



# IP activity supporting Social Innovation Business

**June 28, 2017**

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- 1. Global Trends and New Challenges in IP Activity**
- 2. IP Activity for Product Business**
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## Opening up a new world of Social Innovation Business with IP

- **Revolution era** has arrived in which economic, social, and industrial structures are rapidly changing.
- **IP** (including data) accelerates revolution (**game change**) and has great influence on competitiveness.
- IP contributes to expanding **Social Innovation Business** to achieve **SDGs**<sup>\*1</sup> and to realize **Society5.0**<sup>\*2</sup>.



\*1 SDGs : Sustainable Development Goals, adopted in UN Summit in Sep. 2015 and came into force on Jan. 1, 2016.

\*2 Society 5.0 : Council for Science, Technology and Innovation Fifth Science and Technology Basic Plan in Jan. 2016

## Building and managing ecosystem through IP for expanding Social Innovation Business



### Building ecosystem

- Creating IP through open innovation
- Forming an alliance

### Managing ecosystem

- Open IP licensing
- Sustaining ecosystem



**Power • Energy**



**Industry • Distribution • Water**



**Urban**



**Finance • Public • Healthcare**

## Building ecosystem through Standardization

- Election of IEC Technical Committee\*1 's chairperson, reception of IEC **Thomas A. Edison Award**\*2
- Election of Ecma International\*3 's **first Japanese president** and ISO Technical Committee\*4 's chairperson



### List of Winners of Commendation relating to Standardization (FY 2016)

Winner	Award	Reasons for Awards
Yoshiaki Ichikawa	Thomas A. Edison Award (IEC)	<ul style="list-style-type: none"> <li>• Chairperson of IEC Technical Committee (environmental standardization)</li> <li>• Contribution to the introduction of the environmental standardization into US and EU regulations</li> </ul>
	The Prize of Minister of Economy, Trade and Industry at the Industrial Standardization Awards ceremony	
Kei Yamashita	The Prize of Minister of Economy, Trade and Industry at the Industrial Standardization Awards ceremony	<ul style="list-style-type: none"> <li>• President of Ecma International (the first Japanese)</li> <li>• Chairperson of ISO Technical Committee (digitally recorded media for information interchange and storage)</li> </ul>

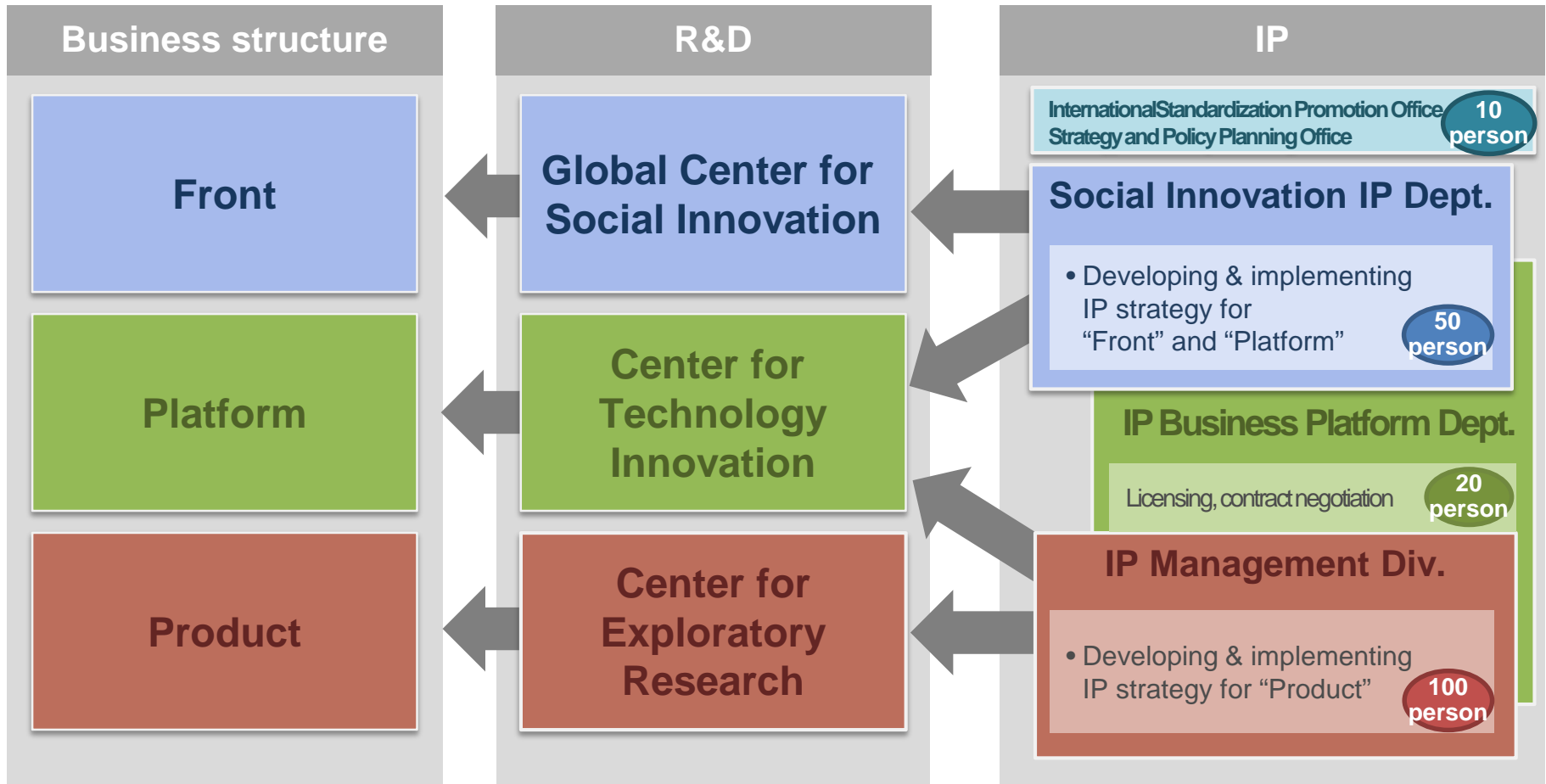
\*1 IEC Technical Committee : IEC TC111(Environmental standardization for electrical and electronic products and systems)

\*2 Thomas A. Edison Award : The second highest award after Lord Kelvin Award among IEC related awards

\*3 Ecma International : An industry association dedicated to the standardization of information and communication system

\*4 ISO Technical Committee : ISO/IEC JTC1/SC23(Digitally recorded media for information interchange and storage)

## Reforming IP organization aligned with business structure





# 1.5 Expanding Global IP Activity

## Developing IP overseas offices for supporting Social Innovation Business globally



- IP Overseas Office
- Major business operation base which IP Division supports

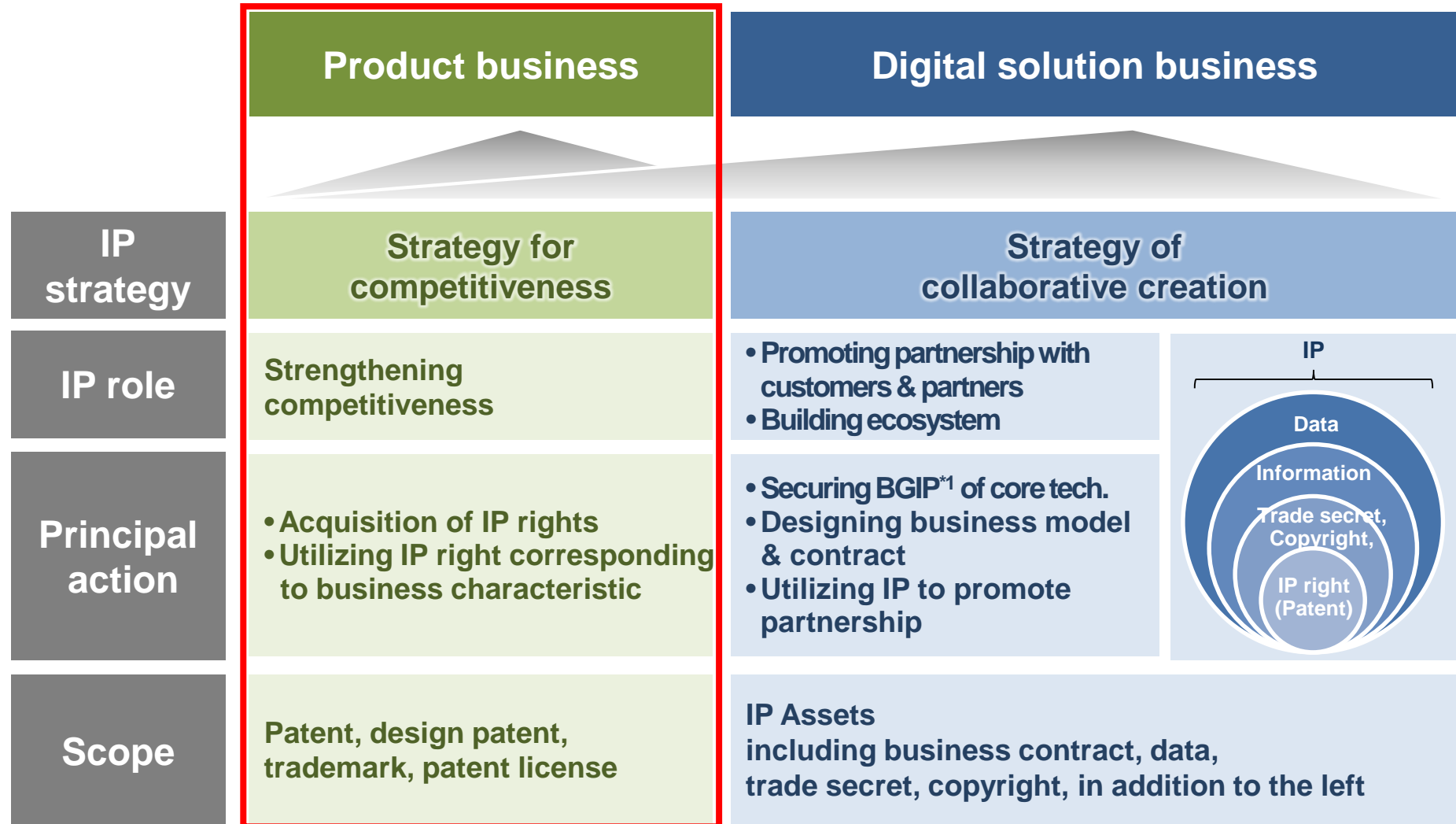




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\*1 BGIP : Background IP

## Formulating and implementing IP Master Plan customized for business characteristics



### Healthcare BU\*1

Japan Institute of Invention and Innovation  
Awarded the Imperial Invention Prize  
(2017 National Commendation for Invention)

The image shows a medical treatment room with a large circular gantry. A 'Particle beam' is directed downwards from the gantry. 'X-ray fluoroscopy' is used for real-time imaging. The room is labeled 'Treatment room'.

“Real-time image gated particle beam therapy system”  
PAT. No. 5896211

Industry-academia collaboration with Hokkaido University\*2

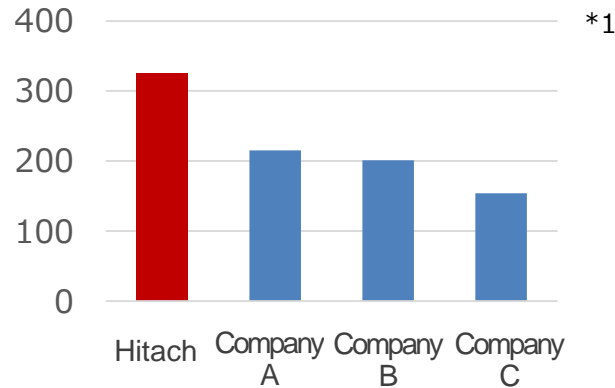
To a world where intractable cancer that moves by respiration can be cured by outpatient treatment without any side effects

\*1 BU : Business Unit

\*2 Funded under “FIRST Program” of Cabinet Office

## Railway Systems BU

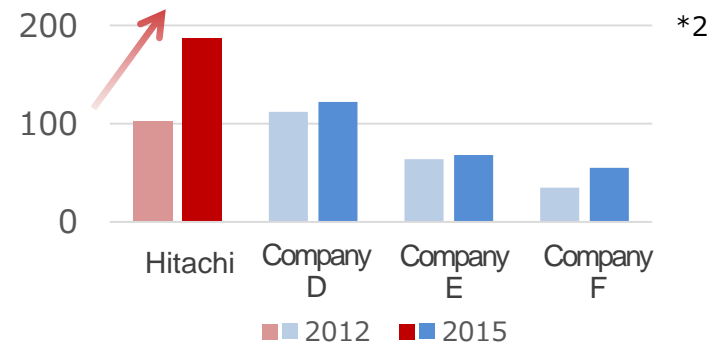
1<sup>st</sup> rank in the number of patent applications on Traffic Management System



\*1 Japan Patent Office Patent Application Technical Trend Survey (FY2015) "Railway Traffic Control System" Number of patent applications in Japan, United States, Europe, China, South Korea, Germany and France from 1994 to 2013

## Building Systems BU

Strengthening elevator patent portfolio in China



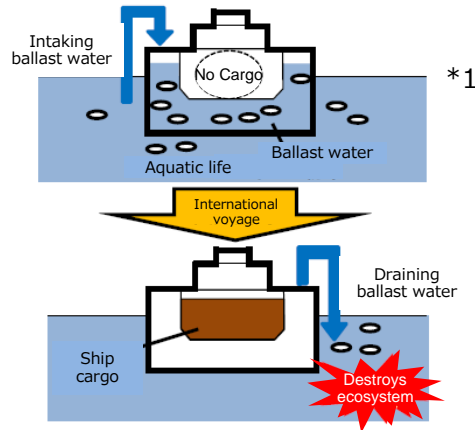
Hitachi Elevator(China) acquired Chinese National Standard Certification related to IP management.



\*2 Survey by Hitachi. Number of registered patents in China in 2012 and 2015

## Water BU

Open licensing of fundamental patent of a ship which equips ballast water purification treatment equipment



Joint invention with Mitsubishi Heavy Industries, Ltd.  
An **International Treaty** that obliges ships to install the equipment on ships will come into force.

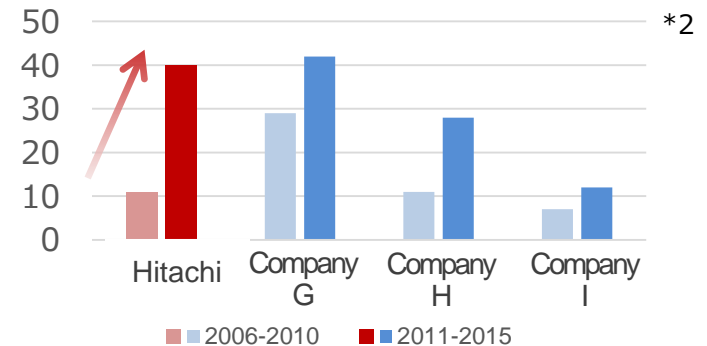
Maintaining the marine ecosystem and contributing to environmental protection of the oceans

\*1 Ministry of Land, Infrastructure, Transport and Tourism "Overview of International Convention for the Control and Management of Ships' Ballast Water and Sediments"

## Hitachi Industrial Equipment Systems

Protecting marking systems by combination of IP rights  
Eliminating counterfeit products

Strengthening patent applications in China



Exercising design patents against counterfeit products in China  
Eliminating counterfeit products from e-commerce websites

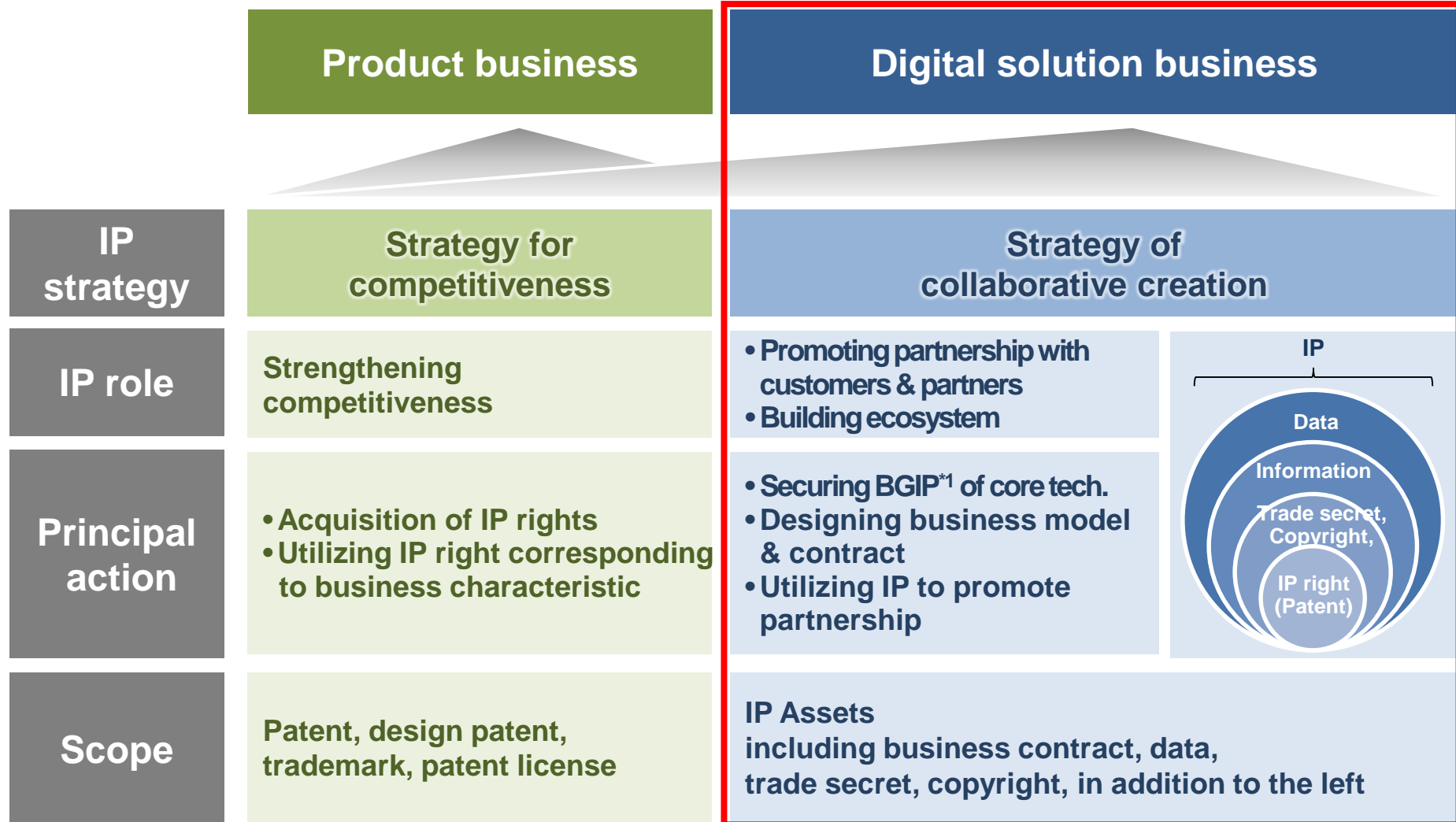


\*2 Survey by Hitachi. Number of patent publications in China from 2006 to 2011 and from 2011 to 2015

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\*1 BGIP : Background IP



### Securing IP rights of core technology (BGIP\*1) and driving a consortium and standardization activities for building an ecosystem

1<sup>st</sup> rank in the number of patent applications on Smart Manufacturing\*2

\*3

Rank	Applicant	Number of Patent Applications
1	<b>Hitachi</b>	<b>622</b>
2	Fisher-Rosemount Systems, Inc. (USA)	544
3	Siemens (Germany)	467
4	Toshiba (Japan)	424
5	Yokogawa Electric (Japan)	377

Participating in standardization organizations and consortiums proactively



etc.

**Japan-Germany Cooperation on IoT (agreed at Japan-Germany summit)**

Hitachi participates in joint working group between Plattform Industrie 4.0\*4 and RRI\*5 as Japanese representative

\*1 BGIP : Background IP

\*2 Smart Manufacturing : General term of technology aiming at productivity of factory and creation of new business by adopting IoT technology

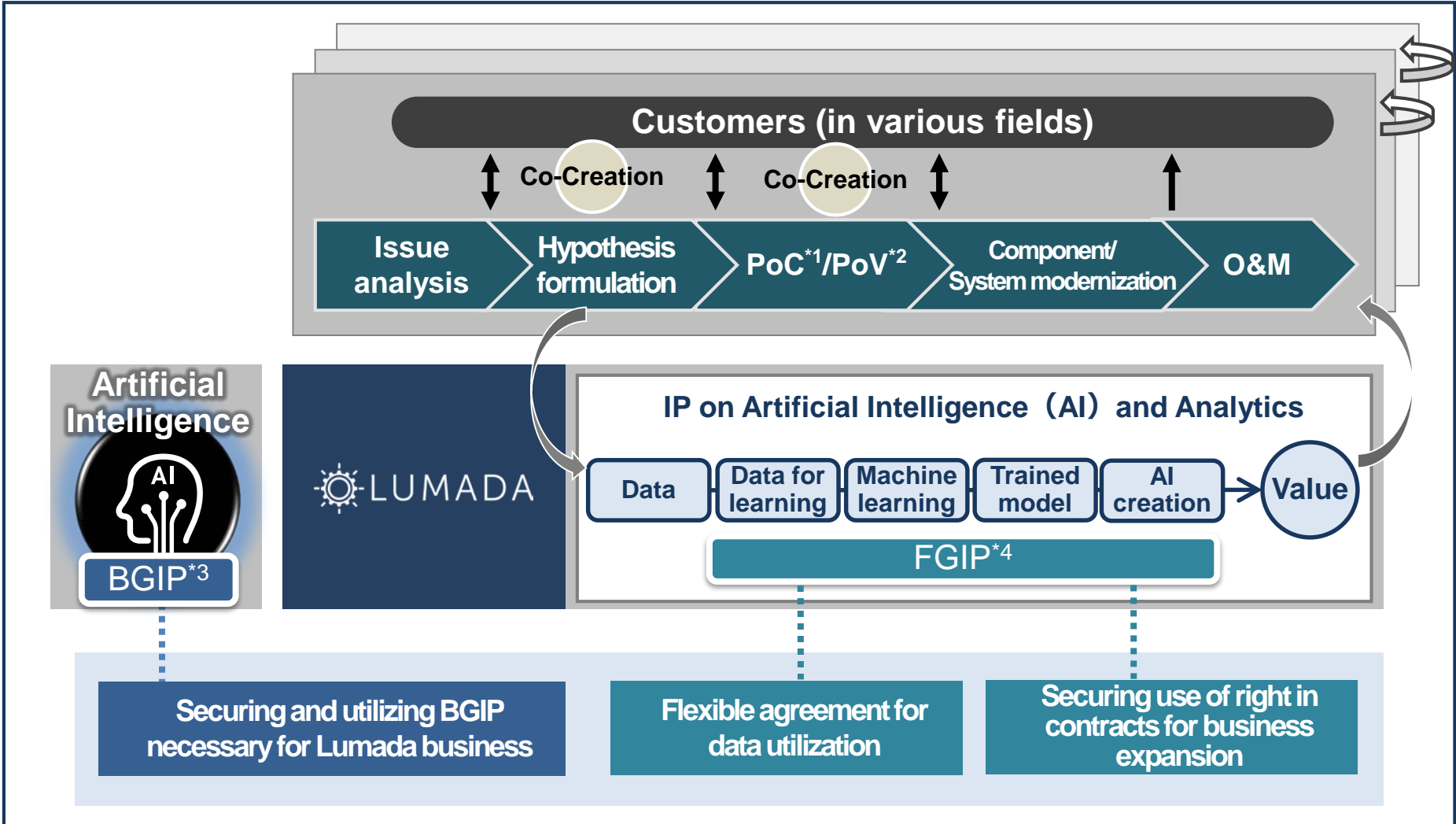
\*3 Japan Patent Office Patent Application Technical Trend Survey (FY2016) "Smart Manufacturing" number of patent applications in Japan, United States, Europe, China, South Korea and Germany from 2005 to 2014

\*4 Plattform Industrie 4.0 : German organization promoting Industrie 4.0

\*5 RRI : Robot Revolution Initiative

\*6 Japanese representative : Hitachi, other 2 companies and 1 university

Providing value to customers by using IP and contributing to business expansion



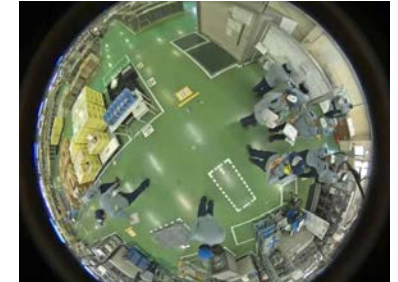
\*1 PoC : Proof of Concept \*2 : PoV: Proof of Value \*3 BGIP : Background IP \*4 FGIP : Foreground IP

Formulating IP Strategy Book for digital solution business summarizing IP knowledge obtained through collaboration cases and deploying it globally



**HITACHI**  
Inspire the Next

Improving efficiency of quality assurance by connecting analysis and manufacturing execution systems



IP knowledge

IP Strategy Book for digital solution business



Power • Energy



Industry •  
Distribution •  
Water

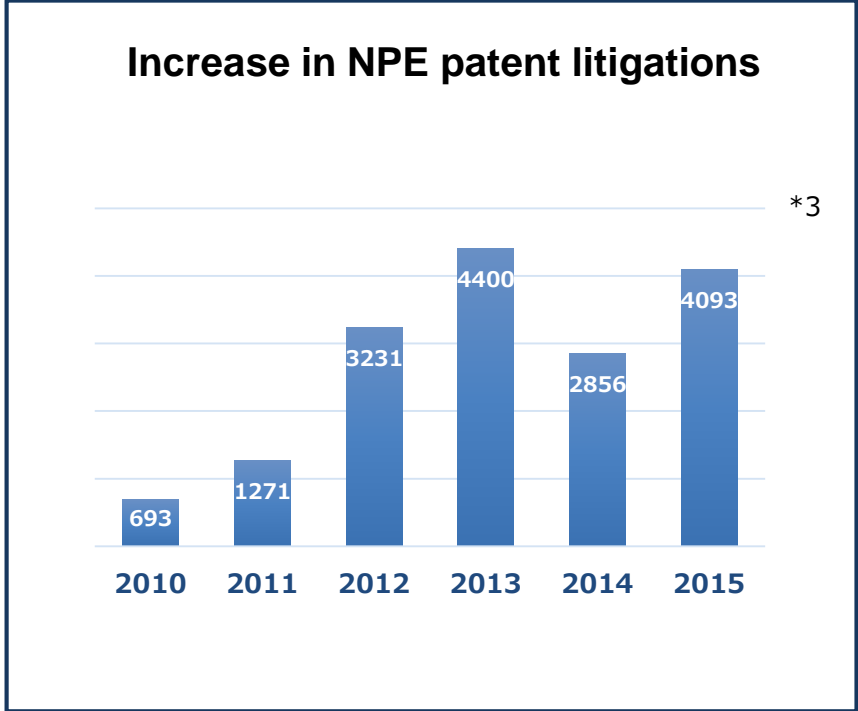
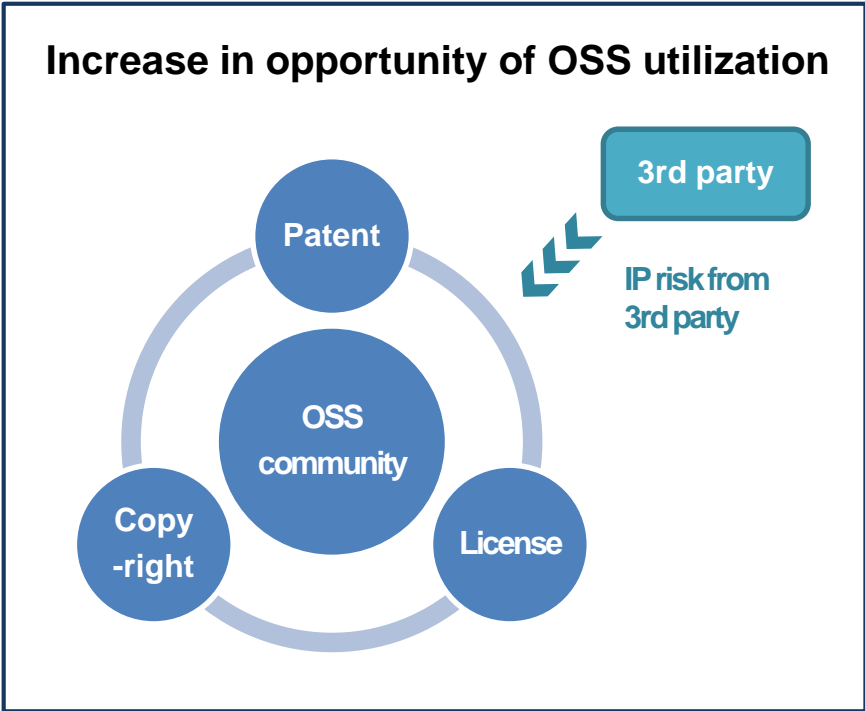


Urban



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## Risk management for OSS\*1 utilization and NPE\*2 along with the progress of digital transformation



**IP activity to mitigate IP risk for protecting/developing OSS community and to take measures against NPE patent litigations**  
 (Considering to be a defensive patent aggregation member or invalidating patents)

\*1 OSS : Open Source Software

\*2 NPE : Non-Practicing Entity

\*3 Source : JETRO "2015 Annual Report on trends of Non-practicing Entity" NPE patent litigations in US

**Government discussing data utilization/protection to realize Society 5.0  
Hitachi providing opinions in Councils proactively**

### Examination bodies in Japan for IoT in which Hitachi participates

#### Cabinet Secretariat

- Future Investment Council, etc.

#### Cabinet Office

- New Information Assets Examination Committee, etc.

#### Ministry of Internal Affairs and Communication

- Artificial Network Society Promoting Council, etc.

#### Ministry of Economy, Trade and Industry

- Industrial Structure Council, New Industrial Structure Committee
- Study meeting on the ideal way of intellectual property system with a view to the fourth industrial revolution etc.

#### IoT Acceleration Consortium

#### Robot Revolution Initiative

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### ■ New IP Activity

- Tackling a new IP activity based on **competition** and **collaboration** strategy to support **Social Innovation Business**.

### ■ Product Business

- Formulating and implementing **IP Master Plan** along with business strategy

### ■ Digital Solution Business

- Expanding IP activity from **patent to broader IP**
- Securing BGIP of core technology and supporting contract design on the premise of data utilization.



# THE FUTURE IS OPEN TO SUGGESTIONS

**Hitachi Social Innovation**

**Delivering new value to society through  
collaborative creation with our customers and partners**

**END**



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