

# The criteria for the technological choice of ECAL

My personal view

1 - before any discussion on ECAL itself

**REMEMBER**, the ECAL is a part of a detector

**IT IS NOT a detector in standalone running**

Therefore, we must have a global view , including

- Integration
- Service
- DAQ and event builder
- Maintenance
- Reconstruction (CPU and disk capability)
- ...
- Effect of other detector (i.e. temp. gradient due to TPC)
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## 2 - Lessons from the past experiments

ALEPH/DELPHI , D0/CDF , LHCb , CMS  
etc...

- 1 - START from physics (impact on physics precision ... **ILC is a precision machine**)
  - 2 - Cost has to be related to the cost of “equivalent luminosity” (running cost vs  $\Delta$ Perf.)
  - 3 - Risk analysis prefer Single technology (think about DELPHI )
  - 4 - Technology has to be adapted to the different scenario of the machine (D0 ECAL)
  - 5 - The cheapest could finally be the most expensive ... (LHCb ECAL)
  - 6 - Running at ILC for 20 years .... Aging is essential (CMS ECAL PbWO4)
  - 7 - ...
- 999 - It has to be based on PROVEN engineering, technologies and data performances

Avoid some LHC experts who never understand PFLOW

REVIEW PANEL

- Composition  
M.Demarteau , P.Granis, ..., J.Timmermans, H.Videau, , ...
- Duty and organization ....  
meetings frequency, progress reports, etc..  
Jamboree, with people from both technology

SWOT analysis

Strength , Weakness , Opportunity, Threat

ILD-SB

(JSB or whatever the name of the exec board)

DECISION by SB must include

- RP report
- Political aspects
- Financial aspects
- Expertise aspects (i.e. choice of ALEPH ECAL Wires chamber vs liquid Argon by J.Steinberger)  
Check of the coherence between power/manpower and expertise of the labs proposing a detector