



KEK, High Energy Accelerator
Research Organization

Status of ILC in Japan

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Outline

- What we heard at the LCB meeting in March this year
 - Discussion between MEXT and the European governments
 - Progress in the SCJ Masterplan process
 - International working group
 - Recent news in Japan
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LCB and ICFA meetings in Tokyo



- Following the opinion of the SCJ, **MEXT has not yet reached declaration for hosting the ILC in Japan at this moment.** The ILC project requires further discussion in formal academic decision-making processes such as **the SCJ Master Plan**, where it has to be clarified whether the ILC project can gain understanding and support from the domestic academic community.
- MEXT will pay close attention to the progress of the discussions at the European Strategy for Particle Physics Update.
- The ILC project has certain scientific significance in particle physics particularly in the precision measurements of the Higgs boson, and also has possibility in the technological advancement and in its effect on the local community, although the SCJ pointed out some concerns with the ILC project. Therefore, considering the above points, **MEXT will continue to discuss the ILC project with other governments having an interest in the ILC project.**

- I believe the ILC should be realized through politically-led efforts, cutting across different ministries and agencies. As such, **we're proceeding to realize a budgeting as a national project with a separate budget outside of the regular science and technology budget.**
- **On the international cost sharing, we have to separate the infrastructure part of civil engineering and conventional equipment that is natural to be taken up by the host country and the apparatus part that is natural to be internationally cost-shared among technically competent countries.**
- As the environment has ripened socially, politically, and administratively, **the next mission for politics is to secure the budget for the construction.** In parallel, with the government's administrative process, we will begin in earnest from our role as political and legislative body to obtain the necessary budget for construction.

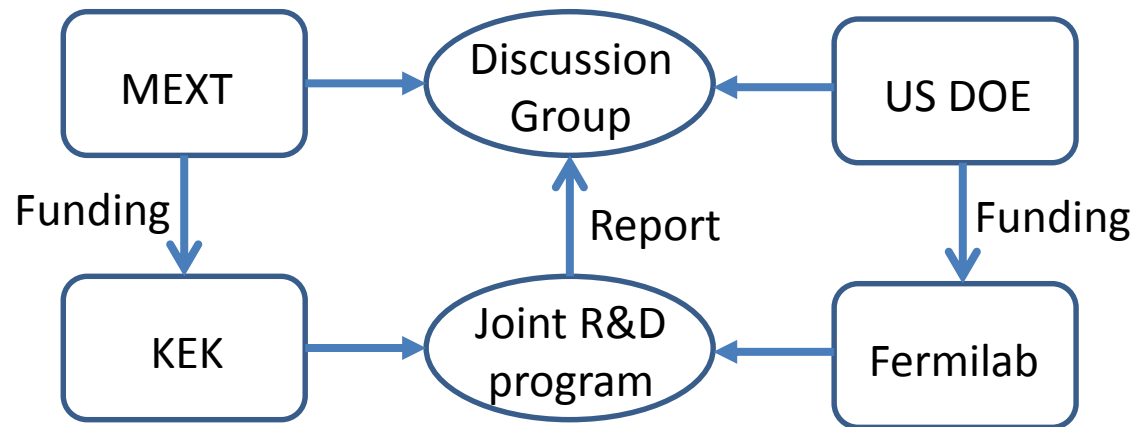
What happened in March: (3) Actions to be done by MEXT

Answers given by MEXT at the Diet session on March 13, 2019.

- In the future, while paying close attention to the progress of discussions on the European Elementary Particle Physics Strategy, we would like to deepen **discussions with France and Germany** at the governmental level, by proposing, for instance, to establish a standing discussion group similar to the one with the US. (Mr.Isogai)
- So, also for the ILC project, we expect there will be **a working group** discussions within the community of domestic and foreign research set up in the High Energy Accelerator Research Organization, so-called KEK, and at its initiative, there will proceed regarding international cost sharing, etc. (Mr.Isogai)
- As I mentioned earlier, I am also aware that this is a project of great significance both from the academic research point of view and from the perspective of regional revitalization. Therefore, I would like to **continue our investigations, closely collaborating with related communities while keeping an eye on the international situation.** (Minister Shibayama)

- MEXT officials visited Berlin and Paris together with the members of the Japanese National Diet to discuss with BMBF and MESRI on July 1-2, 2019.
- Japanese delegation
 - ▶ Three members of the National Diet: Kawamura, Shionoya and Itoh
 - ▶ Two from MEXT: Masuko and Todoroki
 - ▶ Seven from Japanese physics community and Tohoku
- BMBF: ILC needs to be mentioned in the European Strategy, and remaining time is limited. Germany has several on-going large research projects.
- MESRI: European Strategy is important for MESRI as SCJ Masterplan is important for MEXT. Europe cannot put the ILC on its strategy, unless Japanese government gives positive conclusion.
- Both BMBF and MESRI agreed to start bilateral discussion groups with MEXT. BMBF suggested that trilateral meeting would be useful.

- The bilateral “discussion group”: an example of US-Japan DG



- MEXT is trying to make a similar framework with Germany, France and other European countries.

- SCJ selected ILC as one of “the large scale academic research program” (long list) after $\sim 1/3$ screening, and invited us to the interview in September.
- The “priority projects” (short list) will be selected after another $\sim 1/3$ selection by the interview.
- In the previous masterplan process in 2017, MEXT made its own selection starting from the SCJ long list, and made the MEXT Roadmap.

- KEK organizes the international working group for ILC with close consultation with MEXT.

- ▶ Members:

- Klaus Desch (Bonn)
- Andy Lankford (UC Irvine)
- Kajari Mazumdar (TIFR)
- Patricia McBride (Fermilab)
- Shin Michizono (KEK)
- Yasuhiro Okada (KEK, Chair)
- Claude Vallee (Marseille)

- ▶ Mandate: Update ILC-PIP to describe:

- ✓ Model of international cost-sharing for construction and operation of ILC
- ✓ Organization and governance of the ILC Laboratory
- ✓ International share of the remaining technical preparation

- ▶ KEK received the report from the Working Group in September, and sent the KEK's recommendation to MEXT based on the report.



First meeting in Granada, Spain (May 17)



■ International cost-sharing

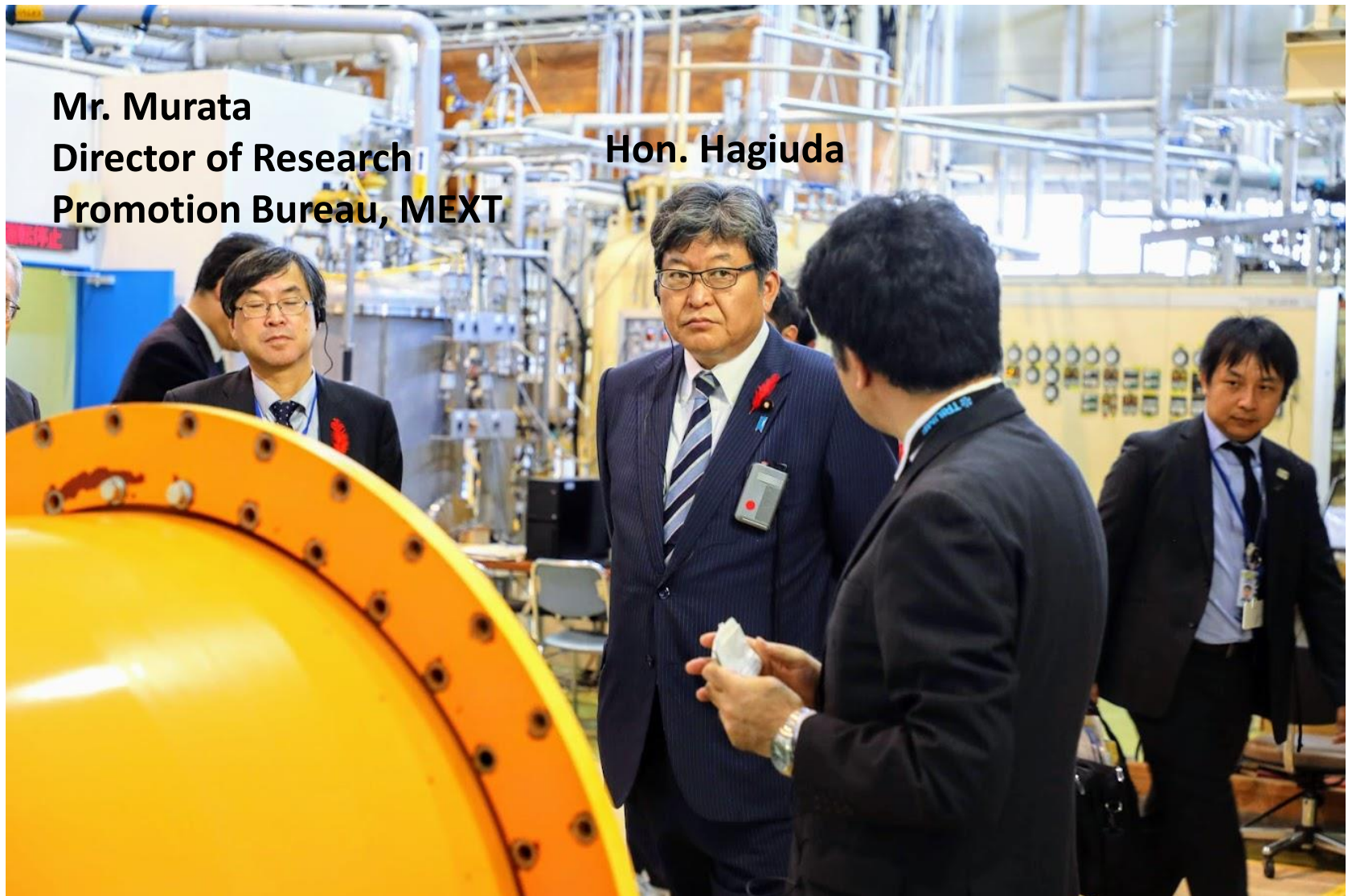
- ▶ Civil engineering and land acquisition are responsibility of the host state.
- ▶ Accelerator components should be provided by all the member states as in-kind contributions
- ▶ The operational cost should be shared among the member states.

■ Organization and governance

- ▶ An evolutionary model: ILC Pre-Lab to ILC Laboratory
- ▶ Pre-Lab should be promptly established through laboratory-label MoU's. Its mandate is to coordinate the preparatory tasks and to assist the inter-governmental negotiations.
- ▶ After an inter-governmental agreement, the Pre-Lab is expected to transition into a full ILC Laboratory.
- ▶ Planning of the Pre-Lab should start as soon as possible.

■ Intentional sharing of the remaining technical preparation

- ▶ A technical preparation plan is presented with identification of potential international collaboration partners.



- LCB had a plan to have the next meeting on December 20 in Tokyo, and requested MEXT to attend it to give an update of the statement.
- MEXT, after some considerations, decided not to attend the December LCB meeting, because:
 - ▶ Result of the SCJ master plan will not be available before December 20, and,
 - ▶ Three months is too short to do preparation and discussion with the other relevant Ministries in Japan.
- Instead, MEXT is willing to attend the LCB meeting in February 2020 at SLAC to update the ILC status in Japan after the SCJ master plan has become available.

Summary and Outlook

- MEXT gave a statement on ILC at the LCB meeting in March, 2019, and some actions are taking place following the statement:
 - MEXT and three members of the Japanese National Diet visited Berlin and Paris to talk with BMBF and MESRI. They agreed to begin bilateral discussion groups.
 - A working group was formed at KEK to discuss ILC implementation. The report from the WG has been sent to MEXT as a recommendation from KEK. Hope this is used as an input to the international discussions.
 - SCJ is now working on “the master plan”. We are doing our best to obtain the priority in the master plan.
 - The new MEXT minister visited SFT/KEK as soon as he took his office together with the Director of the Research Promotion Bureau, MEXT.
 - MEXT will come to the next LCB meeting in February at SLAC, and update the statement there.
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