

# Wind Up

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# Outline

- u **Mandate**
- u **Objectives**
- u **Working Sessions**
- u **Preliminary Conclusions**
- u **A few final thoughts**

# Mandate

## Purpose (Why?)

To deliver for the year 2005/6<sup>†</sup> a control system for the operation of the LHC Collider, as a collaboration between the following groups:

- u LHC Division: ACR, ECR, IAS, ICP, **MMS**, MTA, VAC
- u SL Division: AP, BI, BT, CO, HRF, MR, **MS**, OP, PO
- u EST Division: ISS
- u PS Division: CO
- u ST Division: MO

<sup>†</sup>Deliveries for the Sector Test<sup>‡</sup> are to be clarified

<sup>‡</sup>Prototypes and deliveries before the sector test are to be clarified

# Mandate

## Expected Benefits:

- u **The final system meets the needs of the Users**
- u **There is an optimum use of the resources in the groups concerned**

# Mandate

## General Principles

**In order to obtain a mutual commitment of the project and the line management**

- u **Formulate the mandate in terms of it's purpose, scope and objectives early in the project and review as circumstances change, in any case yearly**
- u **Divide the work into phases and sub-projects to enable management of progress and resources**
- u **Agree milestones and responsibilities for sub-projects**
- u **Coordinate technical activities of all groups preparing the LHC Control System**
- u **Report initiatives and progress to the steering committee**
- u **There is a large concern that the project will not gain control of the budget and the resources, this is perceived as a severe risk.**

# Mandate

## Scope (What?)

- u **Establish the planning and responsibilities for the Control System and track**
- u **Clarification of the responsibilities of the Control Rooms and their interaction with the PCR**
- u **Specification and supervision of the production of the PCR software for operation of the LHC**
- u **Study and Development of the LHC Operational Scenarios**
- u **Development of an overall description of the LHC Control System Architecture**
- u **Establish the levels to which architecture and developments can usefully be shared with SLI, LTI, CNGS, EA Upgrade, String2. Extend the previous 5 items to encompass these extensions.**

# Mandate

## Objectives (How?)

- u **The ultimate objective is the delivery in 2005/6 of the LHC Control System**

## Near term objectives

- u **A Use Case Model of operation without beam**
- u **A description of the technical strategies for the integration of turnkey industrial systems**
- u **A clarification of the control system requirements for the sector test **and before** together with associated milestones and activities**
- u **Guidelines for equipment groups developing their front ends**
- u **...**

# Working Sessions

- u **Middleware**
  - n Intra domain - common solutions might be possible
  - n Alarm Cryo, Vacuum, Equip. Groups - choose your partner!
  - n Review PS/SL Middleware in light of LHC needs
- u **RT Controls**
  - n Real Time \ Exotic or Expensive
  - n Needs a Working Group and a Project Leader
  - n Must be ready for the Sector Test
- u **Industrial Components**
  - n Waveform Acquisition, Sensor and Actuator Bus need addressing
  - n Avoid CAN
  - n Integration guidelines are needed
  - n Same community working on PS, SPS and LHC



# Preliminary Conclusions

## Managerial

- u Integrate LHC into LHC-CP
- u Define interfaces to other projects
- u Need Mr. Sector Test, coupling to Mr. 8/9 and Mr 9/9?
- u There is a communication problem between SL and LHC
- u Are the tails 2001, S2, SCTR, LTI, wagging the dog?
- u Watch for “real” requirements
- u Wider Project <> Good Focus
- u Re-examine context of LDIWG phase 2

- u RT Control needs a Project Leader

## Technical

- u Beam and Power Aborts are not part of the Ctrl System
- u What can we learn from String2, phase 1 and phase 2?
- u Data Management and naming need attention
- u SPS Orbit - TZ - LEP Orbit is one problem? (ABS)
- u Radiation tests may have a large technical impact

## A few final thoughts

- u **We will shortly produce a mandate and a project definition report to reflect the outcome of the COOP Forum and this Workshop. Emails welcome!**
- u **The LHC-CP needs clear goals defining for the sector test(s) based on activities concerning hardware and beam commissioning**
- u **It's time to reduce Brainstorming and increase Engineering**
- u **Never mind the requirements look at the resources!**
- u **Do we have more projects than people?**
- u **Avoid long projects with no concrete milestones to bother the participants**
- u **Keep a common understanding of the project - the Second LHC-CP workshop will be held in Spring 2001.**