The ILD detector concept group at the ILC: Structure and Goals

Joint Steering Board of ILD, 4/2/2013, update 5/2/2013

Introduction

With the delivery of the DBD ILD has met a major goal. Since it formation on 2007 the concept group has worked towards this goal. In 2009 the letter of intent was published, which led to the acceptance of ILD of one of two concept groups at the ILC accelerator. The DBD represents a more fully worked out detector concept, based on tested technologies, and – in most cases – verified using prototypes.

Over the next few years ILD will move from a concept to a real proposal. Starting from the detector proposed in the DBD the group will need to re-optimize the detector, look at the scope of the detector, and critically study the cost-performance ratio. This will need a significant effort by the involved parties, and careful planning over the next years. The direction of this optimization and the main goals need to be discussed broadly with the community. This requires that adequate structures are put into place which allows the formulation of such a strategy, and its timely implementation. Ultimately the new structure should ensure that ILD is put on track so that - once required - a fully-developed proposal can be made to build ILD as a detector at the international linear collider.

ILD has traditionally been using a very light-weight organizational structure. The two main administrative and policy deciding bodies in ILD were the joint steering board, with 6 members, and the executive board. There has been no formal membership policy, and, in consequence, no formal institute assembly. Informally this role has been played by regular face-to-face meetings once or twice a year.

In this document the requirements for the new ILD structure are formulated, and a possible structure is proposed. It is the basis for a community wide discussion which should converge until the summer of 2013.

Requirements

The new structure should:

- allow an efficient operation of ILD in a time of tight budgets and little person-power;
- be light-weight;
- be transparent;
- be flexible so that ILD can react quickly to changing conditions.

The organization should ensure that

- clear responsibilities are defined within the concept group;
- clear mechanisms are defined by which decisions are obtained through a transparent and open process;
- clear membership of ILD is maintained;
- A clear negotiation mechanism is established to distribute the necessary service work among members in a just and even way.

Important boundary conditions are:

- ILD should remain as open as possible to new members;
- the threshold for membership in ILD should be low.

Bodies of ILD

As it is done in every collaboration ILD should separate the bodies which execute the operation of ILD from those which define the policy and make the rules.

The executive part of ILD will come close to the structure of a normal collaboration:

- Working groups are formed as needed to work on problems, provide tools, and organize the daily work of the concept.
- Detector systems groups are formed to work on and define the different detector systems. They liaise with R&D groups, where needed and appropriate.
- An operations board (OB) brings together the leaders of all working groups, the systems groups and the management and discusses the operation of ILD
- A management board is formed from the key management people in ILD.
- A team of two speakers represents the concept
- All positions in ILD are for a period of two years, with the possibility of renewal.

The legislative part of ILD will be formed by the institute assembly.

Membership in ILD

ILD as a concept group is open to everyone interested in ILD. No formal requirements for membership exist; in particular, membership does not imply any financial obligations.

ILD membership is defined on the institutional level. There is no private membership. To become recognized as a member an institution needs to

- Declare its intention to become a member of ILD. This declaration implies that the membership in ILD has the blessing of the management of the institution.
- Identify a contact person to ILD, who will represent the institution towards ILD. This person will be responsible for the communication with ILD, including the formal request for membership.
- Declare that the institution will feel itself bound to the rules of ILD

Joining ILD is possible at any moment. The official ILD membership list will be updated regularly, at least once a year. Once a year each member institution will be contacted to declare its continuing intention to stay a member of ILD, and to update its list of ILD members. Without confirmation the membership will lapse 6 month after the inquiry. At the same time the institution will be asked to update the list of ILD members in their institute.

ILD Institute assembly

The ILD Institute assembly (IA) is formed by one delegate from each member-institution in ILD. Each member has one vote. Permanent guests without voting rights are the members of the ILD management

group. The IA is the central decision taking body in ILD. All matters of strategic relevance in ILD are ultimately decided in the IA. In particular the IA

- Decides on a set of central ILD rules
- Decides the structure of ILD.
- Elects the ILD management
- Endorses the formation of ILD working groups or other ILD bodies

Under normal circumstances the IA debates and decides on actions proposed by the ILD management. The IA can also launch its own initiatives. To do so and to ensure that this represents a broad consensus within ILD 75% of all voting members need to support this action.

The IA meets at least once a year. The IA elects from its members a chair. It is expected that the position of the chair rotates through the different regions involved in ILD.

It is important that central decisions within ILD are carried by a broad consensus within the group. The following decisions therefore require a majority of 75% of all voting members to be accepted:

- Election of the member of the ILD management group
- Changes of the ILD memorandum.

All other decisions are taken with simple majority of the delegates present.

The IA has a quorum if 20% of its members or at least 10 institutes, whatever is smaller, are present. Vote delegation is not possible.

ILD Management structures

ILD speaker
ILD is represented by two speakers. They are elected by the IA for a two year term. A re-election is possible. The central responsibility of the speaker is to organize the development and optimization of the ILD concept, lead the ILD organization, and trigger and guide the definition of goals and milestones.

ILD management group
The speakers are supported in the daily work by a management group. Members of the management group are

- The two speakers
- The technical coordinator
- The physics coordinator
- 2 members from ILD without managerial functions.

The members of the management group are elected by the IA.

The management group can decide to attach task forces to the central management, which are of central importance to ILD. Examples might be a costing group, or a central documentation group.

ILD detector coordinator

The detector coordinator is responsible for the management and the integration of the design of the ILD detector. The DC coordinates the work of the system groups. The TC is part of the central ILD management.

ILD physics coordinator

The physics coordinator is responsible for the physics program of the ILD concept group. The PC establishes a structure of working groups and ensures the coordination and communication among ILD members and working groups. The DC has a deputy. For the moment the deputy will in addition be the chair of the publication group for ILD.

ILD Systems groups

The ILD detector consists of several distinct sub-detectors. System groups are responsible for the different sub detectors. They coordinate the development of the implementation into ILD, and forge where needed links to relevant R&D groups. They define the layout of the sub-system in ILD, and propose technical solution to the concept group. They identify together with the R&D groups open issues and discuss how these can be solved. They define with the integration group the integration into ILD, identify open issues, and propose ways to solve them. They interact with the DAQ and software groups to understand and define the integration of the sub-detector into the central ILD DAQ and software. Each systems group elects one system group leader and one deputy leader, which is finally endorsed by the Operations board. The ILD system groups are coordinated by the detector coordinator.

ILD working groups

ILD working groups are formed as needed. A working group is instituted by a vote of the OB (see part on OB for more details). Each working group proposes a chair and a deputy chair. This proposal will be endorsed by the operations group.

Operations Board: OB

The operations board is formed by

- The chairs and co-chairs of the working groups
- The chairs and deputy chairs of the system groups
- The members of the ILD management group.

The OB is chaired by the ILD speakers. The OB meets regularly to discuss the state of ILD, ongoing work, important milestones, etc.. In between sessions of the IA the OB can decide matters which are not of central relevance. All decisions need to be eventually endorsed by the IA. If at least 20% of the members of the OB or the IA do not agree with a decision by the OB a decision by the IA will be forced.