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ILC Status

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The next step for the ILC

- To complete studies on some open technical issues, such as the positron source and beam dump.
- To complete R&D for the superconducting cavities for the performance improvement.
- To bring the ILC from the current technical design (TDR) level to the engineering design (EDR) level, including the civil engineering and site related issues, in order to be ready for starting construction, when the ILC Laboratory is set up.

⇒ This a part of the ILC Pre-Laboratory work.

What is the Pre-lab?

- Pre-lab is **set up as an international collaboration of national, intergovernmental and university laboratories** governed through the Memorandums of Understanding (MoUs).
- **Technical preparation works** are defined as work packages and delivered by the participating laboratories **as in-kind contributions**.
- Directorate headed by the director is running the Pre-lab and coordinate the overall work, but **the execution of the work packages are fully under the control of responsible laboratories, including the resource acquisition**.
- Directorate and a small team for the overall coordination will be sitting in Japan (Tokyo/Tsukuba area, at least initially), but all the technical work is done at the responsible laboratories, including the KEK in Japan.

Pre-lab and ILC-lab

- Contribution to the ILC construction is expected to be **largely in-kind**
- It is natural to assume a **strong correlation** between the technical contribution during the Pre-lab phase and the in-kind contribution to the ILC.
- Participation in the Pre-lab activities will allow the laboratories to **build up expertise, technical personnel and infrastructure** necessary for the ILC phase.
- Therefore, participation of the Pre-lab activities is important for the laboratories interested in the ILC construction.

Advantage for the industry

- Since the technical work is done by the laboratories worldwide, this will give **an easier and more convenient entry point** for the industries to the Pre-lab activities **through local laboratories of their own country**. This could give **a chance for smaller scale companies as well** to participate with a close relation with the local laboratories.

⇒ Efficient working condition.

In order to set-up the Pre-lab

ICFA

ILC International Development Team

Executive Board

Andrew Lankford (UC Irvine): Americas Liaison

Shinichiro Michizono (KEK): Working group 2 Chair

Hitoshi Murayama (UC Berkeley/U. Tokyo): Working group 3 Chair

Tatsuya Nakada (EPFL): Executive Board Chair and Working group 1 Chair

Yasuhiro Okada (KEK): KEK Liaison

Steinar Stapnes (CERN): Europe Liaison

Geoffrey Taylor (U. Melbourne): Asia-Pacific Liaison

Working group 1
Pre-lab set-up

Working group 2
Accelerator

Working group 3
Physics & Detectors

Scientific secretary: Tomohiko Tanabe (KEK)

Communication team led by Rika Takahashi (KEK)

Why IDT?

- The ILC is envisaged as **a global projects with a fair share of the cost, mostly in the form of in-kind contribution for the accelerator, among the participants**, while the infrastructure cost should be taken cared by the host country, i.e. Japan: \Rightarrow a truly international project.
- The natural consequence is that the Pre-lab will also be a global enterprise, thus making an international effort to set-up.

Reminder for ICFA mandate for the IDT

- Clarifying the function and organisation of the ILC Pre-Lab based on the KEK International Working Group report,
- Developing a common understanding for the condition to start the ILC Pre-Lab,
- Providing an international framework for the ILC accelerator effort and coordinating further R&D and engineering design work for the ILC in order to sustain the community effort and to guarantee a smooth transition to the ILC Pre-Lab phase,
- Providing an international framework for the ILC physics and detector activities and coordinating physics and detector R&D effort in order to sustain the community effort and guarantee a smooth transition to the ILC Pre-Lab phase,
- Discussing with international partners (e.g. universities, national and regional laboratories) for resources needed for the ILC Pre-Lab, and
- Providing necessary information to the national authorities to support their discussion of the establishment of the ILC Pre-Lab.

Recent activities

- Communication team is working: e.g., (almost) monthly ILC Newslines and discussion on other activities on going.
- WG1 started to work on the Pre-lab organisation and legal framework
- **WG2 has been busy compiling the list of technical work and make it work packages.**
- WG3 newly organised with sub-groups and regular meetings and work started.
- **Preparation of the interim Pre-lab proposal: ~30 page document**

More relevant for the industry partners....

ILC Newsline

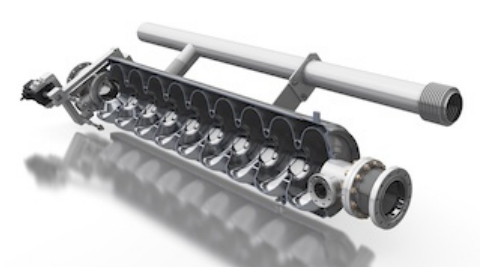
ILC Newsline | The Newsletter of the International Linear Collider

11.03.21, 00:35



26 FEBRUARY 2021

DIRECTOR'S CORNER



[ILC Pre-Lab preparation on the accelerator](#)

by Shinichiro Michizono

Let's talk cavities and cryomodules! Accelerator Director Shin Michizono brings us up to date with the latest developments on the ILC machine as well as plans and tests for the next phase, leading to the next big milestone, the Engineering Design Report.

AROUND THE WORLD

[New organisation in Tohoku, the ILC's potential host region](#)

by Rika Takahashi

Interim Pre-lab proposal contents

- Organisational structure and governance model
- Possible legal structure and Pre-lab start-up scenario
- Work packages for Machine technical work
- Machine engineering design work
- Civil engineering and site related work
- Timeline for preparing the physics programme
- Reference cost for the Pre-lab work

Preliminary draft with all the contents exists, and editorial work starts now. Also waiting for the final report from the technical review on the work package list. Plan to finish in a month or so.

IDT work plan for the coming days

- IDT is now **ready to start discussion with laboratories**
 - to identify matching between the work packages and **interest and expertise of laboratories**.
 - to understand conditions where the laboratory **could consider to signup for a work packages**.
- Further develop the governance model and organisational structure reflecting the political development
- Explore ways to start the Pre-lab
- Keep stimulating the physics community through promoting new physics ideas and facilitating common effort.

Chance for the industry to explore possibilities with the local laboratories

Rough timeline of the ILC under discussion

ILC IDT (~1.5 years)

- Prepare the work and deliverables of the ILC Pre-laboratory and workout with national and regional laboratories a scenario for their contributions
- Prepare a proposal for the organisation and governance of the ILC Pre-laboratory

In parallel:

Positive “signs” from the host country (Japan) government and agreements by the national/regional laboratories for providing their contributions.

ILC Pre-laboratory (~4 years)

- Complete all the technical preparation necessary to start the ILC project (infrastructure, environmental impact and accelerator facility)
- Prepare scenarios for the regional contributions to and organisation for the ILC.

In parallel:

Positive outcomes of the inter-governmental negotiation for the responsibility and cost sharing among the host (Japan) and partner countries

ILC laboratory

- **Construction and commissioning of the ILC (~10 years)**
- Followed by the operation of the ILC
- Managing the scientific programme of the ILC

To conclude

- IDT was set-up to move the ILC to the preparation phase, i.e. establishing the Pre-lab
- The operation model of the Pre-lab allows **easy entry for the industry to the ILC activities** through the local laboratories of their own country.
- Realisation of the ILC needs **push to the government at the highest level**, in Japan and all the other countries, by noting the value of the ILC **beyond the academic interest**.
- Help from **different sectors of the society** is needed!!!