

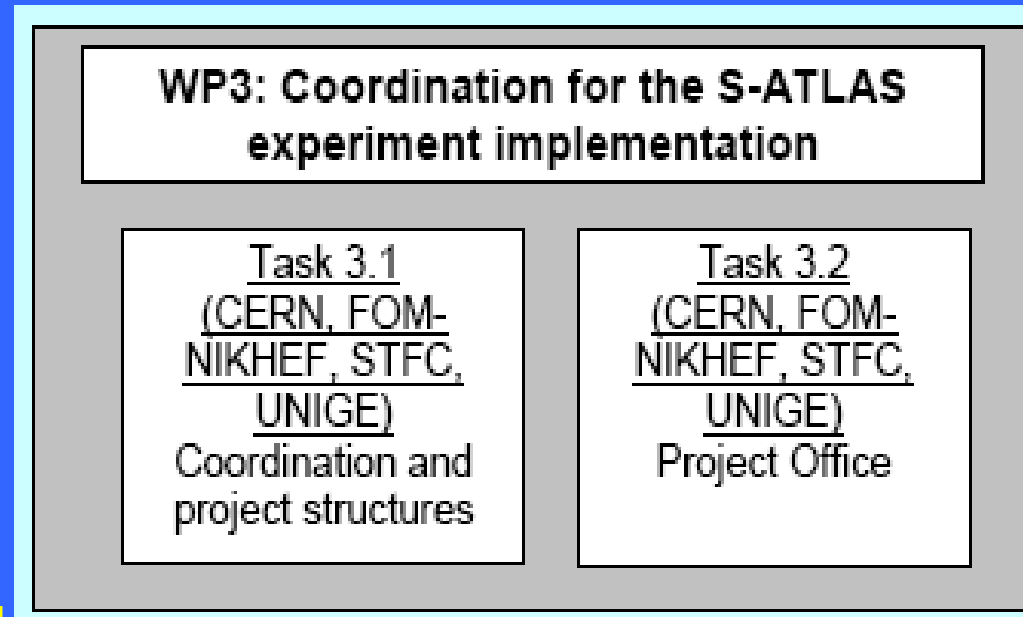
# SLHC – PP (WP3)

## Co-ordination of the experimental upgrades – ATLAS

- The main significance of the work-package
  - Outlines a timescale for the equivalents of Lol, possibly TP and Initial MoU for the ATLAS upgrade (becoming real projects)
  - Change the perspective of having a LHC detector lifetime of 10 years, to a long term project running well beyond 202(n) and having to deal with a substantial higher luminosity than foreseen in the original design
  - Brings some extra resources into the coordination of this work
- The WP is written to cover both phase I and II, however some of the items above are not achievable for phase II by April 2011 ....

# Detector work

- Objectives for the detector WPs:
  - Establish the formal structures needed for the ATLAS/CMS upgrade construction project, and through Technical Documentation, Cost and Schedule planning, establish an initial MoU for the Upgrade Construction.
  - Establish a Project Office to address the critical technical integration and coordination issues of the new detectors, and the technical and managerial tools needed for the project planning and follow up.
  - In addition will WP5 contain an experimental component (40%) and WP8 address a real R&D concern for SLHC detectors (powering)



# Tasks 3.1-2 **Already done**

<b>Deliverables task 3.1</b>	<b>Description</b>	<b>Nature</b>	<b>Delivery date</b>
3.1.1	Project management structure and review office for R&D phase in place	O, R	M06
3.1.2	Establish the initial Memorandum of Understanding for the upgrade	R	M36
3.1.3	Develop detailed cost books for the upgrade including the installation phase	R	M36
<b>Deliverables task 3.2</b>	<b>Description</b>	<b>Nature</b>	<b>Delivery date</b>
3.2.1	Document the technical scope of the upgrade including an initial cost-estimate	R	M24
3.2.2	Schedule for the upgraded detector parts and for the S-ATLAS installation	R	M32
3.2.3	Technical documentation, drawing and CAD information for the existing experiment and the upgraded elements	R	M36
<b>Milestones</b>	<b>Description</b>	<b>Nature</b>	<b>Expected date</b>
3.1	Schedule for the R&D phase	R	M09
3.2	Upgrade project structures adapted to the implementation phase	O, R	M24

# What are the key timescales/issues?

## ▶ Phase 1

### ▶ What detector elements will need replacement/modification to cope - if any ?

- ▶ In ATLAS we plan new pixel B-layer around smaller beam-pipe, all inside the envelope of the current PIXEL system, we are evaluating what other measures are needed for other parts of ATLAS (Insertable B-layer: IBL)
- ▶ TDR is being prepared, also costs and IMoU (in some form) will be there in 2010
- ▶ Draft of (almost) all chapters in place

## ▶ Phase 2

### ▶ What detector elements will need replacement?

- ▶ ID and forward regions (machine interface, FCAL, muons) main victims, electronics and trigger in general
- ▶ Timescales still uncertain, but a new ID require 6-8 years – and we are not ready to start either
- ▶ Lol is being prepared in 2010, will contain a cost estimate and some minimal responsibility matrix
- ▶ Also here a fairly substantial draft exists

# Tasks 3.1-2 Next steps

<b>Deliverables task 3.1</b>	<b>Description</b>	<b>Nature</b>	<b>Delivery date</b>
3.1.1	Project management structure and review office for R&D phase in place	O, R	M06
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# Summary

- WP3 is fully aligned with the ATLAS upgrade work that currently include most groups in ATLAS
- First deliverable and milestones passed
- Resource use ok so far (slightly low at CERN), all partners active
- Next milestones are linked to Lol for phase II and IBL TDR for phase I – the basic project documentation will be there
- Complete cost books and IMoU for phase II not realistic, doable for phase I however
  - Will create some difficulties for 3.1.2-3