ILC Project Status

(following ICFA/LCB meeting at SLAC)

CALICE, Montreal, March 5, 2020

Andy White
University of Texas at Arlington

ILC Project 2019-2020

- March 2019 – ICFA/LCB meeting in Tokyo
  No declaration to host ILC.

- Science Council of Japan – ILC project was given a hearing – H. Murayama, L. Evans – 7 minutes!

- January 2020 – SCJ Master Plan – ILC not on short list.

- Press conference - MEXT Minister and the Minister of State for Science and Technology Policy ("I think we should firmly consider the project in the affirmative direction.")

International Committee for Future Accelerators
Sponsored by the Particles and Fields Commission of IUPAP

ICFA

March 2019, Tokyo

ICFA Statement on the MEXT's View with regards to the ILC Project

On the occasion of its annual meeting in Tokyo, March 6-8, 2019, the International Committee for Future Accelerators (ICFA) thanks Dr. Keisuke Isogai, Director General, Research Promotion Bureau of Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT), for his inaugural presentation to the Linear Collider Board (LCB) and ICFA. ICFA views the statement of continuing interest in the ILC within MEXT and related ministries and agencies as an important milestone along the path to the ILC. ICFA also thanks Hon. Takeo Kawamura, Member of the House of Representatives and Chair of the Federation of Diet Members for the ILC, for affirming support for the ILC within the Diet in his address to ICFA/LCB on March 6.

Discovered at CERN's Large Hadron Collider in 2012, the Higgs boson has been hailed as the most important discovery in particle physics in decades of research. This unique particle offers a portal for understanding the fundamental laws of Nature and is expected to be a great new tool for discovery.

ICFA confirms the international consensus that the highest priority for the next global machine is a "Higgs Factory" capable of precision studies of the Higgs boson. At this ICFA meeting options for a Higgs Factory were discussed -- the ILC, as well as other collider technologies.

ICFA reaffirms the scientific significance of the ILC and that the ILC is in a sufficient state of technical readiness for approval for construction.

Both the European Strategy for Particle Physics Report of 2013 and the United States Particle Physics Project Prioritization Panel (P5) Report of 2014 had expressed support for the initiative of the Japanese physics community to host the ILC in Japan.

ICFA recognises that although MEXT has interest in the ILC, and will continue to discuss the project with other governments, Japan is not yet able to declare its willingness to host the ILC. A clear statement of Japan's position towards hosting the ILC would have had significant impact in the ongoing discussions on the formulation of the European Strategy for Particle Physics Update.

ICFA notes with satisfaction the great progress of the various options for Higgs factories proposed across the world. All options will be considered in the European Strategy for Particle Physics Update and by ICFA.

Tokyo, March 2019

The 85th ICFA Meeting at SLAC, CA.

20-22 February 2020
SLAC National Accelerator Laboratory

US/Pacific timezone

Search

Host: Prof. JoAnne Hewett, SLAC/Stanford, Support: Maria Herraez

Attendance at this meeting is by INVITATION ONLY.

Starts Feb 20, 2020 06:00
Ends Feb 22, 2020 11:30
US/Pacific

SLAC National Accelerator Laboratory
Trinity Conference Room, 1st Floor, Bldg. 53
Menlo Park, CA, USA

Prof. Taylor, Geoffrey
Prof. Nakada, Tatsuya
Dr. Bhat, Pushpalatha

Host: Prof. JoAnne Hewett, SLAC/Stanford

Linear Collider Board

CHAIR: Tatsuya Nakada

Secretary: Pushpa Bhat

AMERICAS:

Jonathan Bagger

The Fermilab Director (currently Nigel Lockyer)

(David MacFarlane)

Lia Merminga

Hugh Montgomery

Andy White

ASIA:

Jie Gao

Rohini Godbole

Sachio Komamiya

Masanori Yamauchi

Yifang Wang

Eunil Won

EUROPE:

The CERN Director- General (currently Fabiola Gianotti)

The DESY Director of Particle Physics (currently Joachim Mnich)

Francois Le Diberder

The JINR Director (currently Victor Matveev)

Talk by Mr. H. Masuko, Deputy-Director General, MEXT Research Promotion Bureau

On the International Linear Collider (ILC) Project
Summary of Explanation

20 February 2020
Research Promotion Bureau, MEXT

1. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) expressed its view in regard to the ILC project in March 2019. Since then, MEXT has been implementing this view.

Discussions in Japan

2. In the Master Plan 2020 announced by the Science Council of Japan (SCJ) in January 2020, the ILC project was not listed as a "Priority Large-scale Research Project (Priority LRP)". That is, the SCJ, which represents Japan's academic community, has concluded that the ILC project is not a project that should be promptly performed in light of several considerations, such as project validity, social value including public understanding, national strategy and urgency.

3. The Working Group of MEXT's Council for Science and Technology will formulate the Roadmap, which lists large-scale scientific research projects with high priorities from among proposed projects, based on the result of the Master Plan. The ILC project, which was interviewed for selecting Priority LRPs in the Master Plan, can be considered for the Roadmap.

Discussions in Europe

4. MEXT recognizes that the European scientific community has been discussing electron-positron collider options such as the ILC project and the European projects, which would aim at similar scientific achievements, toward formulating the EPPSU.

Discussions with other governments

5. MEXT has been exchanging opinions with the US Department of Energy by holding a meeting of the Discussion Group (DG) in April 2019 and so on. While the US side informed the Japanese side that the US will support Japan and will be able to make in-kind contributions if it hosts the ILC, MEXT recognizes that the details of the potential contributions have not been indicated at this moment and further discussions within the US are required.

6. MEXT visited the Federal Ministry of Education and Research (BMBF) in Germany and the Ministry of Higher Education, Research and Innovation (MESRI) in France in July 2019 and reached a consensus with them to establish the DGs with these ministries.
In addition, MEXT held a DG meeting with BMBF in October 2019, and visited the Department for Business Energy and Industrial Strategy (BEIS) in the UK and started exchanging opinions with them in November 2019.
Furthermore, MEXT had the first quadrilateral discussion with BEIS and STFC, MESRI and BMBF. During the discussion, the Japanese side explained the status of the Master Plan and the Roadmap of Japan. UK, France and Germany commented that they have commitments to various international and domestic projects and do not have the financial leeway to participate in the ILC project at this moment.

Conclusion

7. The ILC project, which is proposed as an international project requiring a huge amount of financial burden, needs to resolve its various challenges, including its technical feasibility and international cost sharing, as well as to obtain broad internal and external cooperation. In line with its view expressed last March continuously and on the basis of the discussions so far, in consideration of its certain scientific significance in particle physics, MEXT will discuss the ILC project with the US and the European counterparts while having an interest in the project.

Speech by Hon. Takeo Kawamura,
Chairperson of the Federation of Diet Members for the ILC

2020-2-20 LCB meeting

Good morning ladies and gentlemen. I'm Takeo Kawamura, a member of the House of Representatives of Japan. I am Chairperson of the Federation of Diet Members for the ILC, and the Chairperson of the Liaison Council for the Realization of the ILC.

I am very grateful for the invitation to speak to you, the world leaders in the field of fundamental physics.

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Most recently, it is my understanding that the State Department and the DOE sent messages of strong support to our Ministers in Japan.

The Federation of Diet Members have met immediately with the Foreign Minister, the MEXT Minister, and the Minister of State for Science and Technology Policy, and we shared the strong support from the United States, and came to the agreement that it is necessary to further deepen the discussions about the feasibility of this project, and to study the project from various angles both domestically and internationally.

We have received an excellent gift from the United States government, and I firmly believe that high-level dialogues between the United States and Japan will make progress.

As you all know, the biggest issue of this project is budgetary measures. Because the MEXT's budget for the academic category is limited, an alternative method of budgetary measures in the form of an inter-ministry national project has been studied through the leadership of the Federation of Diet Members. Our role as politicians is "We will either find a way, or make one.", as the ancient saying goes.

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To the world leaders of the research community gathered here today, I very much hope that I conveyed to you our earnest efforts and I sincerely ask you to relay our message to your country and region back home about the excellence of the ILC project and the significance of the possible collaborative actions together.

International Committee for Future Accelerators
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ICFA Statement on the ILC Project

February 22, 2020

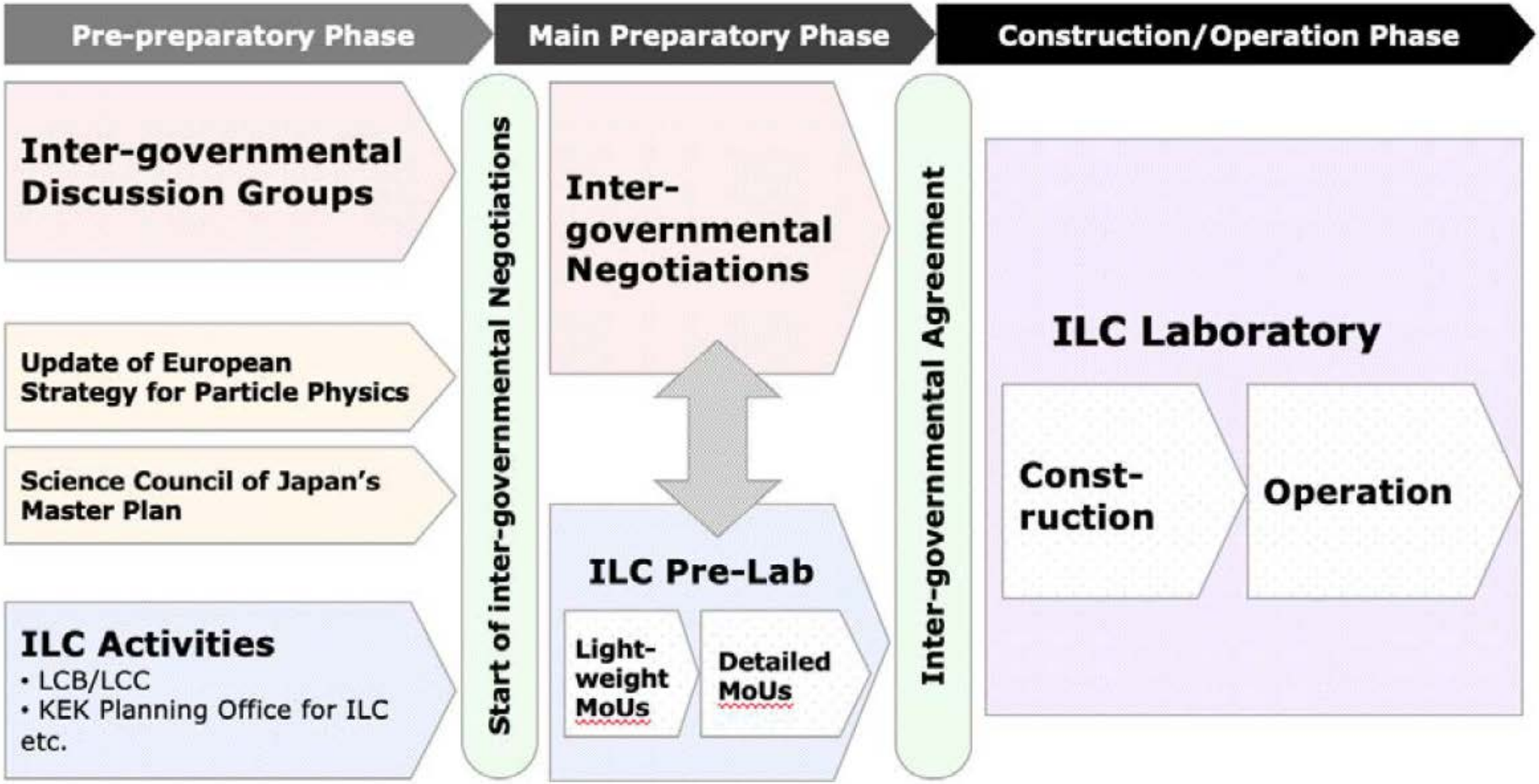
ICFA was encouraged by the reports from Mr. H. Masuko, Deputy-Director General, MEXT Research Promotion Bureau and Hon. T. Kawamura, Chairperson of the Federation of Diet Members for the ILC, at the ICFA meeting held at the SLAC National Accelerator Laboratory, Stanford, USA, on the 20th February 2020.

Based on these reports:

- ICFA reconfirms the international consensus for a Higgs factory and wishes to see the timely construction of the ILC in Japan.
- ICFA acknowledges and welcomes the inter-governmental discussion between Japan, the United States and European nations, to advance international collaborative activities for the ILC.
- ICFA notes the need for a preparatory phase ahead of the establishment of the ILC laboratory and the construction of the ILC in Japan.
- ICFA advocates establishment of an international development team to facilitate transition into the preparatory phase.
    - The development team should be hosted by KEK, with leadership chosen with the help of ICFA.
    - The team would develop a plan for the preparatory phase for the construction of the ILC, including technical, organizational and governance issues. It also would be tasked with understanding the activities and resources required in the preparatory phase. The process of developing the plan should involve the interested laboratories and community.
    - ICFA anticipates that these development activities could be completed in approximately one year, at which point it would be possible to launch the preparatory phase for the ILC, provided Japan expresses intent to do so together with international partners.
- In view of progress towards realisation of the ILC in Japan, ICFA encourages the interested members of the high energy physics community, laboratories, and nations, to support and participate in these preparations aimed at the successful establishment of the ILC.

Menlo Park, CA, USA

KEK-ILC-Working Group Report



Formation of a new framework towards the pre laboratory

- ICFA has charged Tatsuya Nakada (LCB Chair) with developing a framework to prepare for the ILC pre lab
- The framework will be for ILC only – CLIC colleagues are very welcome to participate.
- The goal is to have a handover from LCB to the new framework at the AWLC2020 Workshop planned for SLAC, June 22-25.
- Likely the new framework will have an Advisory Body first and then Working Groups (minimally Accelerator, Physics and Detectors).
- Hopefully the filling of the associated new positions will occur in the next 1-2 months so that the new framework will have very good representation at AWLC2020.
- AWLC2020 will be announced soon – this week!?

Formation of a new framework towards the pre laboratory

The LCCPDeb is actively discussing considerations for the preparatory phase of the pre-lab.

Build open framework, encouraging new collaborators, and providing mechanisms to integrate their interests and efforts.

Engage Detector R&D groups (eg. CALICE, LCTPC, FCAL, ...), validated proto-collaborations (ILD and SiD), and new collaborators in effort to define next versions of experimental proposals.

Provide coordinating structure to integrate these diverse efforts into an effective global program (replacing current role of LCCPDeb). This may include regional hub lab support well connected to central lab framework at KEK.

Facilitate mechanism to identify and prioritize critical R&D needs.

Ensure coordinating structure plans and implements an effective global review process.

Recognize importance of continued activity on simulation studies as well as theoretical physics analysis. Review and identify significant completed studies and define incomplete and needed theoretical and simulation work.

Consider mechanisms to provide formal recognition of physics and detectors activities that will serve community well as it seeks funding support.

Create mechanism for detector groups to coordinate work with CFS and MDI work of the accelerator effort, including officially recognized channel for information exchange and decision making. Continue series of CFS/MDI meetings and workshops - with regular meetings held at KEK and eventually on site at Kitakami. As with other activities, progress will be limited by available resources.

Begin planning for evolution and timeline of experimental program from concepts, through detector proposals, to approved and construction-started programs.

ILC Project Timeline

- End of LCC/LCB – June
- New team/framework in place by AWLC2020/SLAC
- Approximately 1 – 1½ years until start of pre-lab
- ~4 years for remaining R&D and writing/reviews of TDRs
- ~ 9 years for construction
- 2035 Physics!?