

# Industry-university collaboration in Japan - From the side of a university -

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# 1. History of organizing IP Office / industry-university collaboration office / URA system in a university

year

1998

2000

2005

2010

2015年

▲ 1998: Law of TLO (METI, MEXT); To assign TT advisors to TLO (JPO, METI)

▲ 1999: Bay-Dole Act in Japan (METI)

▲ 2002: IP Basic Act

▲ 2003: MEXT began to support universities to establish intellectual managing office inside.

2006: Amendment of Fundamental Law  
▲ of Education to include university's third mission of contribution to society.

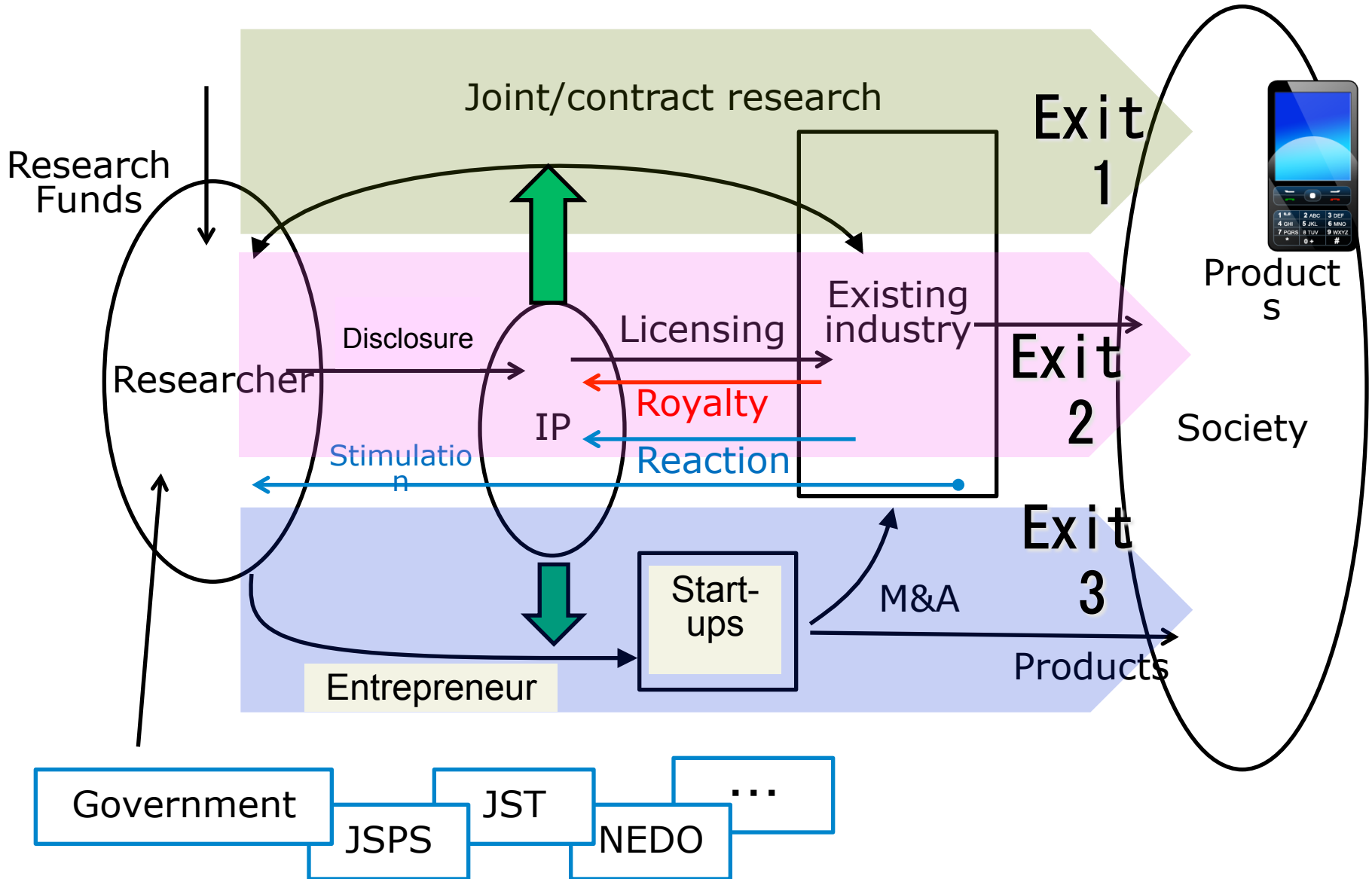
2008: MEXT began to support universities to develop and realize ▲ strategy for collaboration with industries

2011: MEXT began to assign Research Administrator to universities ▲

## 2. The present situation

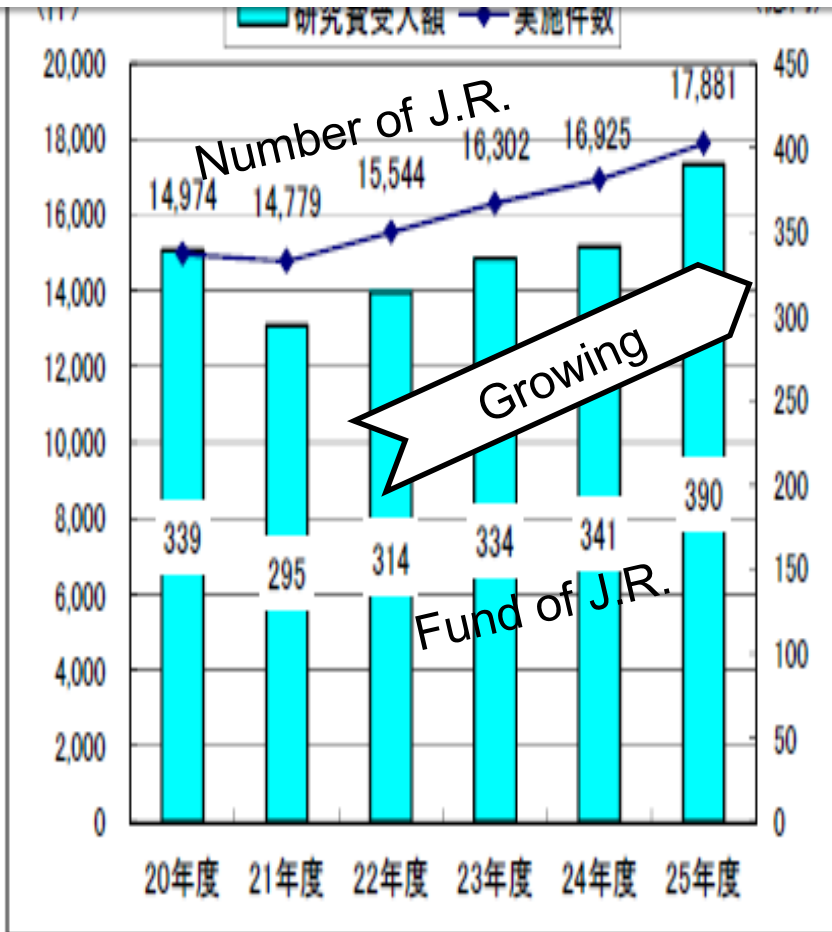
# 2-1) Channels for industry–university collaboration

Three typical exits to provide research results for the benefit of society:

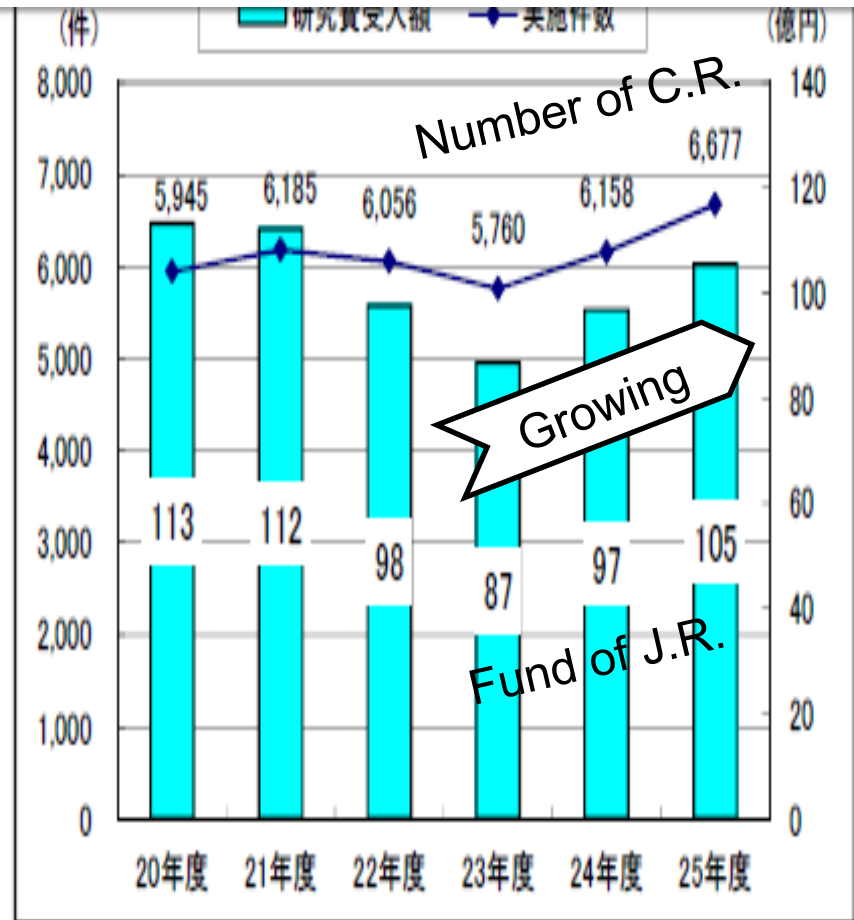


## 2-2) Facts of industry–university collaboration in universities in Japan

### Joint research with private company

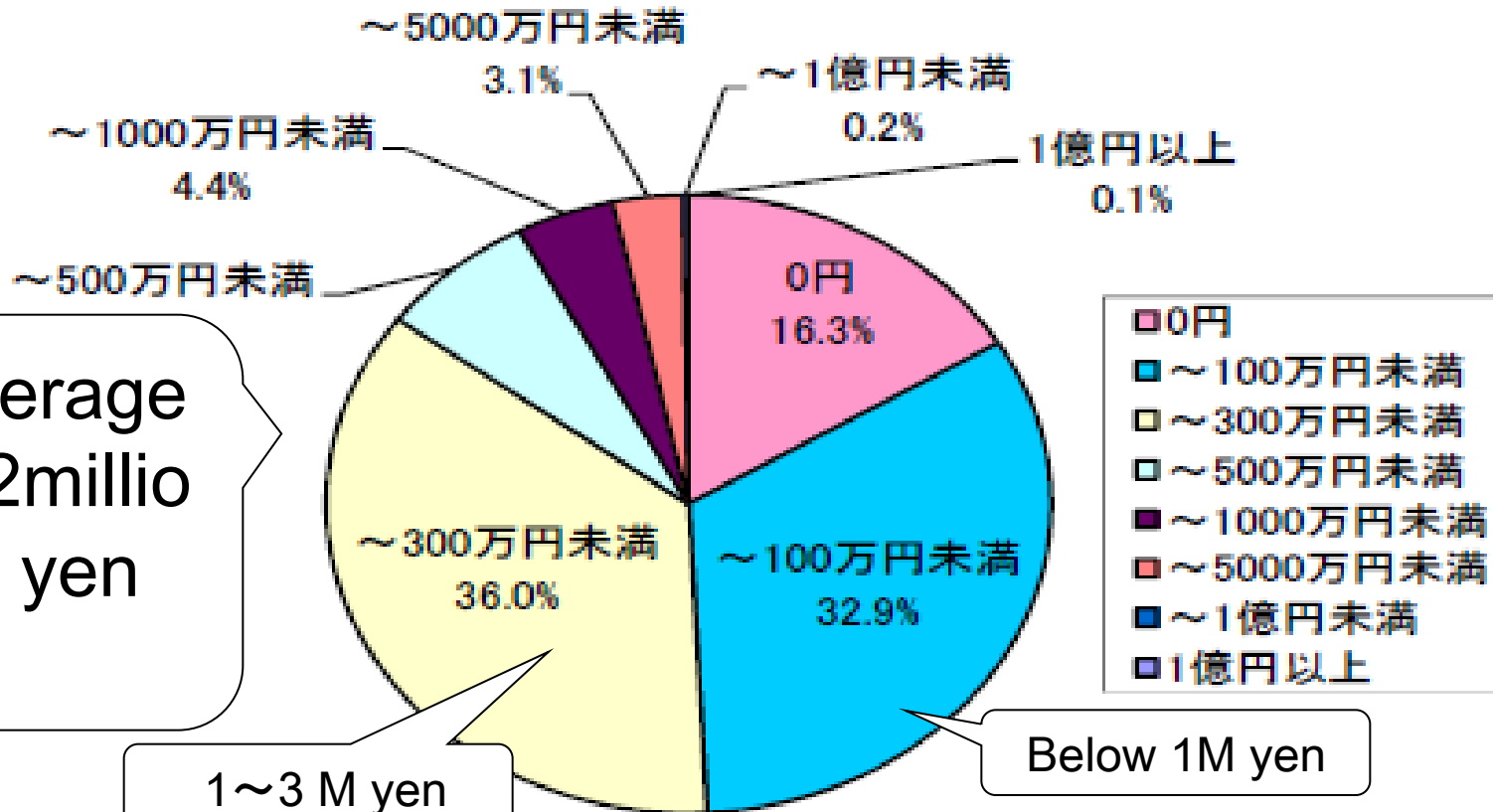


### Contract research with private company



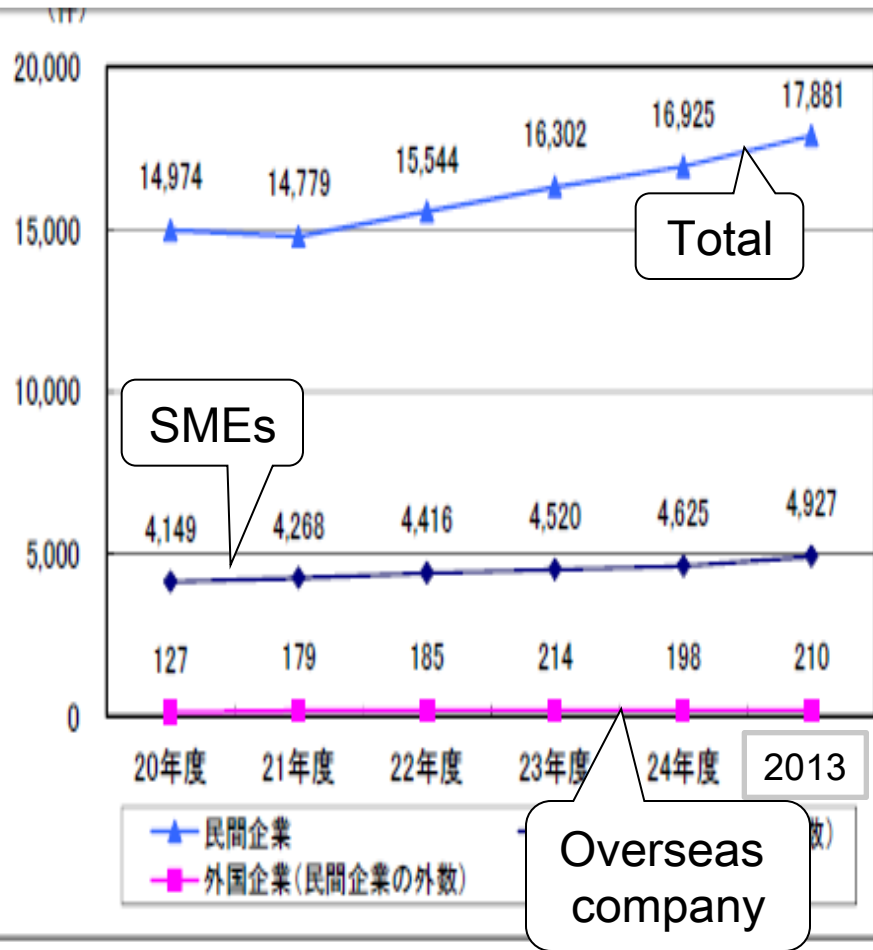
## 2-2) Facts: Research fund sponsored from private company per agreement in fy2015

【民間企業との共同研究の受入額規模別実施件数内訳(平成25年度)】

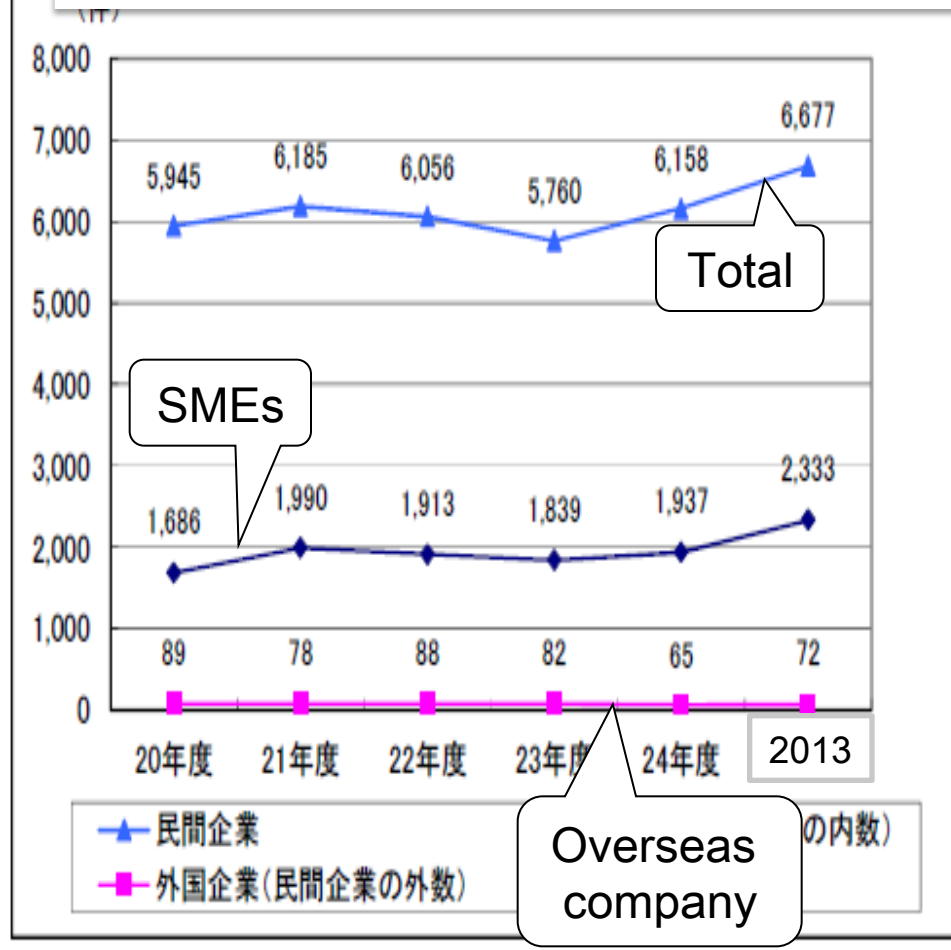


## 2-2) Facts: Collaboration with SMEs and overseas private companies

### Number of joint research with private company

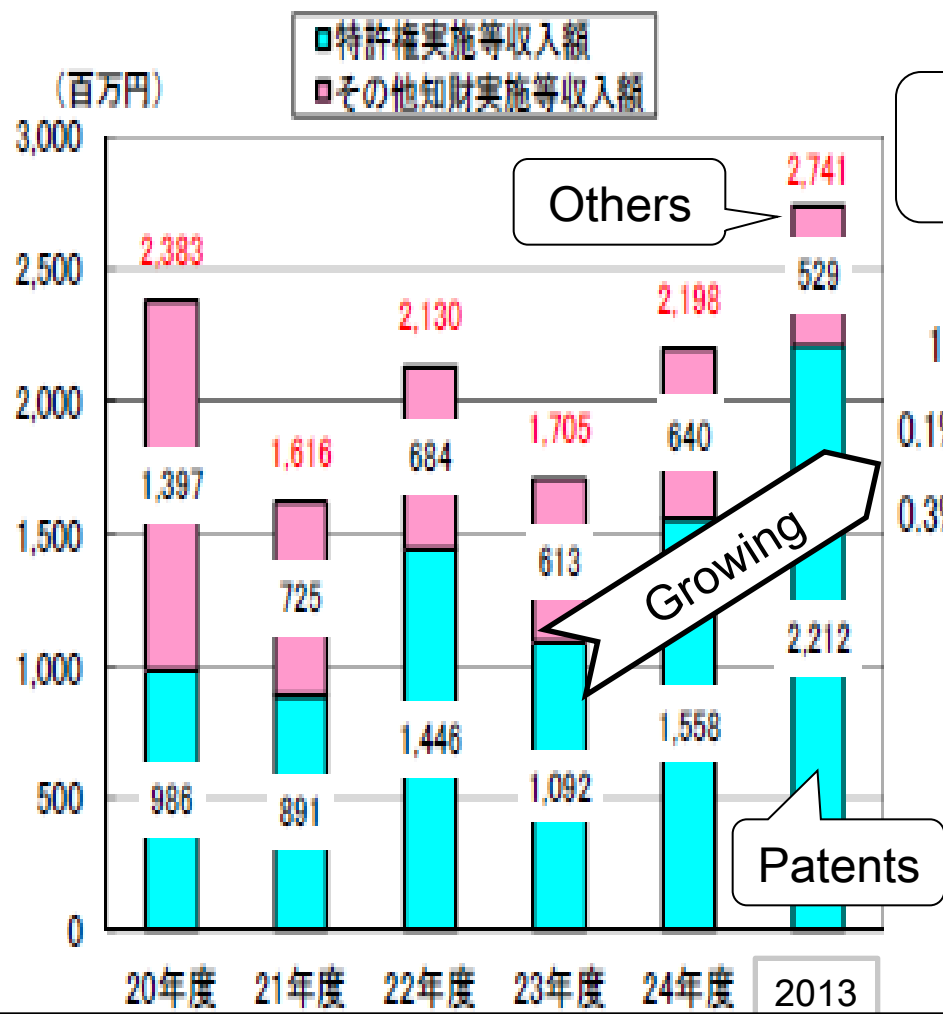


### Number of contract research with private company

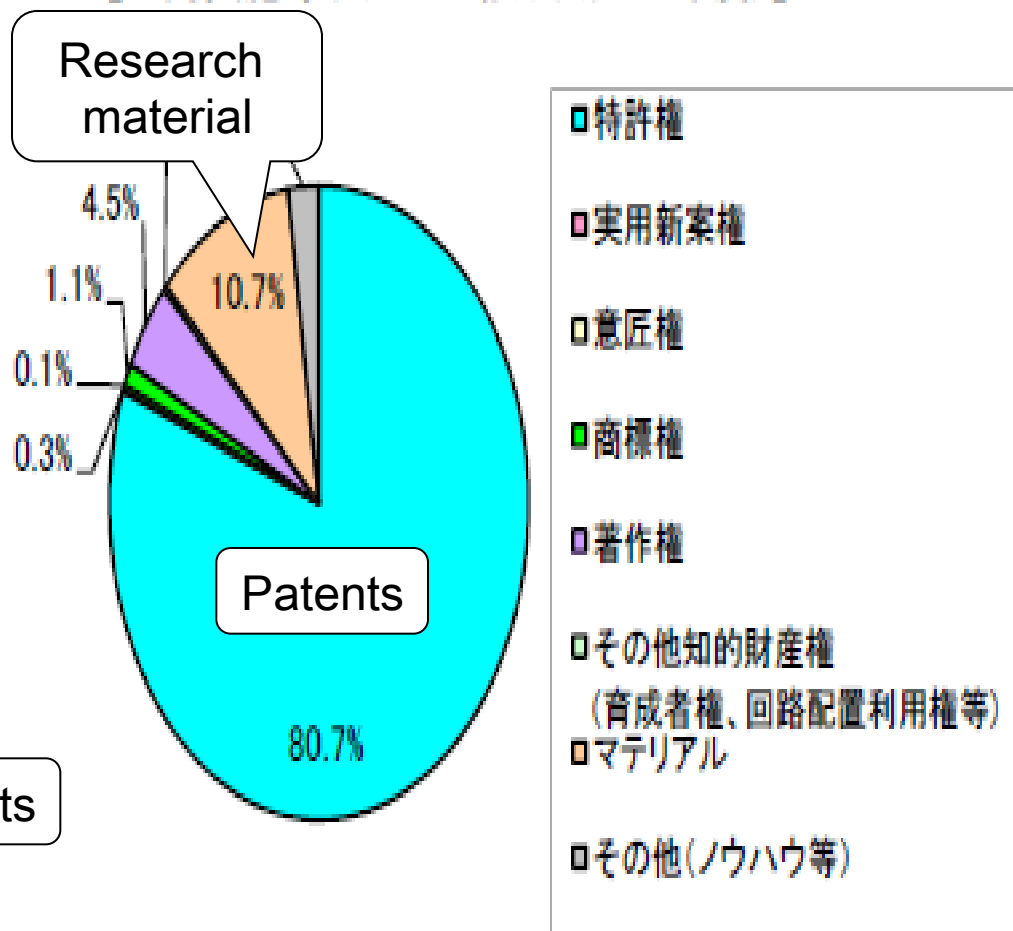


## 2-2) Facts: License revenue of patent / IP other than patent / research material

【特許権+その他知財実施等収入額の推移】



【知財実施等収入の内訳(平成25年度)】



Source: MEXT's web site "Performance of industry-university collaboration"  
[http://www.mext.go.jp/a\\_menu/shinkou/sangaku/main7\\_a5.htm](http://www.mext.go.jp/a_menu/shinkou/sangaku/main7_a5.htm)



### 3. Characteristic examples of industry-university collaboration

- some encouraging signs for the coming years -

Example of  
Kyoto Univ.

Joint Research

# Kyoto University

## Medical Innovation Center



<http://www.mic.med.kyoto-u.ac.jp>

MIC is a open innovation lab. for one-to-one institutional collaboration of drug discovery in specific disease area(s).

Start	Company	Field
2011	Takeda	CNS Control (Obesity & Schizophrenia)
2011	Sumitomo Dainippon	Cancer
2011	Mitsubishi Tanabe	Chronic kidney disease
2013	Shionogi	Alzheimer's disease & Psychiatric diseases
2007	Astellas	Immunology (model of MIC projects)

Example of  
Osaka Univ.

Joint Research

# “Industry on Campus” 共同研究講座システム

レベルの高い「人・資金・研究課題」を誘致し

“本気”の共同研究をオン・キャンパスで実現



## 社会のニーズに応える課題育成・人材育成の苗床

To develop human resource which responds to social needs

# Example of SHIONOGI & Co., LTD Joint Research



SHIONOGI & CO., LTD.



We need seeds  
of Hope to the Future.

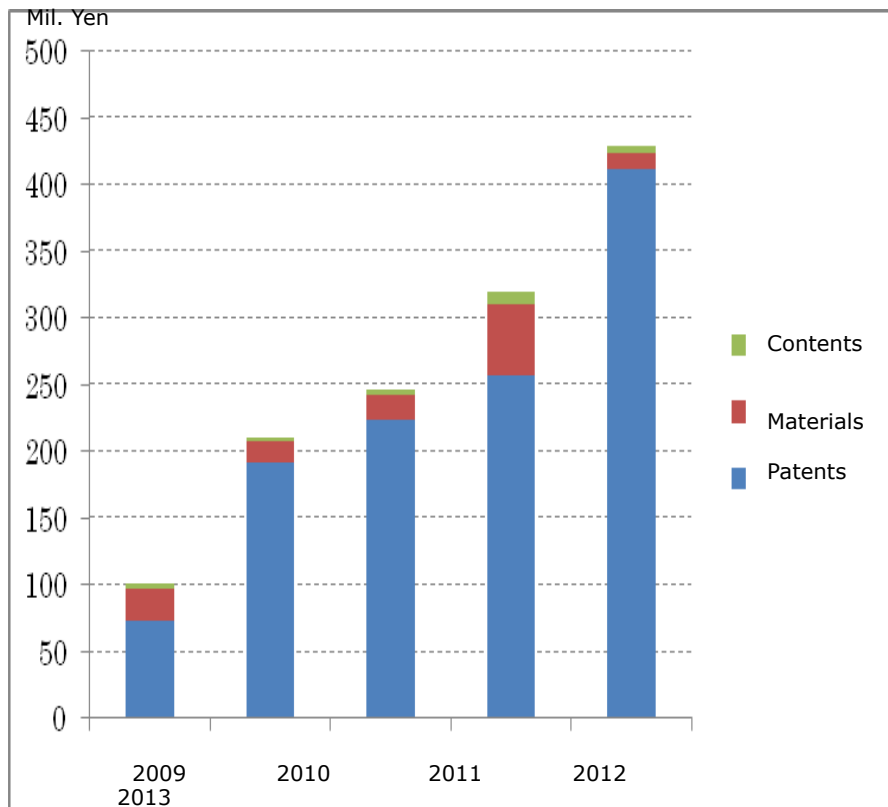


SHIONOGI Science Program 2014

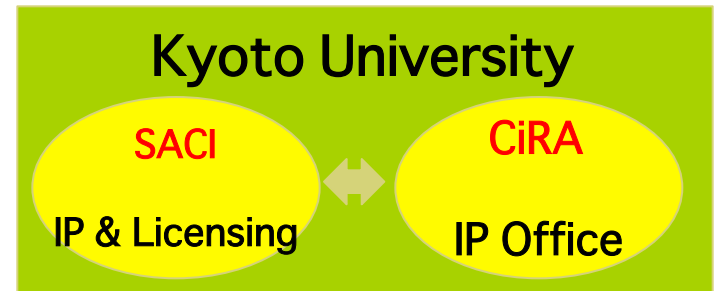
# Example of Kyoto Univ. License

## IP revenue in Kyoto University

iPS cell-related technologies contribute to high growth of IP revenue.



Special organization for iPS-IP  
• IP office in CiRA  
• iPS-specific TLO



TT outsourcing ↓ ↑ TT revenue

iPS Academia Japan  
(Established in 2008)  
License in RAND conditions

Example of  
Tokyo Univ.  
Start-ups &  
Joint Research



PeptiDream Inc.  
Innovative Peptide  
Therapeutics

PeptiDream Inc is a privately-held biopharmaceutical company employing our proprietary Random Peptide Integrated Discovery (RAPID) Platform, a state-of-the-art highly versatile peptide generation and selection platform which enables the production of highly diverse non-standard peptide libraries with high efficiency, for the discovery and development of best-in-class and first-in-class peptide-based therapeutics.

Established in 2006



## Example of Keio Univ. Start-ups

- Founded in 1998
- Business: Web Meeting system
- Company Listed in 2013

**V-Cube**  
Inventor: Mr. Mashita  
(student of those days) et al.



Mr. Mashita,  
President

Web Meeting system

V-CUBEはテレビ会議・Web会議のクラウド市場で

7年連続  
シェア **No.1**\*

No.1 share for 7 years in Japan

詳細はこちら



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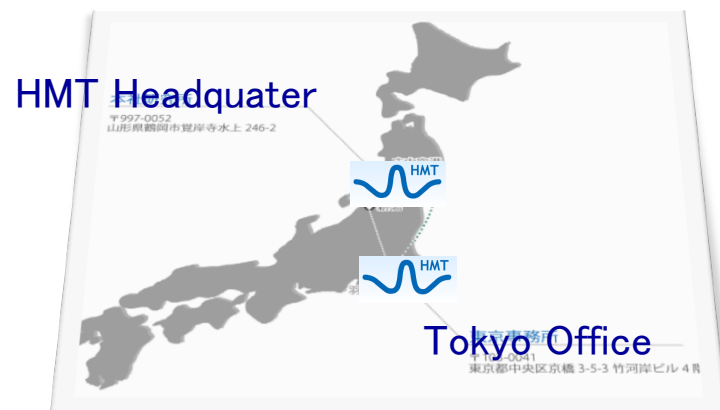
Example of  
Keio Univ.  
Start-ups

# Metabolome Analysis (メタボローム解析) Human Metabolome Technologies

Inventor: Dr. Tomoyoshi Soga



- **Business:** Metabolome profiling, Biomarker Discovery , CE-MS consulting
- **Technology:** Identify more than 1,000 species of metabolites by the metabolome analysis technology using capillary electrophoresis mass spectrometry (CE-MS)
- **Founder:** Dr. Masaru Tomita,  
Dr. Tomoyoshi Soga
- **President:** Ryuji Kanno
- **Headquarter:** Tsuruoka, Yamagata
- **Founded in 2003**
- **Listed Company in 2013**
- **Collaboration :** with the Institute for Advanced Biosciences (IAB), Keio University





Example of  
Keio Univ.  
Start-ups

# Spiber

Inventor: Mr. Kazuhide Sekiyama (student of those days)

- **Technology:** producing an artificial spider thread by letting bacteria produce the miniature spider silk protein
- **Headquater:** Tsuruoka, Yamagata

Founded in 2007



**Stronger than steel in tensile strength.  
Flexible as nylon.**



Dress made from its artificial spider thread



The Wall Street Journal  
July 8, 2013



President, Mr. Sekiyama

[http://online.wsj.com/article/  
SB10001424127887324399404578583562  
603579062.html](http://online.wsj.com/article/SB10001424127887324399404578583562603579062.html)

<http://www.spiber.jp/company/>

**As you know, important thing is**

**4. Development of human resource  
by  
UNITT  
JST  
URA (MEXT)  
Leading Program (MEXT)**

# 4-1) Development of human resource by UNITT

## 1) What is UNITT?

“University Network for Innovation and Technology Transfer” ; “AUTM Japan”

## 2) Membership

43 universities, 22 TLOs and 4 public research institutes

## 3) Program for development of TT experts and coordinators

✓ Annual conference: ① Two days training program ② More than 500 people are all together ③ Continued for 11 years

✓ Training Program for TT experts:

① twice/year ② fundamental / advanced course



## 4-2) Development of human resource by JST

### 1. Who is trained?

- Coordinators for academia-industry collaboration
- Clerical staffs

### 2. How many years have they trained?

More than 10 years

More than 7,000 people have been trained

### 3. Training programs

#### ① Fundamental course for developing coordinator

4 courses; Each course has 1 day program; 40 trainees

#### ② Practical course for developing coordinator

4 courses; Each course has 2 days program; 15 trainees

#### ③ Research management course for clerical staffs

4 courses; Each course has 1 day program; 40 trainees

#### ④ Agreement/ Legal course

2 courses; Each course has 1 day program; 20 trainees

# 4-3) University Research Administrator in Japan

【FY2014 Budget 836 mil. yen】

## Research Administrator

Persons who support researchers with research planning, management, commercialization.  
(similar role to editor against novelist)

## Purpose

- Improvement R&D environment
- Strengthen R&D management function
- Diversification of researcher's career path

### Systemization Expansion Stabilization

FY2011 FY2012 FY2013 FY2014 FY2015  
FY2016

## Research Administrator

- Senior Research Administrator  
Management of large scale research project
- Research Administrator  
Scheduling, administration, application for competitive funds filing

Establish  
Foundation of  
system

Establish RA skill standard  
•Establish a draft of RA skill standard by committee  
•Make universities complete skill standard based on the draft.

Prepare the training programs

Develop human resources by utilizing RA Skill Standard and the training program

Program director  
Program officer  
IP division in private company  
IP Legal profession

application Feedback application Feedback

Support for RA  
in universities

Assign RAs in universities  
•Support for RA application and education in universities

•Support for Senior RA

Research manager  
management associate

Step up

Professional Research Administrator

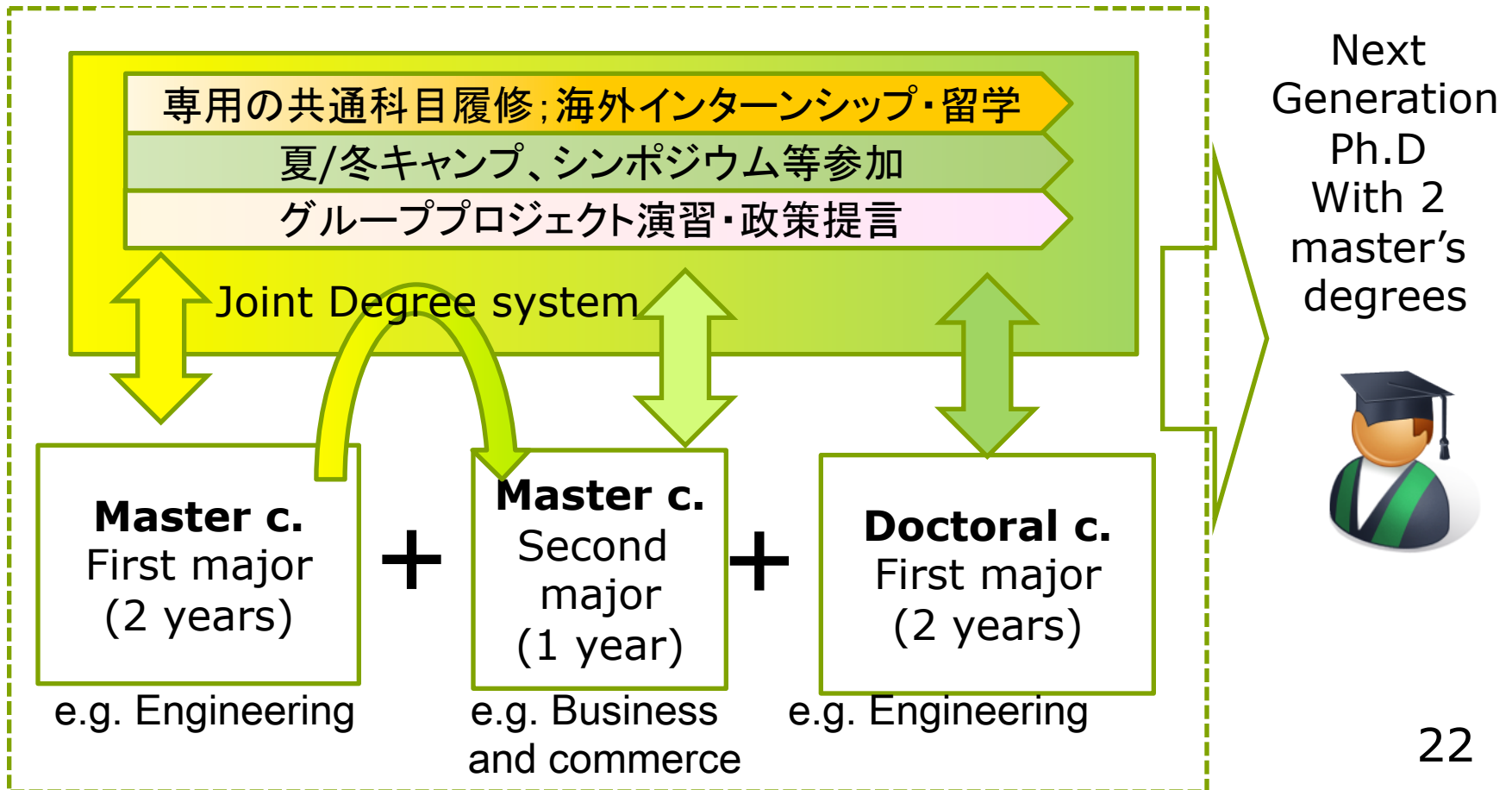
Active part in mentor

Source: University-industry collaboration and regional R/D div., MEXT

# 4-4) Development of Next Generation URA as one of the output from Keio's Leading Program

1. Trainee: Less than 20 students selected from 13 graduate schools (1,500 students per grade) in Keio

## 2. Leading Graduate School Program



Thank you for your kind attention!