

PH-DT Group Meeting

M.Capeans, A.Catinaccio

13/9/2012



Outline

• **DT Presentation** > MC, AC

- DT Today: mandate, skills, organization
- Preparing the future: DT structure
- Safety
- New DT Headquarters project > L.Mapelli
- Discussion & Coffee



Introduction

Mar CAPEANS PH-DT GL

- 44 y old, at CERN since 1992
- Dr in Physicis
- Generic gas detectors R&D, MPGD, Hera-B OT at DESY, ATLAS TRT, LHC Gas systems, currently leading ATLAS Pixel nSQP project
- EU projects
- PH-DT-DI SL since 2010

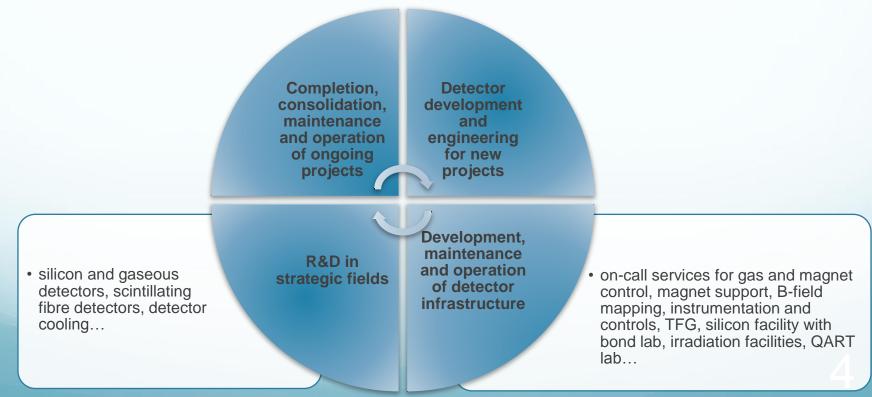
Andrea CATINACCIO PH-DT DGL

- 47 y old, at CERN since 1994
- Msc Mechanical Engineering
- 91-94 TECNOMARE and ESA
- SL of Mech Engineering in TIS
- SL in PH-DT1 and PH-DT
- Project Engineer for ATLAS TRT, currently for ATLAS Inner Detector



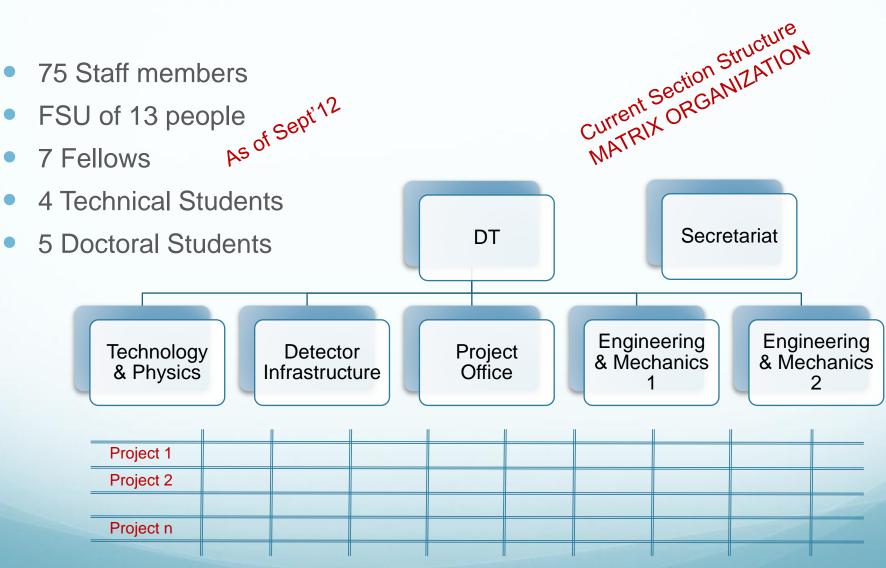
Group Mandate

- The mandate of the PH-DT group comprises development, construction, operation and maintenance of particle detectors for the experiments at CERN. The group also offers a range of services and infrastructure for experiments and detector R&D.
- **DT's activities** are concentrated in four areas:





DT Personnel





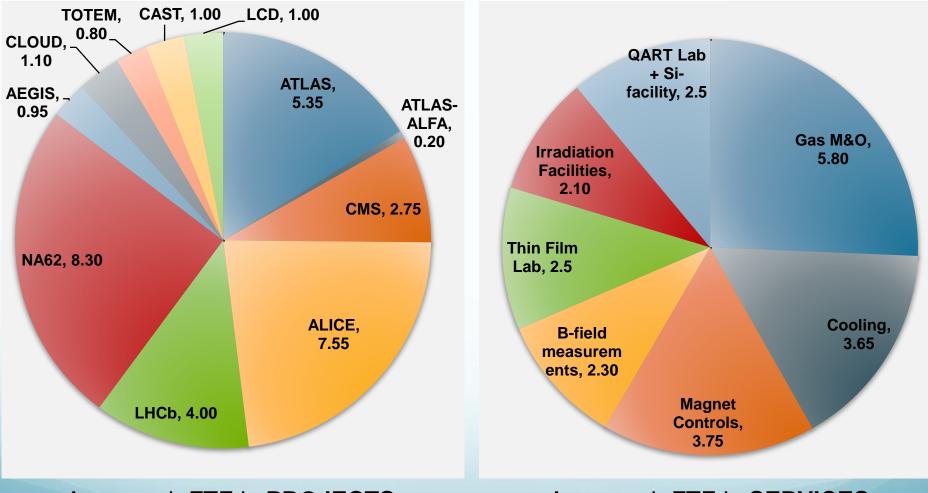
Current Use of Resources (only staff)

- 45% Projects
- 35% Services (common LHC M&O incl.)
- 5% R&D activities
- Rest is shared between administrative and technical management:

Group management, EU project management, Workshops, Safety, Services within PH such as support to the exhibition, committees, Saved leaves & Detachments...



Resources Breakdown



Approx. nb FTE in PROJECTS

Approx. nb FTE in SERVICES



Short term

- We would like to provide continuity to the current matrix organization,
 - It has been useful in the transition from construction to operation
 - It provides some flexibility to react to experiments' requests
 - Going into the LS1 period, continuity is important

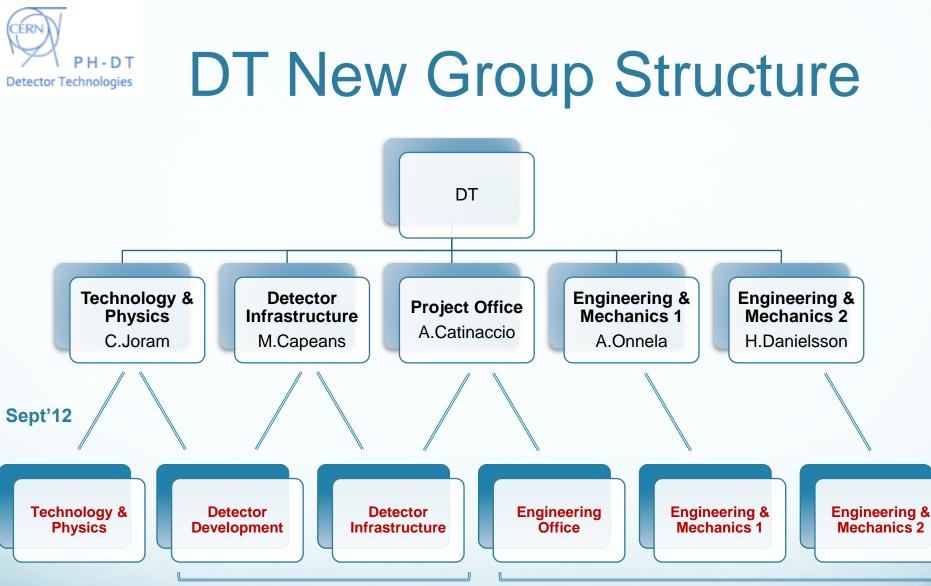
Yet, the structure needs to be adapted to the current and future commitments of the group

- Changes should also reflect the management awareness to engineering and technical aspects, and personnel overall
- Tasks and group mandate do not change, although fine tuning of tasks and allocated resources is needed



Present > Future

- Services (now in DI) work in an internal matrix, and resources are hardly available to other projects
- Cooling (now in PO) needs to focus on plant construction and operation, and continue R&D for future detectors and cooling concepts
- The technical sector (now mostly in PO, EM1, EM2) needs larger flexibility and coordination to cope with new demands: LHC upgrades, commitments with non-LHC experiments
- Need to boost detector R&D for future projects



Well defined, fixed projects and services, already serving all experiments across CERN matrix organization: teams across sections are grouped to work in key projects, as needed

PH-DT Detector Technology

Group leader: Mar Capeans Deputy: Andrea Catinaccio

Secretariat: Veronique Wedlake

Engineering Organization of EO, EM 1 & 2 : Andrea CATINACCIO Safety linkman: Mark HATCH

Detector Infrastructures	Detector Development	Technology and Physics	Engineering Office	Engineering & Mechanics 1	Engineering & Mechanics 2
(DT-DI)	(DT-DD)	(DT-TP)	(DT-EO)	(DT-EM1)	(DT-EM2)
BERGSMA Felix BLANC Pascal BOURGEOIS Nicolas CAPEANS Mar (SL) CARRIE Patrick DAGUIN Jerome D'AURIA Andrea DERONT Laurent DE MENEZES Louis-Philippe GUIDA Roberto GODLEWSKI Jan MAIRE Gilles MERLET Frederic OLESEN Gert PAVIS Steven PETAGNA Paolo PONS Xavier RAVAT Sylvain TROPEA Paola WASEM Albin	DAVID Claude FORTIN Richard G GLASER Maurice HONMA Alan MANOLESCU Florentina MCGILL Ian MOLL Michael (SL) RAVOTTI Federico ROPELEWSKI Leszek SCHNEIDER Thomas Hans VAN STENIS Miranda NEUGEBAUER Hannes (DOCT) OLIVERI Eraldo (FELL)	DAVENPORT Martyn GYS Thierry HAHN Ferdinand HAIDER Stefan JORAM Christian KLEMPT Wolfgang MARTINENGO Paolo SCHMIDT Burkhard (SL) CASTILLO GARCIA Lucia (DOCT) GABRYSCH Markus (FELL) HELLER Matthieu (MCFELL) ORTEGA RUIZ Inaki (USAS) PALUCH Robert Michal (TECH) SOLEVI Paola (UPAS) VAFEIADIS Theodoros (FELL)	BAULT Christophe Daniel CATINACCIO Andrea (SL) DAVID Eric (ret.) DEGRANGE Jordan GARGIULO Corrado HATCH Mark JAMET Olivier LENOIR Philippe WERTELAERS Piet BERRUTI Gaia (DOCT) MAODDI Pietro (DOCT) MAODDI Pietro (DOCT) MAPELLI Alessandro (FELL) NUIRY Francois-Xavier (FEL) ROMAGNOLI Giulia (UPAS)	ANSTETT Didier Henri BOUVIER Philippe Jacques CANTIN Bernard DENARIE Charles-Henri DUMPS Raphael (DSL) IJZERMANS Pieter KOTTELAT Luc-Joseph KRISTIC Robert LESENECHAL Yannick LOOS Robert ONNELA Antti (SL) PIEDIGROSSI Didier VAN BEELEN Jacob Bastiaan	BENDOTTI Jerome BODE Alain BRUNEL Bernard CHARRA Patrick DANIELSSON Hans (SL) DIXON Neil David GARNIER Francois G. M. DE OLIVEIRA Antonio GIUDICI Pierre Ange (DSL) NOEL Jerome PEREZ GOMEZ Francisco VERGAIN Maurice SERGI Antonino (FELL) FOLLEY Adrian

FEIGL Simon (MC-FELL) KRZEMPEK Lukasz Piotr (TECH) MANDELLI Beatrice (DOCT) OSTREGA Maciej (TECH) SZWARC Tomasz Jakub (TECH) VERLAAT Bartholemeus (USAS)

ZWALINSKI Lukasz



Roles & Functions

Group Leader (75% FTE) M.Capeans

Overall coordination of group activities and admin tasks (Mars, budgets, personnel, space)

Interfaces formally to PH and other departments

Coordinates physics/detector development resources and projects and services

Organizes regular management meetings and group meetings

Deputy Group Leader (50% FTE) A.Catinaccio

<u>Coordinates the engineering and technical teams and activities, including the</u> responsibility for the Mars exercise and budgets of relevant sections Overall responsibility for safety (supported by DT safety linkman) and for DT mechanical workshops

Supports and replaces GL when needed

Section Leaders (20% FTE)

SL manages personnel workload: supports and motivates personnel, proposes and follows training, launches MARS.

Follows the technical activities/projects in the section and reports on those activities in the Group Management meetings



Detector development & Infrastructure Organization: Mar Capeans

Technology and Physics (DT-TP)

Burkhard SCHMIDT

JORAM Christian GYS Thierry HAHN Ferdinand DAVENPORT Martyn HAIDER Stefan KLEMPT Wolfgang MARTINENGO Paolo

GABRYSCH Markus VAFEIADIS Theodoros (1.7) PALUCH Robert Michal (1.7) CASTILLO GARCIA Lucia (1.9) HELLER Matthieu Detector Development (DT-DD)

Michael MOLL

Si Detectors HONMA Alan MCGILL Ian MANOLESCU Florentina

Gas Detectors ROPELEWSKI Leszek

TGF SCHNEIDER Thomas Hans VAN STENIS Miranda DAVID Claude

Irrad. Facilities RAVOTTI Federico GLASER Maurice FORTIN Richard G

OLIVERI Eraldo NEUGEBAUER Hannes (1.7)

> **DT FSU** A.Kerhli, M.Carrichon, J.Dumollard, G.Lacroix, B.Marichy, A.Laassiri, G.Crepet, H.Sabba, H.Martinati

Detector Infrastructure (DT-DI)

Mar CAPEANS

Measurements and Controls **OLESEN** Gert **BLANC** Pascal **BOURGEOIS Nicolas DERONT** Laurent **PONS Xavier BERGSMA Felix RAVAT Sylvain** MAIRE Gilles Gas **GUIDA Roberto D'AURIA** Andrea **DE MENEZES Louis-Philippe CARRIE** Patrick MERLET Frederic WASEM Albin **PAVIS Steven** Cooling **PETAGNA** Paolo **TROPEA** Paola **GODLEWSKI Jan** DAGUIN Jerome (1.9) ZWALINSKI Lukasz (1.10)

MANDELLI Beatrice OSTREGA Maciej SZWARC vTomasz Jakub (1.8) KRZEMPEK Lukasz Piotr (1.7) FEIGL Simon (3.9)

PH-DT Detector Technology

Group leader: Mar Capeans Deputy: Andrea Catinaccio

Secretariat: Veronique Wedlake

Coordination of engineering and technical teams activities

Engineering Organization of EO, EM 1 & 2 : Andrea CATINACCIO Safety linkman: Mark HATCH

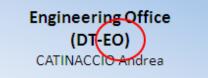
Resource type	Nb
Staff	33
Staff (detach. ret.)	2
Fellows	3
Doctoral Student	2
UPAS	1
Total:	41

Staff profile	Nb
technicians	29
engineers	5
physicists	1

Engineering Office (DT-EO)	Engineering & Mechanics 1 (DT-EM1)	Engineering & Mechanics 2 (DT-EM2)
	Antti ONNELA/	Hans DANIELSSON/
Andrea CATINACCIO	deputy Raphael DUMPS	deputy Pierre-Ange GIUDICI
BAULT Christophe Daniel DAVID Eric (ret.) DEGRANGE Jordan GARGIULO Corrado HATCH Mark JAMET Olivier LENOIR Philippe WERTELAERS Piet BERRUTI Gaia (DOCT) MAODDI Pietro (DOCT) MAPELLI Alessandro (FELL) NUIRY Francois-Xavier (FEL) ROMAGNOLI Giulia (UPAS)	KOTTELAT Luc-Joseph KRISTIC Robert LOOS Robert CANTIN Bernard PIEDIGROSSI Didier ANSTETT Didier Henri BOUVIER Philippe Jacques DENARIE Charles-Henri IJZERMANS Pieter LESENECHAL Yannick VAN BEELEN Jacob Bastiaan	BENDOTTI Jerome DIXON Neil David PEREZ GOMEZ Francisco G. M. DE OLIVEIRA Antonio NOEL Jerome VERGAIN Maurice GARNIER Francois BODE Alain BRUNEL Bernard CHARRA Patrick SERGI Antonino (FELL) FOLLEY Adrian



Changes in the PO to EO section



BAULT Christophe Daniel DAVID Eric (ret.) DEGRANGE Jordan (Staff 1.08) GARGIULO Corrado HATCH Mark JAMET Olivier LENOIR Philippe WERTELAERS Piet BERRUTI Gaia (DOCT) MAODDI Pietro (DOCT) MAPELLI Alessandro (FELL) NUIRY Francois-Xavier (FELL) ROMAGNOLI Giulia (UPAS) Some members move from EO to DI (cooling) for synergies with the gas team

Some others, related to "on detector" developments (μ -channel, μ -fabrication, fibers...) remain in EO, with strong cross links with DI/Cooling:

PH/DT Cooling Project remains a cross-section project

DI/Cooling team PETAGNA Paolo

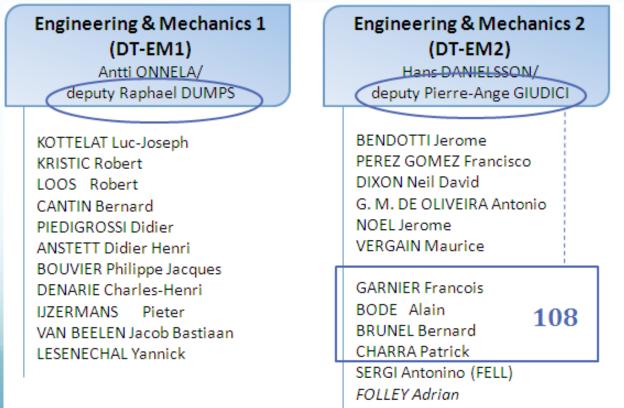
GODLEWSKI Jan DAGUIN Jerome (Staff 1.09) TROPEA Paola ZWALINSKI Lukasz K. (Staff 1.10) KRZEMPEK Lukasz Piotr TECH OSTREGA Maciej TECH SZWARC Tomasz Jakub TECH VERLAAT Bartholomeus USAS



Changes in EM1 and EM2 Would like to thank:

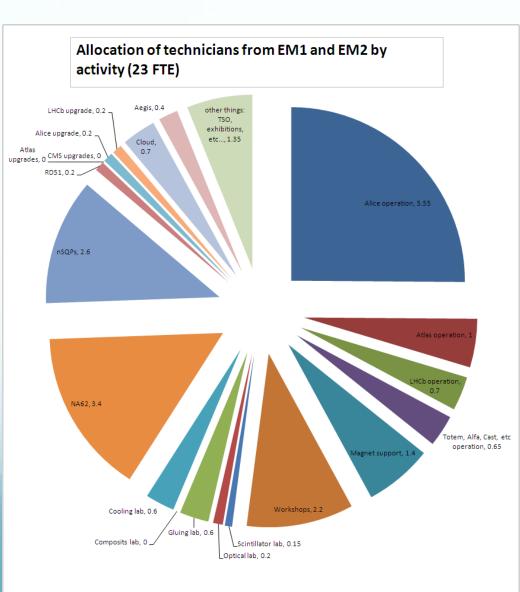
SL's (Antti and Hans) to continue their mandate despite the heavy project workload

The new **Deputy SL**'s (Raphael and Pierre-Ange) for having accepted key responsibilities in their local supervisory role (help the SL's to follow up closely technical & manpower issues in the part of sections)





EM1 and EM2: large variety of activities



This graph is not fully up-to-date but shows well the fragmentation of activities (leaves little margin of flexibility) requiring good coordination

Engineering & Mechanics 1 (DT-EM1) Antti ONNELA/ deputy Raphael DUMPS

KOTTELAT Luc-Joseph KRISTIC Robert LOOS Robert CANTIN Bernard PIEDIGROSSI Didier

ANSTETT Didier Henri BOUVIER Philippe Jacques DENARIE Charles-Henri IJZERMANS Pieter VAN BEELEN Jacob Bastiaan LESENECHAL Yannick Engineering & Mechanics 2 (DT-EM2) Hans DANIELSSON/ deputy Pierre-Ange GIUDICI

BENDOTTI Jerome PEREZ GOMEZ Francisco DIXON Neil David G. M. DE OLIVEIRA Antonio NOEL Jerome VERGAIN Maurice

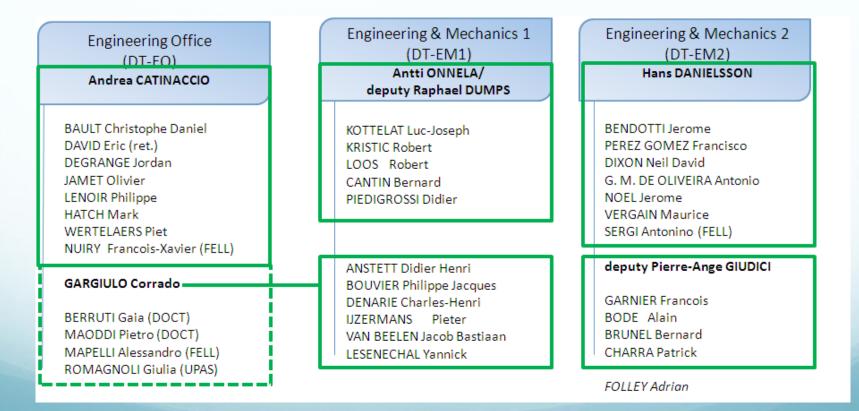
GARNIER Francois BODE Alain BRUNEL Bernard CHARRA Patrick

SERGI Antonino (FELL) FOLLEY Adrian



How the technical efforts will be managed through one DT centralized technical meeting:

- Technical and coordination meetings (monthly DT technical meeting)
- People involved are the natural activity coordinators





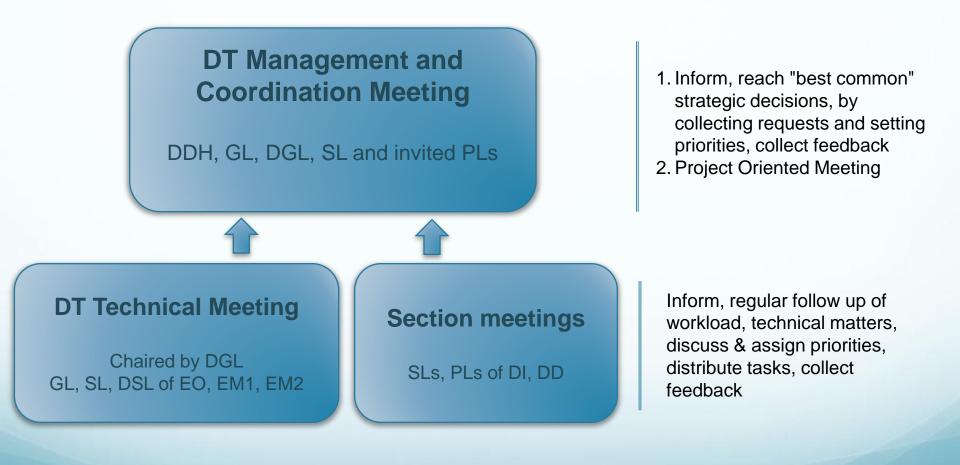
DT Technical Meetings

Frequency	Monthly			
Invited (fixed)	Mar, Andrea, Christophe, Antti, Raphael D., Hans, Pierre-Ange, Corrado, Mark			
invited (ad hoc)	workshop supervisors - TBD: one or two activity reviews			
Topics	Technical issues, workshops matters, safety and investments, workload and resource allocation envelope, room for new projects and temporary requests, DOP (Design Office Planning), training, fairs and exhibitions, AOB Second part: review 1 (or 2) activity status			
Scope	information flow, regular follow up of technical matters and workload, discuss & assign priorities, distribute tasks, collect direct feedback. Provide a picture of current/future availability 1-6 months to DTCM, collects "strategic" request from DTCM (and possibly assess feasibility, deadline/resource availability).			

NB: group and PH info and matters not discussed here but via section meetings



Overall Meeting Framework





Wide Audience Meetings

Seasonal Group meetings

DT Seminars

Focus: INFORMATION

- CERN, PH and DT news
- Presentations on DT and CERN wide topics and projects

Focus: TRAINING

- Projects
- Services
- Specific Technical Training



Long-term View

Restructuration of the Matrix in Sections based on key competencies

A competency-based structure - will reinforce the roles and capacity of the personnel and will avoid excessive and diverse fragmentation of resources. It should be able to respond to the dynamic nature of the external environment and of DT's own internal needs

Fluids ^{Exa} Technolog y	Instrumentation & Controls	Example!!! Detector Exa Development	mple!!! Detector Exa Integration	Engineering and mechanics
Gas Cooling	MCP Control systems Sensors and Instrumentation	Si-detectors (Bond-lab,QART) Gas detectors Irradiation Facilities	Calculations Studies & Design Parts Fabrication and procurement Detector Integration	Mechanics Magnets Specialized Labs Workshops Gluing, Composites TFG



Preparatory Work (for the long term)

Management

- 1. Increase coordination. Use management and coordination Meetings as dynamic forums to discuss projects, resources and priorities in first place
- 2. Assign technical supervisory roles to some key technicians and establish a DT Safety Linkman, DT Technical Editor...

Projects and services

- 1. Prepare group for 2013/14 shutdown
- 2. Review current projects & services and assigned resources (for less fragmentation)
- New detector projects: select 3-4 strategic projects, partnering with CERN groups
- Adjust the group structure (towards end LS1)



PH/DT Group – A word on Safety

DT DGL - Andrea Catinaccio

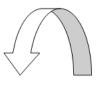
Supervision and coordination with DTSLinkman on safety matters – overview of critical safety issues, investments, strategy.



DT Safety Linkman - Mark Hatch

Daily safety supervision and coordination

Safety process applies to ALL PH/DT Group



Workshop supervisors (*)

Ensure local safety, conformity status and inspection of machines Lab and facilities local responsible

& TSO's

Ensure local safety, conformity status and inspection of equipment

SAPOCO/42, It's basic message is:

Each of us is responsible for safety in our work;

PH-DT Group meeting - Safety - mark.hatch@cern.ch

13 September 2012

CERN		PH D	epartmer	nt – D	SO 8	CDT/TSO's
PH-DT					167	ASSEMBLY HALL
					168	ASSEMBLY HALL / ELECTRIC WORKSHOP
PH Detec	ctor	Technology group		- Vin	173	ASSEMBLY HALL
		PH-DT Home PH-DT old	website Contact us PH Home	e CERN Home Search	182	MECHANICAL WORKSHOP / OFFICES / EXPERIMENTAL A
Home Organization	Activitie	es Meetings Documents I	Safety Other Links		187	ASSEMBLY HALL / SCINTILL WORKSHOP
Buildings & DT TSO Safety at CERN	Buildi	ngs & DT Safety Office	ers		190	GIF HALL
PH Safety Information	Person in	n charge of group safety matter: <u>Mark</u>	<u>Hatch</u> (Tel. 72631 / 164	214)	256	GAS LABORATORIES
Clothing Safety Equipment					300	SYNCHRO CYCLOTRON
cquipment		1			301	OFFICES / LABORATORIES
	BAT	Туре	TSO	Tel.		OFFICES / LABORATORIES /
TSO's	3	OFFICES / LABORATORIES	Claude DAVID	163412	304	STUDENTS WORKSHOP
	13	OFFICES / LABORATORIES	Maurice GLASER	72058		OFFICES / LABORATORIES /
Territorial safety	1	OFFICES / LABORATORIES	Ch.Henri DENARIE	160704	581	ASSEMBLY ROOMS / MECHA WORKSHOP
officers:	17	OFFICES / WORKSHOP	Ch.Henri DENARIE	160704	587	OFFICES / LABORATORIES
	20/21	OFFICES / LABORATORIES	Robert KRISTIC	78499		
	25	OFFICES / LABORATORIES	Luc-Joseph KOTTELAT	163370	610	PH STORAGE
 Act on annual 	27	OFFICES / LABORATORIES	Maurice GLASER	72058	2175	ATLAS PIT ASSEMBLY HALL
inspection	48	CORRIDOR	François GARNIER	162968	2252	
reports from	51	OFFICES / LABORATORIES	Claude DAVID	163412	6300	
HSE	70	OFFICES / LABORATORIES	Luc-Joseph KOTTELAT	163370	6329 6331	
	108	MECHANICAL WORKSHOP	François GARNIER	162968	6342 6348	
	153	ASSEMBLY HALL			6352	
 Contact with 	154	OFFICES / LABORATORIES	Neil DIXON	163451	6353 6358	
Fire service	155	GAS WORKSHOP	Albin WASEM	160943	6359	
	160	OFFICES / LABORATORIES	Hans TAUREG	160359	6389 6447	
	161	OFFICES / LABORATORIES	Hans TAUREG	160359	6513	
Link to DSO	162	WORKSHOP/STORAGE	Bernard CANTIN	160511	6546	
	164	MECHANICAL WORKSHOP	François GARNIER	162968	6574	
	166	MECHANICAL WORKSHOP	Luc-Joseph KOTTELAT	163370	6312 6318	

167 ASSEMBLY HALL Yannick LESENECHAL 163349 ASSEMBLY HALL / ELECTRICAL Robert KRISTIC 78499 168 WORKSHOP 173 ASSEMBLY HALL MECHANICAL WORKSHOP / 182 Bernard CHADAJ OFFICES / EXPERIMENTAL AREA 160930 ASSEMBLY HALL / SCINTILLATOR Luc-Joseph 187 WORKSHOP KOTTELAT 163370 GIF HALL Richard FORTIN 190 163726 256 GAS LABORATORIES Albin WASEM 160943 300 SYNCHRO CYCLOTRON Hans TAUREG 160359 301 OFFICES / LABORATORIES Hans TAUREG 160359 OFFICES / LABORATORIES / Bernard CHADAJ 160930 304 STUDENTS WORKSHOP OFFICES / LABORATORIES / 581 ASSEMBLY ROOMS / MECHANICAL Jacob VAN BEELEN 164665 WORKSHOP 587 **OFFICES / LABORATORIES** Hans TAUREG 160359 610 PH STORAGE Jacques ROUX 160474 ATLAS PIT ASSEMBLY HALL 163451 2175 Neil DIXON 2252 Pieter IJZERMANS 164168 6300 Antonio GONCALVES 163947 6329 6331 6342 6348 6352 6353 6358 6359 6389 6447 6513 6546 164168 Pieter IJZERMANS 6574 6312 6318 6335 6340 6541 6548 CONSTRUCTION SHELTERS Richard FORTIN 163726 6570

http://ph-dep-dt.web.cern.ch/ph-dep-dt/Safety/DTSafetyOfficers.html

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DT Group Workshop Supervisors

PH Detector Technology group

CERN

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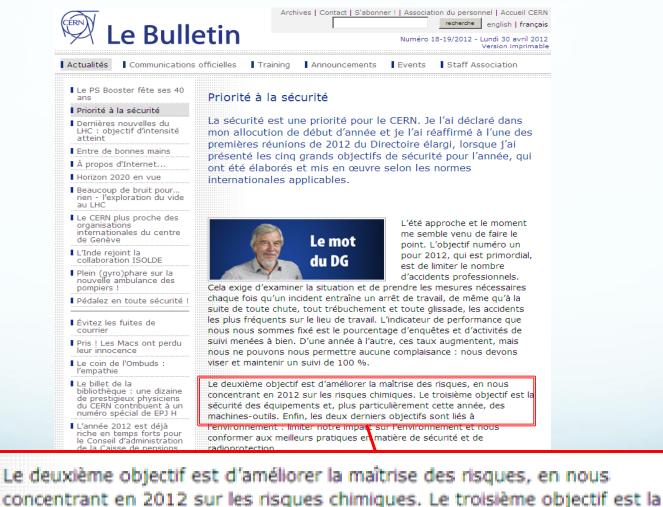
 Safety of personnel in worksho
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Coto			Search	
 Safety of personnel in workshops 		Home Organization Activities Meetings	Documents Safety Other Links	
		Projects I Services Mechanical Workshops / CMM		
Bdg Workshop Supervisor		Comment	 'horised by the Workshop Supervisor are allowed to orkshops must follow the rules given in the CERN r on basic safety rules for workshops (English 	
3	<u>M. Van Stenis</u>	Specialized in glass and ceramic machining. CNC milling machine	call 74444 for the Fire Brigade <u>NOT</u> 112 as	
20/21	R. Dumps	Small workshop, conventional tools	afety Equipment for Workshops are mandatory. nanical workshops to support our various activities. quate for prototypes and small series productions in nechanics.	
25	J. Bendotti	Mechanical workshop		
108	P. Charra	Workshop supports also ATLAS Point 1 activities. <u>Inventory of tools</u>	hine tool inventory in MTF. ment machines (CMM) to perform alignment,	
155	<u>A. Wasem</u> <u>B. Cantin</u> <u>P. Charra</u> <u>NorKShOPS</u>	Gas System Workshop)T mechanical workshops is with <u>A. Catinaccio</u> for <u>th</u> for safety.	
162	B. Cantin	Large workshop, conventional tools	rvisor Comment	
164	P. Charra NO	Mechanical Workshop	Specialized in glass and ceramic machining. CNC milling machine Small workshop, conventional tools	
166	J. Bendotti N	Conventional and CNC machines	Mechanical workshop	
168	R. Kristic	Assembly Hall/Electrical workshop	Workshop supports also ATLAS Point 1 activities. <u>Inventory of tools</u> Gas System Workshop	
187	R. Dumps	Specialized in scintillator machining	Large workshop, conventional tools	
			Mechanical Workshop Conventional and CNC machines	
581	J.Van Beelen	Mechanical workshop	Assembly Hall/Electrical workshop	
		Mainly support for ALICE activities	Specialized in scintillator machining	
2252	D. Anstett	Mainly support for ALICE activities	Mechanical workshop	
		at Point 2	Mainly support for ALICE activities at Point 2	

http://ph-dep-dt.web.cern.ch/ph-dep-dt/Activities/Workshops.html



DG & HSE Message Objectif securite machine outils



sécurité des équipements et, plus particulièrement cette année, des machines-outils. Enfin, les deux derniers objectifs sont liés à

<u>Consider non-control indication in the second s</u>



PH/DT – Safety and Conformity of machines Road Map

Note, for the CERN site, from HSE presentation

- ~1900 machine-tools on the CERN site recorded in InforEAM today
- 31 machine-tools compliant out of 214 machine-tools inspected in 2011

For the PH-DT workshops : 3, 20, 21, 25, 108, 155, 162, 164, 166

~of machines inspected 24 are in compliance (124 not) > JP.Jullien (HSE)

Workshop 166 taken as pilot project: work on conformity is advancing, in collaboration with HSE and MME

- Corrective measures to be made to non-conform machines (14 out of 21, mostly for protection and electrical matters)
- Not easy, firms difficult to find, slow response, expensive ...takes time
- Corrective measures Safety files Hazard posters on machines PPE equipment to be available
- TRAKA system installed
- Training/Demonstration and Authorization to of all users by the workshop supervisors
- "Culture" MUST change....may not be easy

Next step: Workshop 108 and the other DT workshops







- The changes presented are minor adjustments to the existing sections' structure – needed by the natural evolution of activities and commitments of the group
- We will study how to gradually move towards a competency-based sections structure in the next months. Your help is needed. Implementation whenever the activities/teams are ready
- We look forward with enthusiasm and interest in working all together and we wait for your comments and suggestions

