

- **Arc interconnections (Main points)**
- **DFBLs and DFBLMs status**
- **Inner triplets**
- **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

DS

DFBA / DFBLM

DFBL / Cryo ext / WRL

Arcs

C Garion / I Slits

T Colombet / C Vollinger / P Galbraith

F Laurent

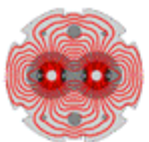
I Slits

P Fessia, A Musso, M Struik, C Vollinger (1...7)

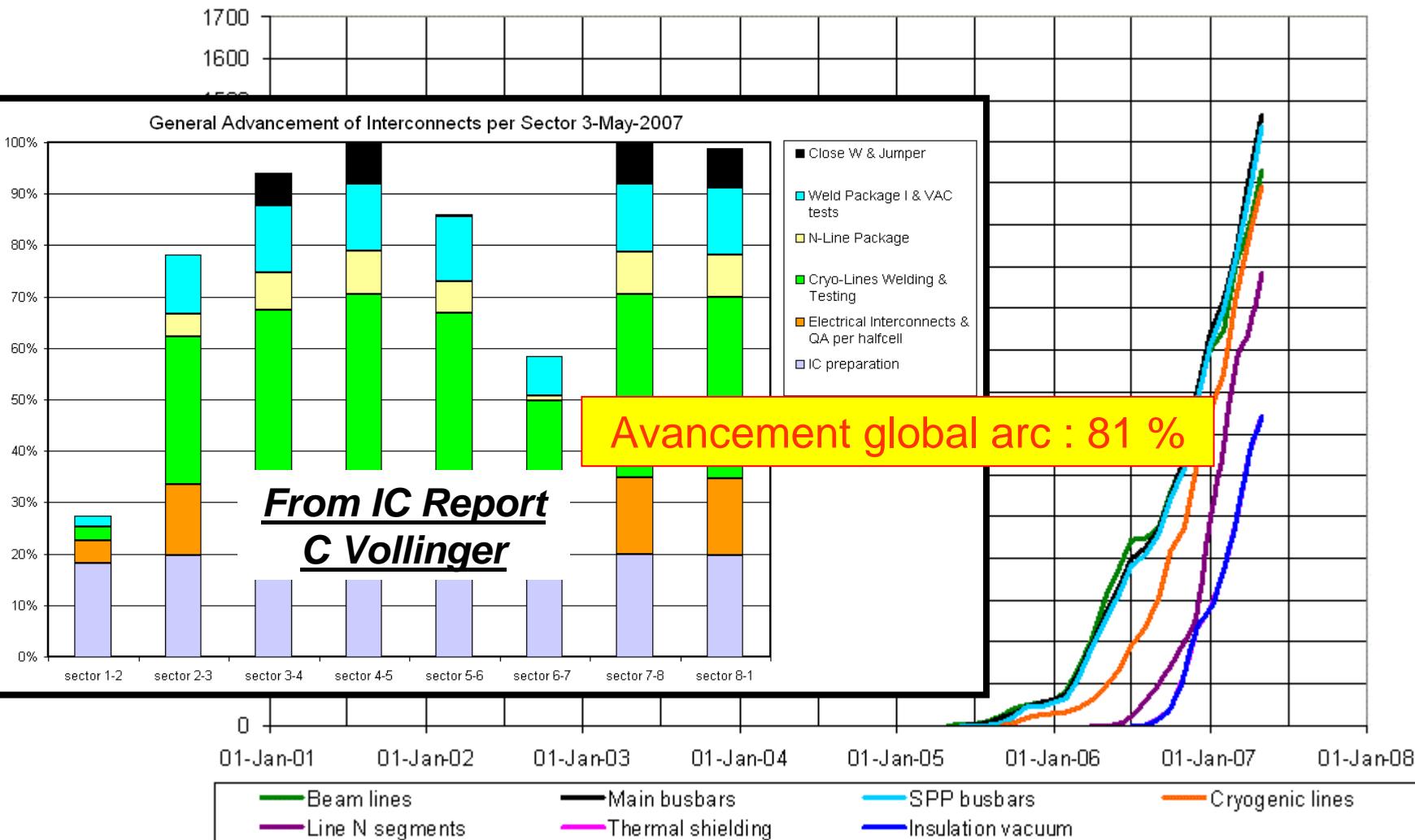
A Poncet (7-8)

F Bertinelli (8-1)

MARIC



Interconnection overview



Progress status of the LHC interconnections

Arc Interconnections : Main points

Progress of some activities :

- * Line E : 94 %
- * SC BB : 89 % [Most of them completed by Mid June 2007]
- * PIM installation : 79 % [Under control for all sectors but 1-2]
- * M/K lines : 70 %
- * Line N : 65 %
- * Closure : 48 %

Consequences :

- * Progressive shift of resources from IWP1 to IWP 2, 3 and 5
- * Rate of closure will have to be more than contractual (40 to 55 / week)
 - IEG and CERN staff when available
 - Additional light tooling required

Progress status of the LHC interconnections

Arc Interconnections : Main points

Highlights :

* Sector 4-5 :

Closed, ready for pressure test at the end of this week

According to schedule announced in March both for LSS and arc

3 Leaks identified ; will be repaired during consolidation

* Sector 8-1 :

Will be closed tonight LSS and arc except the 2 triplets

* Sector 3-4 :

Central part closed ; SSS-500 repair on-going

Critical in R3 –

Cold mass end cover to be open on Q9 and insulation improved

* Sector 2-3 :

Q11R2 is under cryostating ; will be exchanged in August

* Sector 1-2 :

3 teams (50 % extra) for BB connection

5 last magnets to be put place by end of May

Progress status of the LHC interconnections

Repairs of sector 7-8 :

WHAT ? (Main interventions)

- Exchange of cryodipole 1055
- Exchange of 17 “wrong” SSS-MB PIMs
- Repair of 6 SSS-500
- Repair of triplet L8 (Fixed points THEN heat exchanger tube)
- Leaks (Localisation and repair)
- DFBAO : improvement of insulation of 6 kA internal connection

HOW MANY ?

- About 35 persons (MCS, IEG, [TS]) (not accounting MEL and VAC)
- About 50 ICs to open (arcs + LSSs)

WHEN ?

- 6 weeks is achievable:
 - very tight schedule excluding leak tests, planned for success (risks?)
- Mid August till end of September (Draft at last ICC)
- Summer so date to be confirmed soon (Holiday period)

Progress status of the LHC interconnections

DFBL (I Slits) :

DSLA (1L) : Completed

DSL D (5L) : Completed

DSLE (5R) : Under interconnection (Q5&Q6 DSL completed)

DSL B (1R) : Preparation started

DSL C (3) : First IC (3-4) validated after welding of internal sleeves
Other ones are not yet available

PROGRESS : 56 % (Analysis by O Denis)

DFBM #23 (F Laurent) :

12 interconnected ;

7 under interconnection ;

3 not available in the tunnel;

1 to start soon (3L)

PROGRESS: 69 % (Analysis by O Denis)

Progress status of the LHC interconnections Inner Triplets (C Garion)

Almost in Stand-by mode

- * Only Q1/Q2 electrical interconnection at 2R is released for work
 - Q3 spider to be repaired at the surface
 - DFBX/D1 : to be left accessible for DFBX reinforcement
- * Possibility to cut some interconnected and validated lines under study
 - To allow access for cartridge installation and/or DFBX reinforcement
- * Compression of schedule so more parallelism
 - Additional tooling will be required
 - Human resources during Holiday period with tightened schedule ?

PROGRESS : 41 % (Analysis by O Denis)

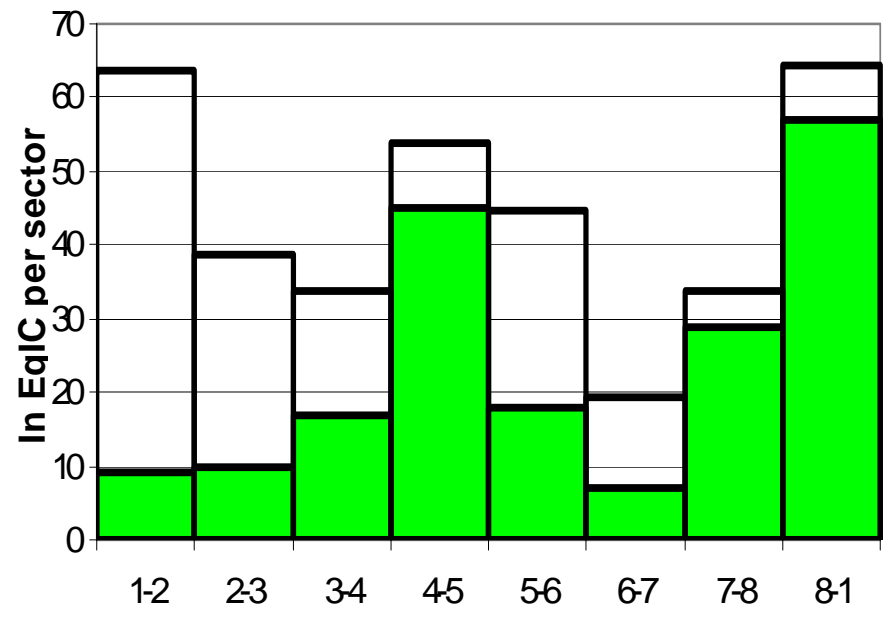
See also other presentations

Progress status of the LHC interconnections

Overall progress in LSSs

OVERALL PROGRESS : 55 %

Overall LSS Progress



- * Late wrt the arc :
(Transfer of resources)
- * 7-8 : Not completed (repair of triplet 8L)
- * 8-1 : 2 triplets
- * Work in 5 sectors in parallel
- * 4-5 : Triplet insulated for pressure test ;
By ACR for cool-down

F523 Contract

* Quality

Since end of February, IEG has reinforced QA aspects ;

Improvements already noticed end of March (reduced CODIR)

Quality level required for LHC seems to be achieved ; to be maintained

* Contract extension is under discussion (Presently 31/08)

What will remain : 1-2 closure, triplet activities, DSLC ?, repair of 7-8 ?

But also : completion of quality documentation and transfer of know-how and tooling to CERN

* Progressive shift of resources towards special ICs

* New IWPs (Jumper alignment devices, cryo-instrumentation) are applied

* Involvement of IEG on 7-8 repair is under evaluation (IWP for opening of IC)

Progress status of the LHC interconnections

Conclusions / Remarks

- * May includes 3 3-days weeks ; extended working hours to compensate and work on Monday 28/5 (Whit Monday)
- * 3 sectors are closed (without triplets) : 7-8, 4-5, 8-1
- * Arc and special ICs work is progressing “only” in 5 sectors in parallel (Last month : 7 ; Contractual : 4)
- * LSSs are late wrt to the arc ; will be gradually reinforced
- * 7-8 repairs will be a huge task
- * By Mid June,
 - 1000 ICs should be closed
 - All main and spool SC cables should be interconnected (except those open for test)