Research Institute of Economy, Trade and Industry (RIETI)

RIETI BBL Seminar
Handout

"Industry-Academia Collaborations for Open Innovation in Japan:
OECD's latest survey as seen in cases from the United States and Europe"

November 1, 2016

Moderator: Mr. Masashi WATANABE

http://www.rieti.go.jp/jp/index.html

METI
Ministry of Economy,
Trade and Industry

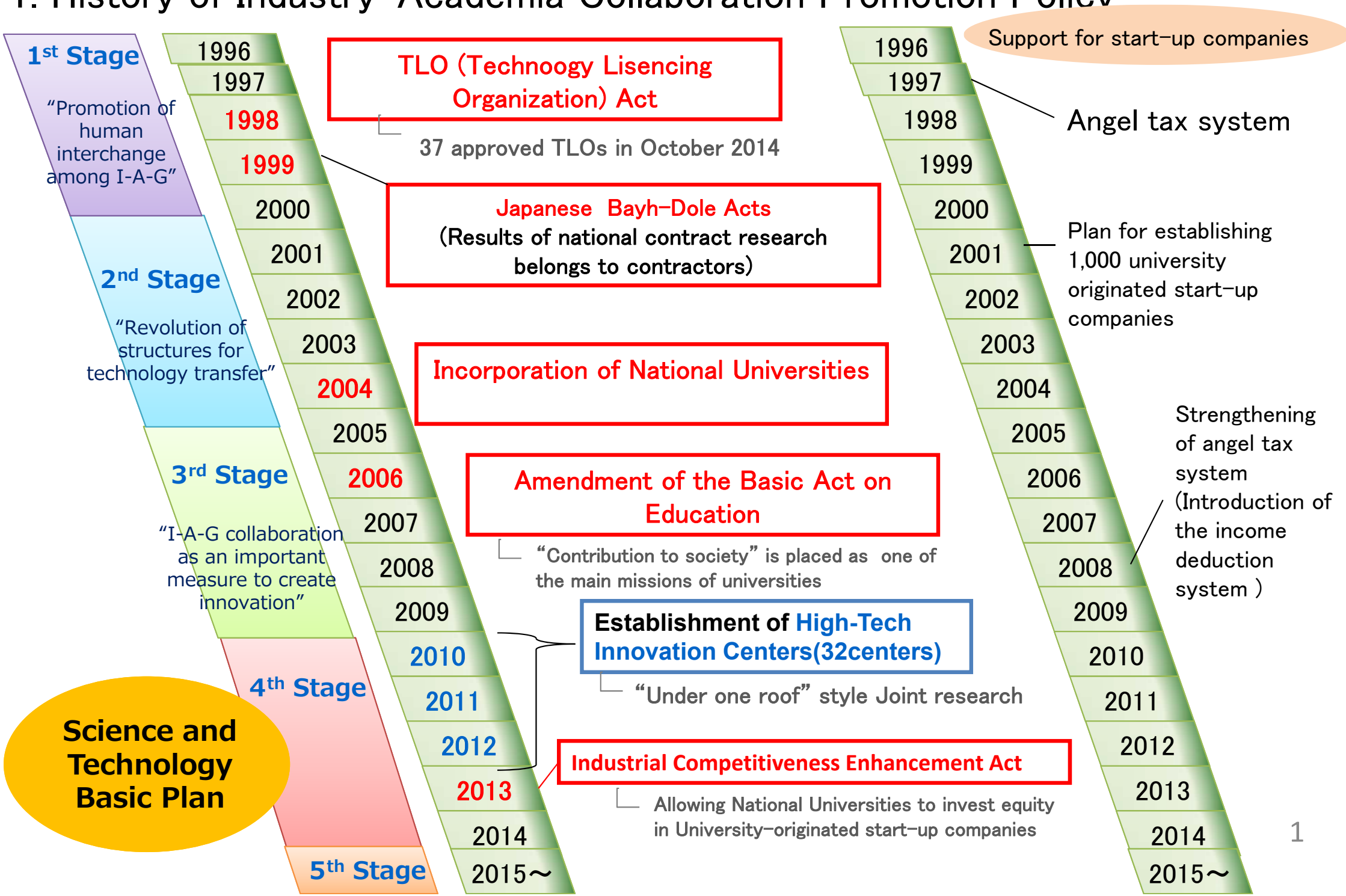
Recent Japanese Policy for Enhancing Industry-Academia Collaboration Activities

November 2016

Industry-University Collaboration Office, METI

Masashi WATANABE

1. History of Industry-Academia Collaboration Promotion Policy



2. Several Important Policy Introductions

In 1998
Act on the Promotion of Technology Transfer from Universities to Private Business Operators
Approvals and Supports for TLOs (=Promotion to transfer universities' research results to industry)
※TLO : Technology Licensing Organization. 42 organizations as of Dec. 2011

In 1999
Act on Special Measures for Industrial Revitalization➔ Japanese Bayh-Dole Act
Results of national contract research belongs to contractors

In 2004
Incorporation of National Universities
Before 2004,national universities were part of the government and not incorporated.
Since 2004,national universities have been incorporated and have increased their degree of freedom in activities,such as investment on approved TLOs and possession of patents.

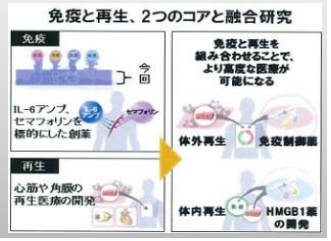
In 2006
Amendment of the Basic Act on Education
"Contribution to society (including university-industry collaboration)" is placed as one of the main missions of universities such as education and research

In 2013
Industrial Competitiveness Enhancement Act
Allowing National Universities to invest equity in University-originated start-up companies

3. Establishment of High-Tech Innovation Centers (32centers)

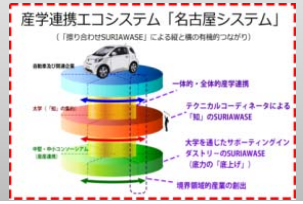
- From 2008 to 2013, METI supported establishment of facilities of potential strongholds, in major regions, where Industry-Academia-Government get together “under one roof” in order to bridge leading technologies in the region for practical development. (subsidy up to 2/3 of the facility cost)
- In addition, it is expected that such strongholds would provide venues for developing practical human resources related to such leading technologies.

■Osaka
(Drug development through Integration of Immunology and Regeneration)



■Hokkaido
(A closed-type transgenic plant factory))

■ Nagoya
(Materials for Green-Vehicles)



■ Fukuoka
(Hydrogen Energy Products Evaluation)

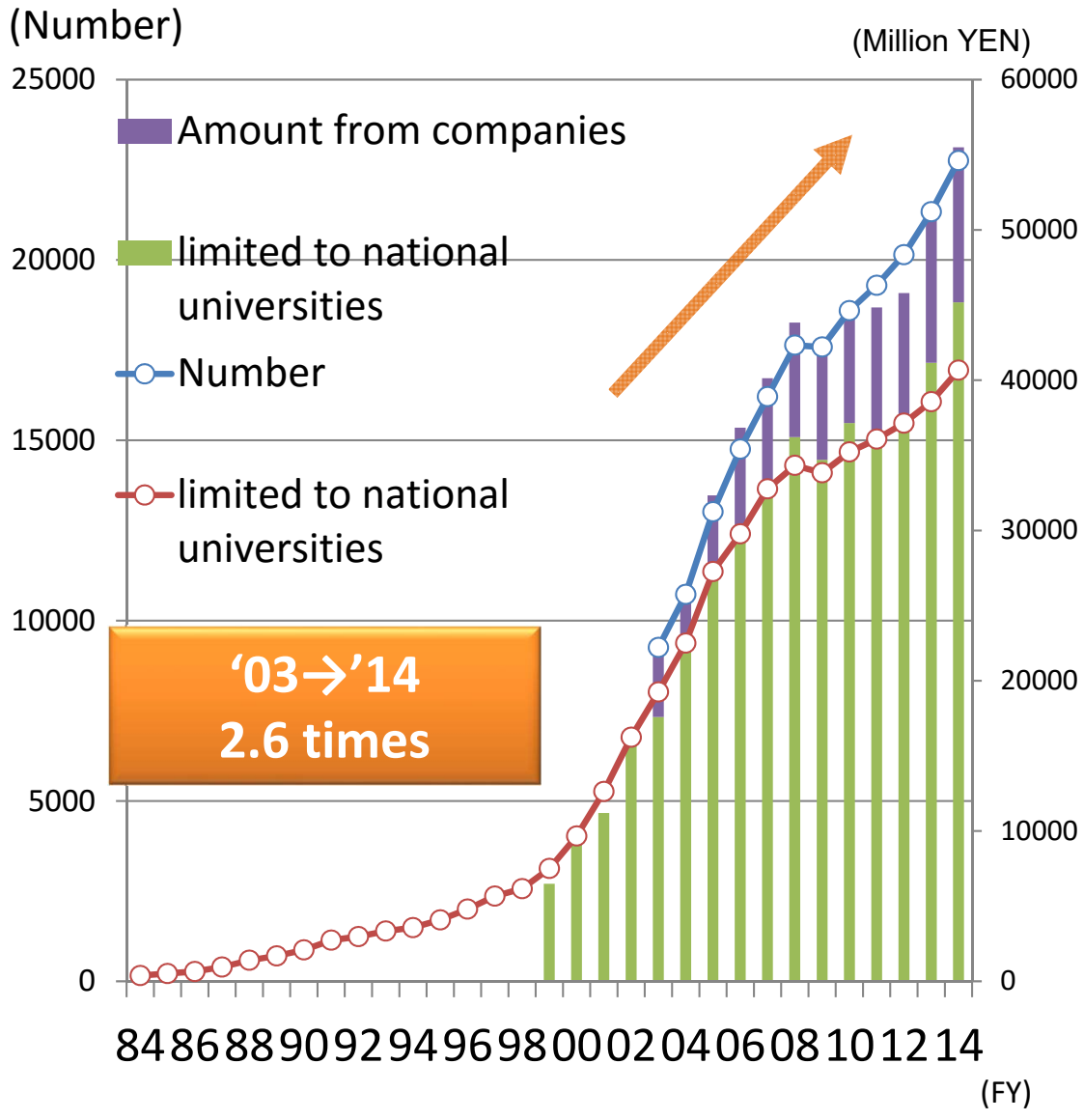
Sapporo (Drug Development, Sugar Chain)
Aizu (ICT)
Yonezawa (Organic Electro-Luminescence)
Matsumoto (Medical Equipment)
Niigata(Earthquake-resistant Nuclear tech.)
Kyoto (High-performance chemicals)
Kyoto(Drug Development)
Kyoto(Medical Equipment)
Kyoto (Storage Cells)
Sendai (Diabetes and Cancer)
Sendai (Material)
Sendai (Rare-Metals)
Tokyo (Optical Catalysts)
Tokyo (Carbon Reduction Technology)
Tokyo (Green IT)
Yokohama (Pharmaceuticals)
Kawasaki (Experiment Animals)
Tokyo(Cancer Research)
Fukuoka (Medical Robotics)
Fukuoka (Fuel Cells)
Okayama (BioMaterials)
Fukuoka (System-LSI)
Nagoya (LED)
Nagoya (Power Electronics)
Osaka (Opt-tech)
Kobe (Medical Equipment)
Fukuoka (Organic Electro-Luminescence)

■Tsukuba
(Robot technology / Cybernics)

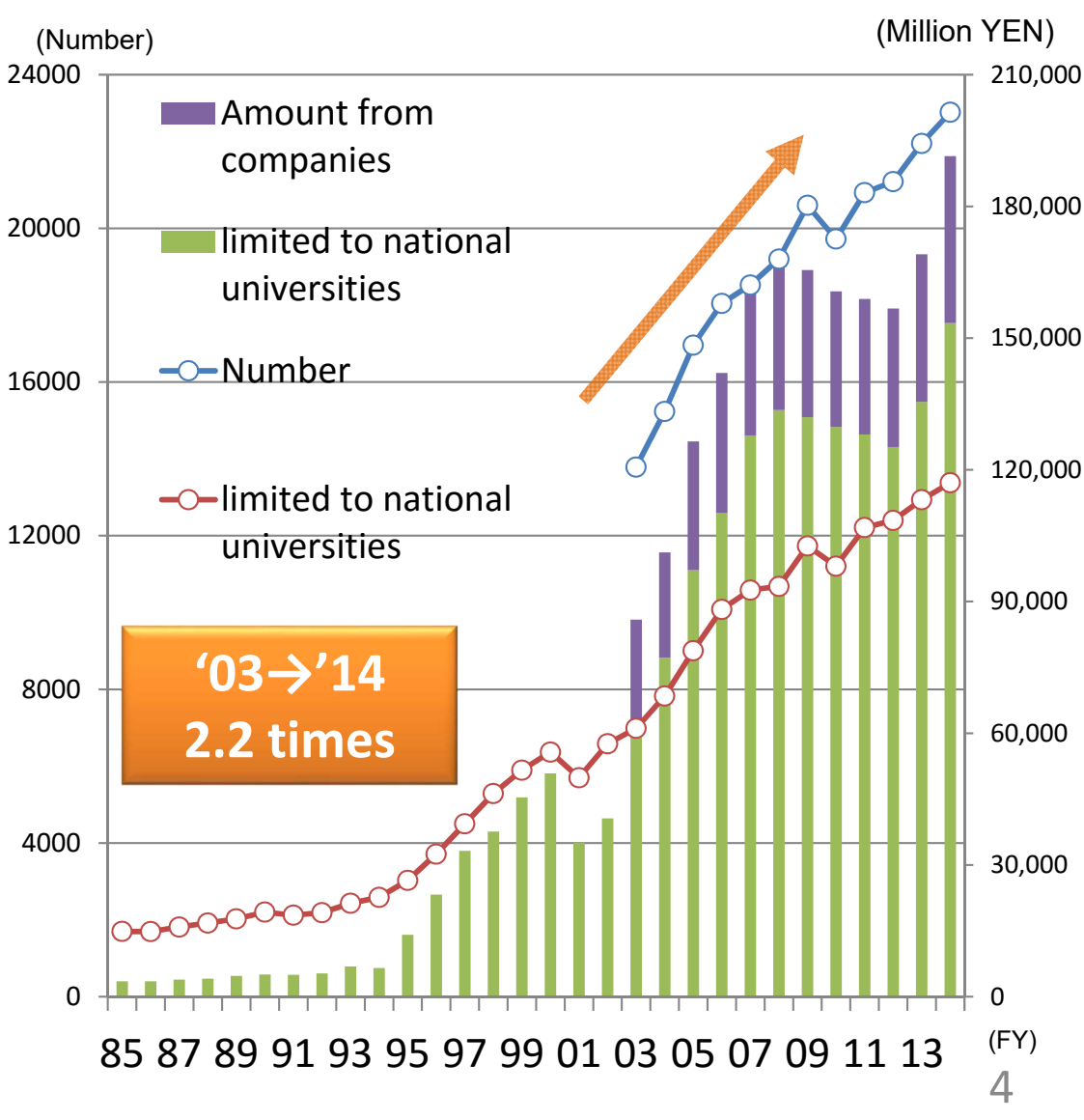
4. Current Situation of Industry-Academia Collaboration(1)

- Industry-Academia Collaboration in Japan has rapidly increased among the latest decade (’03-’14) in number and amount.

Number of Joint Researches



Number of Entrusted Researches



4. Current Situation of Industry-Academia Collaboration(2)

- Ratio of corporate R&D investment toward domestic universities in Japan remains less than 1% of all corporate R&D budget.
- Expense of each IA collaboration in Japan remains small-scale (about less than 30K USD), compared to that in other countries(*).

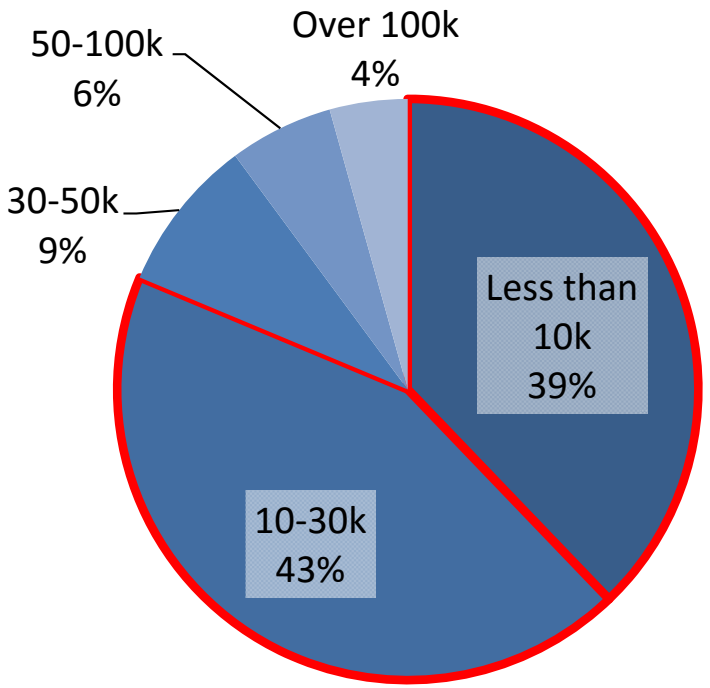
(*) Collaboration expense in US usually accounts for more than 1 million USD

Ratio of corporate R&D funding toward domestic universities in Japan

	2009 (%)	2013 (%)
Japan	0.45	0.46
US	1.13	0.96
Germany	3.73	3.73
UK	1.79	1.70
Korea	1.68	1.45
China	4.04	3.19

OECD "Research and Development Statistics"

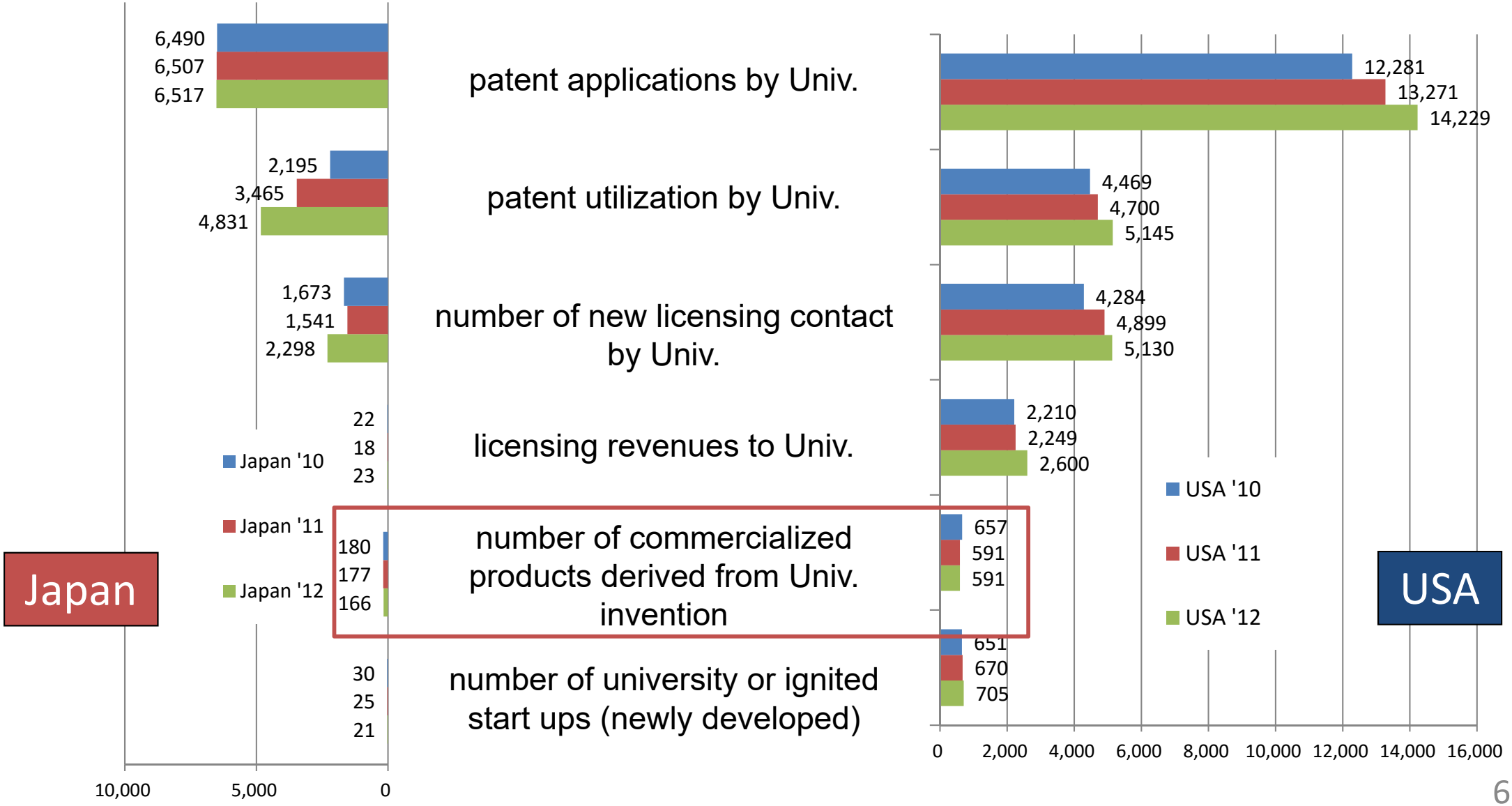
Expense of each IA collaboration in Japan



4. Current Situation of Industry-Academia Collaboration(3)

- There is a big gap in the number of commercialized products derived from Univ. invention between Japan & USA.

Comparison of I-A Collaboration Activities between Japan and USA



5. Policy toward “Full-scale” Industry-Academia Collaboration

“Towards Strengthening of Industry-Academia-Government Joint Researches” (Feb. 2016) by the KEIDANREN (Japan Business Federation)

- The need of promotion of **full-scale industry academia-government collaboration** with which the each organization’s top management will get involved
- **Reform of domestic universities and research institutes** as following points are expected.

➢ ***Universities’ management function***

- **Cross-sectional function** toward well planning and management of joint research

➢ ***Finance***

- **Transparency** of the purpose of joint research **expenses**

➢ ***Knowledge***

- Treatment of **intellectual properties**
- Protection of **corporate secrets**

➢ ***Human Resource***

- Personnel exchange utilizing the mutual **cross appoint systems**

The Japan Revitalization Strategy 2016

- Japanese Gov's strategy describes **the clear policy & target** toward university reform for full-scale industry-academia-government collaboration.

"the Government will evolve industry-academia-government collaboration that has been just the collaboration between individual researchers and a single corporate organization (R&D division) and of which R&D amount per project has remained immaterial from a global point of view into **a full-scale, thickly connected and sustainable industry-academia-government collaboration in which top managements of universities, national research and development corporations and companies will get involved (realization of a large-sized joint research project)**."

The Government will "**boost companies' investments** in universities and national research and development corporations by **three times** beyond the average levels of OECD member countries **by FY2025**. "

The related ministries will "formulate **guidelines compiling prescriptions for and thoughts on those issues" of universities** and national research and development corporations seen from the industry.

Schedule toward formulation of Guideline

The Council of Industry-Academia-Government Dialogues for the Promotion of Innovation

Focus on: approaches for deepening full-scale collaboration among the sectors; specific actions needed to carry out and realize the approaches; and other initiatives, and discuss the roles and concrete measures required from the respective sectors.

The Guideline WG

Formulate the Guideline for Universities and Public Research Institutes toward Promotion of Industry-Academia Collaboration (tentative title)

<Schedule>

27th	July	The Council #1	→ **Discussed the element of the Guideline**
20th	September	The Guideline WG #1	} **Formulate the Draft of the Guideline**
13th	October	The Guideline WG #2	
2nd	November	The Guideline WG #3	
14th	November	The Guideline WG #4	
30th	November	The Council #2	→ **Finalize the Guideline**