

Industry-government-academia collaboration in Tohoku/Iwate



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(KEK Prof. Emeritus)

My personal view about current situation of ILC

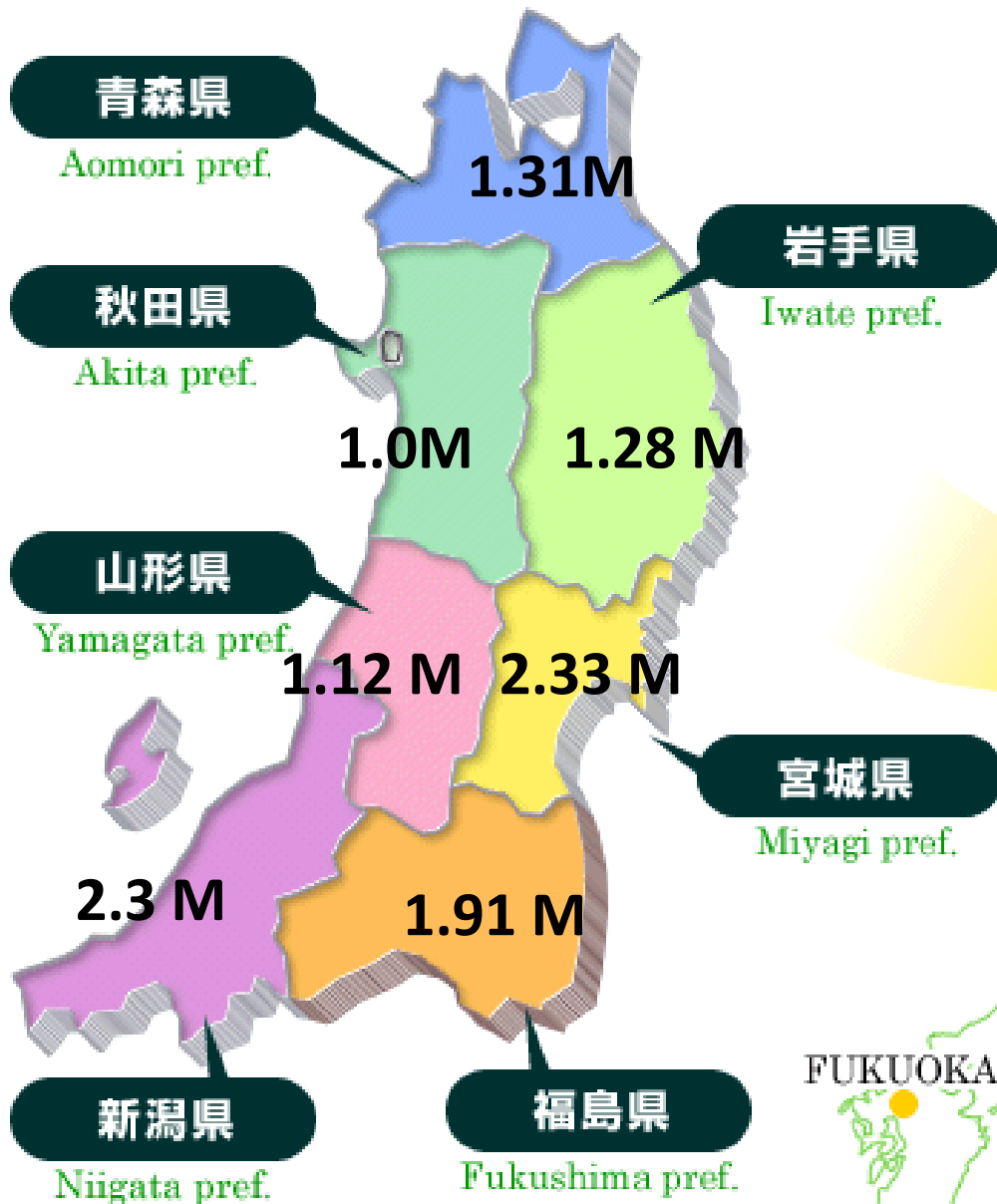


Industry-government-academia collaboration scheme in Tohoku/Iwate should be re-considered based above situation

Efforts in the TOHOKU region

- Efforts toward all-Japan system
- Strengthening of international cooperation
 - How to cooperate and/or compete

Tohoku (Northeast Japan) economic zone consists of 7 prefecture



Population of 7 prefectures:
11.25 million → 9% of Japan
total population



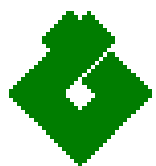
Tohoku (Northeast Japan) economic zone consists of 7 prefecture



There is a **public research base (PRB)** for each of the prefecture, and form network

Tohoku Economic Federation covers 7 prefectures, forms **“Accelerator Industry Business Support Team (AIBST)”** and plays a role to strengthen the network in Tohoku

- AIBST** consists of
- 21 members from each **PRB** ,
 - 5 advisers from academia and
 - observers from local government



一般社団法人

東北経済連合会

General incorporated association
TOHOKU ECONOMIC FEDERATION

Aomori pref.

秋田県

Akita pref.

岩手県

Iwate pref.

- 800 Member companies and organizations
- The promotion of policy recommendations and project
- Two main project
 - ILC
 - TOHOKU Synchrotron Light Source Project (SLiT-J) → approved this year, construction will start from next year

新潟県

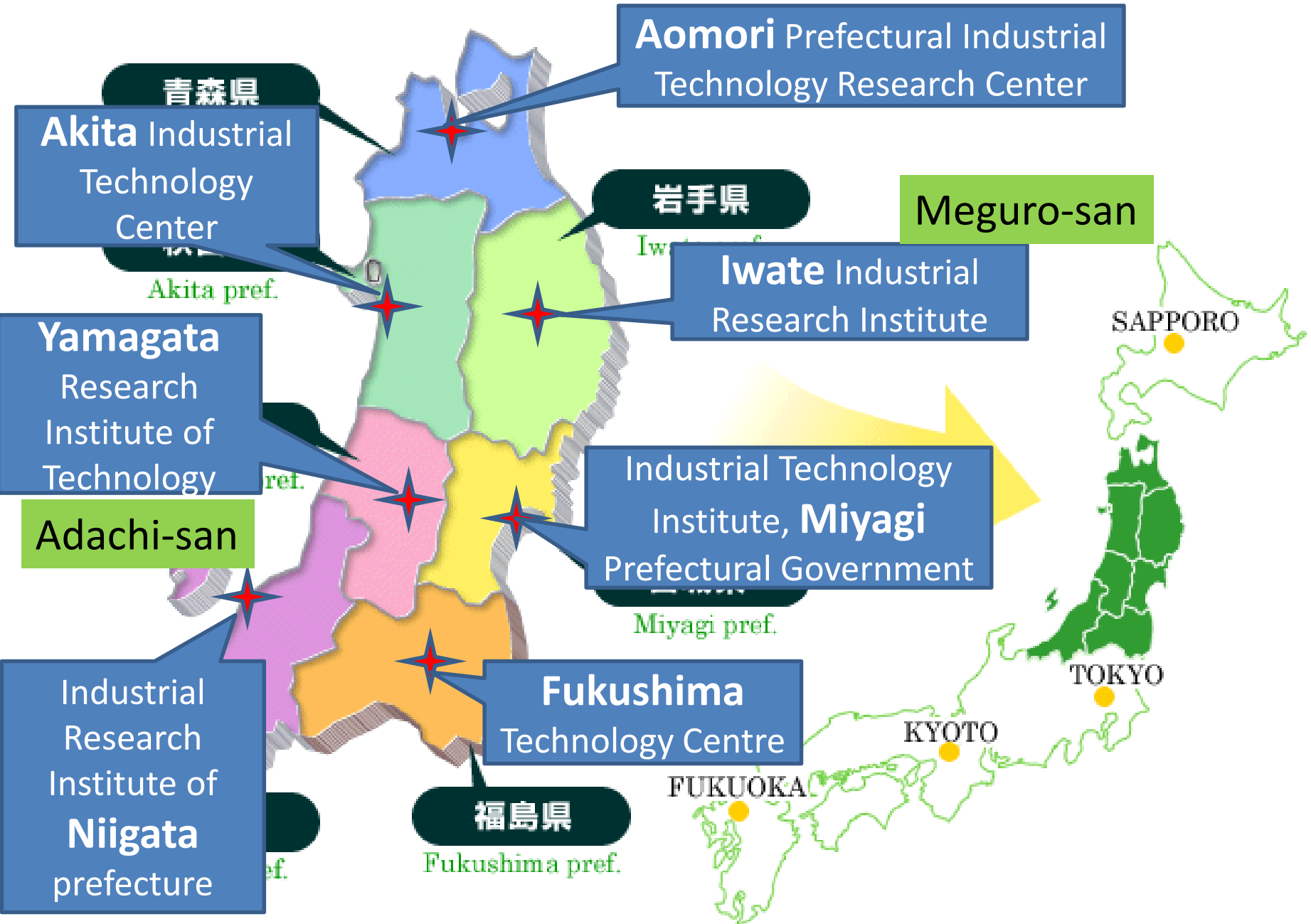
Niigata pref.

福島県

Fukushima pref.



public research base (PRB) for each of the prefecture



WOOD FIRST for ILC-related facilities building

ECONOMIC RIPPLE EFFECT BY UTILIZING LOCAL WOOD IN THE CONSTRUCTION OF WOODEN DETECTOR PREPARATION BUILDING FOR THE ILC EXPERIMENT

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B) Iwate University

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株式会社シェルター



岩手県
Iwate Prefecture



R&D for Beam Transport System using Permanent Magnet for the ILC



Iwate Industrial Research Institute

Kazuyuki Meguro



Mt. Iwate seen from Takizawa

The basic policy of Industry-government-academia collaboration in TOHOKU/IWATE should be based on characteristics of TOHOKU area

What is the feature in the Tohoku region?

- Strong manufacturing industries and many supply chain companies
 - Automotive Industry (TOYOTA, DENSO, AISHIN, etc.)
 - The semiconductor industry (TOSHIBA, TOKYO ELECTRON, etc.)
 - Aerospace industry (IHI, etc.)
 - Precision machinery industry
- Rich natural environment and strong primary industry
 - Agriculture
 - Forestry
 - Fishery
- Old history and rich culture

Primary industry, the secondary industry and tertiary industry should be developed taking harmony

Efforts by (1) local government, (2) prefectural public research base and (3) TOHOKU ECONOMIC FEDERATION

(1) We have found that many supply chain companies (~700) have a potential to tackle to the accelerator-related manufacturing business

(2) We have visited these companies and discussed with CEO/managers (face to face discussion)

(3) We have organized a loose alliance by 105 companies to enter the accelerator-related businesses

(4) We have encouraged to organize business-to-business networks between companies and make clusters.

R&D for Beam Transport System using Permanent Magnet for the



Iwate Industrial Park

Meguro-san's
presentation is this case



Mt. Iwate seen from Takizawa

WOOD FIRST for ILC-related facilities building

ECONOMIC RIPPLE EFFECT BY UTILIZING WOOD
IN THE CONSTRUCTION OF
PREFECTURAL OFFICES

Adach-san's
presentation is different
from manufacturing companies



Our effort in TOHOKU is strongly related to the Green ILC

ILC is a trigger to bring innovations to heat supply business in Japan
Seek a new Heat source

- Waste heat recovery not only from ILC but other facilities
- Unused biomass → closely related to Primary industries (Agriculture, forestry, fishery)
- Solar thermal
- Waste incineration plant
- Others

We have learned a lot from experiences of DENMARK

‘Green ILC city concept’ is based on 6 points.

- The research facilities will be built based on international consensus that pursue sustainability. ...1
- Second, we aim to realize a smart city that is based Green ILC. ...2
- A network of heat users will be built. ...3
- Community facilities for ILC related researchers and engineers, are also based on wooden architecture. ...4
- A system to circulate local resources and funds by local companies. ...5
- We make smart city that can enrich whole area by establishing recycling-base society. ...6



Industry-government-academia collaboration

Low-grade (<100 °C) waste heat recovery



Iwate University



高砂熱学工業株式会社
Takasago Thermal Engineering Co., Ltd.



国立研究開発法人
産業技術総合研究所
Nippon Research Institute



東日本機電開発株式会社
INO



TOHOKU ELECTRIC COMPANY

Please come to the CFS-Green ILC session

Energy recovery from waste heat of factory, power generation plant, co-generation, solar and etc.



Heat utilization business: Greenhouse agriculture, wood and biomass drying, heat supply business for community and etc.

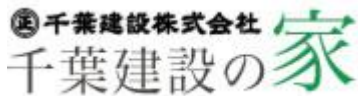
Industry-government-academia collaboration



Iwate University



“Toh-no Glulam” Laminated wood production,
Local company



“Chiba Kensetsu” Local house builder

Wood First for
ILC-related
buildings/houses



Iwate University



アジア航測株式会社

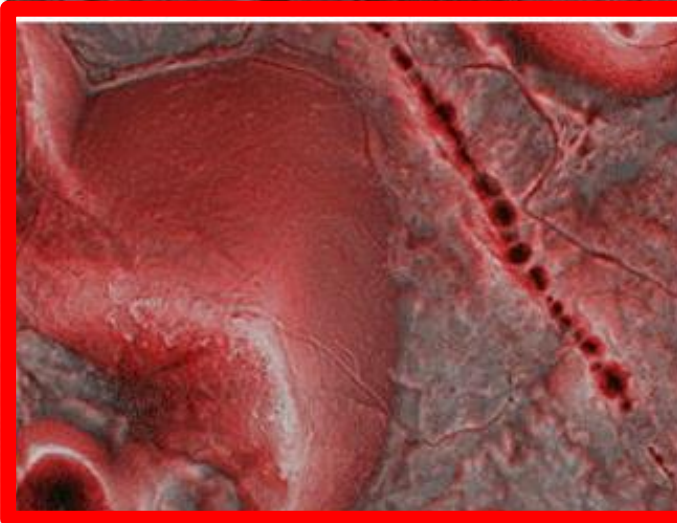
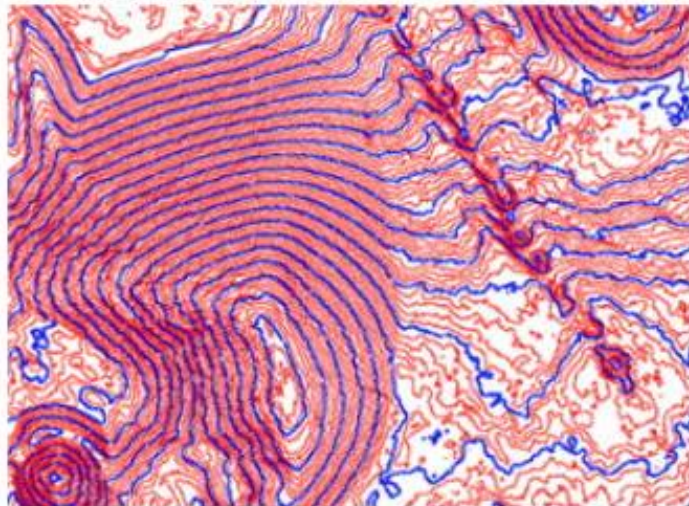
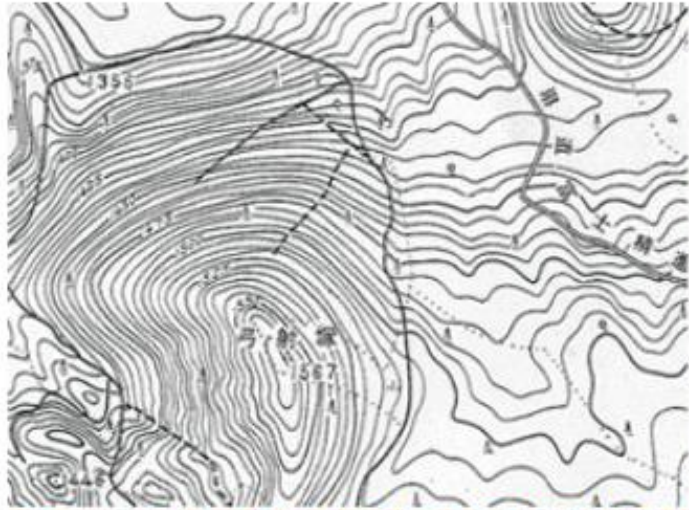
“Asia Kosoku”

Spatial information consultant

Digital mapping, geographic Information analysis

Application of the
airborne laser surveying
in forestry

Airborne laser surveying to get better sensuous grasp of the terrain by removing Information of trees → in other words, we can get detailed information about trees → It can be utilized in forestry



Sekishoku-rittai-zu

Stereo
topographic
highlighted in red

Various methods representing the terrain

My personal view about current situation of ILC



Move forward together !!

Thank you for your attention