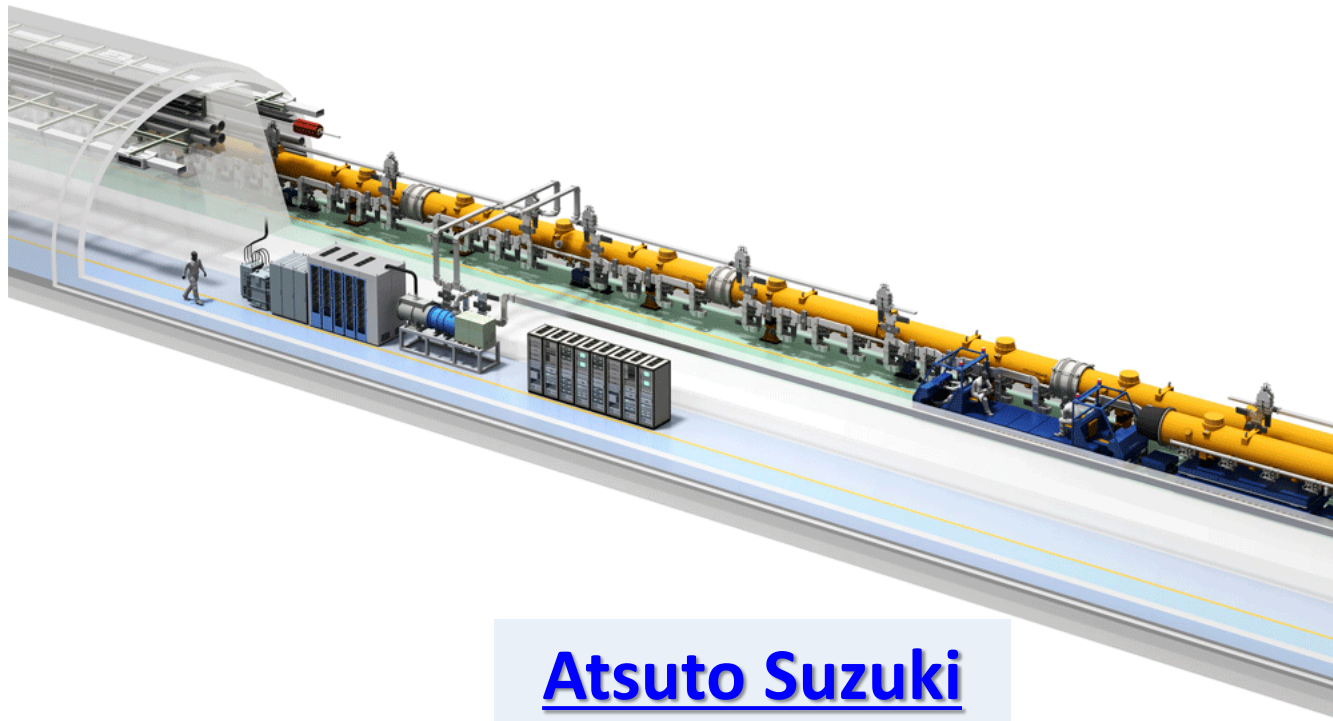


AFTER JULY 2012



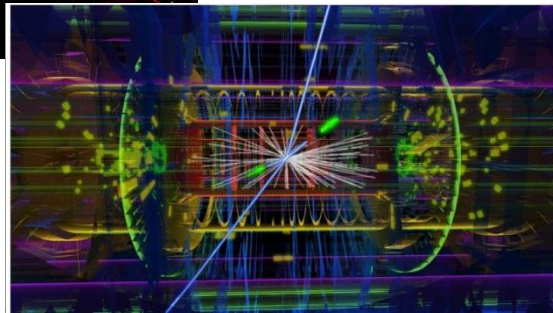
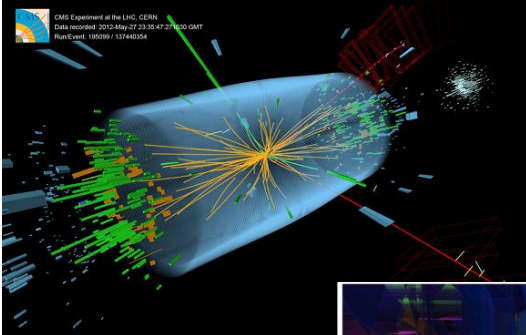
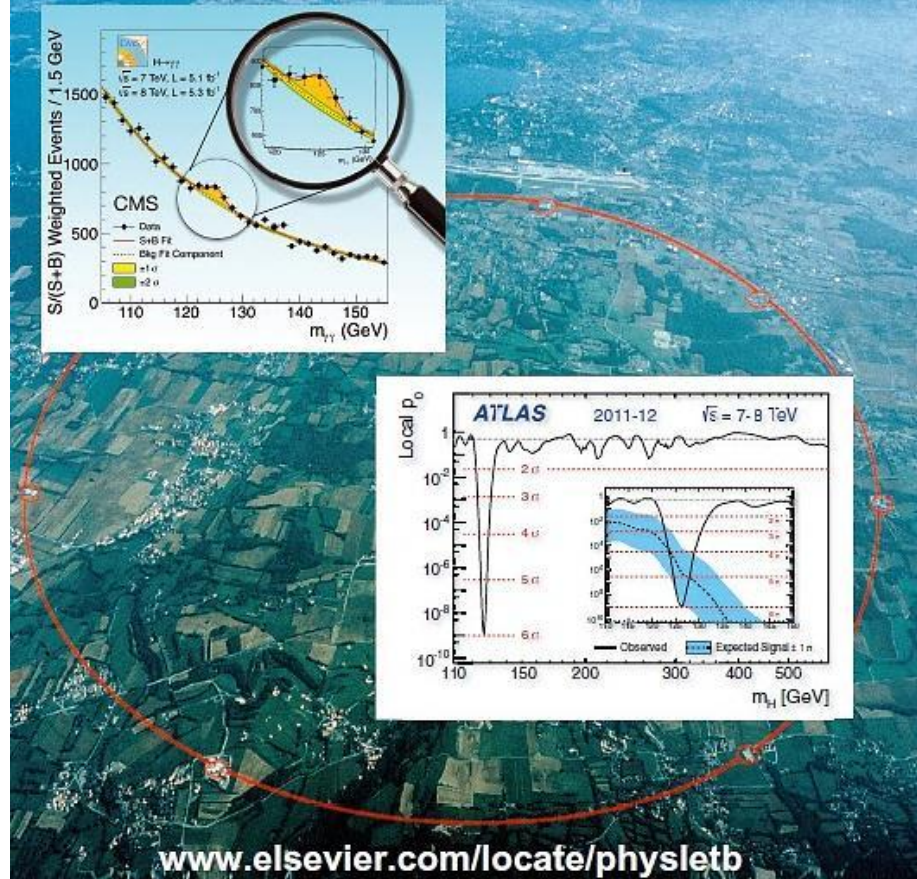
[Atsuto Suzuki](#)

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INTER-UNIVERSITY RESEARCH INSTITUTE CORPORATION
HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION

July 4 2012



Japan Policy Council Second Recommendations: Regional Development through Creation of Global Country inside Japan

Realizing a global city that can attract human and financial resources from around the world: Regional development triggered by the International Linear Collider (ILC)

Realizing an international organization for the International Linear Collider (ILC), to push towards reforming regional cities as a role model for the creation of a global country.

要約版

日本創成会議 第2回提言「グローバル都市創成」 ～ ILC（国際リニアコライダー）を契機とする地域開国～

日本の立て直しには、地方都市の立て直しが必須。「内なるグローバル化」を進め、世界の成長を取り込み、空洞化・過疎化から脱却する。

提言1

地方都市をグローバル都市に変革し、東京以外にも世界から人材・資本を集められる都市をつくり、地域主導で成長する国づくりを目指すべきである。

- ①日本を国際機関や国際的な研究所、大学、企業が集積する「知の拠点」にする。
- ②都市全体の景観のハーモナイゼーションを高める。中心に共有空間を創出することにより住民コミュニケーションを活性化し、コミュニティの機能を向上する。
- ③国によってライフ・スタイルが異なることを念頭にレジャーのメニューを多様化し、余暇活動の質を高める。
- ④外国人が家族で安心して暮らせるよう欧米では一般的な家庭医制度を導入し、地域医療の再生を行う。
- ⑤日本の教育の優れた点や独自性は活かしながら外国人子女の転入出に配慮し、外国とのシームレスな教育環境を整備する。
- ⑥外国との交通アクセス網を整備する。



提言2

国際プロジェクト ILC（国際リニアコライダー）の国際機関としての誘致実現を通し、グローバル都市創成のモデルを構築すべきである。

- ①内閣府にプロジェクトを設置し関係省庁の連携をはかる。国内候補地、大学・研究機関、産業界とともにオール・ジャパンによる推進体制をつくる。
- ②各国がコミットする国際機関として ILC を実現する。「国際機関 ILC 準備委員会（仮称）」設置を提唱し、これを主導する。
- ③「アジア候補地」として各国の参加も視野に国内候補地決定のプロセスを決める。
- ④ ILC 建設（約 10 年間）と平行し、医療、教育など生活環境の整備を行う。
- ⑤ ILC キャンパス内を特区とし、外国の医師免許等の所持者の就労を可能にし、研究者の配偶者の職をつくる。
- ⑥安全に関する情報公開のしくみを検討し、施設や制度の設計に盛り込む。
- ⑦ ILC を核とする産業集積基盤を形成し、日本の経済成長に結びつける。





October 10, 2012

1-1, OHO, TSUKUBA-SHI
IBARAKI-KEN, 305-0801, JAPAN
<http://www.kek.jp/>
TEL (+81)-29-864-5101
FAX (+81)-29-864-2397
E-Mail: atsuto.suzuki@kek.jp

October 10, 2012

Dr. William F Brinkman
Director, Office of Science
U.S. Department of Energy
1000 Independence Ave. SW
Washington, DC 20585
U.S.A.

Dear Dr. Brinkman,

As members of the Diet and also leading figures of the supporting group for hosting the International Linear Collider (ILC) in Japan, we are writing this letter to express our deep desire to invoke a much closer cooperation in accelerator-driven basic science, especially in High Energy Physics (HEP) Projects between Japan and the US.

The ILC, whose construction is strongly supported by the recent Higgs-like boson discovery at the LHC, represents the future frontier of particle physics with the fundamental goal of making the next step forward in our knowledge of the Universe. The most delicate undertaking of all, however, is to create the multi-national conditions to build the ILC as a global effort, which should also be internationally structured. We consider the process to realize this new international enterprise would represent a successful model of future global projects in all fields of science, technology and economics.

Japanese Prime Minister Noda made positive references to the ILC in December 2011, just after the first preliminary sightings of the new boson were announced from CERN. Presently in Japan, there is a talk of extra funds, because the new

accelerator is being discussed as part of a broader economic plan to boost regions devastated by the March 2011 earthquake. The idea is to make it the hub of an international city that can attract human and financial investment from around the world. Regional development triggered by the ILC.

As you know the United States has a long history of international collaboration in High Energy Physics. The development of the frontiers of science and technology from core technology for materials, space, and energy to the talents of our young and talented generations and the growth of our economy and business due to the international nature of science and the international nature of cutting-edge technology are all a result of our understanding of Nature.

In this worldwide effort, the U.S.-Japan collaboration has been one of the core elements and has achieved great successes. The CDF experiment at Fermilab, many U.S.-Japan scientific collaboration programs at BNL, LBNL and SLAC, the underground neutrino experiments of Super-Kamiokande and KamLAND at Kamioka, the long baseline neutrino experiment of K2K and T2K at KEK, the electron-positron collider experiment of Belle at KEK, and mutual cooperation in the R&D for advanced accelerator technologies, from which the ILC project has received great benefit, are fruitful and exciting projects realized to date.

As the size of High Energy Physics projects grows bigger and bigger and the period of one project becomes longer and longer, it is essential to build wide-international collaboration and to establish a solid ground for sustainable cooperation to pursue top-level science and cutting-edge accelerator/detector technology. We will do our best to boost the Japan-U.S. cooperation for these purposes. We would like to ask you to encourage similar activities in the U.S. with a view to preserving and encouraging this ambitious enterprise in a collaborative fashion. Not just because of its scientific merits, but also considering the technological progress which inevitably accompanies ambitious particle accelerator projects. Should this proposal become a real project, we very much hope that the U.S. will be a strong partner in its realization.

Sincerely yours,



Kaoru Yosano

A member of the House of Representatives
Previous Ministers of Finance, Education, International Trade and Industry



Takeo Kawamura

A member of the House of Representatives
Previous Chief Cabinet Secretary and Minister of Education, Culture, Sports,
Science and Technology



Ryu Shionoya

A member of the House of Representatives
Previous Minister of Education, Culture, Sports, Science and Technology



Hiroya Masuda

Professor of University of Tokyo
Previous Minister of International Affairs and Communications

CC: Dr. Jim Siegrist Director, Office of High Energy Physics U.S. Department of Energy
Dr. Philip Rubin Principle Assistant Director for Science Office of Science and Technology Planning
Dr. Jerry Blazey Assistant Director for Physical Science Office of Science and Technology Planning

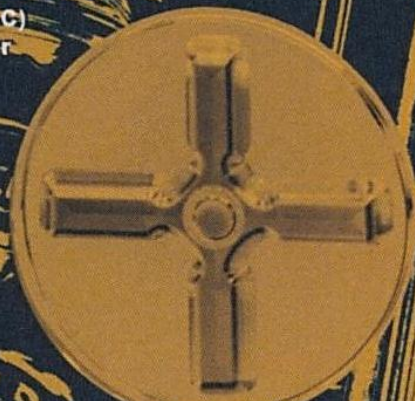


Special Linear Collider Event

29-30 October 2012

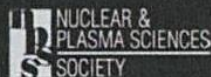
As part of the NSS Symposium, a special Linear Collider (LC) event is organized, which will include presentations on:

- > International Linear Collider (ILC) and the Compact Linear Collider (CLIC) accelerator
- > Detector concepts
- > Impact of LC technologies for industrial applications
- > Forum discussion about LC perspectives



James Brau, University of Oregon, USA
Juan Fuster, IFIC Valencia, Spain
Michael Harrison, BNL, USA
Steinar Stapnes, CERN, Switzerland
Hitoshi Yamamoto, Tohoku University, Japan
Maxim Titov, IREU/CEA Saclay, France (ex officio)
Ingrid-Maria Gregor, DESY Hamburg, Germany (ex officio)

More information: www.nss-mic.org/2012
Contact: nss2012@desy.de



Forum Discussion About Linear Collider Perspectives Tuesday, Oct. 30 (17:30 -18:30)

- > LC Project Implementation Plan
- > LC Technology Roadmap
- > LC Added Value to Society

With participation of:

Rolf-Dieter Heuer (CERN)
Atsuto Suzuki (KEK)
Joachim Mnich (DESY)
Stuart Henderson (FNAL)
Hitoshi Murayama (LBNL/IPMU)
Akira Yamamoto (KEK)
Steinar Stapnes (CERN)

LC Project Implementation Plan (I):

❖ With the Higgs discovery and ILC initiative in Japan (formal statement is expected within the next few years)

→ unique opportunity for the early LC realization

❖ Japan Policy Council Recommendation for the ILC Hosting (Regional Development through Creation of Global Country inside Japan)

is supported by industry and politicians

❖ How the LC international program can be afforded in the current economical environment

if the extra government support is feasible ?

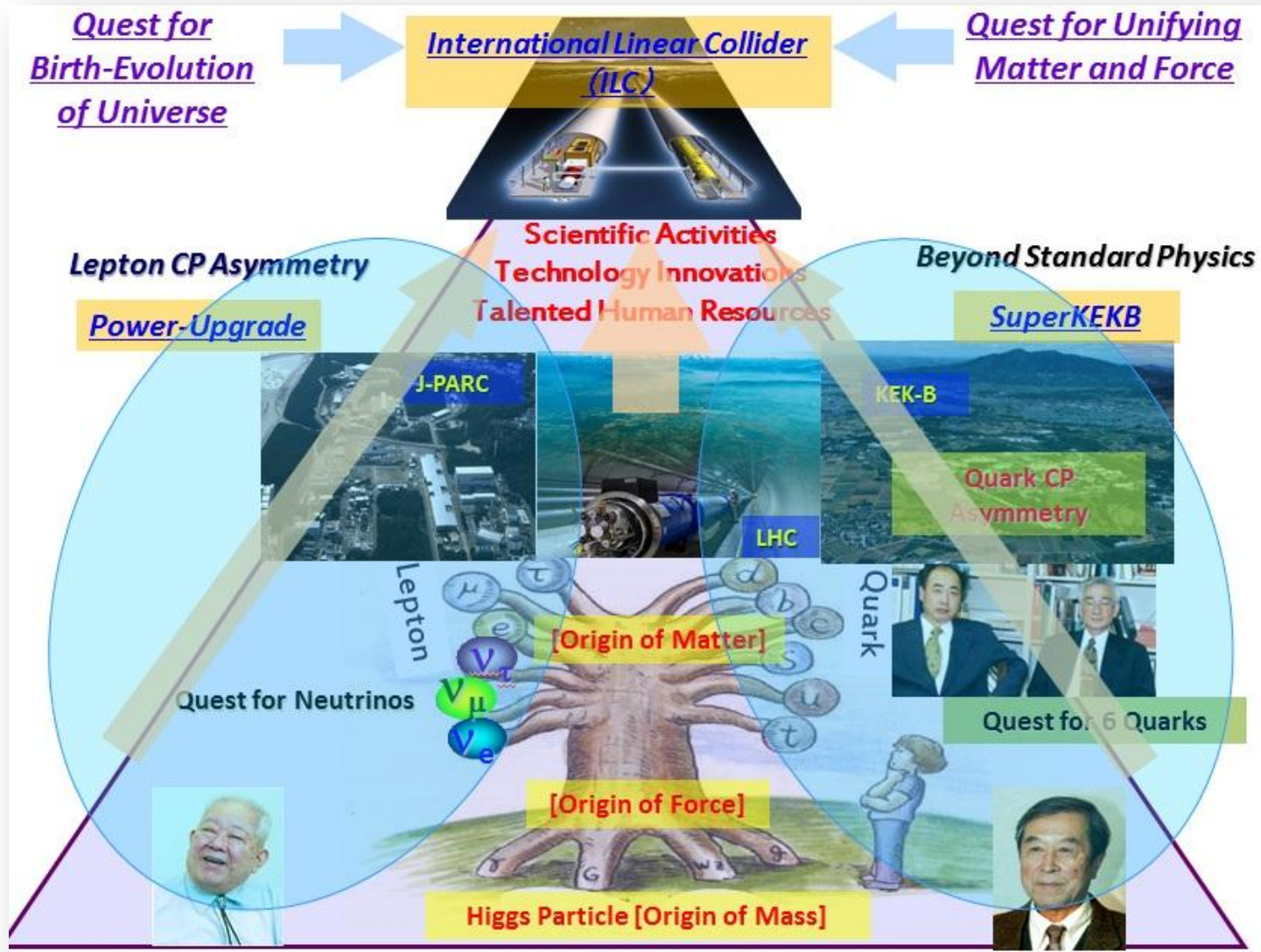
❖ A consistent world-wide strategy of the HEP community for the LC Facility Construction

→ how the regional priorities and programs could be integrated into the truly international LC project implementation plan ?

ILC Proposal from Japan

In 2008

1. Why ILC in Japan ? : 1



A bid-to host activity in Japan

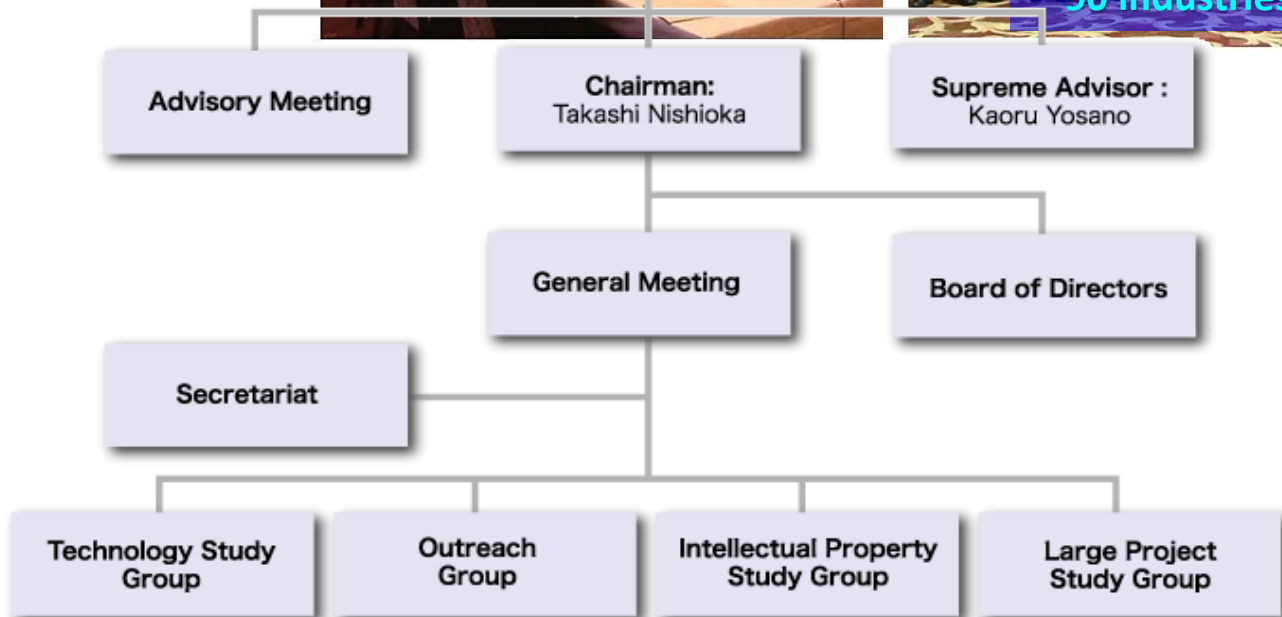
Promoter's Meeting on Industry – KEK Collaboration Council

2008. 02. 21



Industry – KEK Collaboration Council (June 11, 2008)

Advanced Accelerator Association Promoting Science & Technology



Federation of Diet Members for promotion of the ILC project

Expand to Suprapartisan Federation

Kickoff Meeting : July 31st, 2008

Vice Chair
Hatoyama

Chair
Yosana

Secretary
Kawamura



~50 members took part in this meeting.



Prime Minister Noda



positive reference to the ILC



Advanced Accelerator Association
Promoting Science & Technology

15/Dec./2011

Symposium

Rolf Heuer, global ILC cities and the role of Japan

+ Share |    

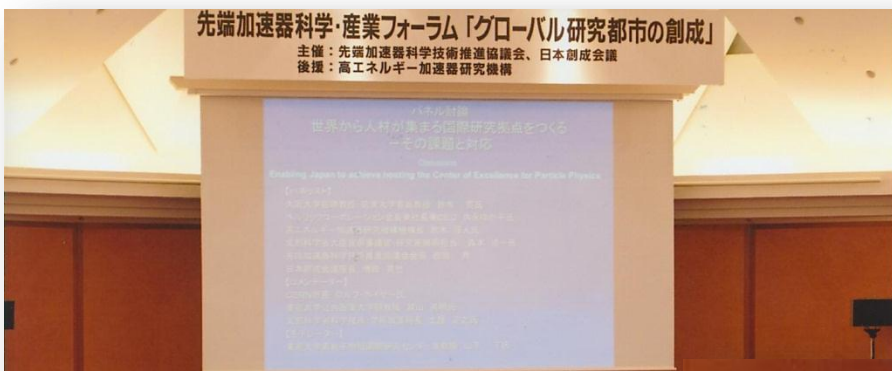
Rika Takahashi | 1 November 2012



Rolf Heuer giving a talk at the ILC symposium held at University of Tokyo

On 24 October, a symposium to boost activities to invite the ILC to Japan was held at the University of Tokyo, Tokyo, Japan. This event was entitled “Forum on Advanced Accelerator Science & Industry – Creation of Global Project Cities.” Because this event’s date coincided with the height of the big ILC conference, LCWS12, held at University of Texas, Arlington, US, many Japanese scientists were unable to attend. Nonetheless, it attracted an audience of about 300 people – clearly not too many experts in the field as they were all in Arlington. The talk that received greatest attention was the one delivered by Rolf Heuer, Director-General of CERN.

The forum was jointly hosted by the Japan Policy Council (JPC) and the Advanced Accelerator Association promoting science and Technology (AAA). JPC was founded by business and labour leaders and scholars and aims to create a grand design for Japan and to develop a strategy towards its realisation.



Next Prime Minister ??



Budget support from the government

In principal (researcher's proposal)

- 50% of the total ← host country
- the other ← non-host countries

Extra support

- Given the special aims in Japan (Creation of Global Country inside Japan), the extra support from the government is feasible.
- Multi-body promotion :
 - MEXT (Ministry of Education, Culture, Sports, Science & Technology)
 - + METI (Ministry of Economy, Trade and Industry)
 - + MLIT (Ministry of Land, Infrastructure, Transport and Tourism)
 - +

November 12

FALC at Fermi Lab.

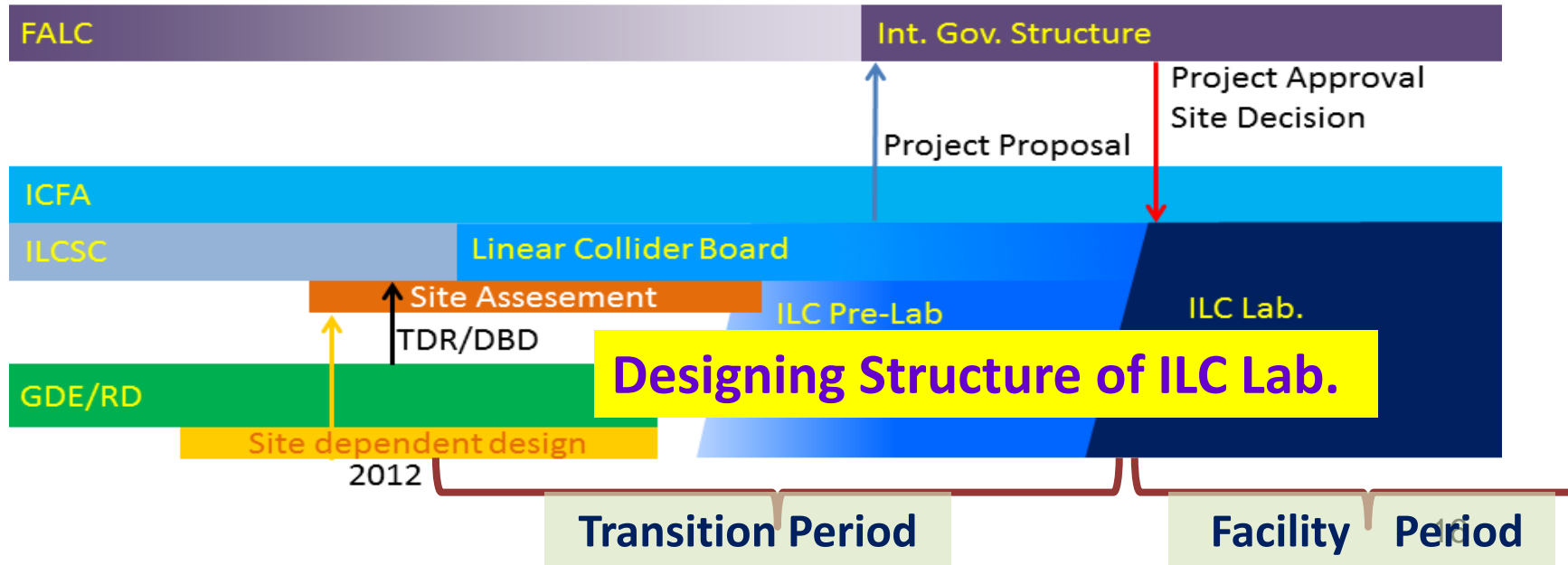
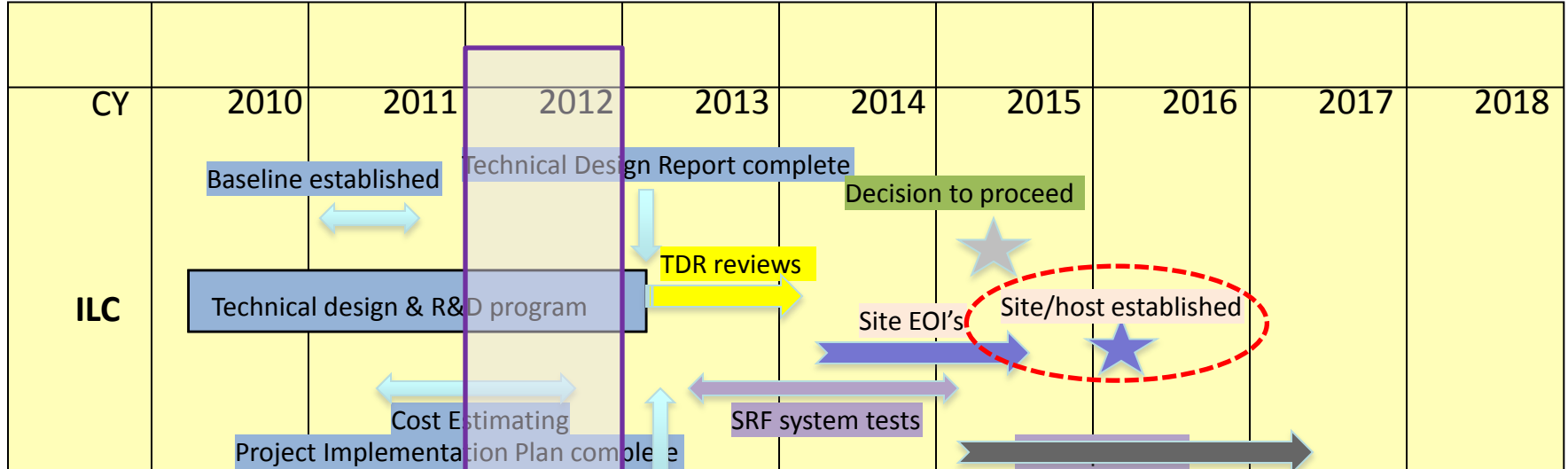
*KEK & Japanese
Strategy*

Atsuto Suzuki



INTER-UNIVERSITY RESEARCH INSTITUTE CORPORATION
HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION

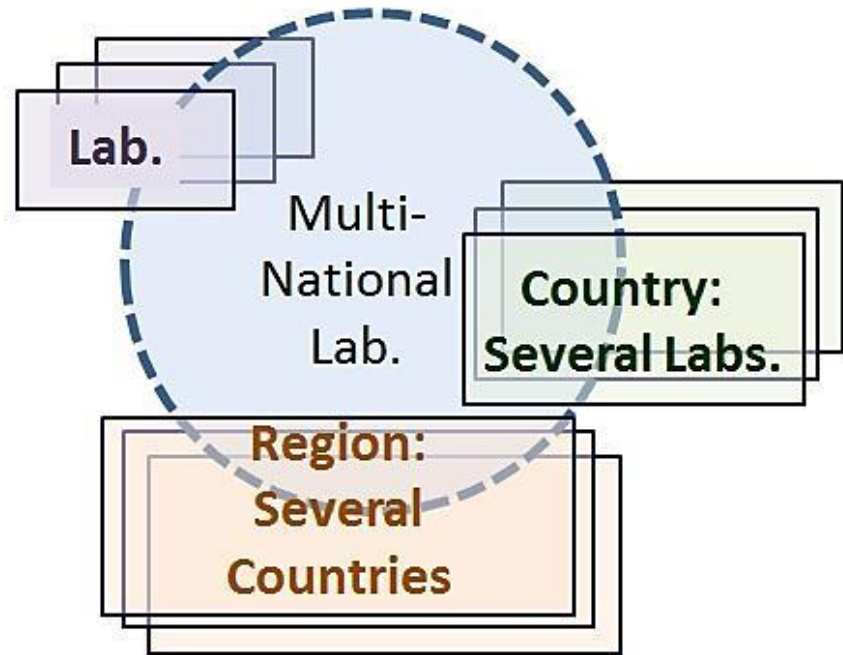
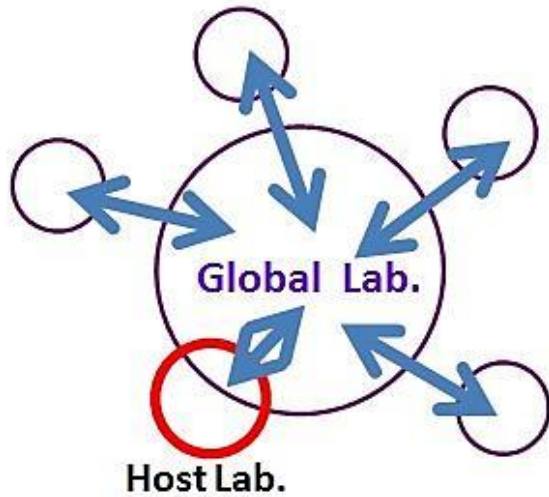
2. ILC Possible Timeline



3. Preferable Organization Model for the ILC

ILC : Global Project

Transition Period & Facility Period



◆ Brief Concept:

※ World HEP-labs, countries and regions which wish to participate, set up

Multi-National Lab. : Essential

- foster regional activities both for current and future programs.
- foster younger generation in regional activities

participating units are called

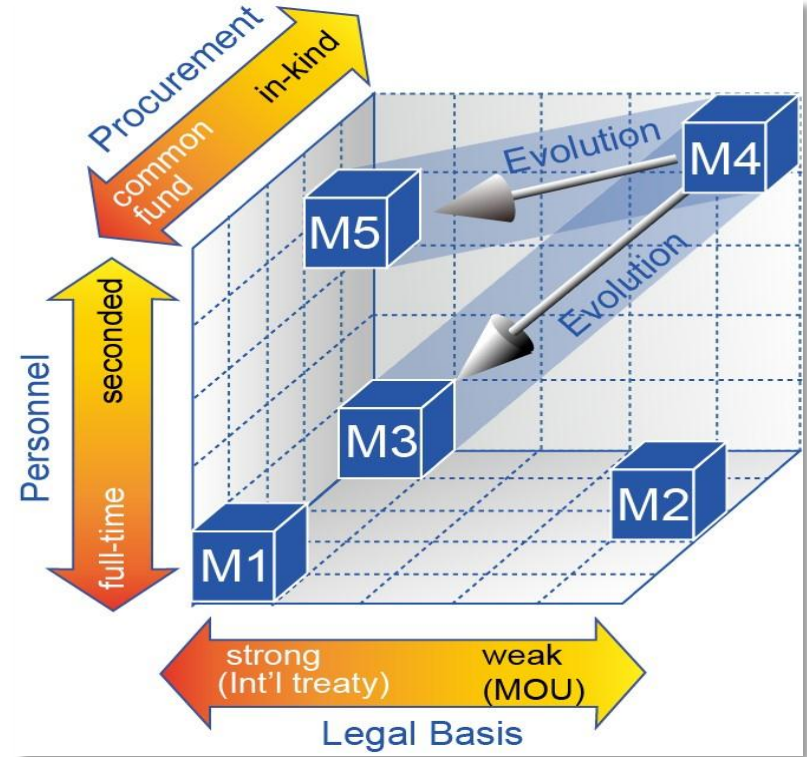
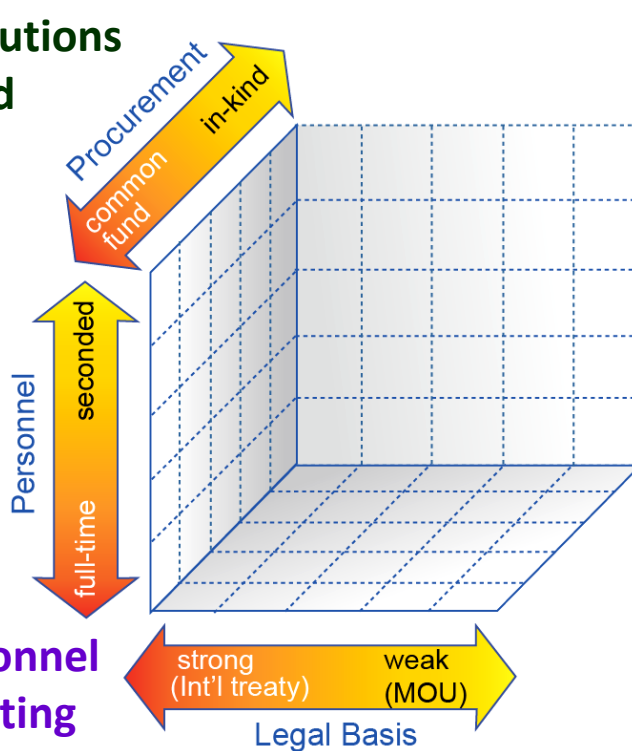
and financial resources

or a representative unit,
ite selection.

Organization Framework from Legal and Procurement Perspectives

Procurement of Material Resources

- In-kind contributions
- Common-fund



Procurement of Human Resources

- Seconded personnel from participating institutes
- Direct employment

Legal Basis of Organization

- Treaty-based organization (like CERN)
- Limited liability company (like XFEL)
- Institution-level agreements

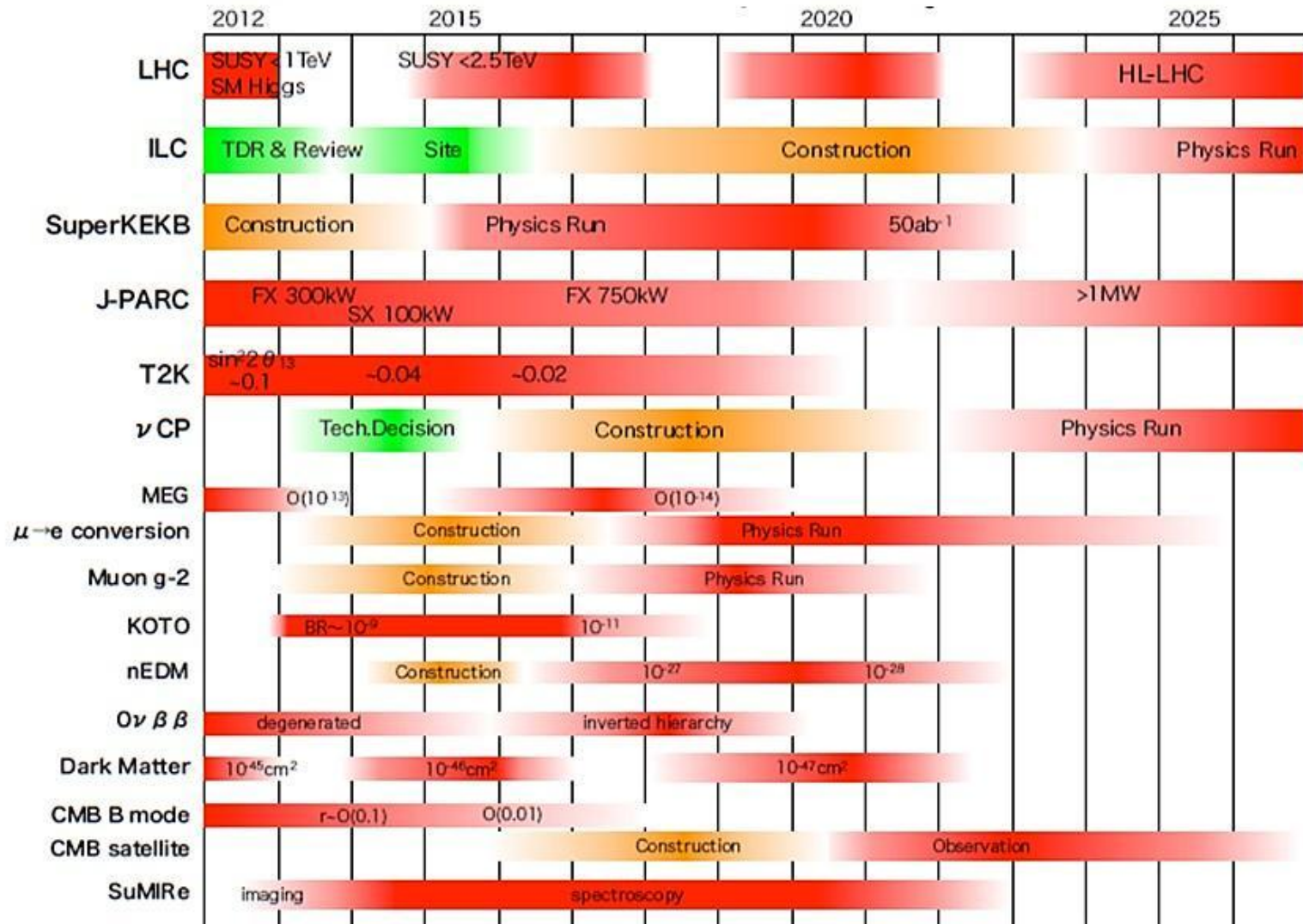
Report on Japanese Situation

Atsuto Suzuki
(KEK)



4. Summary

Time line of particle physics program in Japan



ILC Physics

- LHC discovery of Higgs-like particle :

- Beginning of new era of particle physics

Staging Scenario

- Is there really new physics at Terascale?

- ILC Higgs

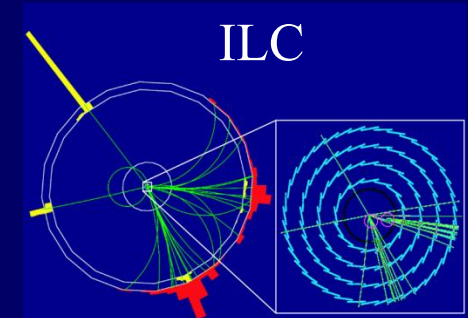
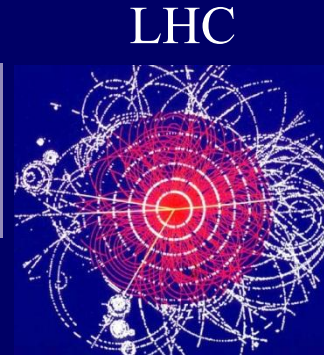
- Generate $\sim 10\text{K}$ Higgs (can be tagged!)
 - 5σ sensitivity in ~ 1 day (LHC : ~ 1 year)
 - Higgs Brs to a few % (LHC : a few 10s %)
 - e.g. $H \rightarrow cc$ (LHC : cannot)
 - Γ_{tot} to 5% (challenging at LHC)
 - CP to 3~4% (mix coeff)

- ILC top

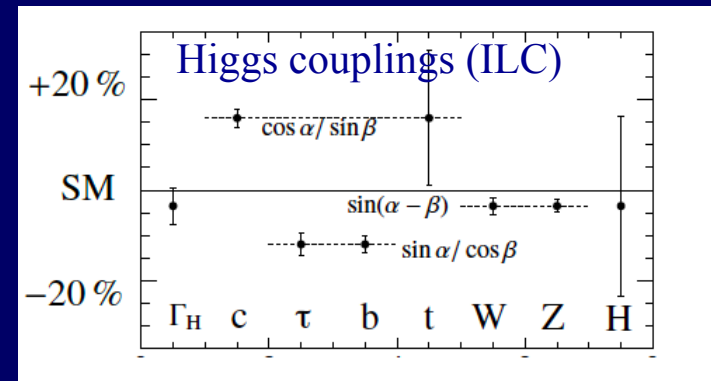
- $m_t(\text{msbar})$ to 100 MeV (LHC: ~ 1 GeV)
 - Anomalous ttZ , tbW , $t\bar{t}g$ coupl (LHC: hint of $t\bar{t}g$ only)

- ILC new physics

- Composite Higgs scale to 45 TeV (LHC: ~ 7 TeV)
 - Anomalous WWV coupl (x10 better than LHC)



ILC: Simple and clean initial&final states
 Specify Initial-state 4-momentum
 & beam polarization : control
 intermediate state
 (e.g. e_R turns of W^\pm & A^0)



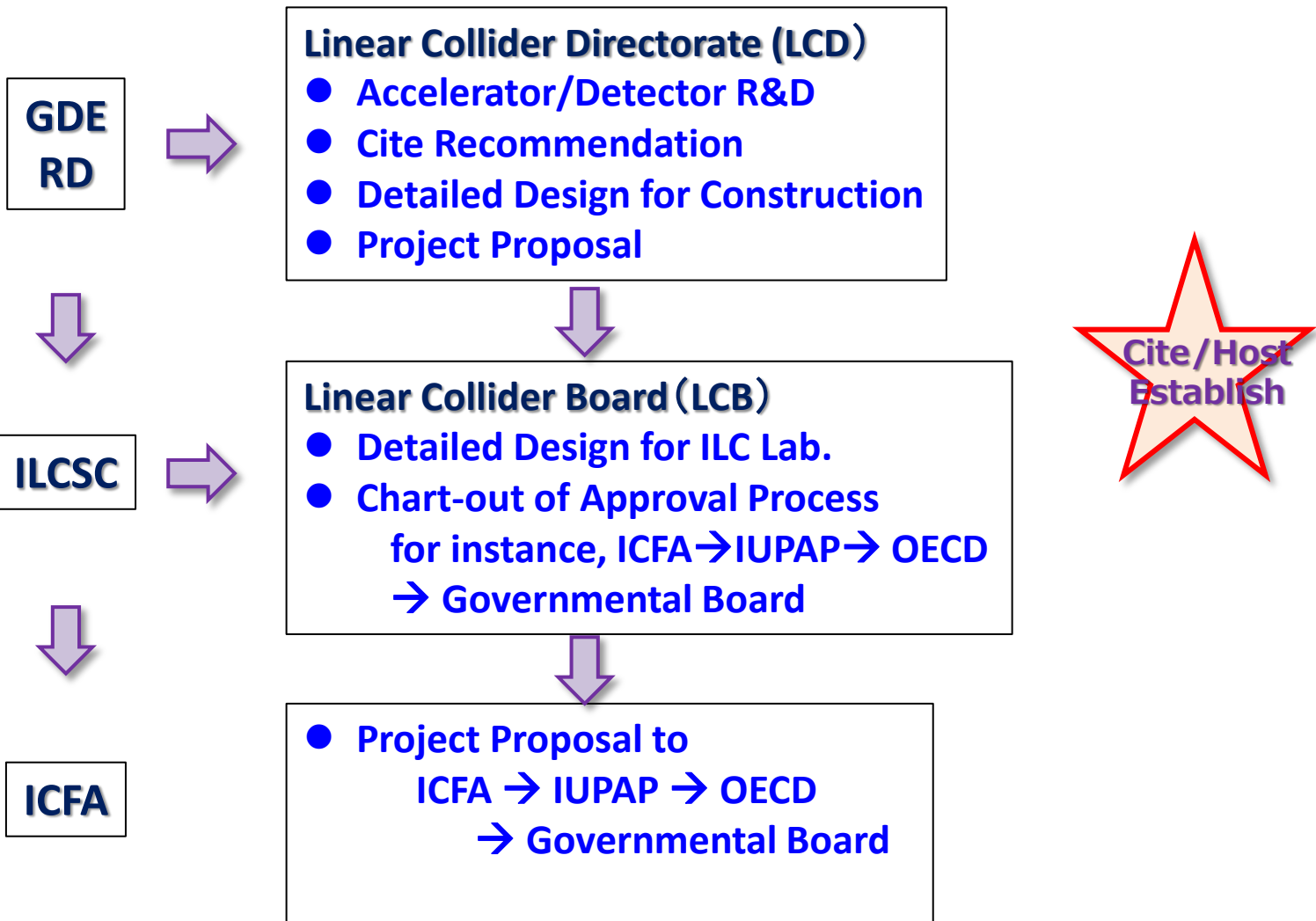
Toward ILC Construction : International Activities

2012

2013

2014

2015~6



Toward ILC Construction : Japan Activities

2012

2013

2014

2015~6

Positive Reference
from New Prime
Minister

● Set-up JLCB and JLCD

● Cite Decision
● Design ILC Lab.

● Project Proposal
to Science Council
of Japan

● Detailed
Design of
International
Country

HEP
Researchers

Japan Policy
Council

Formal Message
on Hosting ILC in Japan

● ILC Host
Recommendation
to Government

● Establish
ILC Pre-
J-Lab.

● Establish
ILC -Lab.

Cite/Host
Establish

NATURE | NEWS

Japan in pole position to host particle smasher

Physicists seek home for the multi-billion-dollar International Linear Collider.

Geoff Brumfiel

14 December 2012

Building the next collider - by Nature Video

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国際リニアコライダー シンポジウム

主催 高エネルギー加速器研究機構, 高エネルギー物理学研究者会議

日時: 2012年12月15日(土)
10:00-12:00 (9:30開場)
場所: 秋葉原UDXシアター

Progress of Particle Physics and
International Linear Collider
駒宮幸男 (東京大学教授)

From LHC to Linear Collider

Lyn Evans (Professor, Imperial College, London)

講演は英語で行われます



アクセス

JR秋葉原駅電気街口2分
TX秋葉原駅A3出口2分
東京メトロ日比谷線秋葉原駅2番出口4分
東京メトロ銀座線秋葉原駅1, 3番出口3分

Completion of the ILC Technical Design Report

The Accelerator and Physics/Detector teams of the International Linear Collider (ILC) have progressed the design and R&D works of ILC since their establishment in 2005 and are going to complete the design report in December this year. In this occasion an event to celebrate the completion of the design report will be held by

Global Design Effort (GDE),

ILC Research Directorate,

Advanced Accelerator Association Promoting Science & Technology (AAA),

High Energy Accelerator Research Organization (KEK).

Since many participants from media and industrial community are expected, the participation is limited. We are sorry that we had to close the registration already.

Date: December 15, 2012 Time: 14:00-16:00

Place: Akihabara UDX Theater → [Access](#)

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Interactions NewsWire #100-12
15 December 2012 <http://www.interactions.org>

Source: ILC Global Design Effort
Content: Press Release
Date Issued: 15 December 2012

International Linear Collider completes draft of its design report – handover ceremony on 15 December in Tokyo, Japan

Tokyo, 15 December. The draft of the Technical Design Report (TDR) for the planned International Linear Collider ILC was handed over to Jonathan Bagger, the chair of the International Linear Collider Steering Committee (ILCSC), at an official ceremony in Tokyo, Japan, on 15 December. This draft is the product of many years of research and development and a series of in-depth technical reviews for the ILC, the potential next-generation particle collider to complement and advance beyond the physics of the Large Hadron Collider at CERN. The handing over of the TDR draft marks the ILC's major step towards the completion of its final design.

"The IL
the des
Internat

Program:


 Ceremony of handing over the TDR (Technical Design Report) and DBD (Detailed Baseline Design).

Jonathan Bagger (ILCSC Chair Person)

(ILCSC: International Linear Collider Steering Committee)

Barry Barish (GDE Director)

Sakue Yamada (ILC Research Director)

 Panel discussion

Moderator: Hitoshi Murayama (Kavli IPMU Director)

Panelists:

Jonathan Bagger

Barry Barish

Sakue Yamada

Atsuto Suzuki (KEK Director General)

Hiroya Masuda (Japan Policy Council Chair Person)

Takashi Nishioka (AAA Chairman)

o we are sure
chair of the

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