

Detector Technology Group

PH-DT

New Projects

- Proposed approach
- Known requests
- Vague requests
- AOB

cern.ch/ph-dep-dt

See also 'Annual Report 2008' under 'Documents'

General approach for new projects

- Avoid fragmentation into too many mini projects (~1-2 FTE)
- Collaborate with experiment's CERN group
- Try to apply available expertise and infrastructure (DSF, bond lab, thin film lab, irradiation facilities, mechanical workshops, gluing lab...)
- Find interesting projects to keep phys/eng/tech up to date in new technologies

→ Aim for ~2-3 main projects with major hardware deliverable
+ a couple of smaller projects.
+ engineering/integration/installation support

How to deal with conflict LHC ↔ NON-LHC activities ?

- Unforeseen and exceptional issues in a running LHC experiment must always have highest priority.
- A direct non-LHC fraction of 10-15% + access to services & infrastructure seems adequate
- Currently, non-LHC activities like NA62, CLOUD, Aegis,... profit from extra resources which became available after completing LHC projects. We attribute these resources only for short time scale (<12 months) to be able to respond to upcoming needs of LHC (consolidation, upgrade).

New requests, collected at PH Retreat meeting, 9 Feb 2010

Experiment	Project	Request (FTE)/comment
ALICE *,+	TPC readout	1 tech. (installation), 2010-12
	VHMPID	0.5 phys, 1 eng, 1 tech (2010-12) 0.5 phys, 0.5 eng, 1 tech (2013-14)
	TC: Integration/installation of new major detectors	1 eng (2113-2018) 1 tech (2014-2018) 0.2 proj eng (2010-2012) 0.5 proj eng (2013-2018) 0.4 tech, PS beam line (test beam?) 0.2 tech SPS beam line (test beam?)

Reminder: In 2008, all ALICE technical resources were transferred to DT (or ESE).

- *) Designer issue. ALICE requests from PH to open a new LD contract for a designer (replacement D. Gabriele).
- +) A new more detailed list of requests, taking into account new LHC running / shutdown scenario was presented to DT on 28 Apr 2010.

Experiment	Project	Request/comment	
ATLAS	IBL	Draft of WP exists, wait for feedback from ATLAS. Involves Phys/Eng/Tech resources on timescale 2010-2014(15)	
	MircoMegas (muon)	MAMMA project. See R&D WP5 (L. Ropelewski)	
CMS	RPC	Starts early 2011, 144 RPCs, installation in long shutdown 2012. TBD	
	BCM / Pixel Lumi Telescope	0.5 mech. Eng., already ongoing, (R. Loos). OK.	
	Pixel upgrade - CO ₂ - CMS specific R&D - module construction/integration	TBD later this summer. Time scale of project 2015.	
	Tracker upgrade	Technical project management (A. Onnela). OK. Expected to evolve to a large scale project (time scale 2020).	
	B-field tolerant operational dosimeter	Scintillation crystal + G-APD readout. CMS asks for Integration + other support (<0.5 FTE).	
	LHCb	Particle ID	Fast photodetectors (MCP) Quartz plate technology, mirrors . TBD.
		VELO replacement	Assembly at CERN (main activity starting in fall 2010). R. Dumps. OK.

Experiment	Project	Request/comment
CLOUD	TC, tech and gas support	0.25 eng, 0.7 tech + gas (2010-2015)
CAST	TC (exp. proposal in prep.)	1 phys
	Eng/tech support	0.3 tech, 0.4 eng
AEgIS	TC, eng + tech support	Design/Integration study of the anti-hydrogen detector. 0.4 eng in 2012. Work has started. WP exists as draft.
LCD		1.6 (2010) – 2.6 (>2010), TBD (4 May 2010)
TOTEM	RP, development of rad hard sensors	Support from DT, TBD
	RP Operation	M&O support to be discussed and agreed in a WP. Piquet for RP (motor/vacuum).
NA62	TC, Straw tracker, RICH vessel, Gas systems	Work has started. WP to be defined.
COMPASS	Installation support (experiment proposal in preparation)	Tech (2012/13 and beyond). No news since Feb.
	TC	Possibly from DT ??? No news since Feb.

For a more reliable planning of the resources for 2011 and 2012

We should soon

- clarify in more detail the needs of every experiment (one by one)
- try to accommodate them in an overall resource estimate
- agree on modifications / cuts / priorities

... all this in a very transparent way