

Governance

Sakue Yamada (KEK)

ICFA Seminar, @CERN

October 5, 2011

Why Governance ?

Consensus:

- The next HEP accelerator to be built is an e⁺e⁻ Linear Collider, which can study the new findings of LHC/Tevatron.
- ***This LC will be built under the world wide cooperation.***

When realized,

it will be the first case for a HEP facility.

Governance for the facility is an important issue to be studied in parallel with the scientific/technological R&D studies.

ICFA

- *ICFA was created in 70's for such a purpose, although for a very HE proton accelerator.*

The very HE proton accelerator took a different route after a lot of discussions and ----.

Finally LHC was built successfully with world-wide participation.

With LHC, experience was gained to build an accelerator with world-wide cooperation.



ICFA's initiative for e+e- LC

- In late 90's, ICFA studied **the governance for the LC**.
- More detailed studies were continued in all regions, **America, Asia and Europe**.
- **OECD** also studied the case for LC and made a report to its minister level meeting.

- In all these studies there was a common consensus *that the LC will be built under the world cooperation*.

It was named as

International Linear Collider (ILC).

There were independent R&D activities for ILC in three regions competing, and also that for CLIC with a certain distance.

ICFA took a series of measures

- 2002: Created ILC Steering Committee (**ILCSC**)
- 2003: **Parameter Committee** set the target for ILC to be *200-500 GeV Linear Collider. Extendable to 1 TeV as option, and some more.*
- 2004: **International Technology Recommendation Panel**, *Cold technology was recommended and was approved by ILCSC and ICFA.*

Competition → Cooperation



2005: Global Design Effort (GDE) was created



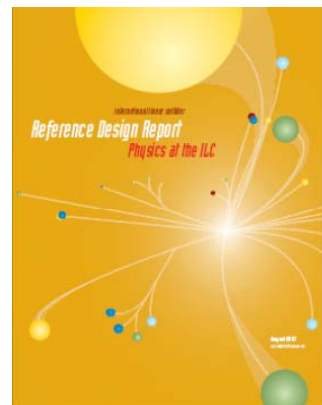
Efforts for R&D of the many participating labs got coordinated.

2007: GDE completed Reference Design Report.

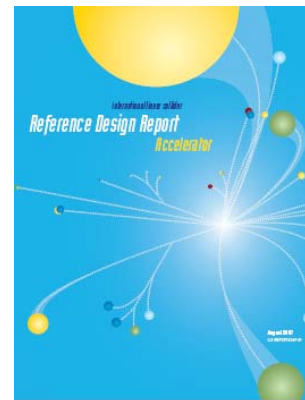
Executive
Summary



Physics at the
ILC



Accelerator



Detectors



2007: ILCSC made a call for Letter of Intents for detector designs and created detector management.

2008: GDE/Det set up work plans for Technical Design Phase I & II till 2012, when TDR/DBD will be produced.

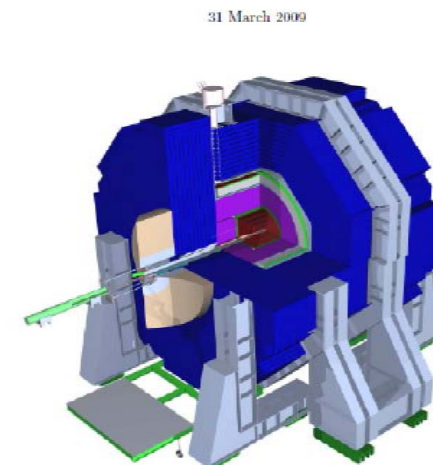
- **Cooperation between ILC and CLIC started with 6 working groups. The cooperation included detectors.**

2009: The two Detector concepts, ILD and SiD, were validated and approved by ILCSC to produce Detailed Baseline Design.

CLIC later adopted these concepts for its detectors.

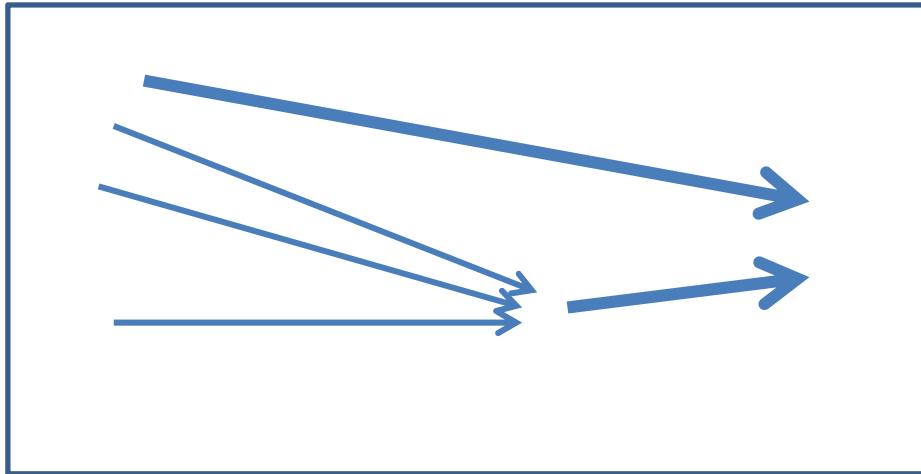


SiD Letter of Intent



All these efforts are guided by **ICFA and ILCSC**, and are going on.

The grand unification of efforts are observed.



It took time but the steps go forward, and this can develop further.

This move is crucial when we talk about governance.

Discussions about governance

- **2010: ILCSC began discussing the process from the completion of TDR/DBD to the project realization.**
- Its **siting WG (J. Mnich, P.Oddone, A.Suzuki)** presented **Comprehensive Project Design Guide (CPDG)**, which describes a guideline for considerations on various governance issues for ILC construction. The document includes consideration of the scheme for the transition period until the start of the project.
- **(A. Suzuki @LCWS11)**
 - **It is urgent to update our prospects, preference and understanding on the guiding principles for the project design and project execution to synthesize them into a coherent single document.**

GDE has a similar thought

- **GDE plans to include a Project Implementation Plan in the TDR.**
- One of its items is governance and necessary studies are being made by **the governance subgroup lead by B. Foster.**
- This effort will cooperate with the ILCSC's CPGD consideration to make the document more versatile.

Plenty of issues to be considered

- E.g. **What is the legal status of the body ?**

Treaty based ? MOU level?

Who participates ?

Country ? F.A.s ? Lab or labs ?

How do they contribute ?

in kind ? Cash ?

How to distribute/evaluate partners' tasks ?

What is the decision making process ?

What is the management structure ?

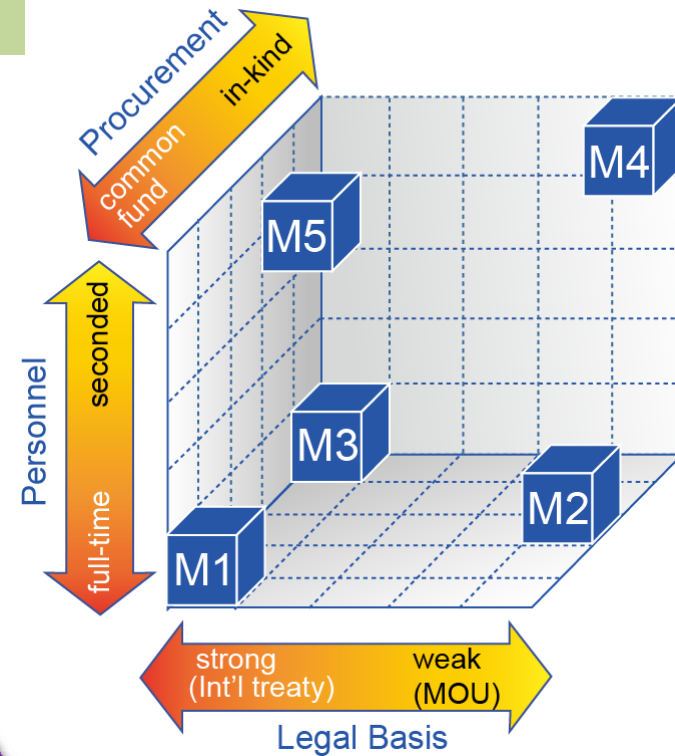
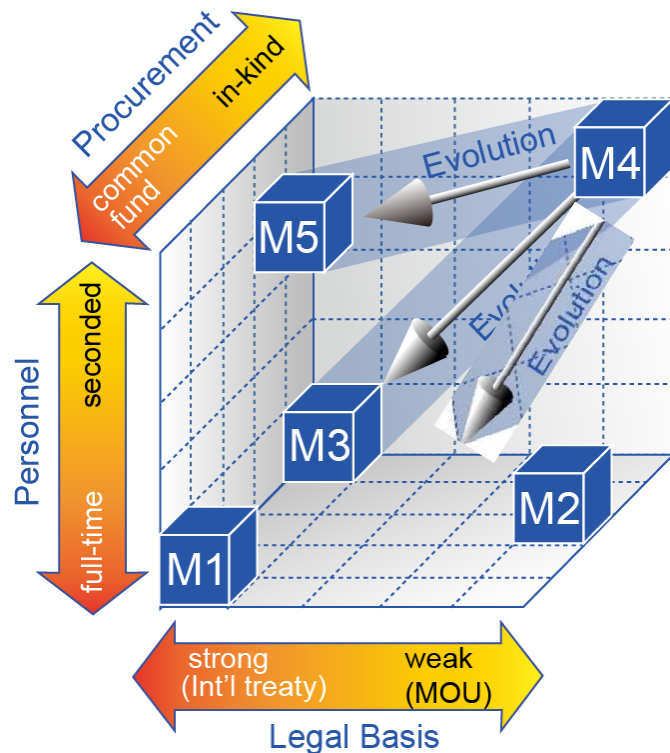
How to procure human resources ?

seconded personnel ? direct employment ?

There are more, and they can be correlated.

Possible Organization Models

- M1 : CERN – like Model**
- M2 : XFEL – like Model**
- M3 : ITER – like Model**
- M4 : Pre-ILC Lab. ???**
- M5 : M1 + M4**



Evolution with passing of years for Pre-ILC Lab

ex. Survey in CPGD
 A.Suzuki (LCWS11@Granada)

Pro Formas

In order to get information into a common format that facilitates comparison and deduction, have completed “pro-formas” for representative subset of projects. Pro-forma headings are:

- 1) Legal Status of project
- 2) Management Structure
- 3) Representation and voting structure in governing body
- 4) Duration of agreement
- 5) Attribution of in-kind contributions, value engineering etc
- 6) Running costs
- 7) Budgetary control

GDE's governance group studied various international project along this pro forma.
ALMA, ESS, FAIR, ITER, SKA, XFEL
B. Foster @ICHEP2010

Recommendations

Copied and simplified
B. Foster @ICHEP2010

a) Legal Status

- ... an international treaty organization

b) Management Structure

- a strong Council as the ultimate governance body.

Council delegates should be of sufficient standing.

The ILC should have a Director General and a Directorate.

The DG should have significant delegated authority from the Council, allowing him or her to act decisively without continual need to refer back to Council.

c) Representation and voting structure:

- ## d) Duration of ILC Agreement: 9 years to construct, 20 years or more to operate

The amount of common fund: at least 20 % of the contribution

Governance issues (continued)

- Some of them can be settled **only by the discussions among the participating governments/funding agencies.**
- It would be desirable for us to build our idea of a scheme that is most adequate, from the scientific/technical point of view, to construct the LC and to do research.
- **How can we approach the governments/funding agency which will participate the project for these consideration ?**

FALC? OECD? UNESCO ? Each government ?

These tasks remain after TDR/DBD.

ILCSC's plan for post 2012

- Discussion is on going for the new scheme, which will further consider the these governance issues and project realization process.

Post 2012



- The mandates of the ILCSC, the GDE and the RD all expire at the end of 2012
 - ◆ This is an opportunity for us to take the next step towards a linear collider
- Of course, we'd like to start a construction project at that time ...
 - ◆ But given political reality, it's likely we won't have that choice ...

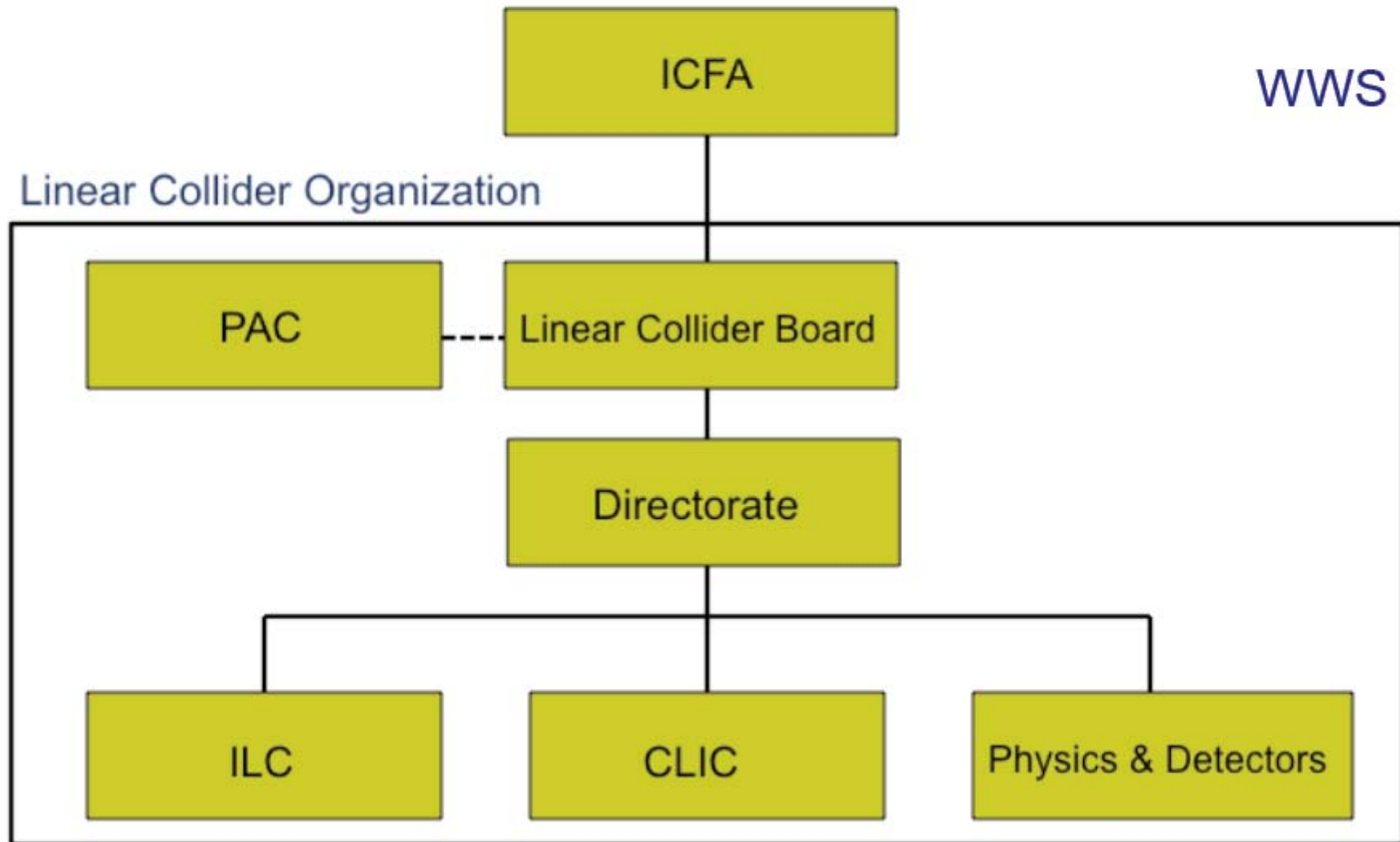
Jon Bagger @LCWS11

Possible Organization



WWS

Linear Collider Organization



Many footnotes are needed for this chart.

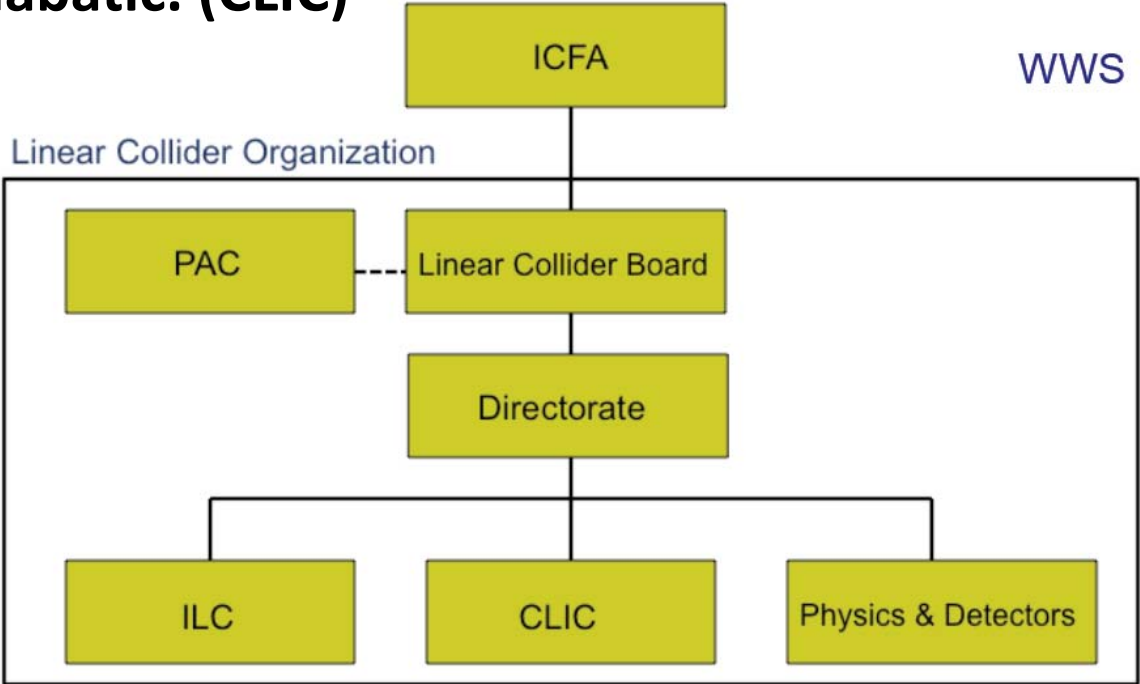
While the structure is agreed in general details are under discussion:

The names of the boxes are not final.

The precise role & members of LC Board, Directorate are still under consideration.

The meanings of the links (or non-link) should be defined clearly.

The change from the present scheme to the new scheme will be adiabatic. (CLIC)



ILCSC will work on these questions further and will propose to ICFA.

1. Organization Body for Post-2012 ILC

from CPGD
A.Suzuki (LCWS11@Granada)



The both transitions will be adiabatic

Summary

- There are many studies on governance for the future LC to be built under world wide cooperation, and issues are identified.
- Various cooperative efforts established which is crucial in the discussion of ILC governance
- The studies by ILCSC-siting WG and by GDE will collaborate, and will be included PIP in the TDR.
- The governance studies need to be continued after 2012 until the project realization by the new scheme for LC.
- The new scheme is under discussions now and will include CLIC efforts.
- The change to the new scheme will be made “adiabatically”.