

# Japanese Plan for ILC

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Hitoshi Yamamoto, 17-Jan-2013, SiD Workshop

# LDP (Liberal Democratic Party) Victory in the lower-house election in Oct, 2012

Our new prime minister  
Shinzo Abe



The ILC appears twice explicitly  
in the policy document:

- Science and technology policies
- Creation of top-class research centers

LDP policy document  
for the election

# LDP (Liberal Democratic Party) : New Ruling Party Election 'promises'

## 32 Rebuilding true command tower functions that strongly advance science and technology policies

- ...We will actively promote the critical fields of energy creation, energy conservation, energy storage, etc. as knowledge-concentrated national strategies - for example, our country should be able to play a leading role in creation of international centers for scientific innovations such as the ILC (the international linear collider) project which is a grand project in the field of particle physics.

## 92 Creation of globally top-class centers for research and development

- ...We will significantly strengthen supports for universities and public research facilities that perform studies at levels above the intentional standards, such as significant expansion of WPIs and playing a leading role in creation of international centers for scientific innovations such as the ILC (the international linear collider construction) project which is a grand project in the field of particle physics.

# MEXT (Ministry of education, culture, sports, science and technology) Minister Shimomura's Statement

'We will call for inter-governmental negotiations with European and American governments in the first half of 2013'

Jan 15, 2013 : When governors and vice-governors of 4 prefectures in the North East region of Japan visited MEXT (and other offices) asking for actions for hosting the ILC.

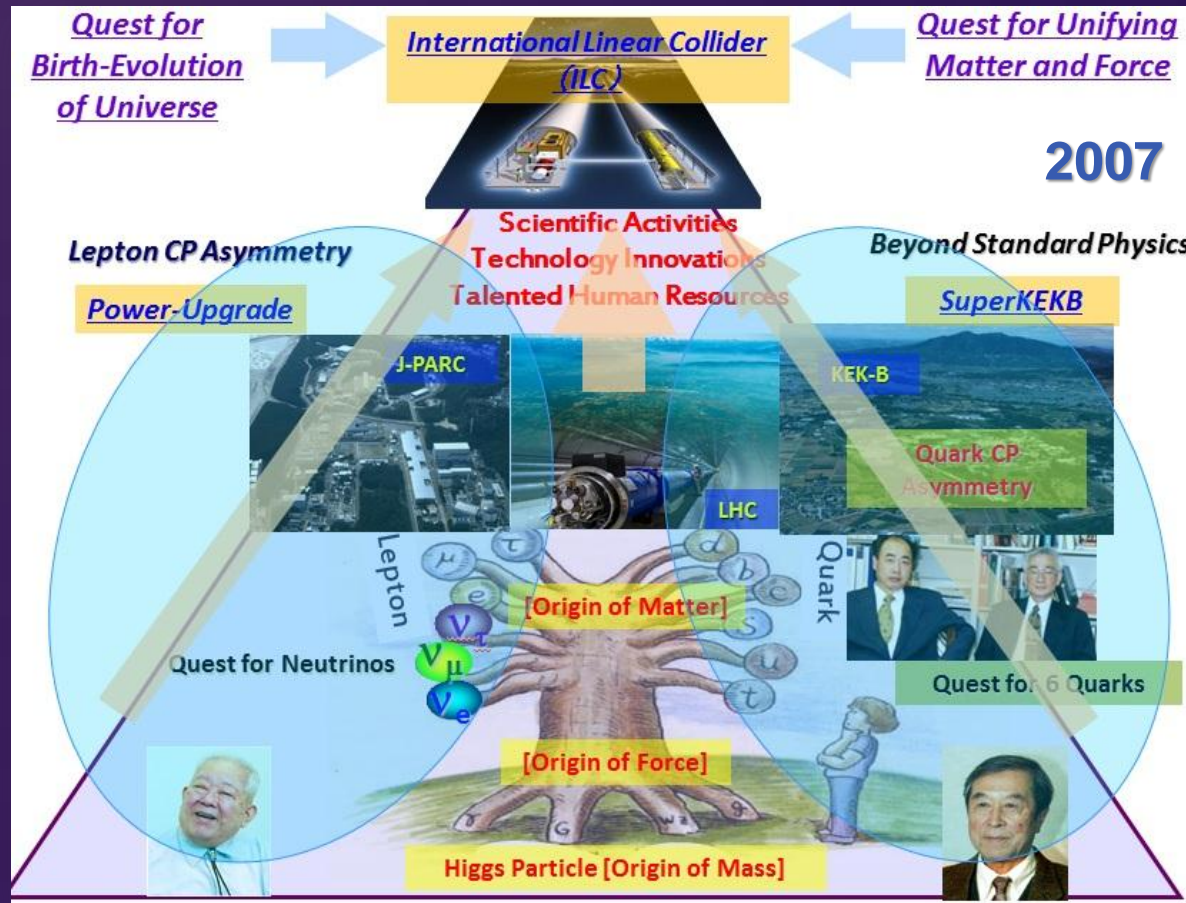
MEXT minister Hakubun Shimomura



# Academic Communities Consensus Forming

- KEK roadmap
- JAHEP  
(Japan Association of High Energy Physicists)

# KEK Roadmap



- A 5-year plan formed through town hall meetings in 2007
  - ILC at the top of the pyramid
- Currently undergoing updates

# JAHEP I.

- A report on large projects (March 2012)
  - After 2 years of intensive meetings listening to a large amount of talks and opinions
  - ILC and neutrino experiment at highest priority.
  - On ILC:

Should a new particle such as a Higgs boson with a mass below approximately 1~TeV be confirmed at LHC, Japan should take the leadership role in an early realization of an e<sup>+</sup>e<sup>-</sup> linear collider. In particular, if the particle is light, experiments at low collision energy should be started at the earliest possible time.

(Now, Higgs-like particle has been found and it is 'light')

# JAHEP II.

- A proposal for staging of ILC (October 2012)
  - Staging
    - A Higgs factory with a CM energy of  $\sim 250$  GeV to start
    - Upgraded in stages to  $\sim 500$  GeV (RDR baseline)
    - Technical expandability to  $\sim 1$  TeV to be secured
  - Guideline for cost sharing
    - The host country to cover 50% of the expenses (construction) of the overall project of the 500 GeV machine.
    - The actual contribution, however, should be left to negotiations among the governments.



# Political Parties

- ‘Federation of diet members for promotion of the ILC’
  - Established in 2008
  - Expanded to a multi-partizan group

*Kickoff Meeting : July 31<sup>st</sup>, 2008*

Vice Chair  
**Hatoyama**

Chair  
Yosana

Secretary  
Kawamura



~50 members took part in this meeting.



- Previous PM Noda made a positive remark on ILC in one of the meetings

# Science-Industry Alliance

- ‘Advanced Accelerator Association for promoting science and technology (AAA)’
  - Established in 2008
  - CEO’s and former CEO’s of Hitachi, Toshiba, Mitsubishi, etc.
  - ~90 industries + ~30 universities

## Intensive activities:

- Lecture series, symposiums
- Civil engineering study
- Studies on large projects
- Science-industry cooperation
- ...



# ILC TDR

## Ceremony for draft completion



15 Dec 2012, Akihabara UDX, Tokyo

A big media event

Hosted by KEK and JAHEP

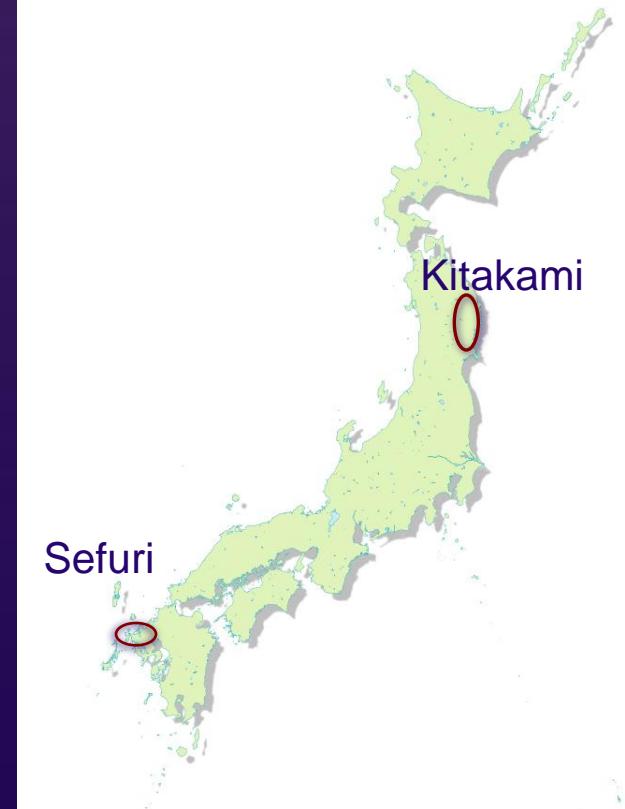
Assisted by AAA

# Japan Policy Council

- A private organization (an influential thinktank)
  - Led by Hiroya Masuda
    - Professor of University of Tokyo
    - Former minister of internal affairs and communications
    - Former governor of Iwate prefecture
  - Issued a report:
    - Japan should transform a regional city into a global city that attracts talent and investment from around the world.
    - Build a role model for the creation of a global city by reforming a local city through founding an international organization for the International Linear Collider (ILC).
    - Realize the ILC through founding an international organization to which every interested country can commit.

# Two Candidate Sites

- Kyushu
  - Sefuri mountains
- Tohoku
  - Kitakami mountains

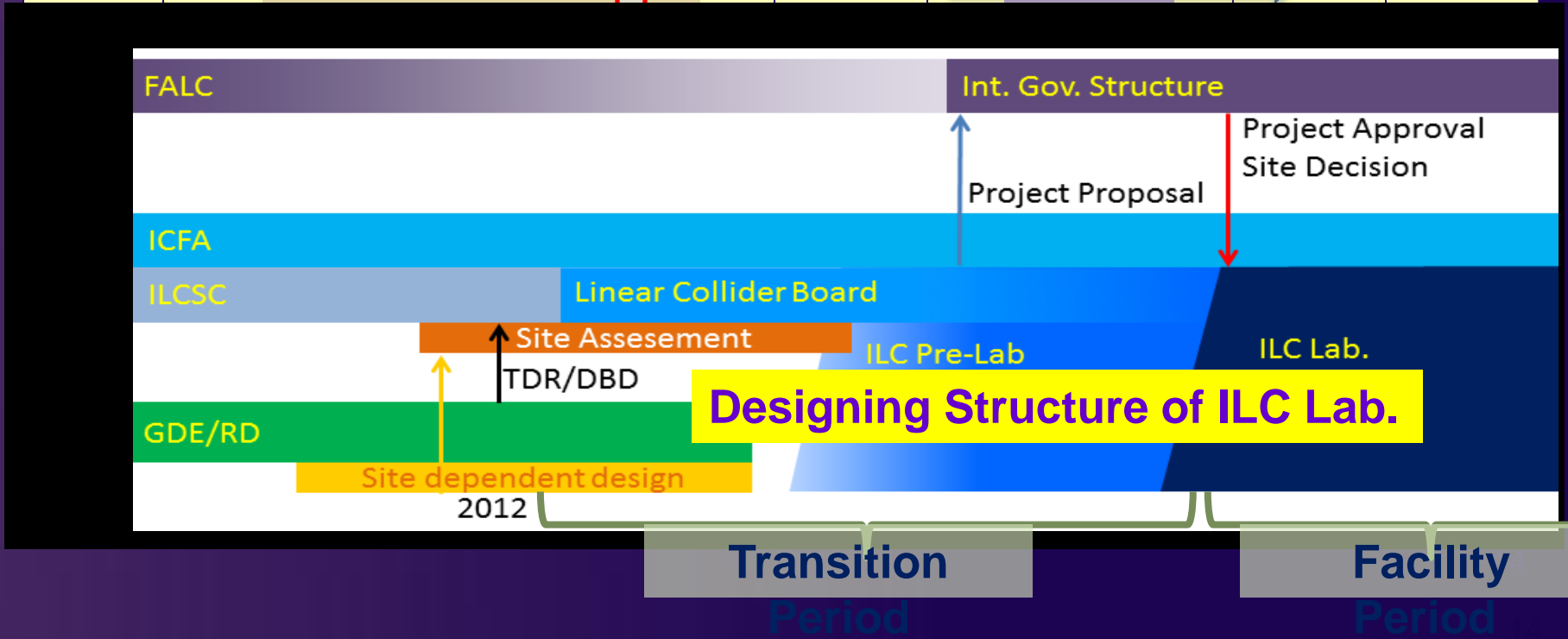
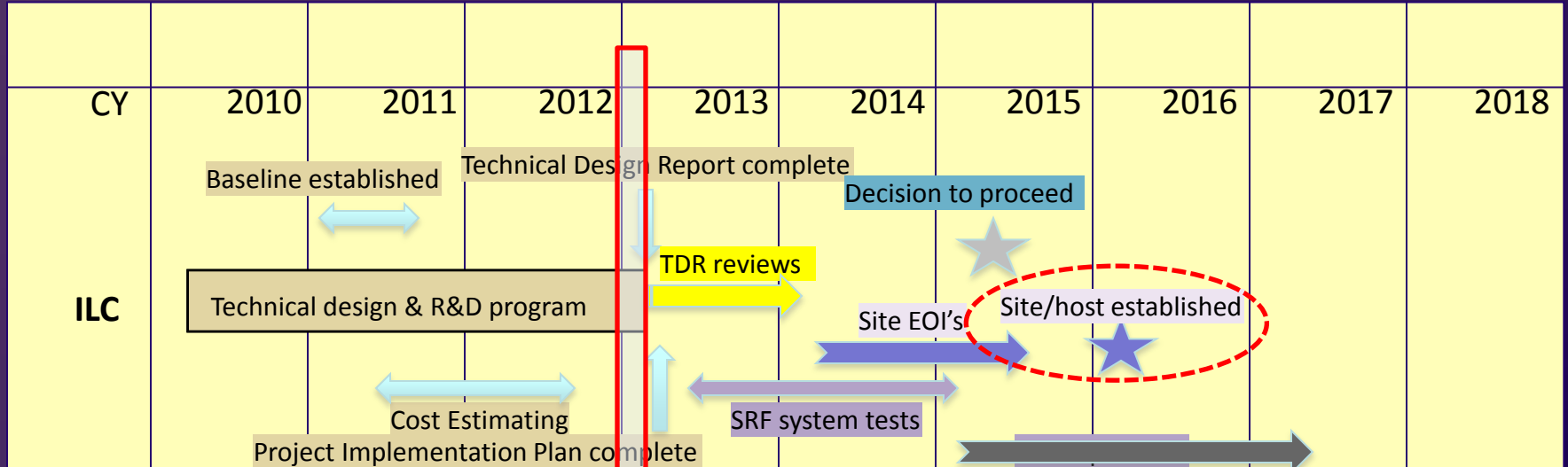


Strong and stable granite bedrocks

One of them will be chosen by this summer based on:

- Geology
- Economic ripple effects
- Political issues

# Possible Timeline (by A. Suzuki)



# Regional Organizations

## ■ Kyushu

- 'Association of Advanced Fundamental Science and Future Accelerators'
  - Established in 2007
  - Local governments, companies and universities
- 'Kyushu and Saga Universities Promoting ILC'
  - Established in 2007

## ■ Tohoku

- 'Tohoku Conference for the Promotion of the ILC'
  - Originally established in 2009 (with a difference name)
  - Local governments, companies and universities
- 'Tohoku University Council for the Promotion of the ILC'
  - Established in 2012

# Regional Activities (both regions)

- Geological survey
  - Boring, seismic survey, electrical survey, etc.
  - Field studies (reconnaissance)
  - Literature survey etc.
- Study on international academic city
  - Residential requirements
  - Education of children
  - Medical needs (language...)
  - Job opportunities for spouses
  - Recreation...
- Study on economic ripple effects
  - Learn from past mistakes
    - why there is no high-tech park near J-PARC?
- Education of local public
  - Lectures, symposiums, science cafes etc.

Science Cafe





# NATURE Editorial (Dec 20, 2012)

<http://www.nature.com/news/head-of-the-line-1.12064>

- US and European scientists should throw their support behind the ILC project. For the forward-thinking Europeans, this means a clear commitment to the parts and manpower they might be able to supply. For the Americans, it would probably require a willingness to slow the neutrino programme. That may be hard for them to swallow but, deep down, US physicists know that participation in the ILC is the only real option if the nation is to remain at the vanguard of particle physics.
- Statements of support from overseas will not guarantee that the ILC will go ahead. Japan's opaque government will still have to debate the programme's merits internally and come up with a process for committing to its construction. But an early show of support could give the collider the push it needs to get under way. That would be a great victory for Japan, and the world.

# What is needed?

- Japanese government is now willing to negotiate with other governments toward siting the ILC in Japan.
- If the negotiation fails, there will be no ILC in Japan (and probably anywhere).
- In order for the US government to commit substantial resources to the ILC in Japan, your support is essential.
- A critical step is the Snowmass Process.
- We will attend the snowmass workshops as much as possible.
  - Coordination with the US HEP people is necessary.