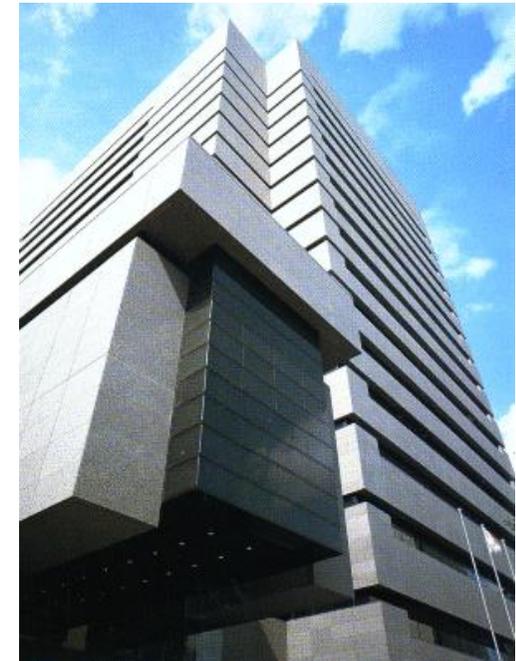


Current Situation of Academia-Industry Collaboration in Japan

**Policy Planning and Research Division
Policy Planning and Coordination Department
Japan Patent Office**

December 13th, 2017



1 . Background

2 . JPO's measures

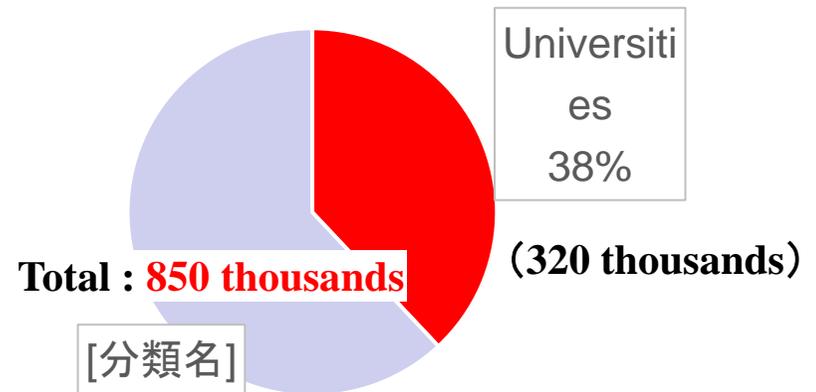
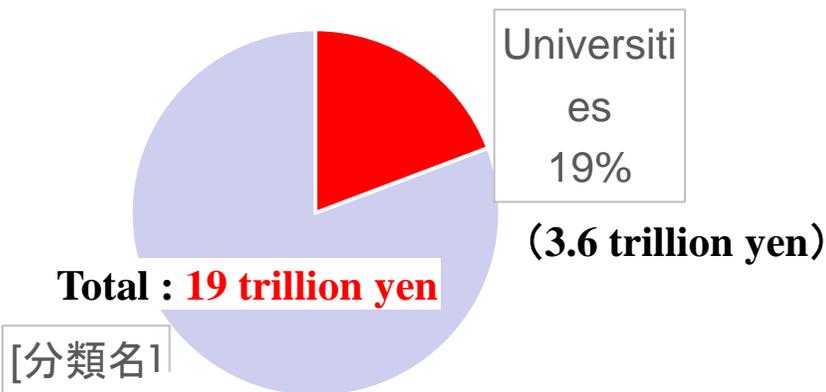
3 . Trend in university IP activities

**4 . Trend of the academia-industry
collaboration**

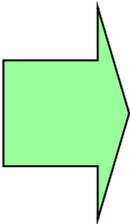
- Universities have 19 % of total research funding.
- 38% of researchers work for universities.
- The level of academic research is among the best in the world.

Research Funding

Number of Researchers



Source : Ministry of Internal Affairs and Communications, 'Research survey report on science and technology' (2017)



People expect universities to exploit their research outcome for the society.

Contribution to the Society became the 3rd mission of Universities.

- 1998 Law facilitating tech transfer from universities(TLO law)
- 1999 Act on Special Measures concerning Industrial Revitalization
(Japanese version of Bye-Dole act)
- 2000
- 2001
- 2002 { Basic Law on Intellectual Property (3rd Mission of University)
University IP Management Adviser Sending Project
< Japan Patent Office >
- 2003 University IP Headquarters Development Project
< Ministry of Education >
- 2004 National Universities were privatized.

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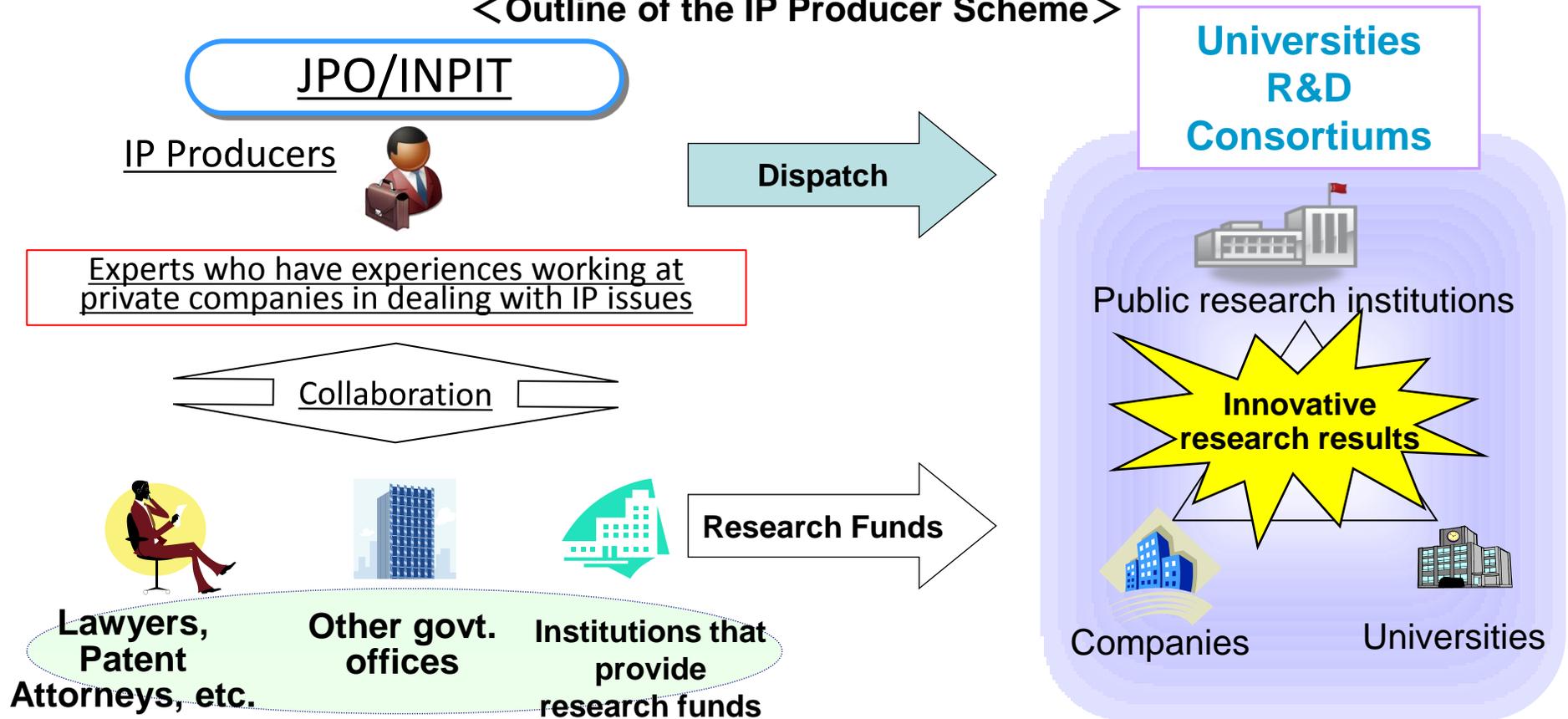
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JPO's measures (1) : IP Producers

- Send experts on IP management to R&D consortiums
- Support formulating strategies from the IP perspective for effective exit strategies and utilization of IP.
- As of October 2017, a total of 23 IP Producers are being sent to 46 projects.

<Outline of the IP Producer Scheme>



Before launching projects

Establish IP Policy

Initial Stage of Projects

Establish a base for IP management

- Support making rules on IP in the project.
- Set up a decision making body on intellectual Property.
- Formulate IP strategy.

Stage of Advancing Projects

Enhance IP management

- Extract all of the inventions out of the projects.
- Support creating a strong patent portfolio.

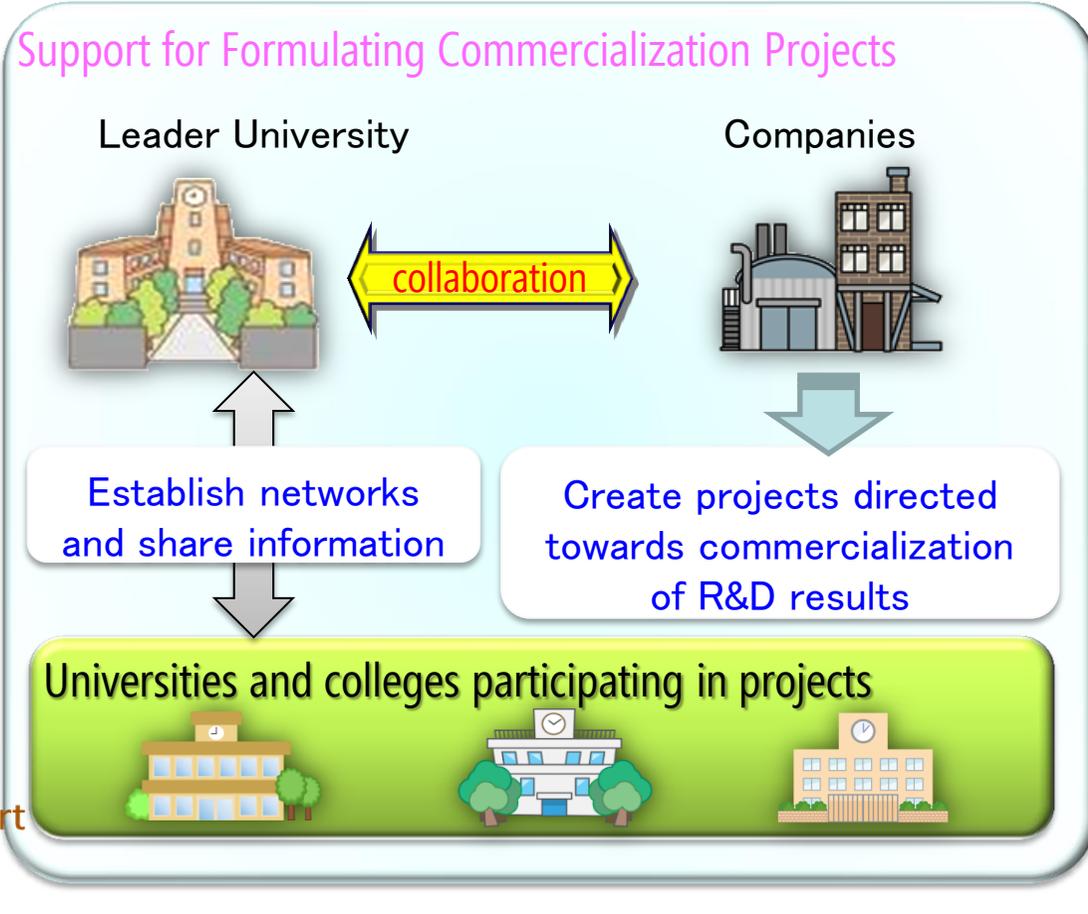
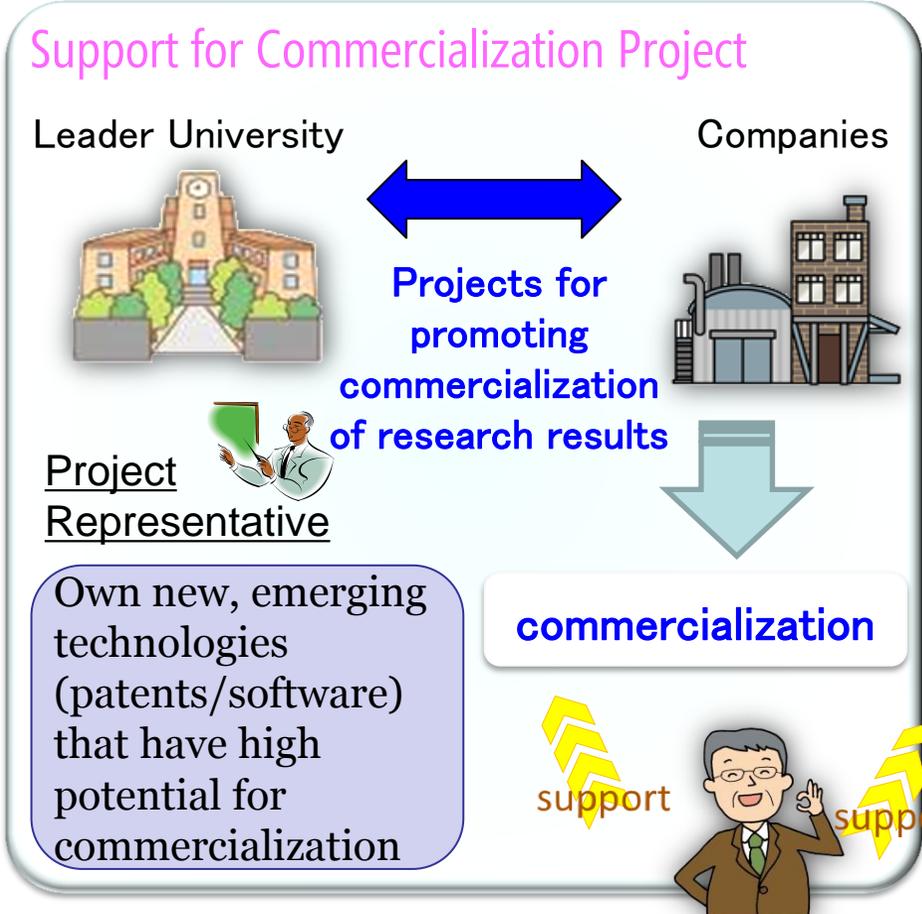
Final Stage of Projects

Review achievements of IP activities and share information

- Get the picture of all of the IP from the project.
- Confirm the way of IP management and exploitation after the project completion.

After completing projects

- Send IP experts knowledgeable about business development to universities that are advancing industry-academia collaboration for promoting commercialization of their research results; and
- Support IP management of projects based on industry-academia collaboration directed towards commercialization of research results.
- Total 10 IP advisors on industry-academia collaboration are being sent to 11 universities.



Support for “Flashcycle”

- After reviewing the competitive advantages of the technology at a local company, IP producer determined that there would be a need for them in the business field of bicycle rental, and that he developed a strategy for the commercialization.
- The product of this local company was decided to be used on rental bicycles in the area where the IP producer was sent.

Developed a bicycle accessory that is a reflection film to be attached to the curved surface of bicycle fenders, so as to improve the visibility of the bicycle.

Reflective light bicycle

Enable users to apply specific designs to the reflective parts.



Source: Website of Sun Chemical

Photo by Tohmatsu

Completed the product development, but had difficulties in finding markets and developing sales channels.

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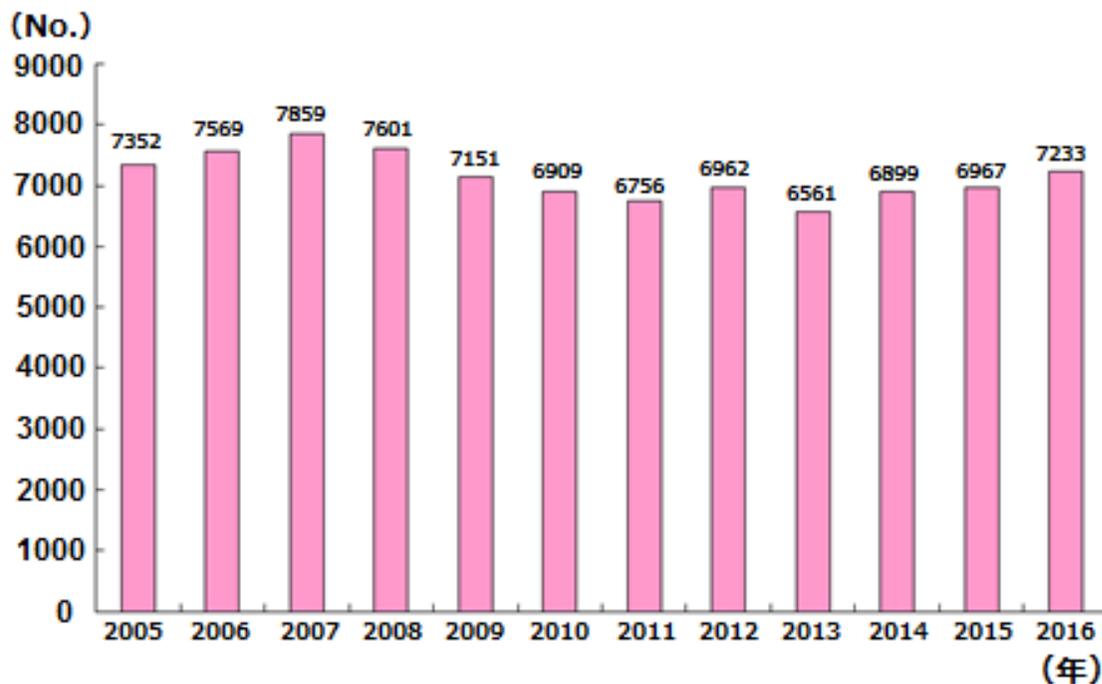
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- In 2016, the number of patent applications filed by universities in Japan was 7,223, marking a 3.7% increase from the previous year.

Number of Patent Applications Filed by Universities

Top 10 Universities in Terms of the Number of Published Applications for Patents (in 2016)



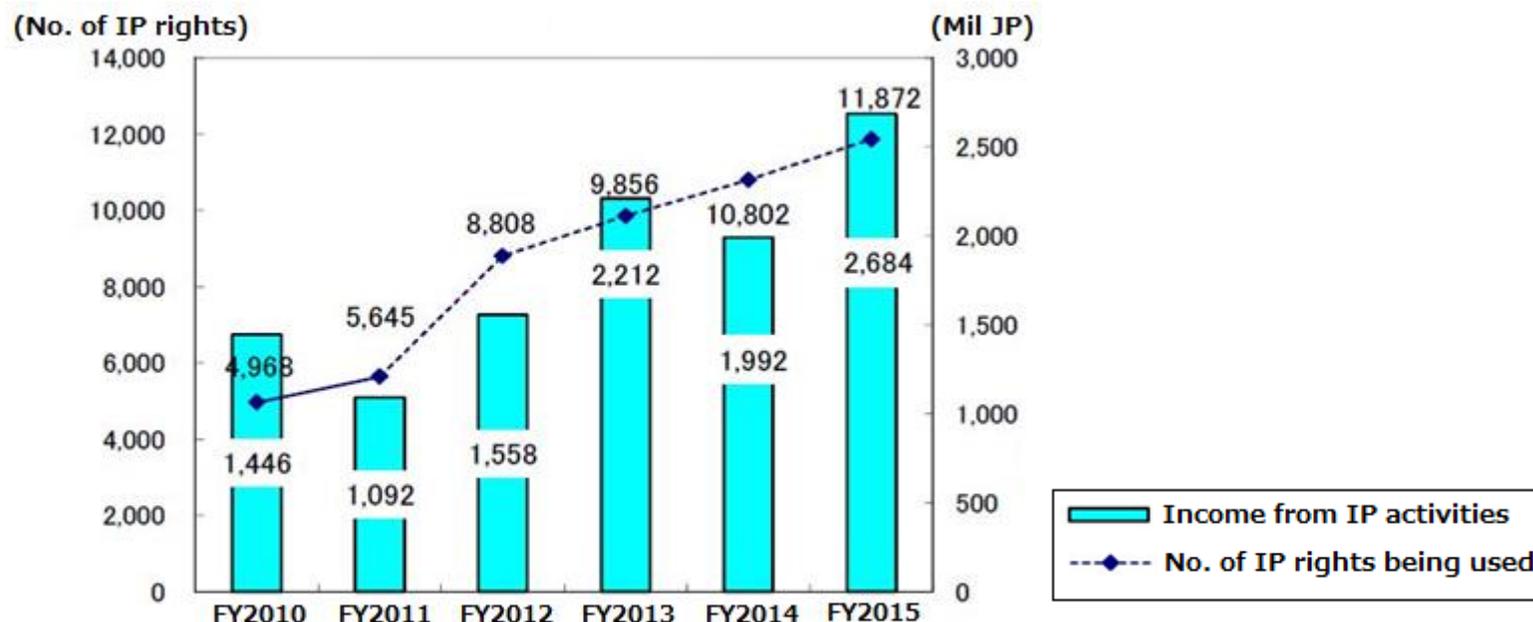
Ranking	Name of university	No.
1	University of Tokyo	331
2	Tohoku University	272
3	Osaka University	219
4	Kyoto University	196
5	Nagoya University	178
6	Kyushu University	173
7	Tokyo Institute of Technology	162
8	Hokkaido University	111
9	Chiba University	103
10	Nagoya Institute of Technology	99

Source: JPO Annual Report 2017

Income from IP Activities by Universities

- The number of IP rights and income from IP activities by universities have been on the rise.
- In fiscal year 2015, which ended in March 2016, income from IP activities by universities reached a record high of 2.684 billion yen, marking a 34.7% increase from the previous fiscal year.
- Also, the number of IP rights being actually used by universities reached a record high of 11,872, increasing 9.9% year-over-year.

Changes in the Number of Patent Rights and Income from IP Activities by Universities



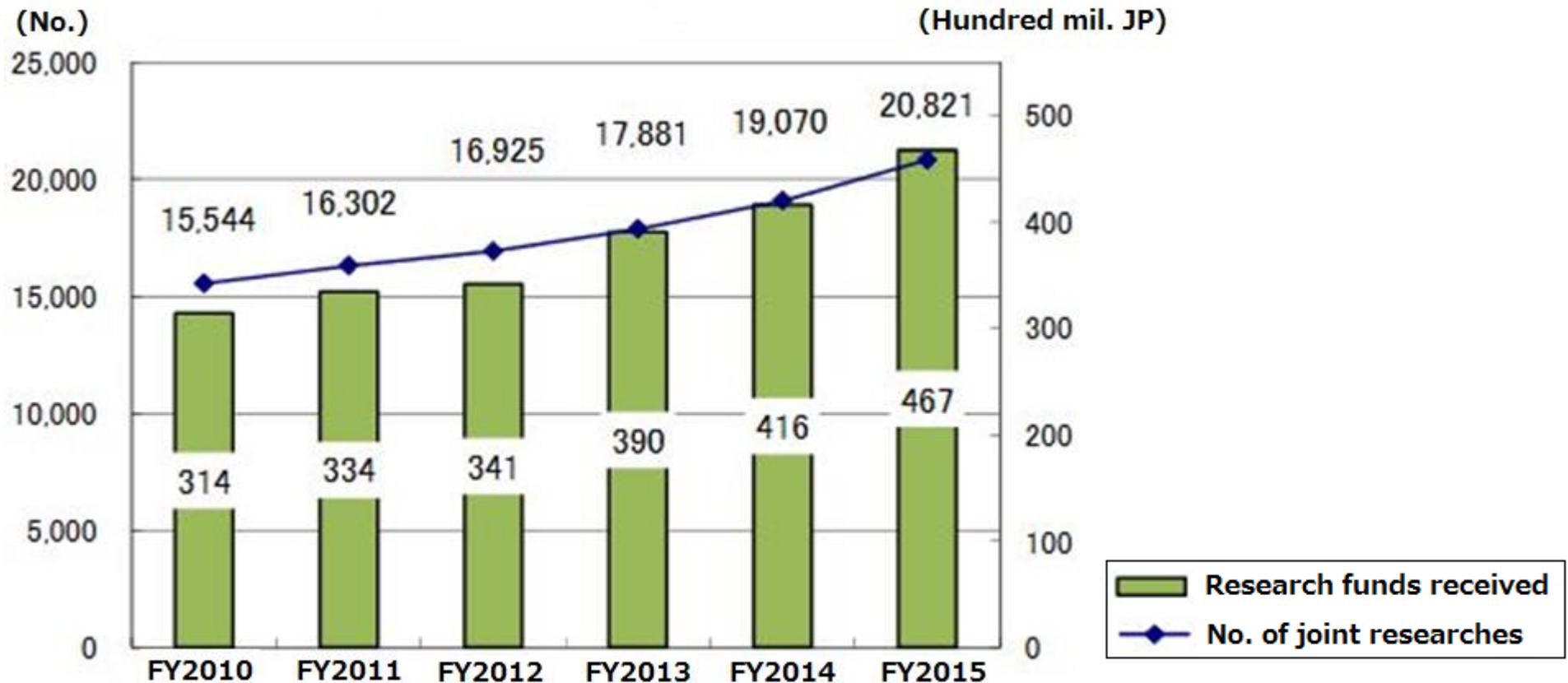
* From the survey conducted in fiscal year 2012, the JPO reorganized its way for calculating the number of patent rights being actually used by universities, in cases when universities filed international patent applications under the Patent Cooperation Treaty (PCT) and licensed to others either before or after entering into the national phase in each country.

Source: The "FY2015 Current State of Industry-Academia Collaboration in Japan" issued by the Ministry of Education, Culture, Sports, Science and Technology

* Universities include national, public, and private universities or colleges, including junior colleges, public and private colleges of technology, and inter-university research institutes.

Achievements of Joint Researches at Universities

- In fiscal year 2015, the number of joint researches between universities and private companies was 20,821, increasing 9.2% or 1,751 compared to the previous fiscal year.
- The amount of research funds received by universities for joint research with private companies was around 46.7 billion yen, increasing 12.3% or 5.1 billion yen compared to the previous fiscal year.



Source: The “FY2015 Current State of Industry-Academia Collaboration in Japan” issued by the Ministry of Education, Culture, Sports, Science and Technology

* Universities include national, public, and private universities or colleges, including junior colleges, public and private colleges of technology, and inter-university research institutes.

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Public-Private Dialogue towards Investment for the Future (April 12, 2016)

The Prime Minister said, “Japan’s universities are undergoing a transformation. We will strengthen the academia-industry collaboration system and aim to triple corporate investment in universities and research and development entities over the next decade.”



出典：首相官邸ホームページ
(http://www.kantei.go.jp/jp/97_abe/actions/201604/12kanmintaiwa.html)

Significance of cooperate investment

- Companies’ needs activate academic research.
- Universities contribute to the society by creating innovation.

For the Scale up of Joint Research (Guideline)

- Strengthen the management system in universities
- Commitment to the results
- Equitable sharing of expenditure

