

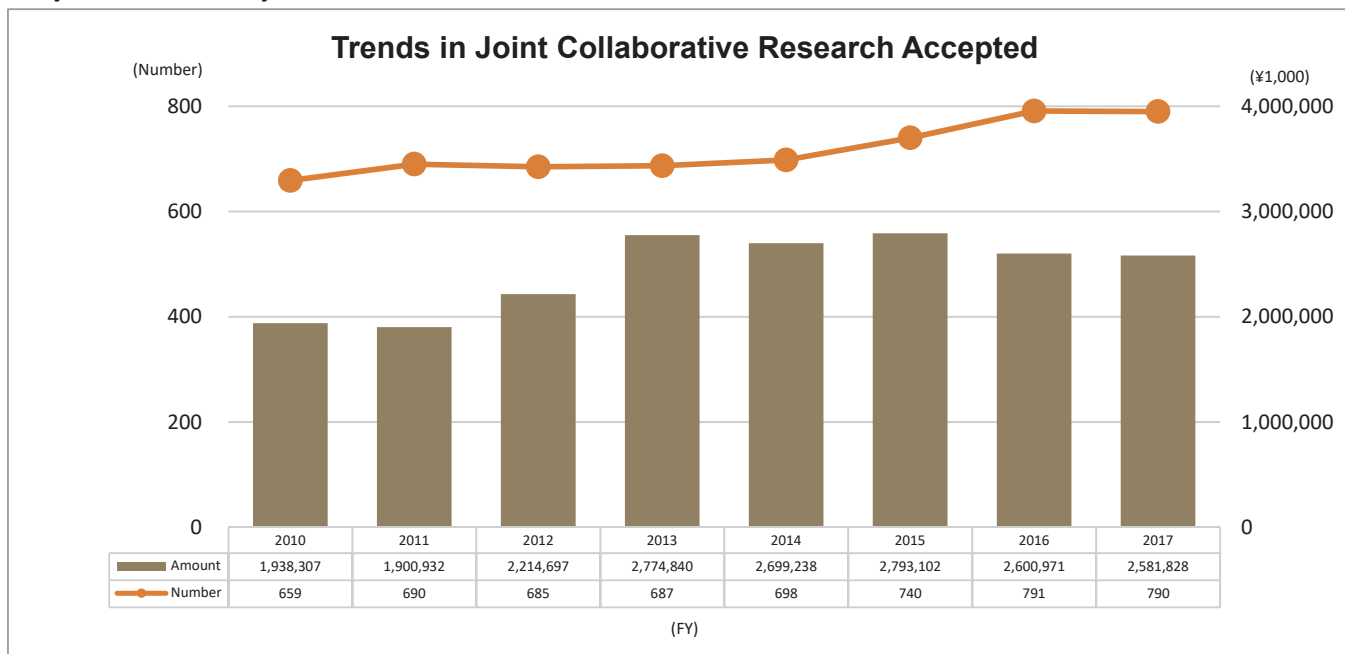
# 11. Industry-University-Government Collaboration

## 11-1. Joint Collaborative Research

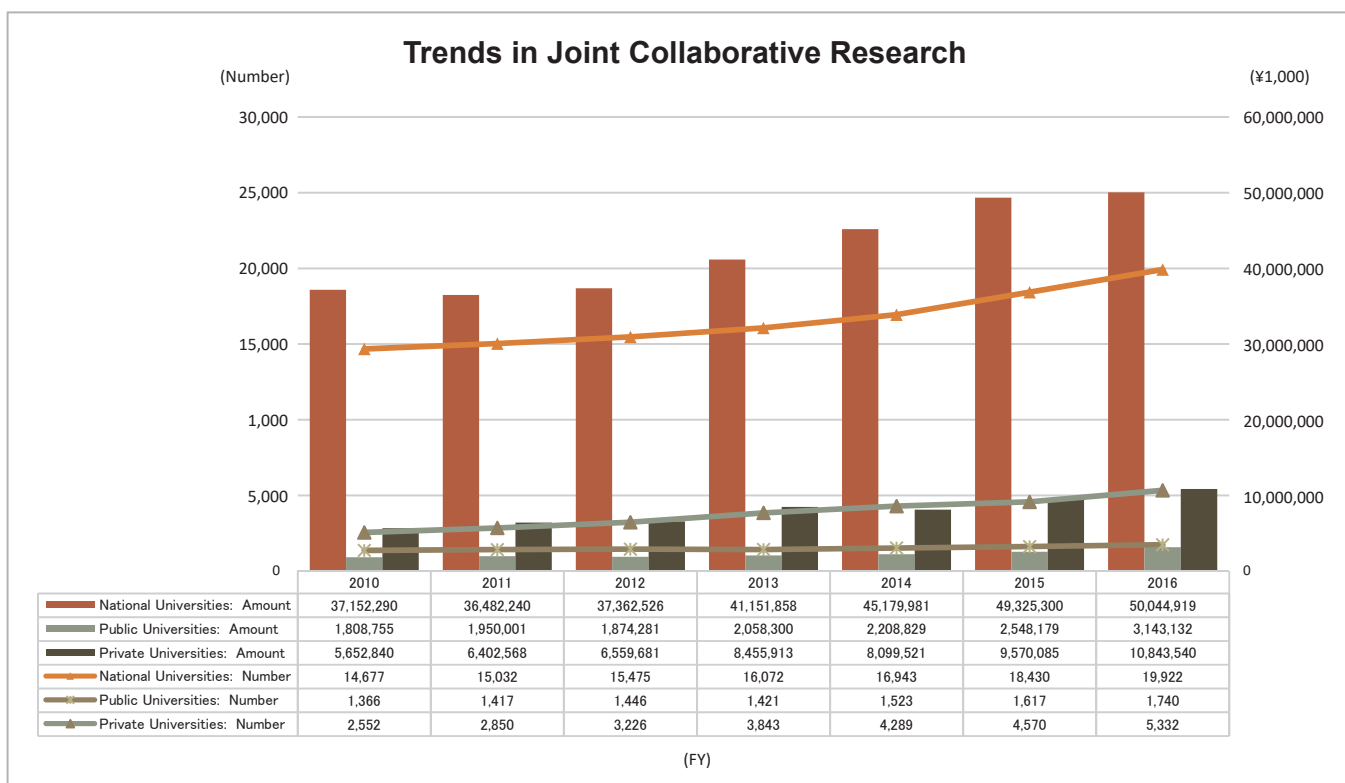
### 11-1-1. Trends in Joint Collaborative Research

The Public Nationwide scale, both the value and the number are on an upward trend. In recent years, the trend for Kyushu University has been flat.

#### ◆Kyushu University◆



#### ◆The Public Nationwide◆



**\*Sources**

- Kyushu University, The Public Nationwide: *Industry-Academia Collaboration in Higher Education Institutions* Joint Collaborative Research outputs (by Institution), figures for each fiscal year (MEXT)

## 11-1-1. Trends in Joint Collaborative Research (continued)

### ◆Comparisons With Other Universities◆

[Number of Joint Collaborative Research Projects With the Private Sector (the public nationwide, national, public, and private universities)]

[Income From Joint Collaborative Research With the Private Sector (the public nationwide, national, public, and private universities)]

[Income per Project From Joint Collaborative Research With the Private Sector (the public nationwide, national, public, and private universities)]

(Unit: ¥1,000)

(Unit: ¥1,000)

Rank	University	Number
1	The University of Tokyo	1,545
2	Kyoto University	1,051
3	Osaka University	1,038
4	Tohoku University	975
5	<b>Kyushu University</b>	<b>682</b>
6	Nagoya University	636
7	Tokyo Institute of Technology	579
8	Hokkaido University	538
9	Keio University	487
10	Kobe University	428

(2016)

Rank	University	Income
1	The University of Tokyo	5,738,735
2	Kyoto University	4,589,339
3	Osaka University	4,102,261
4	Tohoku University	3,222,334
5	Nagoya University	2,228,210
6	Keio University	2,034,110
7	<b>Kyushu University</b>	<b>1,997,521</b>
8	Tokyo Institute of Technology	1,646,507
9	Hokkaido University	1,113,691
10	University of Tsukuba	1,019,570

(2016)

Rank	University	Income per Project	Number
1	St. Marianna University. School of Medicine	6,813	25
2	Fujita Health University	5,909	25
3	Juntendo University	5,034	67
4	Hokkaido College of Pharmacy	4,939	10
5	Jichi Medical University	4,764	38
6	Saitama Medical University	4,650	25
7	The Jikei University School of Medicine	4,494	10
8	Hyogo College of Medicine	4,379	25
⋮			
21	<b>Kyushu University</b>	<b>2,929</b>	<b>682</b>

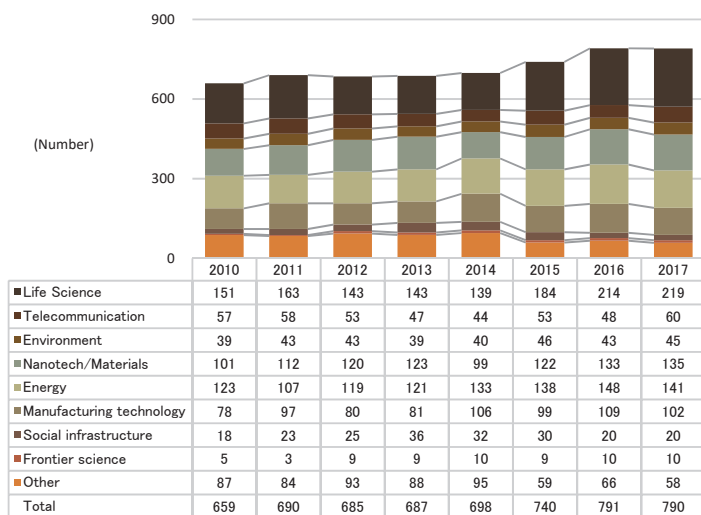
(2016)

\*Sources

- MEXT, *Industry and Public Organizations in Higher Education Institutions* in FY2016

## 11-1-2. Trends in Joint Collaborative Research (by Field)

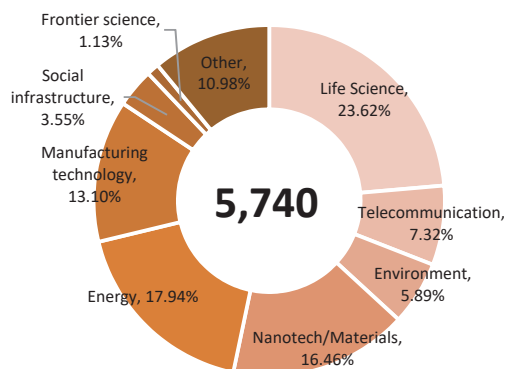
Number of Joint Collaborative Research Projects With the Private Sector



(FY)

### ◆Kyushu University◆

Number and Percentage Breakdown of Joint Collaborative Research Projects With the Private Sector (FY2010-2017 total)



- In this study, joint collaborative research refers to research jointly by a university or similar institution and industry and private organizations, etc. in which necessary project expenses incurred by the university, etc. are covered by the private organization, etc.

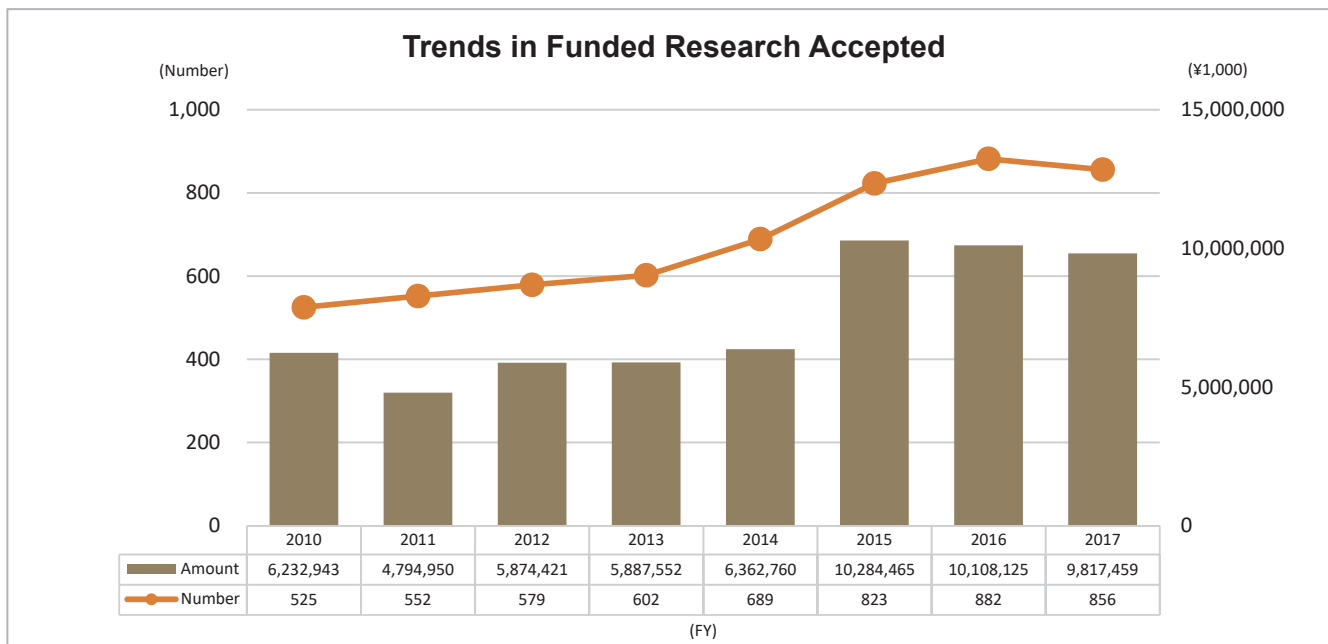
\*Source: Kyushu University Information

## 11-2. Funded Research

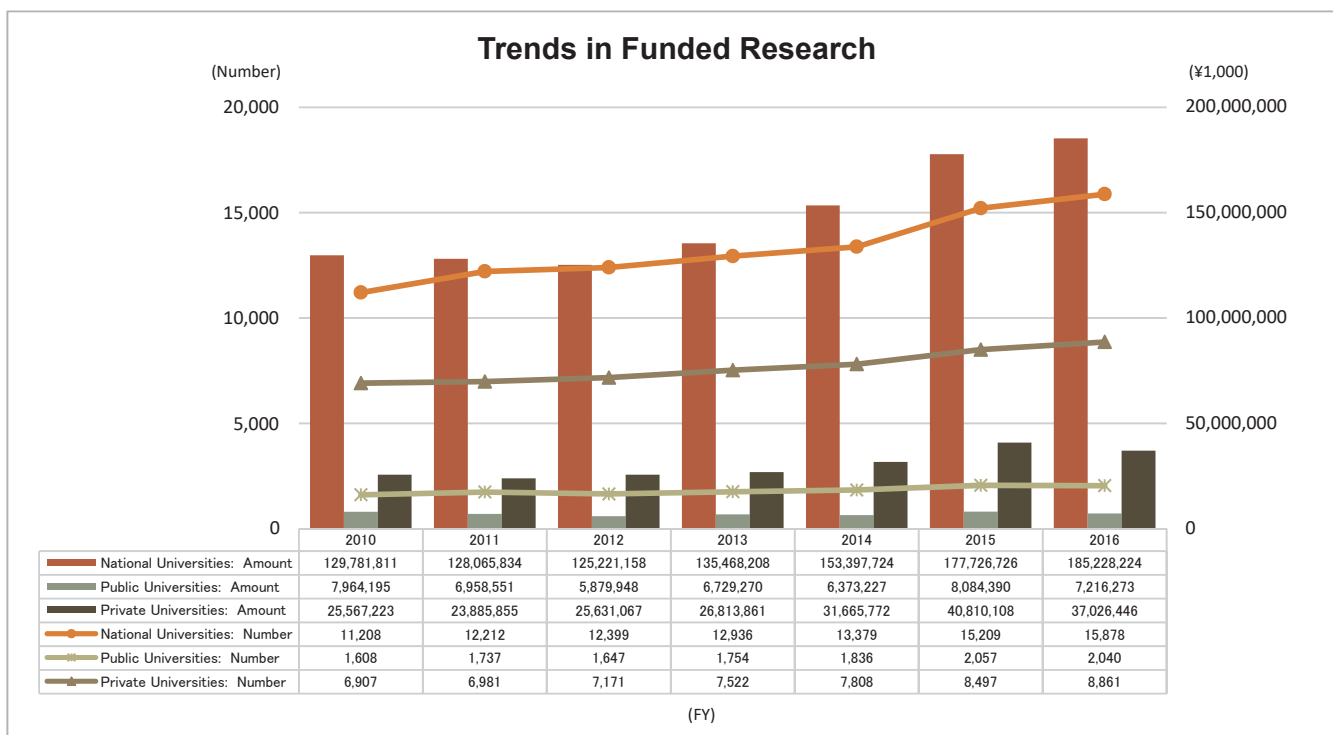
### 11-2-1. Trends in Funded Research

Kyushu University has been experiencing an upward trend, and in recent years this has exceeded ¥10.0 billion.

#### ◆Kyushu University◆



#### ◆The Public Nationwide◆



**\*Sources**

- Kyushu University: Research Strategy Data Anthology (Academic Research and Industrial Collaboration Management Office Research Strategy Group, Scientific Research Promotion Group)
- The Public Nationwide: *Industry-Academia Collaboration in Higher Education Institutions* Joint Collaborative Research outputs (by Institution), figures for each fiscal year (MEXT)

## 11-2-1. Trends in Funded Research (continued)

### ◆Comparisons With Other Universities◆

[Number of Funded Research Projects Commissioned by the Private Sector (nationwide, national, public, and private universities)]

[Income From Funded Research Commissioned by the Private Sector (nationwide, national, public, and private universities)]

[Income per Project From Funded Research commissioned by the Private Sector (the public nationwide, national, public, and private universities)]

(Unit: ¥1,000)			(Unit: ¥1,000)			(Unit: ¥1,000)			
Rank	University	Number	Rank	University	Income	Rank	University	Income per Project	Number
1	Kindai University	257	1	Keio University	794,778	1	International University of Japan	9,846	16
2	Ritsumeikan University	248	2	Waseda University	410,824	2	Hokkaido Information University	7,457	17
3	Keio University	198	3	Nihon University	363,175	3	University of the Ryukyus	6,834	30
3	Nihon University	198	4	<b>Kyushu University</b>	<b>354,642</b>	4	Chuo University	5,120	11
5	The University of Tokyo	161	5	Kyoto University	346,276	5	Wakayama Medical University	4,923	28
6	Waseda University	155	6	Kindai University	321,724	6	Tokyo Women's Medical University	4,855	24
7	Takushoku University	140	7	Osaka University	305,307	7	Jichi Medical University	4,339	40
8	Tokyo City University	135	8	Ritsumeikan University	304,576	8	Keio University	4,014	198
9	<b>Kyushu University</b>	<b>130</b>	9	Kobe University	282,314	⋮			
10	Osaka University	126	10	The University of Tokyo	273,608	17	<b>Kyushu University</b>	<b>2,728</b>	<b>130</b>

(2016)

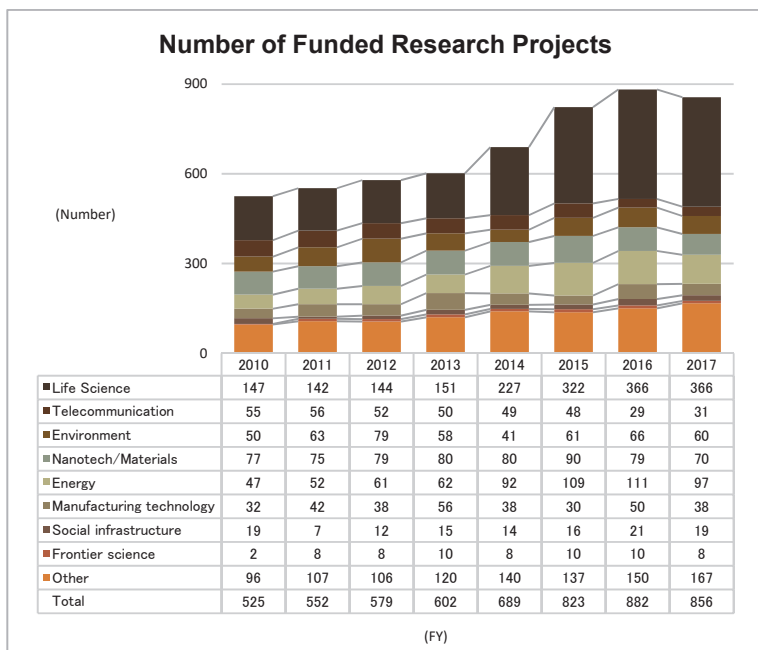
(2016)

(2016)

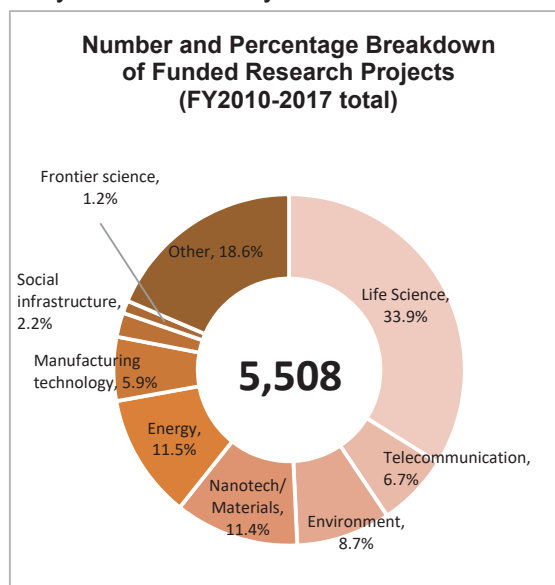
\*Sources

• MEXT, *Industry and Public Organizations in Higher Education Institutions* in FY2016

## 11-2-2. Trends in Funded Research (by Field)



### ◆Kyushu University◆



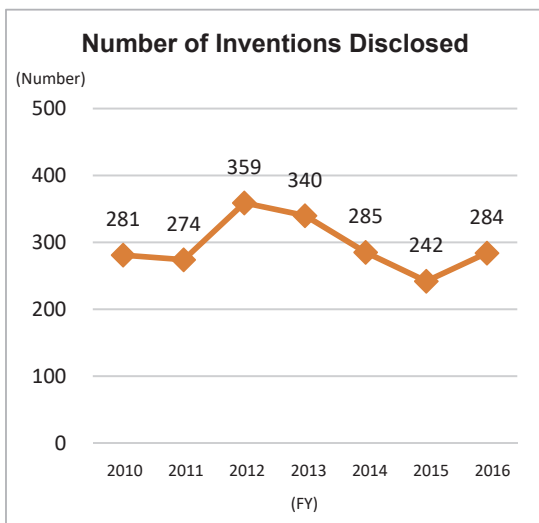
\* In this study, Funded Research refers to research to a university by a private sector company, etc., in which, in most cases, the university, etc. alone conducts the research and development, with the expenses incurred being covered by the private organization, etc.

\*Source: Kyushu University Information

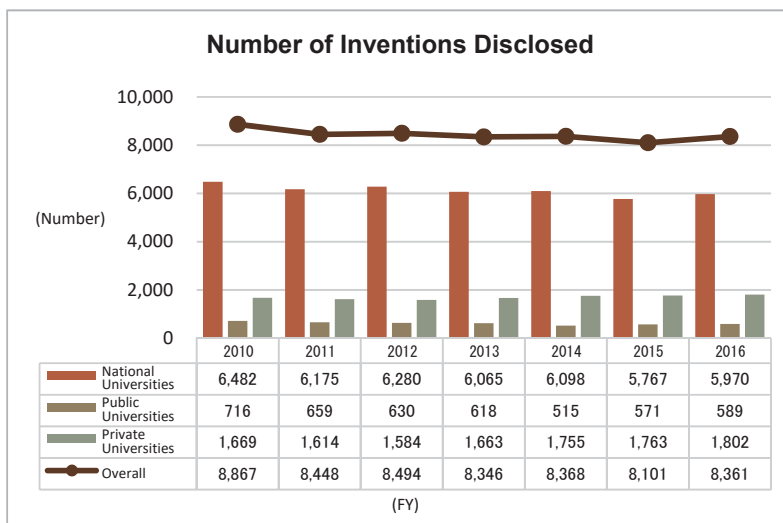
## 11-3. Intellectual Property

The number of inventions disclosed by Kyushu University, and the number of patent applications, has been trending sideways. The number of patents held is increasing slowly at an average annual rate of about 150.

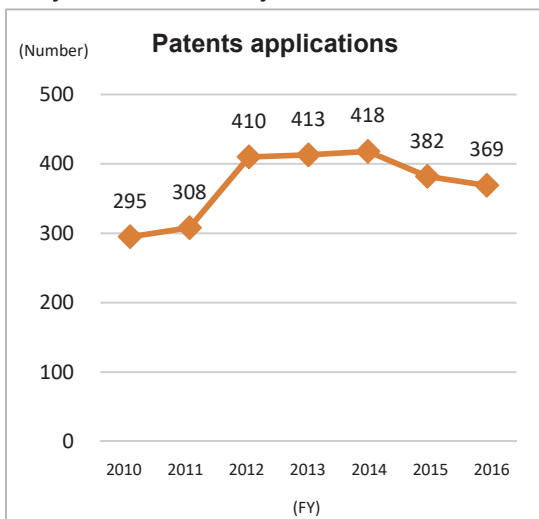
### ◆Kyushu University◆



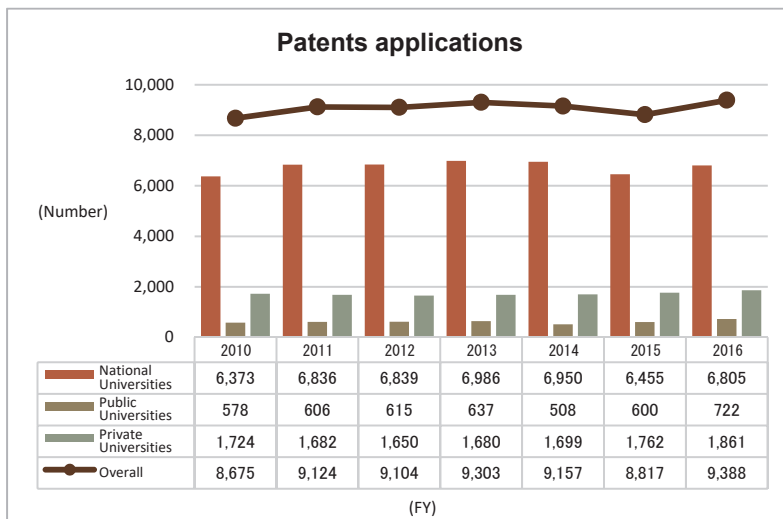
### ◆The Public Nationwide◆



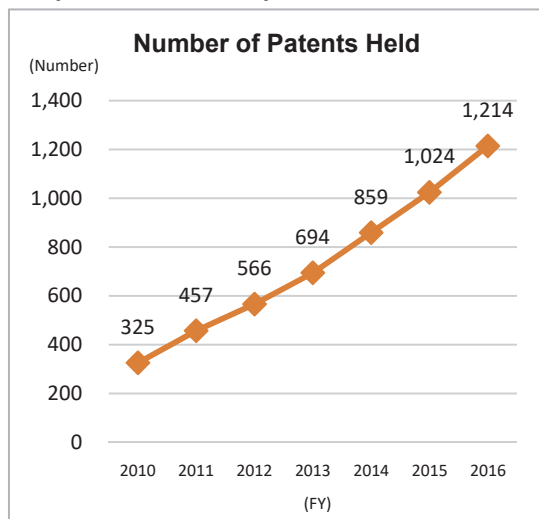
### ◆Kyushu University◆



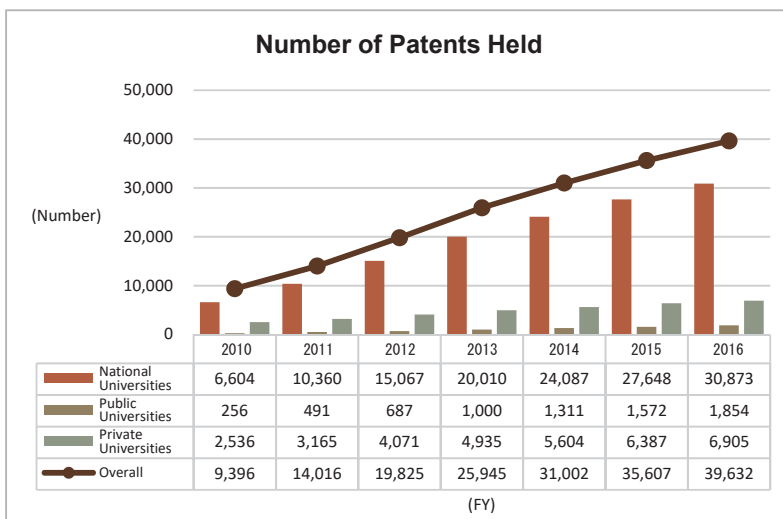
### ◆The Public Nationwide◆



### ◆Kyushu University◆



### ◆The Public Nationwide◆

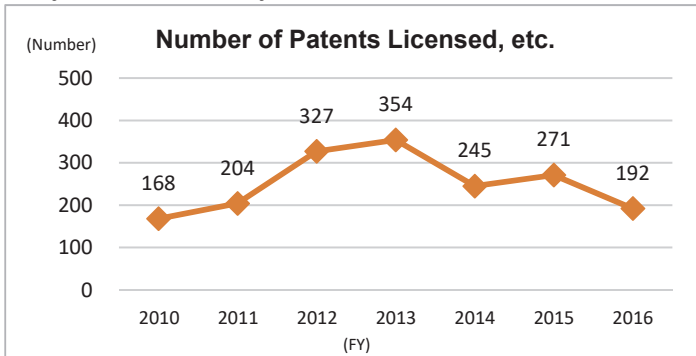


\*Source: MEXT, *Industry Collaboration in Higher Education Institutions*

### 11-3. Intellectual Property (continued)

The Public Nationwide, recent years have seen an upward trend in the number of patents licensed, the amount of income from licensing, and the number of start-ups created by universities. Kyushu University's income from licensing patent rights, etc. leaped in FY2015.

#### ◆Kyushu University◆

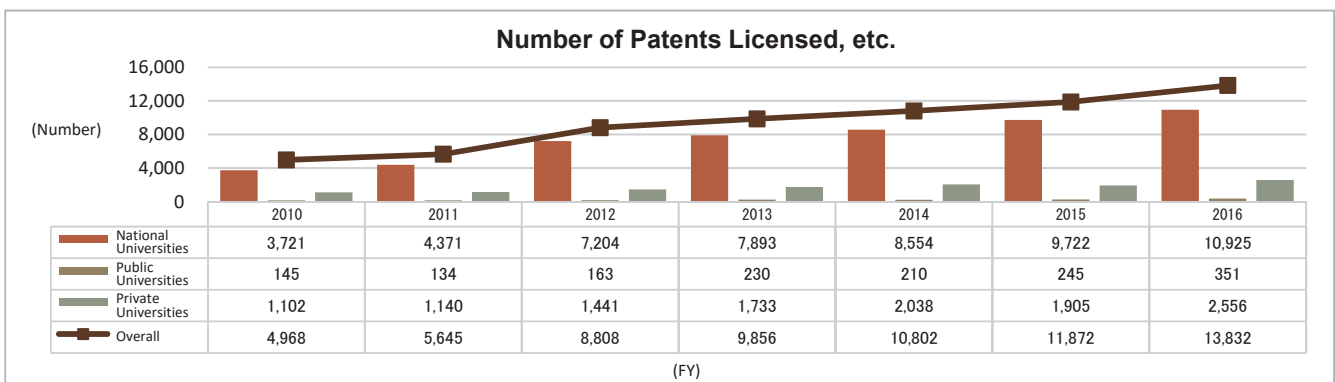


[Number of Patents Licensed ,etc. (including overseas)]

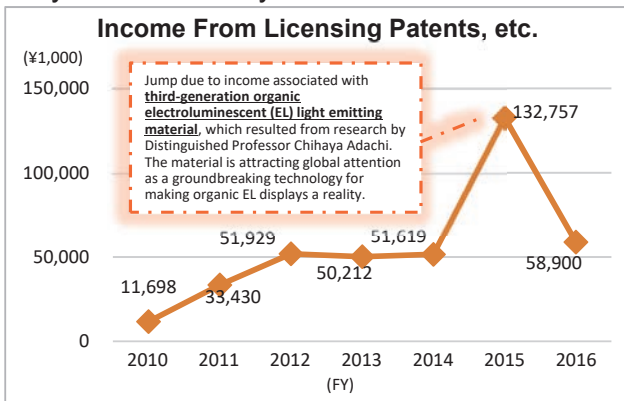
Rank	University	Number
1	The University of Tokyo	2,880
2	Kyoto University	1,135
3	Kanto Gakuin University	886
4	Osaka University	782
5	Tokyo Institute of Technology	641
6	Hokkaido University	587
7	Nagoya University	404
8	Tohoku University	379
⋮		
17	<b>Kyushu University</b>	<b>192</b>

(2016)

#### ◆The Public Nationwide◆



#### ◆Kyushu University◆

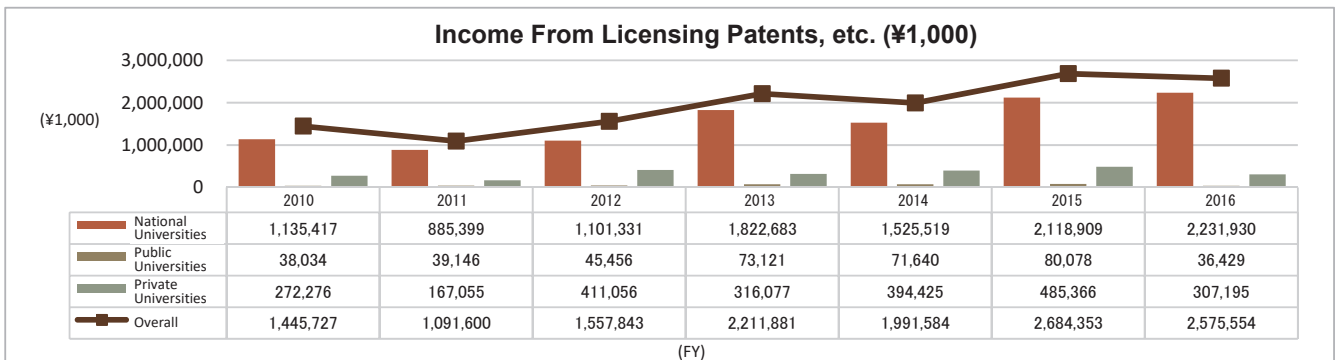


[Income From Licensing Patents, etc. (including overseas)]

Rank	University	Income
1	The University of Tokyo	717,651
2	Kyoto University	459,908
3	Nihon University	118,803
4	Osaka University	118,665
5	Tohoku University	105,325
6	Tokushima University	100,527
7	Nagoya University	82,822
8	Okayama University	59,811
9	Tokyo Institute of Technology	59,473
10	<b>Kyushu University</b>	<b>58,900</b>

(2016)

#### ◆The Public Nationwide◆

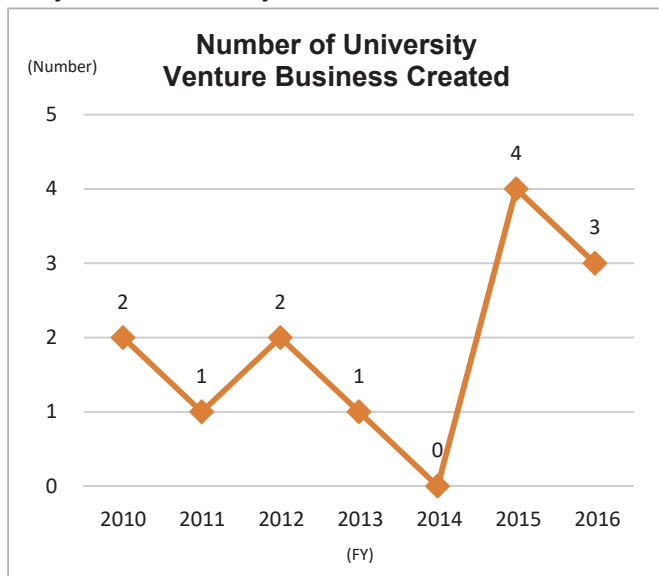


\* In this survey, "number of patents licensed,etc." and "amount of income from licensing patents,etc." refers to the number of patent rights licensed or assigned (including at the "right to obtain a patent" stage) and the amount of income received as a result.

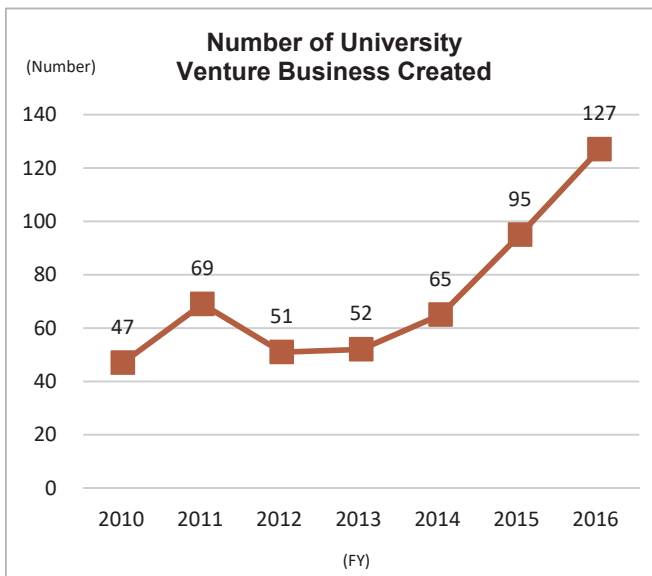
\*Source: MEXT, *Industry Collaboration in Higher Education Institutions*

### 11-3. Intellectual Property (continued)

#### ◆Kyushu University◆



#### ◆The Public Nationwide◆



**\*Sources**

- The Public Nationwide: *Industry-Academia Collaboration in Higher Education Institutions* Joint Collaborative Research outputs (by Institution), figures for each fiscal year (MEXT)

#### ◆Comparisons With Other Universities◆

[Number of Patents Generating Running Royalty Income]

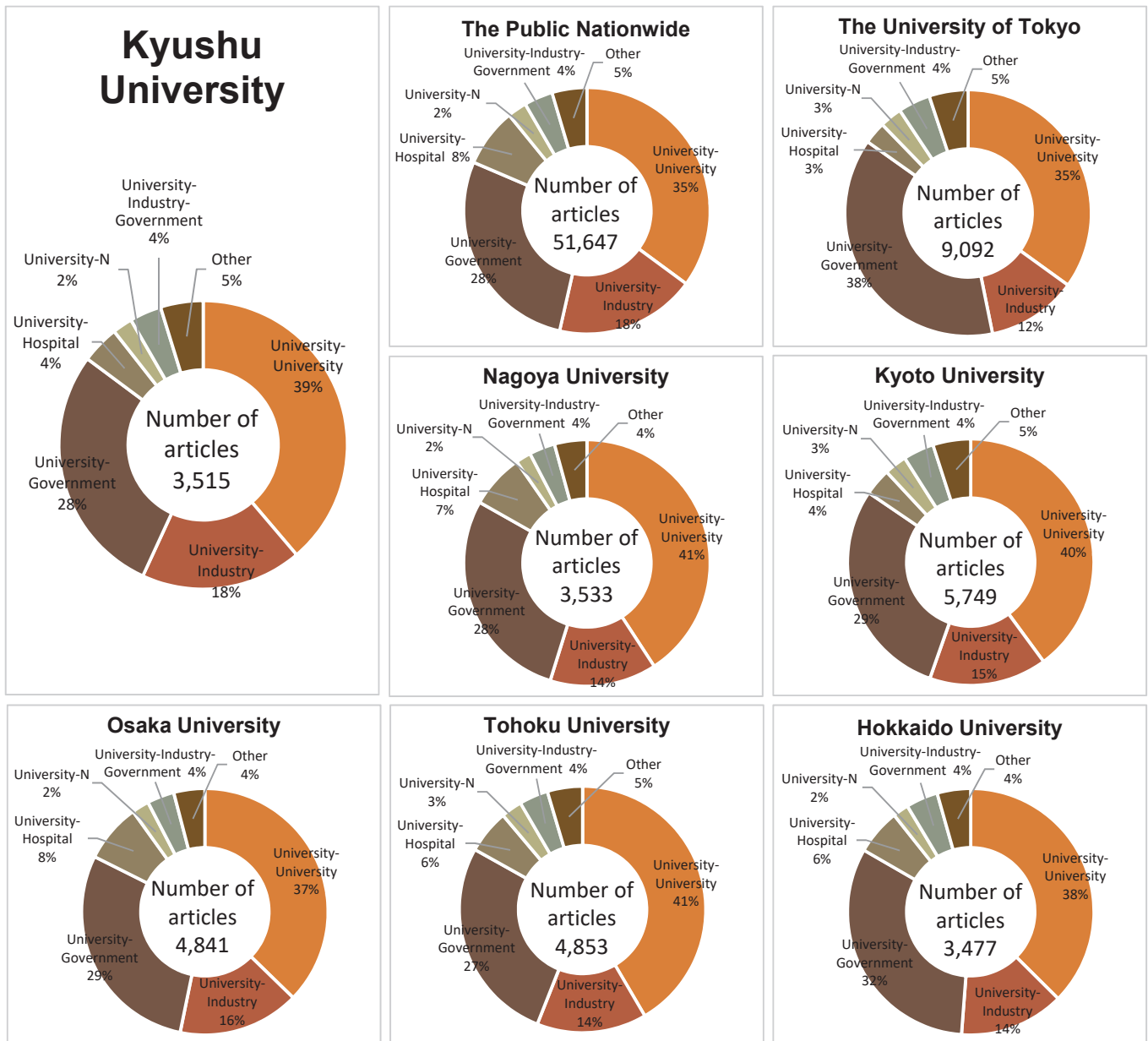
Rank	University	Number
1	Tohoku University	149
2	The University of Tokyo	137
<b>3</b>	<b>Kyushu University</b>	<b>126</b>
4	Toyohashi University of Technology	123
5	Shizuoka University	117
6	Tokyo Institute of Technology	108
7	Kanazawa University	101
8	Kyoto University	93
8	University of Tsukuba	93
10	Osaka University	88

(2016)

\*Source: MEXT, *Industry and Public Organizations in Higher Education Institutions* in FY2016

## 11-4. Industry-University-Government Collaboration Through Co-authorship Relationships

Comparing co-authorship relationships between Kyushu University and other universities, while university-to-university collaboration is quite high, the share is about the same as the national average.



The six institution categories used in the graph are as follows.

Institution Category	Institutions Involved
University	Universities (including junior colleges) <sup>Note 1)</sup> , inter-university research institutes, and national colleges of technology Note 1) includes university hospitals
Industry	Private organizations
Government	National organizations, semi government corporations and independent administrative corporations, and local public entities
Hospital	Medical institutions
N	Nonprofit organizations
Other	Organizations other than those listed above

• Based on a database of conference records and proceedings compiled by JST

Source: Japan Science and Technology Agency (JST) Japan Information Platform for Science and Technology Innovation, *Patterns of Industry-University-Government Collaboration as Seen Through Co-authorship Relationships* (FY2011). Uses data extracted by setting the search parameters as follows:  
 Year of article: 2011  
 Fields: All fields  
 Universities: Hokkaido University, Tohoku University, The University of Tokyo, Nagoya University, Kyoto University, Osaka University, and Kyushu University.  
 Japan Science and Technology Agency (JST) website: <https://jipsii.jst.go.jp/foresight/dataranking/sangakukan/pattern/>



## 11-5. Number of Articles Co-authored With local public entities

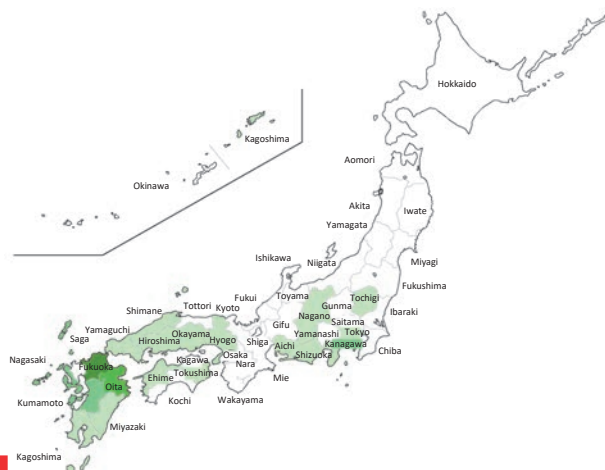
The maps of Japan below show the extent of collaboration between Kyushu University and local public entities such as public experimental research institutes, focusing on co-authorship relationships.

Tallying the number of articles co-authored with local government organizations by prefecture shows the extent to which the university is collaborating with “regional hubs.”

Over the ten-year period examined, the number of co-authored articles has almost doubled from 90 to 170, while the number of prefectures with which those articles were co-authored has grown from 19 to 31, demonstrating that collaboration with local governments is progressing smoothly.

2001

Rank	Prefecture	Number of articles	Percentage
1	Fukuoka Prefecture	57	63.3%
2	Oita Prefecture	7	7.8%
3	Kanagawa Prefecture	4	4.4%
4	Nagasaki Prefecture	3	3.3%
4	Kumamoto Prefecture	3	3.3%
6	Shimane Prefecture	2	2.2%
6	Kagoshima Prefecture	2	2.2%
Other	12 Prefectures	12	13.4%
Kyushu University total		90	
(Total number of articles)		4,479	



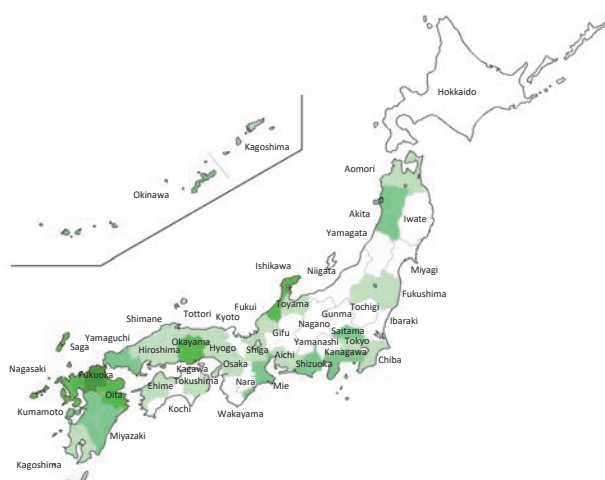
2006

Rank	Prefecture	Number of articles	Percentage
1	Fukuoka Prefecture	78	59.5%
2	Kumamoto Prefecture	7	5.3%
3	Aichi Prefecture	5	3.8%
3	Miyazaki Prefecture	5	3.8%
5	Nagasaki Prefecture	4	3.1%
6	Kanagawa Prefecture	3	2.3%
6	Saga Prefecture	3	2.3%
6	Oita Prefecture	3	2.3%
6	Kagoshima Prefecture	3	2.3%
Other	13 Prefectures	20	15.3%
Kyushu University total		131	
(Total number of articles)		8,133	



2011

Rank	Prefecture	Number of articles	Percentage
1	Fukuoka Prefecture	63	37.1%
2	Saga Prefecture	14	8.2%
3	Oita Prefecture	10	5.9%
4	Nagasaki Prefecture	9	5.3%
5	Ishikawa Prefecture	7	4.1%
5	Okayama Prefecture	7	4.1%
7	Miyazaki Prefecture	5	2.9%
8	Akita Prefecture	4	2.4%
8	Saitama Prefecture	4	2.4%
8	Shizuoka Prefecture	4	2.4%
8	Yamaguchi Prefecture	4	2.4%
8	Kumamoto Prefecture	4	2.4%
8	Okinawa Prefecture	4	2.4%
Other	18 Prefectures	31	18.3%
Kyushu University total		170	
(Total number of articles)		8,285	



Source: Japan Science and Technology Agency (JST), *Collaboration With Regions (Co-authorship Relationships With Each Prefecture) and Collaboration With Regions (Number of Articles)*