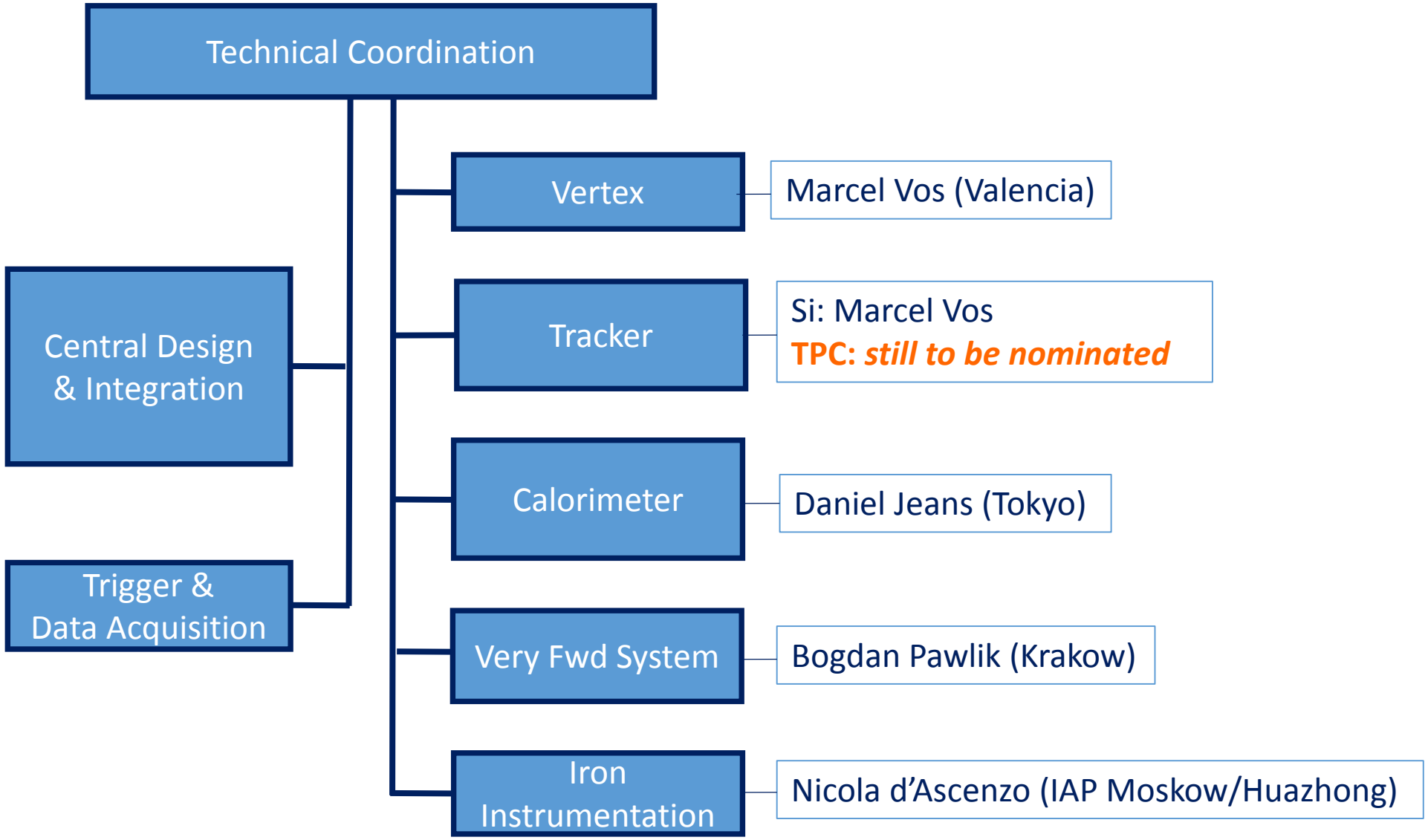
ILD meeting
21 September 2016

REPORT FROM THE TECHNICAL COORDINATOR

Updates on:

- **Positions**
- **Interface documents**
- **Subdetector inputs to ILD models**
- **VT and anti-DID task forces**
- **Calibration questions**

POSITIONS: SUBDETECTOR SOFTWARE CONTACTS



POSITIONS: TASK FORCES

VT-Task Force:

(Investigation of the two proposed HCAL mechanical options)

CDI conveners: K. Buesser, R. Poeschl, T. Tauchi

CALO conveners: J-C. Brient, I. Laktineh, W. Ootani, F. Sefkow

Anti-DID Task Force:

(*Investigation of the need and feasibility of an anti-DID)*

CDI conveners: K. Buesser, R. Poeschl, T. Tauchi

VFS conveners: Y. Benhammou and S. Schuwalow

VTX representative: A. Ishikawa

TPC representative: P. Colas **+ Ron Settles (added to the team)**

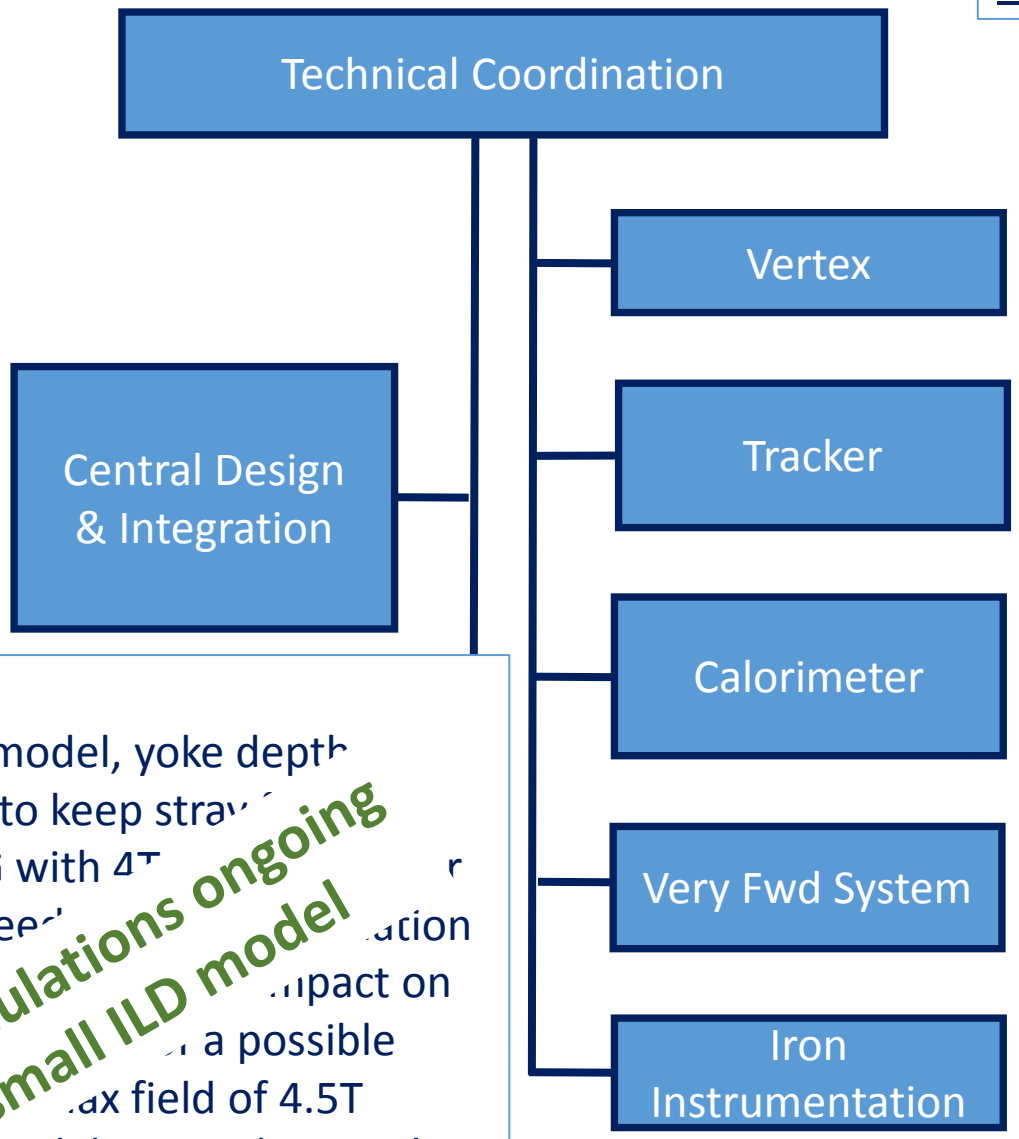
Coil expert: Ch. Berriaud (Saclay)

BG simulator: *still to be nominated*

SUBDETECTOR INTERFACE DOCUMENTS

- **Updated version being exercised with Si-ECAL**
- **Final version planned to be released to subdetector groups beginning of November**
- **Also identified the need for a specific central ILD design document.**

Subdetectors inputs to ILD models



Vertex: for both models, same geometry as for DBD ? **Yes !**

Tracker/Si:
- For both models, same FTD geometry as for DBD ? **Yes ?**
- For both models, do we need a more realistic SIT/SET geometric implementation ?
- For small model, needs adapted SET geometry.

Tracker/TPC: for small model **Keep pads unchanged** reduction of TPC level arm, or keep pads unchanged ?

CALO:
- For small model, a **Keep cells unchanged** to reduced radius ?
- For both models, agree to remove pre-shower Si-layer in the barrel (assuming SET remains in simulation) **Yes !**

VFS: for both models, needs adaptation to new L* and to include new simulation for LHcal

Iron: for small model, adapt iron instrumentation to intrumentation gaps with smaller radius (same number of gaps as in large model)

CDI:
- For small model, yoke depth necessary to keep stray below 50G with 4T r coil ? -> need ation
- For small impact on ma a possible ax field of 4.5T
- models, provide complete t map for simulation

Field simulations ongoing for small ILD model

VT Issues:

- Effect on physics of φ and z cracks
  (90° and barrel-endcap transition)
- Mechanical stability (static and dynamic),
  to be also evaluated with a potentially smaller radius
- Transport / assembly procedures.
- Impact on ECAL design.
- Signal paths and electronics accessibility/reliability
- Implementation in ILD software

Anti-DID Issues:

- Technical feasibility of the anti-DID coil
  and the required B field map
- Compatibility of the B field and TPC requirements
- Combined optimization for both direct beamstrahlung
  and backscattered particles
- Effect on polarimetry
- Maximum tolerable occupancies of the Vertex and TPC
- Alternative simulation options (anti-DID dependent BG files)

TASK FORCE MEETINGS

scheduled in Orsay
on Nov 7th (anti-DID)
and Nov. 8th (VT)

Focus on review of past studies
and launch of new investigations:
detailed agenda under definition,
all experts and interested persons welcome !

Anti-DID task force will
benefit from a visit to the
Toshiba coil manufacturor
in Japan end of September

SUBDETECTOR CALIBRATION

- **Answers to questions start to arrive (AHCAL and SDHCAL)**
- **A global issue which should also involve the physics and software groups**
  → a Wednesday meeting could be devoted to this
- **CLICdp is reported to perform a similar study,**
  some coherence should be pursued