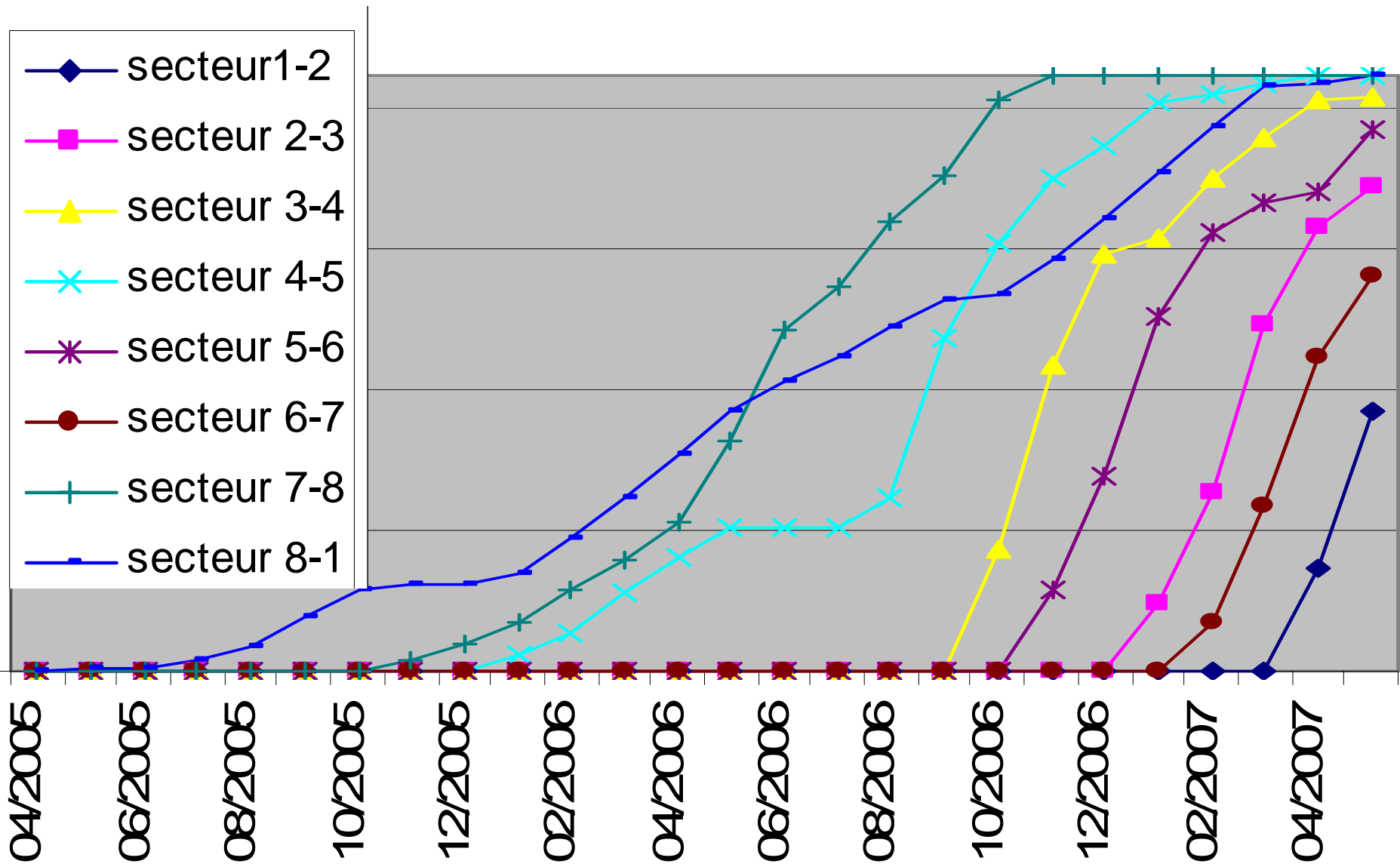
## Arc Interconnections : Main points



### Progress of some activities :

- \* Line E : 98 %
- \* SC BB : 95 %
- [Most of them completed by Mid June 2007]
- \* PIM installation : 83 %
- [Under control for all sectors but 1-2]
- \* M/K lines : 76 %
- \* Line N : 74 %
- \* Closure : 56 %
- [On track for 1000 at Mid of June 2007]

# Progress status of the IC work in the 8 sectors



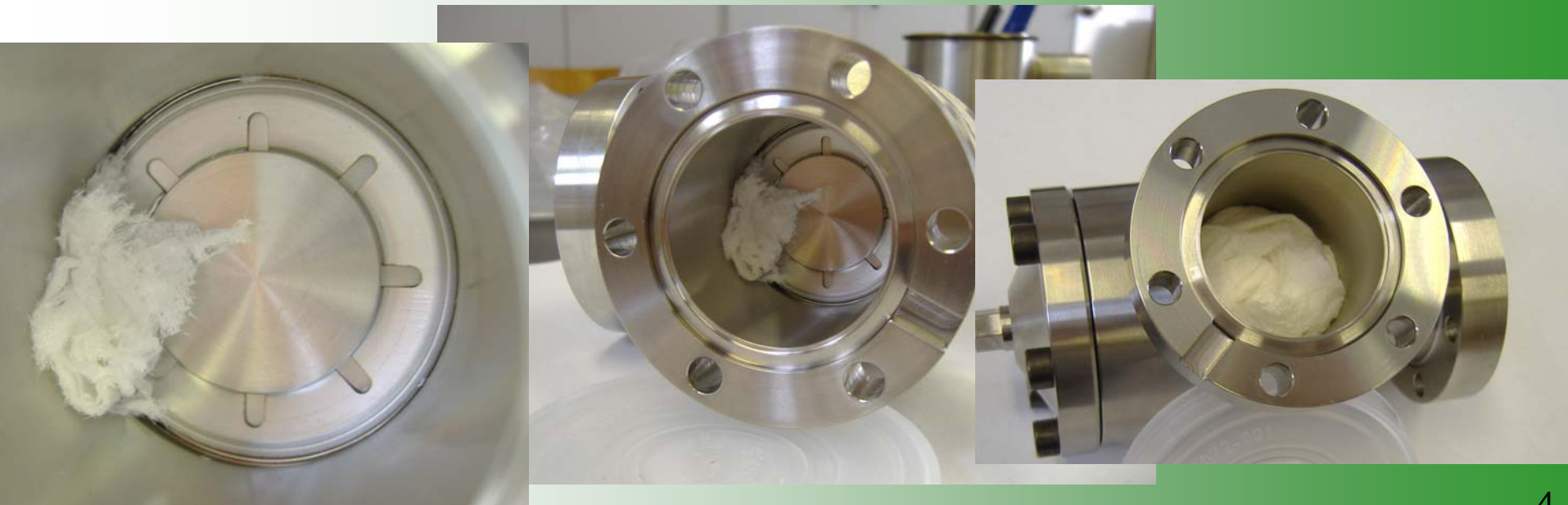
# Tissue in beam line in 5-6 NC 844938 [P Cruikshank]

- Valve was found leaky during leak test of beam lines in 5-6
- Cause : A tissue blocked in the valve

Actions :

- PIM is under removal at the middle of the arc (QBQI.33R5) for endoscopy (needed for a leak)
- Inspection of all valves
- Remove and check contamination at R5 and L6 extremities

Consequences ? Cleaning by pumping blowing ?



# SSS-500 repair

Q9R3 cold mass has been opened, insulation repaired  
Q8 and Q10 have also to be opened and insulation repaired

What to expect in 7-8 ?



# Progress status of the LHC interconnections

## **DFBL (I Slits) :**

DSLA (1L) : Completed

DSL D (5L) : Completed

DSLE (5R) : Under interconnection (Q4-D2, Q5&Q6 / DSL completed)

DSL B (1R) : Under interconnection

DSL C (3) : Waiting availability and schedule

PROGRESS : 63 %

## **DFBM #23 (F Laurent) :**

14 interconnected ;

8 under interconnection ;

1 not available (DFMD at 3L)

PROGRESS: 74 %

## **Critical DFBA:**

1-2 : Available end of June

2-3 (2R) AD : Available end of June

Specific workflow for DS zones

Releasing of Pt6 DFBA recently (PE)



# Progress status of the LHC interconnections LSS cryomagnets IC

## Triplets (See also Ranko's presentation)

- \* 8-1 ready for pressure test  
H pieces installed and welded (except one connection to CM)  
Thermal shield lines will have to be cut to allow installation of cartridges
- \* 5R : Available work is going on  
Electrical interconnection completed  
Welding of cryogenic lines started  
Will be stopped to allow cartridges installation
- \* Other ones are not available

## Q4-D2

- \* 5 are completed (8R, 8L, 1L, 5R, 5L)
- \* 2 are under under interconnection (1R, 2R)
- \* 1 not started yet (2L) Not yet aligned – Together with last magnets in 1-2

LU-D3 \* 2 are completed (4R and 4L)

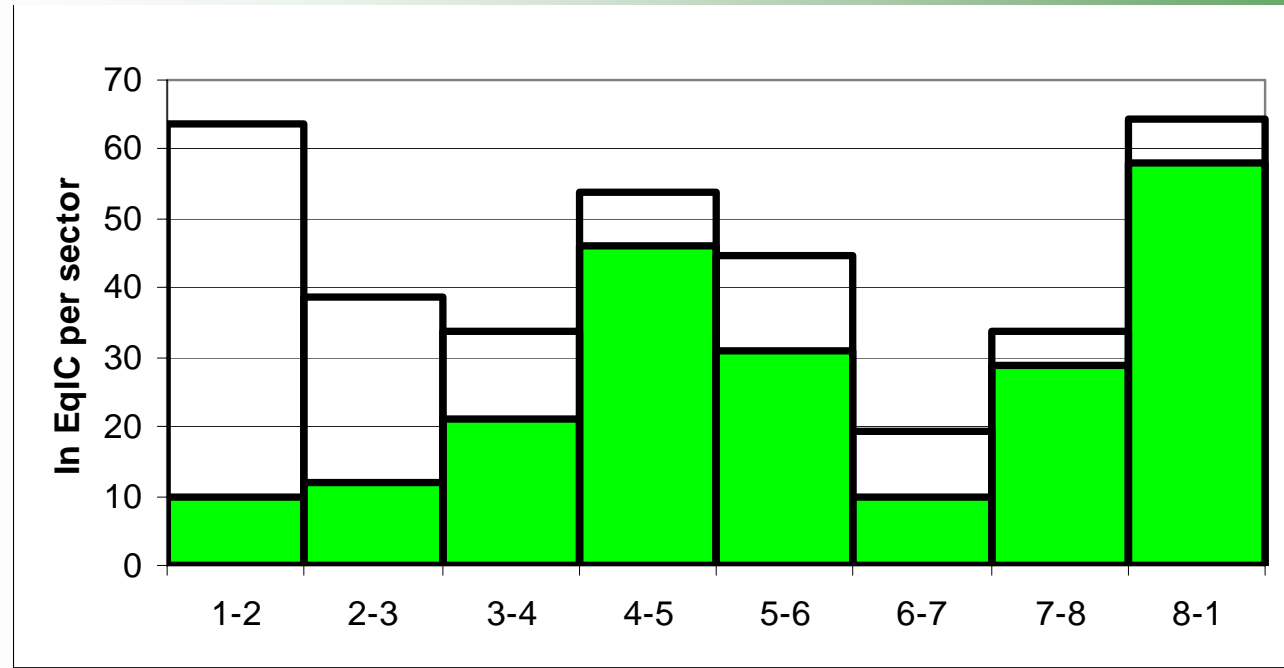
Q5-D4 \* 2 are completed (4R and 4L)

PROGRESS : 49 %

# Progress status of the LHC interconnections

OVERALL PROGRESS in LSS : 62 %

- \* Late wrt the arc : Transfer of resources but not on critical path without considering triplets
- \* 7-8 : Not completed (repair of triplet 8L)
- \* 8-1 : Triplet ready for pressure test (postponed to 15-16/6)
- \* Work in 5 to 6 sectors in parallel





# Progress status of the LHC interconnections

## F523 Contract

### \* Contract extension :

Covered by a letter of intent up to end of October 2007

Amendment in preparation up to end of December 2007

Reconnection of triplet 5L and DSLC beginning of 2008 ?

### \* 7-8 repairs :

IEG resources are identified and available

Tasks are attributed

Reduced CODIR on this subject on 29/6/2007

# Progress status of the LHC interconnections

## Interconnections : Main points

### \* Leaks ?

More leaks are found ; analysis is going on – Cleanliness ? Hidden leaks ?

\* Components : Under control – PIMs in 1-2 are critical

### \* Sector 4-5 :

Still in consolidation

Will be closed with an identified but not localised leak in the cold mass circ.

### \* Sector 8-1 :

Will be pressure tested on 15-16/6

### \* Sector 3-4 :

DSL/C will be isolated from the rest of the sector (Extra work)

SSS-500 repair is going on ; on the critical path ; Closure for week 29-30

### \* Sector 2-3 :

Q6/DFBMD at L3 can not be put in place (DSL/C validation)

***Q11R2 is under cryostating ; will be at SM18 at the end of June***

***Requires High priority for test and then installation and alignment***

***(Available for interconnection Mid-August)***

### \* Sector 1-2 :

Only one team (instead of 3) for BB connection

Last magnets to be put place by 11/6 and aligned asap

# Progress status of the LHC interconnections

## Conclusions / Remarks

- \* Changes in the CERN team will have to be managed and the impact on the work progress to be minimised
- \* 3 sectors are closed (without triplets) : 7-8, 4-5, 8-1
- \* Still technical problems to be watched carefully
- \* Arc and special ICs work is still progressing “only” in 5 sectors in parallel
- \* LSSs are late wrt the arcs but not on the critical path  
Resources will be moved accordingly