

RD's Report

**SiD Group meeting
@SLAC**

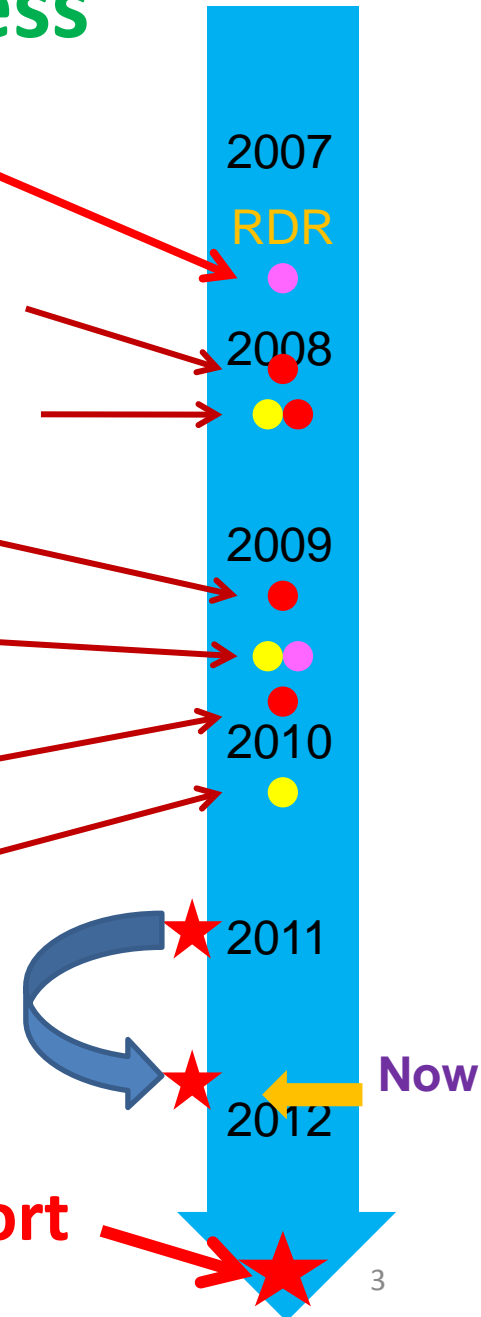
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December 14, 2011
(remote participation)**

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- **Where we are now**
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The time line of the LOI process

- Oct. 2007: **Call for LOIs was made by ILCSC**
appointment of RD to conduct the process
- Jan. 2008: Detector management was formed
- Mar.2008: IDAG formed, 3 LOI groups known
- Mar.2009: 3 LOIs submitted
- Summer 09: IDAG recommendation for
validation and ILCSC's approval
- Oct 2009: Work plan of the validated groups
- Mar:2009: IDAG began monitoring the progress
- **End 2010: Interim report to be produced**
- ***The final edit was finished.***
- **End 2012: Detailed Baseline Design Report**



The interim report

- Edits were mostly completed end of October.
- The final edit required time.

We asked additional information from the groups.

(supporting funding agencies to acknowledge)

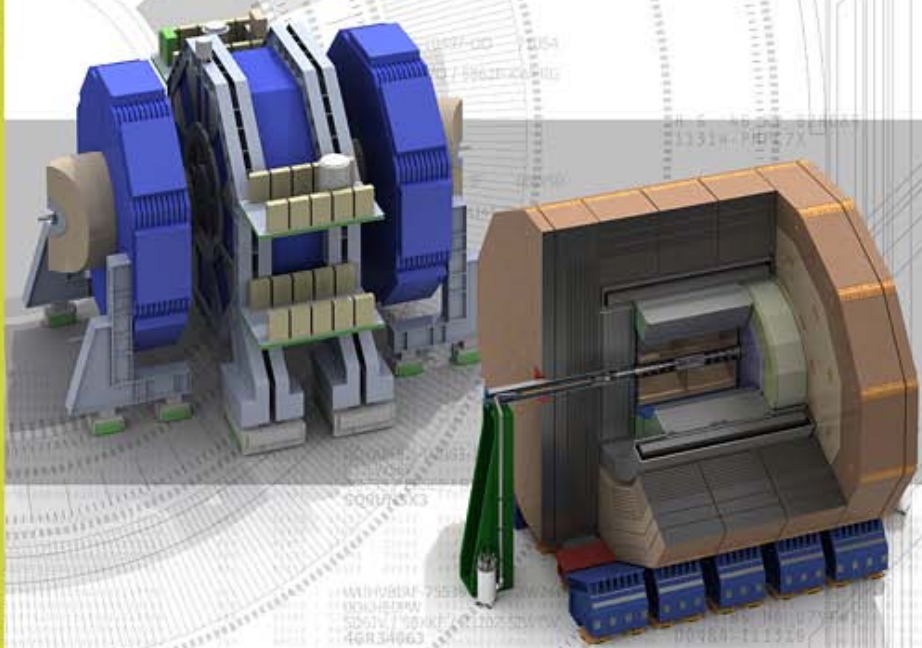
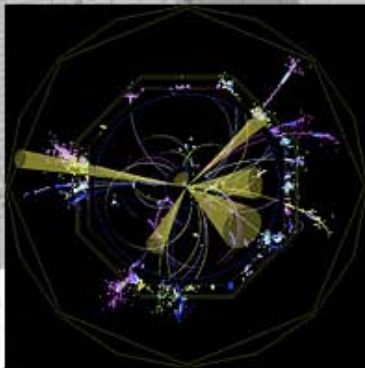
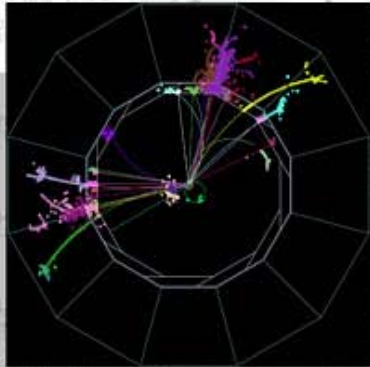
- Design work was made in parallel.

We expect the page layout to be completed soon.

The title:

***International Linear Collider Physics and Detectors
2011 Status Report***

The cover may look like this.
The SiD detector will also have cut-out view.



Lessons

It took much longer than originally expected.

The drafts were prepared early 2011.

Editing required a **long time** for several different reasons.

Wordings (Many abbreviations and jargons)

Different expressions for the same thing

High quality figures, credits

We must avoid these for DBD.

The communicators worked hard to pick up and solve these problems.

Time lag made some items obsolete requiring updates.

ILCSC, PAC

Last **ILCSC** in Mumbai, August 24

Last **PAC** in Prague, November 14/15

- The status of the detector groups and CTGs was reported.
- *Each group sent a reporter to PAC.*

(This was important. Often PAC also provides a chance for discussion with the accelerator leaders.)

The groups reported in detail

Status of

Component R&D for feasibility proof,
Baseline-detector definition,
Integration study

and preparation for

Physics simulation of new benchmarks.

These will be included in the DBD report.

Resources

- *Also problems and issues have been reported.*
**i.e. resource shortage, uncertainly,
lack of engineering support**
- **Latest situation about resources in each region has been updated.**
- Both ILCSC and PAC recognize these problem.
In this context, the recent survey of the spin-off of detector R&D was encouraged strongly.

In my report to PAC

- *The groups are doing their best under the difficult environment; barely sufficient R&D budget and human resources.*

*The requirement to demonstrate the capability for the project proposal **will be fulfilled** (unless the environment becomes worse in the last year).*

Engineering Support

- Positive reaction from some labs this year:
- **CLIC push-pull team joined ILC push-pull effort.**
- **In addition part-time support could be obtained from BNL and LAPP.**

They are working on the MDI issues mainly.

ILCSC plans for post 2012

- Since last year ILCSC plans the new scheme after the TDR phase.
- ILCSC itself, GDE and RD will terminate after TDR
- Transition to the new scheme will be made adiabatically.
- Next ILCSC meeting will be on February 2, in Oxford.

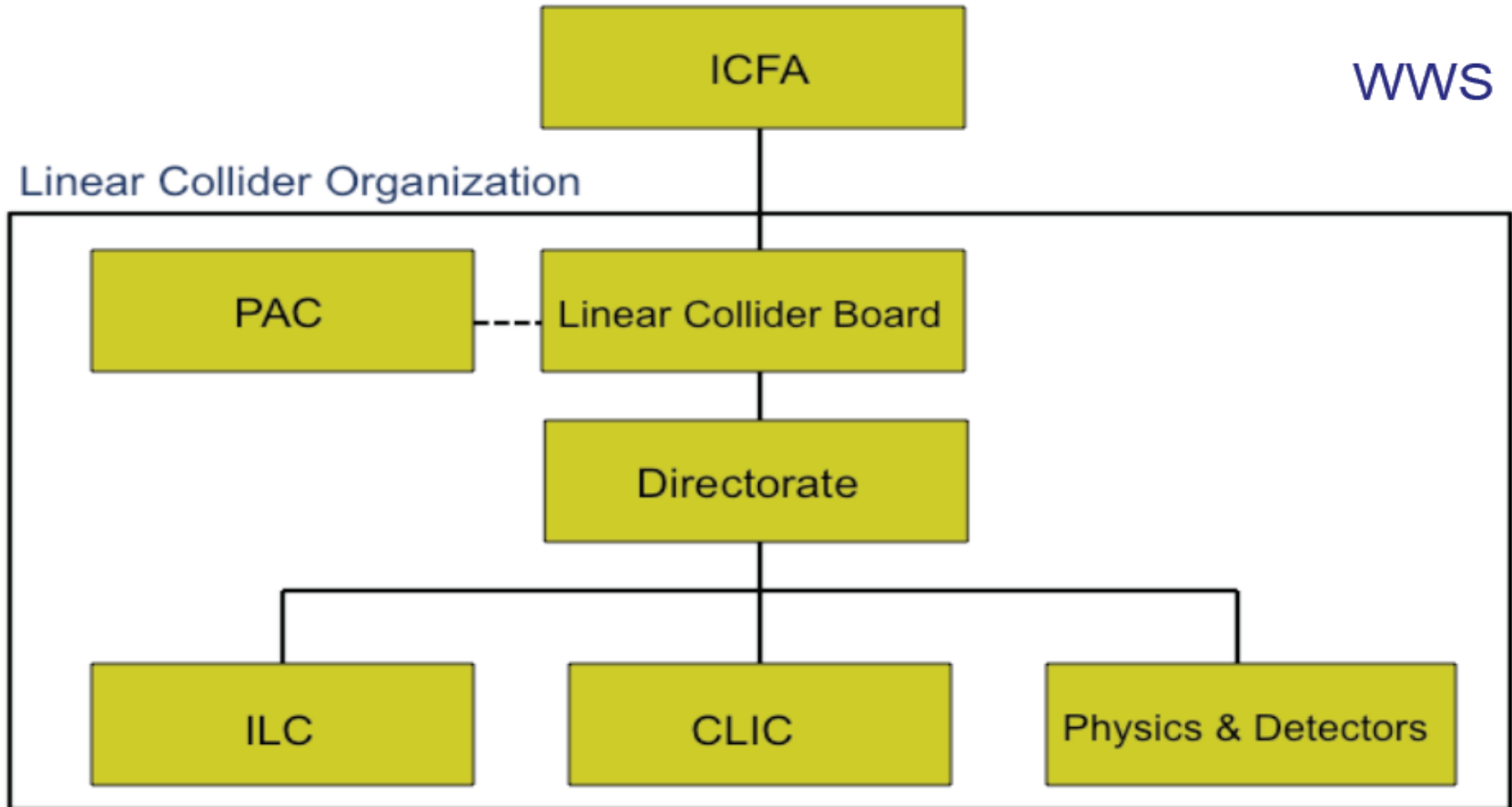
**(The plan for the future can depend on the LHC results.
The study by the physics group will become important.)**

Possible Organization



WWS

Linear Collider Organization



IDAG monitoring

IDAG keeps monitoring twice a year

- the activities of the detector groups
- the activity of the common task groups
- and matters related to physics and detectors.
- *Your detailed plans for DBDs were presented in Eugene, last March during ALCPG11-WS, and in Granada, last September during LCWS11.*
- IDAG thinks now the plan is concrete enough.

IDAG monitoring (continued)

- In Granada discussions were made how IDAG will monitor the content of DBD in advance.
The schedule and material for DBD to be monitored
- These have been agreed with the groups later.
By February 2012: Outline of the contents
By September: first draft
- *IDAG can check these materials in April (Korea) and October(Texas).*

IDAG recommendation on Costing

- Last year IDAG recommended that the two groups use a common costing method.
- The working group on costing was formed.

**Some of the agreements between the groups,
e.g.**

- What to include in the cost,
- how to list
- Unit price for major materials
- *Recently some details on magnet/coil costing*

Detector Costing (continued)

- **By February 2012** each group will make the first update of the LOI cost according to the agreed method.
- **And if there is a need to coordinate further, the WG will try that.**

Physics simulation for DBD

- Bench marks were listed. (3 reactions @1 TeV)
- Detector baselines were fixed.
- Various software tools have been prepared by the software CTG.

Simulations could be started after an agreement was reached with accelerator colleagues on the 1 TeV beam parameters.

Physics Simulation (continued)

SB2009WG has been coordinating discussions with GDE since the PAC meeting in May.

The plan was to fix the parameters in Granada.

There have been a few updates or new schemes proposed from the accelerator people.

They are almost settled,

but the final conclusion is not reached yet.

(This is a concern now. The remain time is short.)

Cooperation with CLIC detector

The most cooperation is made on the grass-root level and intensively.

(e.g. Participation to CLIC-CDR)

The joint WG for cooperation surveys and facilitate further cooperation where needed.

- **CLIC group offered to each ILC group a list of possible items for contribution towards DBD.**

Each group discussed with CLIC group in Granada.

Cooperation for 1 TeV simulation will be intensified. Further synergy will be welcome.

Format of the DBD

- Coordination between the 2 groups, and also with GDE foreseen.
- Preparation has just started.
- A WG was formed, which will meet next week.
- So far known:

2 volumes (physics and detector volumes)

Detector volume contains **Introduction + 2 detectors**

Each detector part will be ~150 pages.

Summary

- **After 4 years of R&D one year left to complete DBD**
- Interim report will be finished soon. We got lessons for DBD.
- IDAG has a concrete plan how to monitor the DBD drafts of the groups.
- Simulation of 1 TeV reaction should begin very soon.
- DBD format WG will discuss the DBD format soon.
- ILCSC will discuss the future ILC (LC) propelling scheme next February.