



DT Science-Techno Tea



DT News

Christian Joram

Magnetics measurements and device installation

Felix Bergsma and Pierre-Ange Giudici

10 Feb 2009

DT personnel matters

Maren was born on 29 January (start of LD contract not before 1 Jan 2038)



The proud parents: Mar Capeans and Steinar Stapnes

More DT personnel matters

- **Roberto Guida** (fellow), successful board for a LD position in gas team, will become staff on 1 Sep 2010.
- **Philippe Fontaine-Vive-Roux** (electro-mechanical technician), member of PH-ESE group, supports gas systems team (Vincent Darras, FSU technician left team, now staff in TE-GRG)
- 1 new fellow
 - **Theodoros VAFEIADIS**, CAST, supervisor M. Davenport
- 1 new doct. student
 - **Alexandre MORAUX**, WP11, supervisor P. Petagna
- 1 new tech. student
 - **Sander ROUWETTE**, WP7, supervisor M. Capeans

Retirements

- **André Ferrand** (Dec 2009)

Left DT group

- **Philippe Fontaine-Vive-Roux** (electro-mechanical technician), end of (LD) contract

MARS 2010

No significant changes compared to 2009

- Normal step budget: 2 per eligible person
- Expect about 5-8 extra steps for DT, distributed by dept. leader.
- DG insists on rule: 25% staff should get 1 (periodic) step only
- Expect same ESP budget as last year: ~200 CHF/staff

All interviews must be done before 15 March and MARS forms filled.

New tactile CMM arrived: TESA MICRO-HITE® 3D (Selection, procurement: Neil Dixon and André Braem)

Location: B154

Responsible: P. Lancon (maintenance, access, support)



Measurement volume: 460 x 510 x 420mm
Precision: ~ 10 μ m (depends on application and operator)

First client: ATLAS ALFA project.



5 Feb. Summary of LHC performance workshop (Chamonix)

<http://indico.cern.ch/conferenceOtherViews.py?view=standard&confid=83135>

Some conclusions:

LHC operation 2010/2011:

Run at 3.5 TeV/beam up to a predefined integrated luminosity with a date limit. Then consolidate the whole machine for 7 TeV/beam. → long shutdown

Long term LHC performance

SPS is the bottleneck, not PS!

→ Consolidate the existing injector chain to allow reliable operation of the LHC until at least 2022.

→ New PS (PS2) may not be needed.

Very long term: LHC upgrade

Preliminary estimates show that the useful integrated luminosity is greater

- with a peak luminosity of $5 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ and luminosity levelling
- than with 10^{35} and a luminosity lifetime of a few hours
- → new LHC upgrade scenarios

9 Feb. PH Retreat Meeting

S. Bertolucci, CSO, PH management, all PH Team and group leaders

Presentations by all teams and groups on structure, tasks, issues, evolution, future...

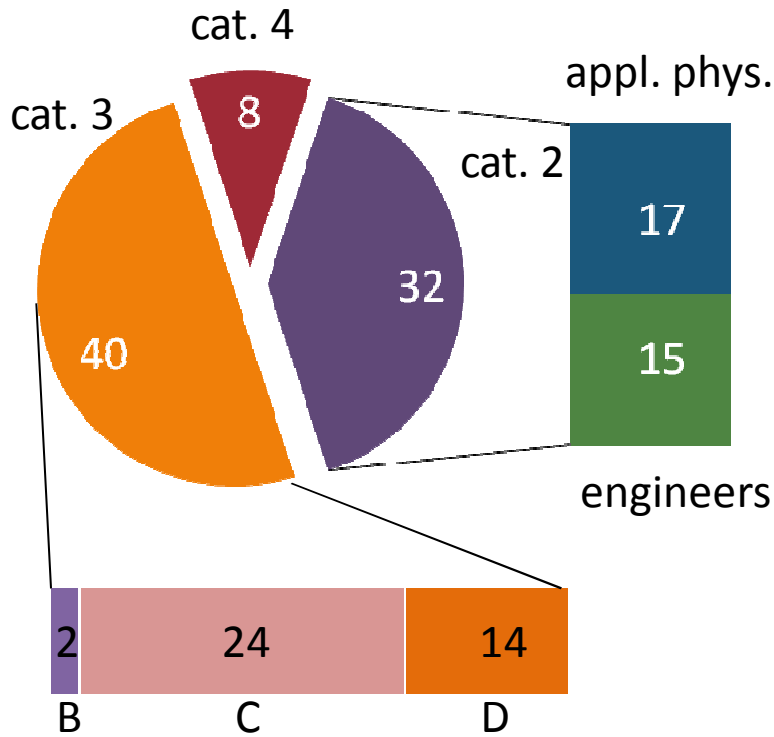
Briefing by Philippe Bloch:

What I expect from the support groups:

- A snapshot of their activities showing in particular the human resources sharing (R&D, experiments, general operations etc..).
- the foreseen evolution of these activities. The budgetary or manpower issues linked to this evolution. Balance between categories of personnel ...
- How do you see the transition at the end of the white paper project (i.e. after mid 2011)
- How do you interact with experiments? Can one improve these interactions ?
- Any issue you want to bring on fellows/students/...
- Any suggestion to improve PH running
- ...

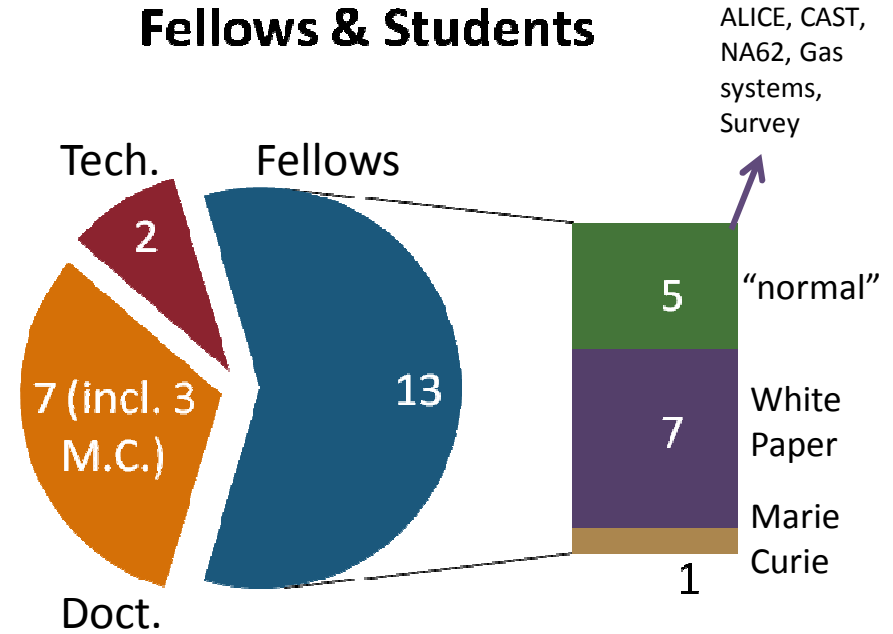
Staff composition

Staff categories



$\Sigma = 80$ (incl. 2 engineers at ITER)

Fellows & Students



$\Sigma = 21$

In addition 2 FSU teams (not counted in the following):
 PH01 – pipe work, mech. supp., welding (4 FTE)
 PH-02 – cabling work, electro-mech. support, (5+2 FTE)

Available manpower in 2010: 88.4 FTE (accounts for retirements, end of contracts)

The activities of DT are organized in

- 14 projects
- 12 services
- 6 R&D activities

Most of the projects extend over more than 1 section
→ Matrix organization.

+ 8 mechanical workshops (see below)

Projects

- AEGIS
- ALICE Operation
- ATLAS ALFA
- ATLAS Operation
- ATLAS Tracker Upgrade
- CAST M&O
- CLIC Det. Studies
- Cloud
- CMS Operation
- CMS Pre-shower
- LHCb Operation
- NA48/62
- TOTEM Operation
- TOTEM RP

Services

- B-Field Measurements
- Bond. Lab. / DSF
- Gas Support
- Glueing Techniques
- Irrad. Facilities
- Magnet M&O
- Magnet Support
- Optical Lab.
- Rad. Mon.
- Scintillators
- Thin Film
- WP11/Cooling

R&D

- WP4 / RD50
- WP5 / RD51
- WP6 / QC
- WP7 / New Irrad Fac / Mat. Studies
- WP11/Cooling
- Reverse Engineering/3D survey
- AX-PET

Example: Matrix of EM2 section

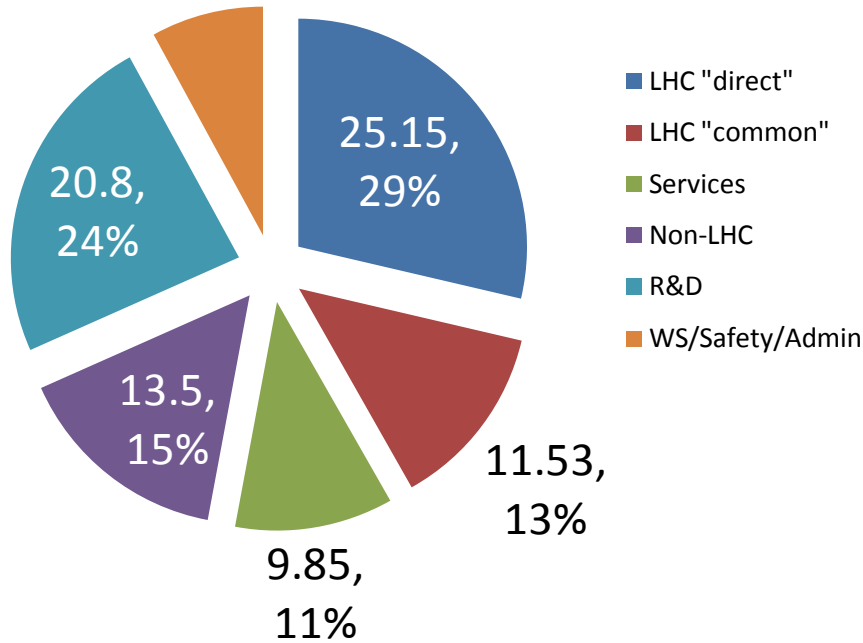
Row Labels	ATLAS ALFA	ATLAS Operation	CAST M&O	DT Admin.	Irrad. Facilities	Magnet Support	NA48/62	PH Safety Office	Scintillators	TOTEM RP	TSO	Work-Shop	WP5 / RD51	(blank)	Aegis	WP11/Cooling	Total
BENDOTTI Jerome		0.10					0.60				0.10	0.20					1.00
BODE Alain		1.00															1.00
BRUNEL Bernard		0.50											0.50				1.00
CHARRA Patrick	0.50	0.50															1.00
DANIELSSON Hans Olof		0.20		0.15			0.65										1.00
DIXON Neil David		0.25					0.65				0.10						1.00
FOLLEY Adrian									0.60			0.40					1.00
GARNIER Francois Andre						0.20						0.80					1.00
GIUDICI Pierre-Ange			0.15			0.65									0.20		1.00
GONCALVES MARTINS DE OLIVEIRA Antonio	0.10						0.70	0.10			0.10						1.00
LANCON Philippe	0.10				0.50					0.10		0.30					1.00
NOEL Jerome	0.20									0.20						0.60	1.00
PEREZ GOMEZ Francisco							1.00										1.00
Total	0.90	2.55	0.15	0.15	0.50	0.85	3.60	0.10	0.60	0.30	0.30	1.70	0.50		0.20	0.60	13.00

Comparison 2008 - 2010

Activity Summary 2010

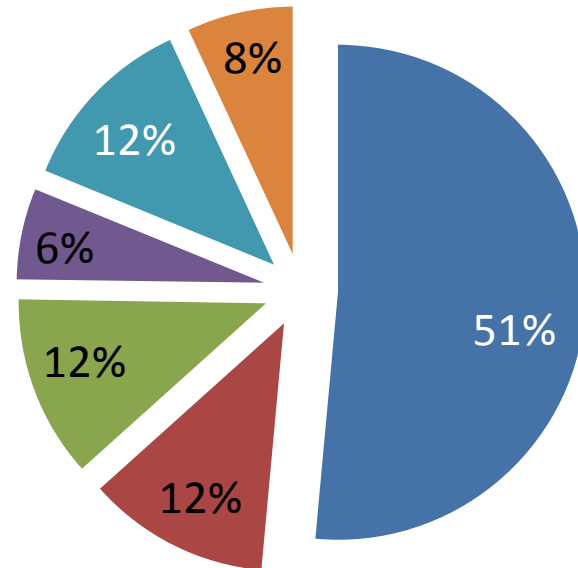
7, (Operation, new projects, R&D)

8%

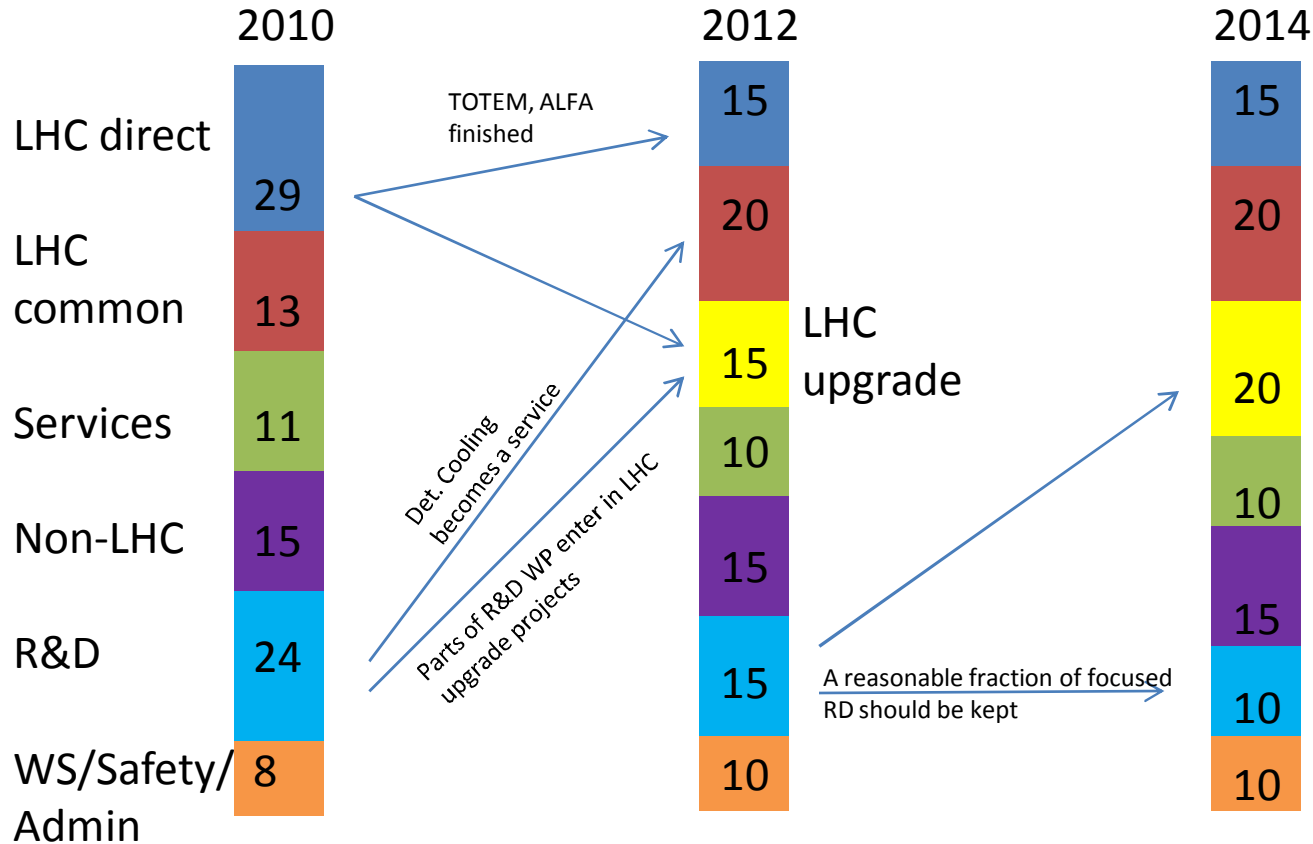


Activity Summary 2008

(construction/commissioning)

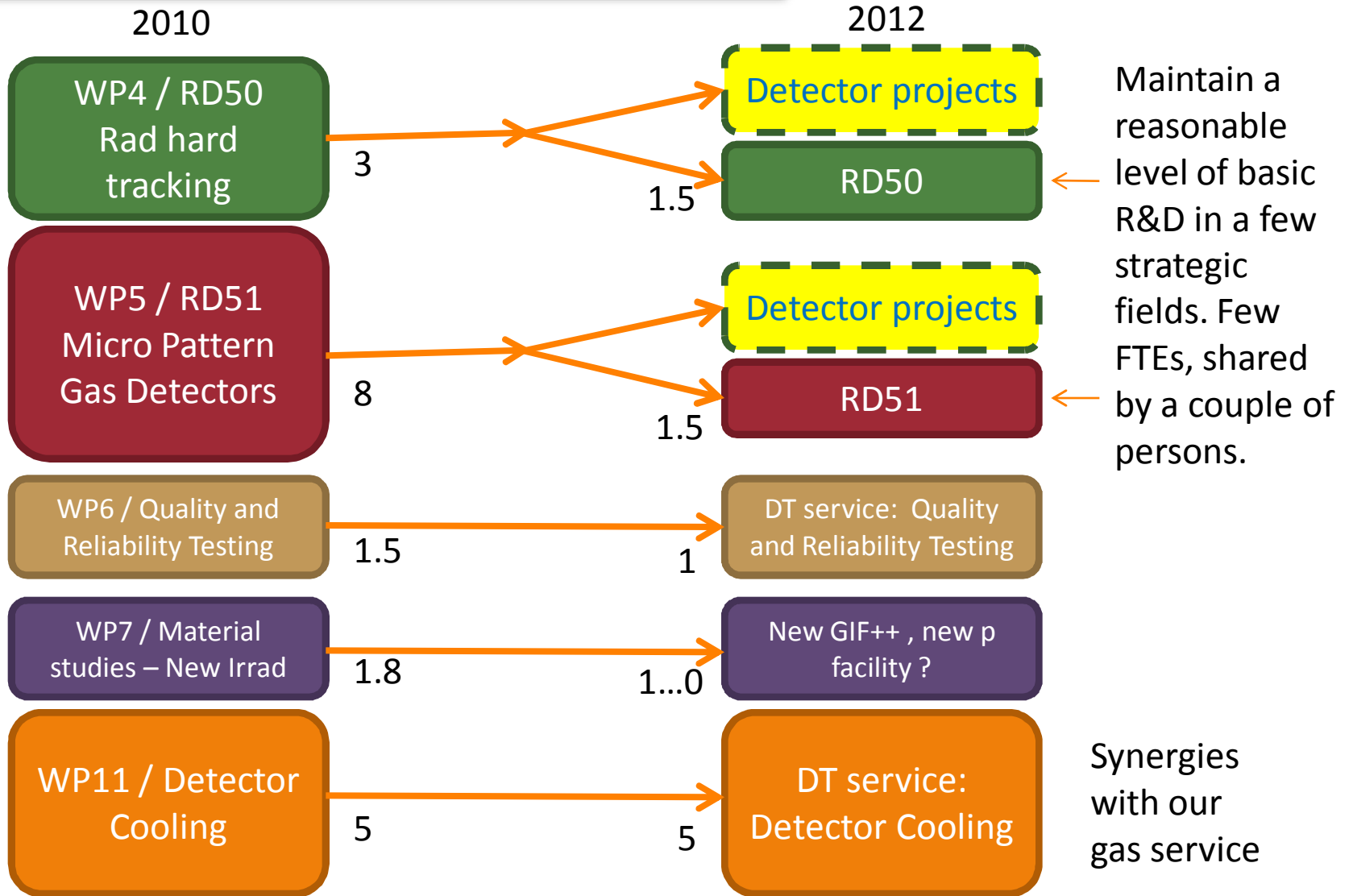


'Expected' evolution of activities



DT composition - 20% phys, 20% eng, 60% tech (incl. designers) - looks reasonable. Number of designers must be increased. Number of technicians must not drop!

Evolution of White Paper R&D ?





Summary: Support groups

QuickTime™ and a
H.264 decompressor
are needed to see this picture.

- **PH support groups**
 - **Relation with DT is excellent**
 - **Lot of good will**
 - **Feel to work for a common goal**
 - **Administrative overhead minimized**
 - **Relation with ESE is good**
 - **More formal**
 - **CERN-CMS finds more difficult to work this way, but we should be asking for more**

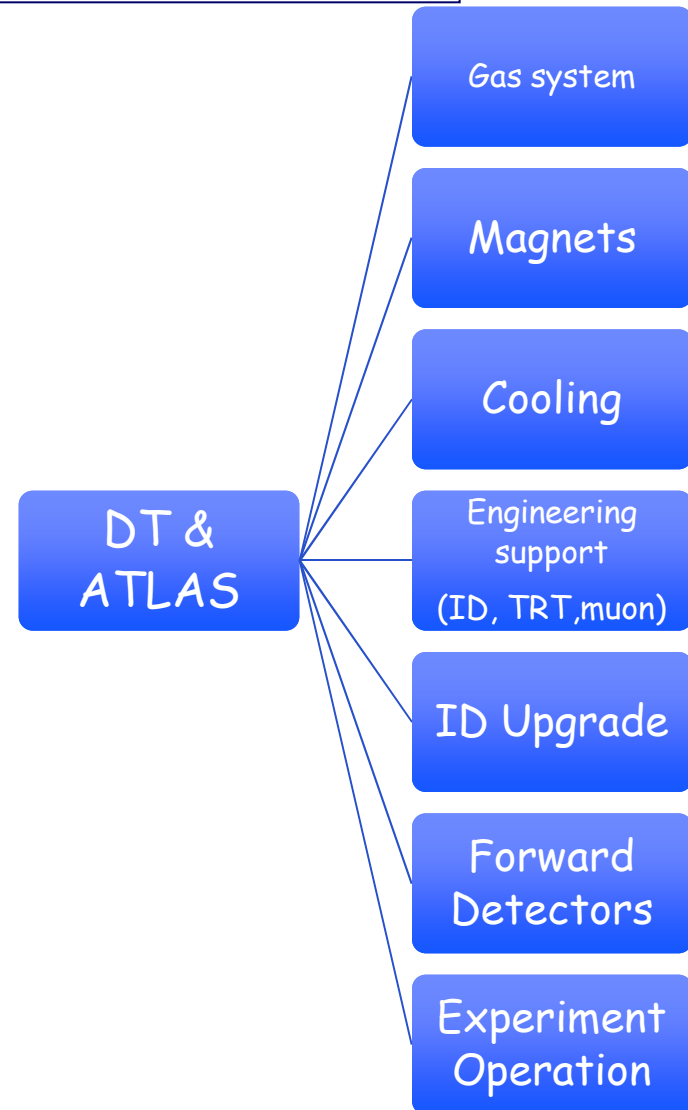
(Achille Petrilli
CMS TL)

Collaboration with support groups

(Giuseppe Mornacchi, ATLAS TL)

● DT

- Collaboration specified by contracts (gas systems, magnets operation) or WP specification (EDMS document)
 - Contracts: gas and magnets [work very well]
 - WP for Cooling
 - Forward detectors (Roman Pots)
 - Engineering support for ID and TRT
 - Upgrade: participate to IBL, Phase 2 ID design & ATLAS Upgrade PO
- Structured approach should be formalized with e.g. yearly steering meeting between experiments and DT mgt



My personal and very preliminary conclusions:

- Collaboration with and services provided by DT are appreciated
- All experiments, in particular the smaller ones (LHCb, ALICE, TOTEM, NA62, AEGIS), fully rely on our work.
- Many consolidation and upgrade projects have been mentioned, for which our contributions are requested. Detailed analysis of presentations is needed and time scales have to be understood.
- Our strong involvement in R&D (21 FTE) is a singularity in time. A good fraction of the R&D efforts must either be converted to new services (Cooling, QART), new specific detector projects or reduced. Only a small fraction of generic but focused R&D should continue.
- Our Matrix organization allows us to work on many projects and provide a large spectrum of services. It is clear, that this requires flexibility and good will from you, and in some cases leads to extra stress.

Many thanks for your excellent work and team spirit in 2009 !