

The aim of the meeting was to define working fields, milestones and conveners for the mechanics and electronics aspects of the project.

The following working fields have been identified:

**Working fields**

**Mechanics**

- Connection cryostat design
- Interface with stations
- Stations

**Electronics**

- Sensors
- Multi-chip boards
- Mother boards
- Trigger cards and daq

The following responsibilities have been accepted for mechanics and electronics tasks:

**Connection cryostat design:**  
2006-7

\*work performed at  
Cern on bypass design

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**Interface** :  
2007-8- Mimmo

\*study of stations integration  
cooling and cabling  
\*Motion Control software  
\*valve, ion gauges+pumps and  
understanding of whole  
region -also interface of  
mechanics to accelerator  
controls, location of FP  
electronics and shielding of  
electronics -BPM's

**Stations** :  
Jaak, Timo, FNAL, UTA, Alberta  
Louvain  
prototype  
by mid 2006  
test beam

\*adaptation of design to  
sensors, electronics and  
cryostat  
\*vacuum  
\*cooling  
\*detector movement

**Sensors (3D)** :  
prototypes  
by 2006 test  
Cinzia+Chris

\*work performed at  
Stanford

**MC- card** :  
prototype  
by 2006 test  
Scott Kolya (Man)?

\*design - prototype  
controls (temperature  
trigger) – lab test

**Mother board+trigger** :  
prototype  
by 2006 test  
Man? Antwerp?Turin

\*design-prototype  
control  
\*Trigger (multi-  
stations)

**RO and software for final design :**

\*processors, daq, etc..

Ada+Marta? Jo (test beam 2006 to be discussed)

The following milestones have been AGREED

August 2005	definition of working fields and share of responsibilities
October 2005	meeting with referee
November 2005	beam time request to SPS-FNAL
December 2005	status report of working groups and definition of Feb-
March	milestones
Feb-March 2006	status report of working groups and test beam definition
June 2006	installation(s) and test beam(s)

K. Potter presented the connection cryostat. The space available after the cold-warm transition bypass will be reduced from 15 m to maybe as little as 8 m. The radiation level at design luminosity is expected to be of the order of  $10^{*7}$  protons/s/m (per metre of beampipe) which is taken as the quench limit of the LHC dipoles. Shielding for electronic components in the machine tunnel will be needed. The space available for detectors will be very tight, in particular the 145mm above the plane of the beams before the heat exchanger pipe cannot be increased significantly and the heat exchanger is at 2K, hence space is needed for superinsulation. The height of the LHC beams above the tunnel floor is 9500mm. The beampipes must be baked to 250C to activate the NEG pumps."

#### ACTIONS:

- 1- Status reports will be presented by the tasks conveners in the December meeting.
- 2- A meeting will be called in October to further define interests and tasks sharing for electronics cards design
- 3- In 2006 two test beams will take place:

3D detectors+Atlas readout at CERN (beam request to be made in Nov. 2005). MCM or single chips depending on availability

Microstations will be tested at Fermilab in May 2006

- 4- An alternative station design was proposed by Louvain and will also be tested. A presentation on this approach will take place in the next meeting.

DECISIONS ON THE STATION TECHNOLOGY WILL BE TAKEN AFTER THE TESTS IN SUMMER 2006 TOGETHER WITH THE MACHINE EXPERTS AND FINALIZATION OF THE STATION DESIGN WILL FOLLOW.

DOMENICO DATTOLA (MIMMO) HAS BEEN ELECTED MECHANICS CONVENER. HE WILL FOLLOW THE INTEGRATION OF THE CRYOSTAT DESIGN AND THE STATIONS DESIGN .

-Several people will need to interact regularly with Mimmo.

- need to be involved in collimation effort
- aware of correction magnets and magnet stability issues, lattice imperfections