
2015 R&D strategy

Global R&D leading Social Innovation Business

15 April 2015

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2015 Mid-term Management Plan

- Achieving Growth and Hitachi's Transformation -

Innovation

Strengthen service businesses that maximize the utilization of IT and bring about innovation

Global

Deliver Innovation to Customers and Society globally

Transformation

Transform Hitachi:
To deliver innovation by standardized and speedy operation





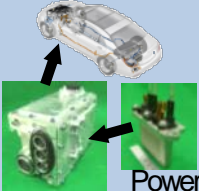

1-2 Contributing to Social Innovation Business

Pursuing transformation to fulfill 2015 Mid-term Management Plan

Mgmt. index	'12	'13	'14 (Forecast)	'15 (Target *2)
Revenue	JPY9,041B	JPY 9,616.2B	JPY9, 600B *1	JPY10,000B
Operating income ratio	4.7%	5.5%	6.0% *1	Over 7%
% overseas	41%	45%	47% *2	Over 50%

*1: as at 2015/2/4, *2: as at 2014/5/12

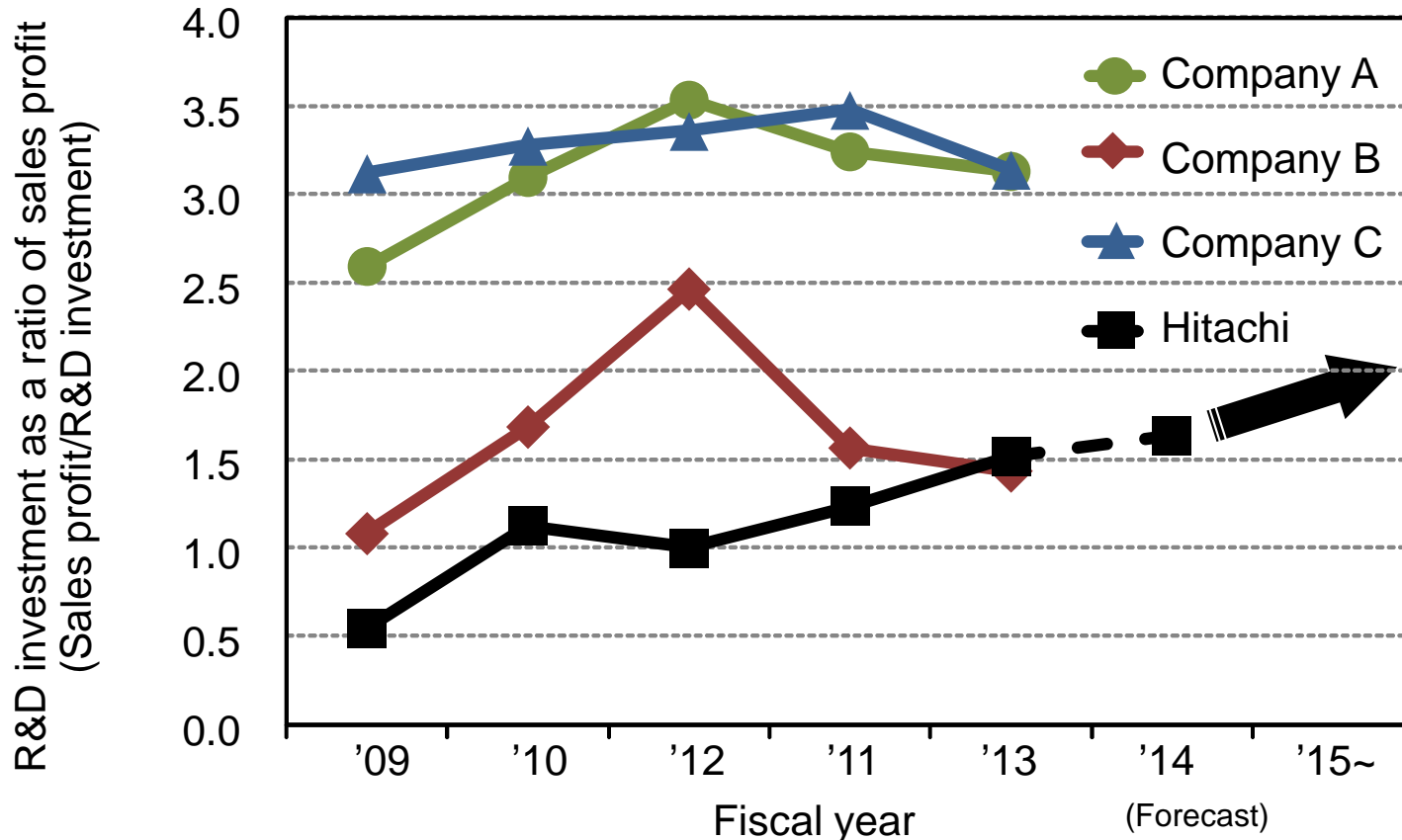
Timely integration of R&D results in products for the global market

<p>Storage systems '14/4</p>  <p>VSP G1000 Uninterrupted service through virtualization technology</p> <p>VSP: Virtual Storage Platform</p>	<p>Proton beam therapy '14/8</p>  <p>PROBEAT-RT *3 Improved precision through moving tumor tracking irradiation technology</p>	<p>Railway systems '15/1</p>  <p>Class 800 series Simplification of impact absorption structure through analysis-led design</p>
<p>Elevators '14/4</p>  <p>World's fastest elevator Improved riding comfort through active control technology</p>	<p>Eco-friendly vehicles '14/12</p>  <p>Inverters Reduced inverter size through dual-sided cooling power modules</p>	<p>UPS '15/6</p>  <p>UNIPARA 30% size reduction through modular power conversion unit</p>

*3: Developed with Hokkaido University under the FIRST Program (Cabinet Office of Japan), '14/8 Approval granted for partial amendment of previously approved items under Japan's Pharmaceutical Affairs Law (tumor tracking system).

Strengthen innovation for new growth

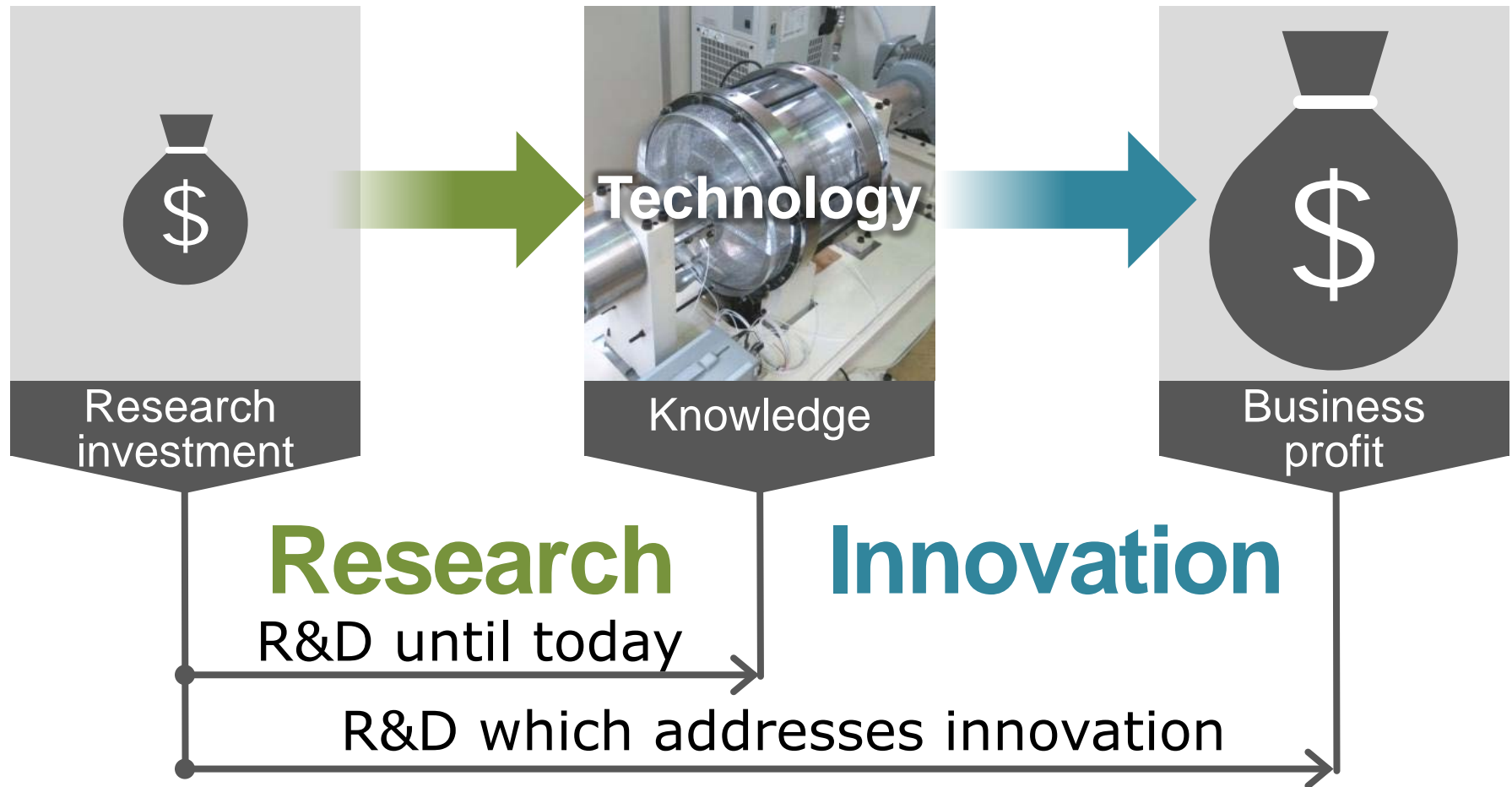
Strengthen innovation transforming R&D investment into business earnings to take on the challenge of global major players



R&D investment as a % of revenue 4.2% 4.2% 4.3% 3.8% 3.7% 3.7%

*Figure for FY2014 is given as forecasted on 2015/2/4

R&D: From generating technology to driving innovation



Hitachi Gr. business policy: increase business income

From “product-out” to “market-in”
Shift to “customer-driven”

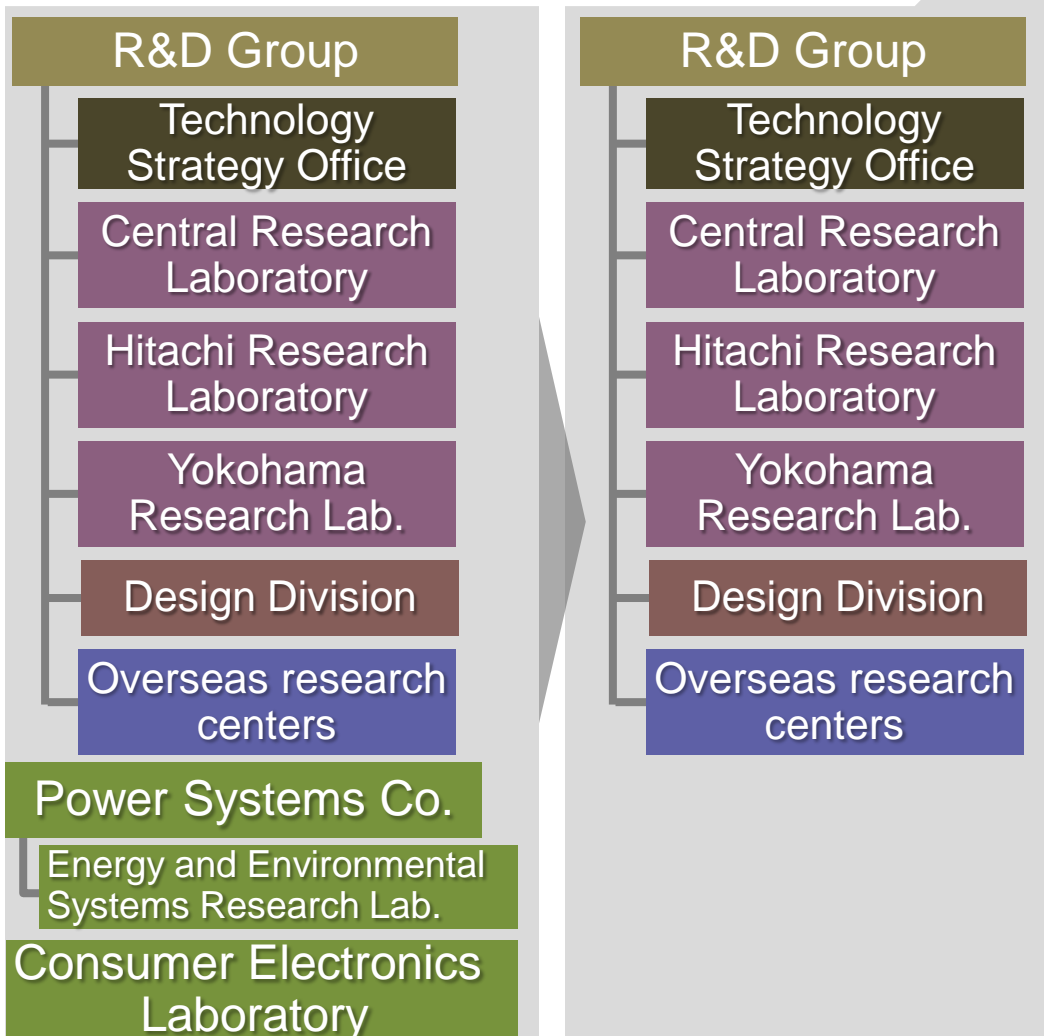


Realign R&D organization, enhance innovation strength

1. Assign researchers close to customers to expand collaborative creation
2. Create innovative technology that satisfy market needs

1-6 Realignment of Global R&D Organization

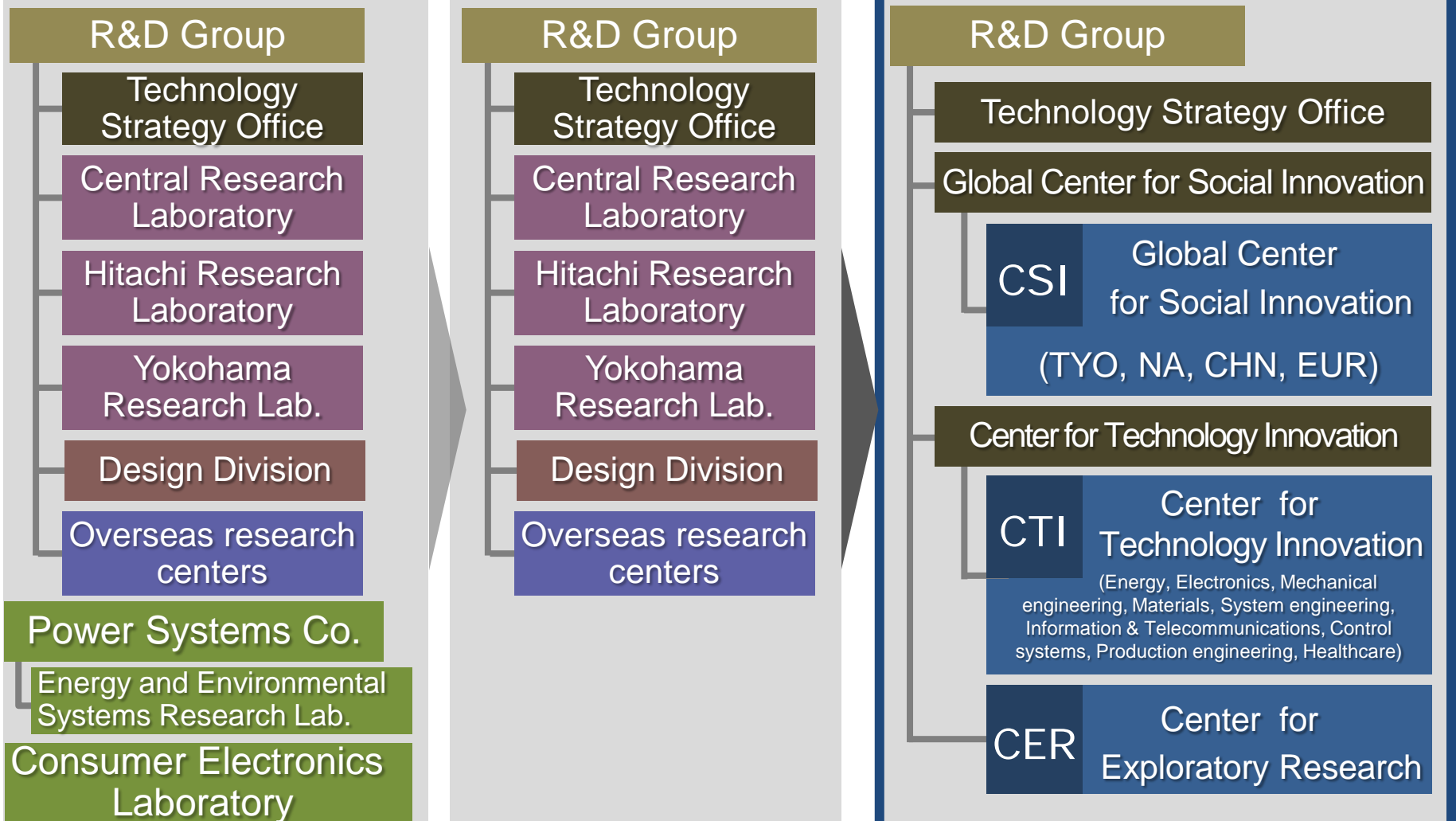
2011/4: Consolidate sites,
integrate technology areas



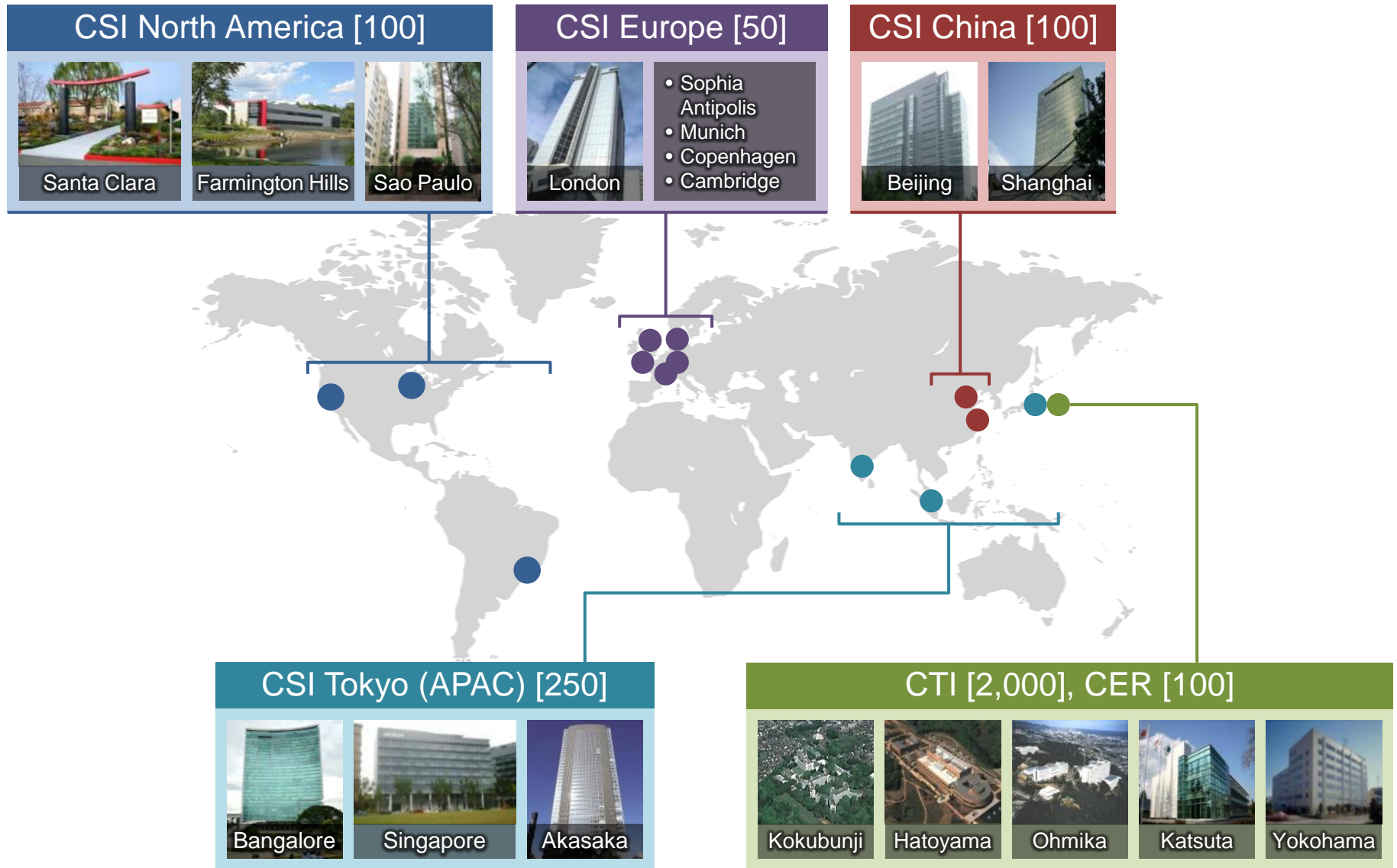
1-7 Realignment of Global R&D Organization

2011/4: Consolidate sites,
integrate technology areas

2015/4 : Global realignment to speed-up
collaborative creation



1-8 Research Sites & Personnel



[]: Head count, APAC: Asia-Pacific

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Serving the world with our Social Innovation Business

SOCIAL INNOVATION - IT'S OUR FUTURE

“IT × Social infrastructure”



Energy



Urban
development



Transportation



Healthcare



Water and
Natural resources



Logistics



Manufacturing
and Construction



Finance

Build-up solutions utilizing IoT and big data

Renewable energy



Raise facility output by detecting PV module failure or deterioration

Mega solar



Sensing

Safe & secure cities



Secure safety & comfort by using wide-area surveillance & high-speed image search to protect communities

Community



Security

Rail systems



Raise reliability by remote monitoring of carriage condition to predict failure

Rail cars



Sensing

Preventive medicine



Predict and reduce lifestyle disease related medical costs in groups by big data analytics on health check-up data

Lifestyle disease



Big data analytics

Distribution



Improve retail performance by analyzing customer behavior patterns with AI

Human behavior



AI

Mining



Improve productivity by optimizing dispatch through big data analytics of equipment position & operational status

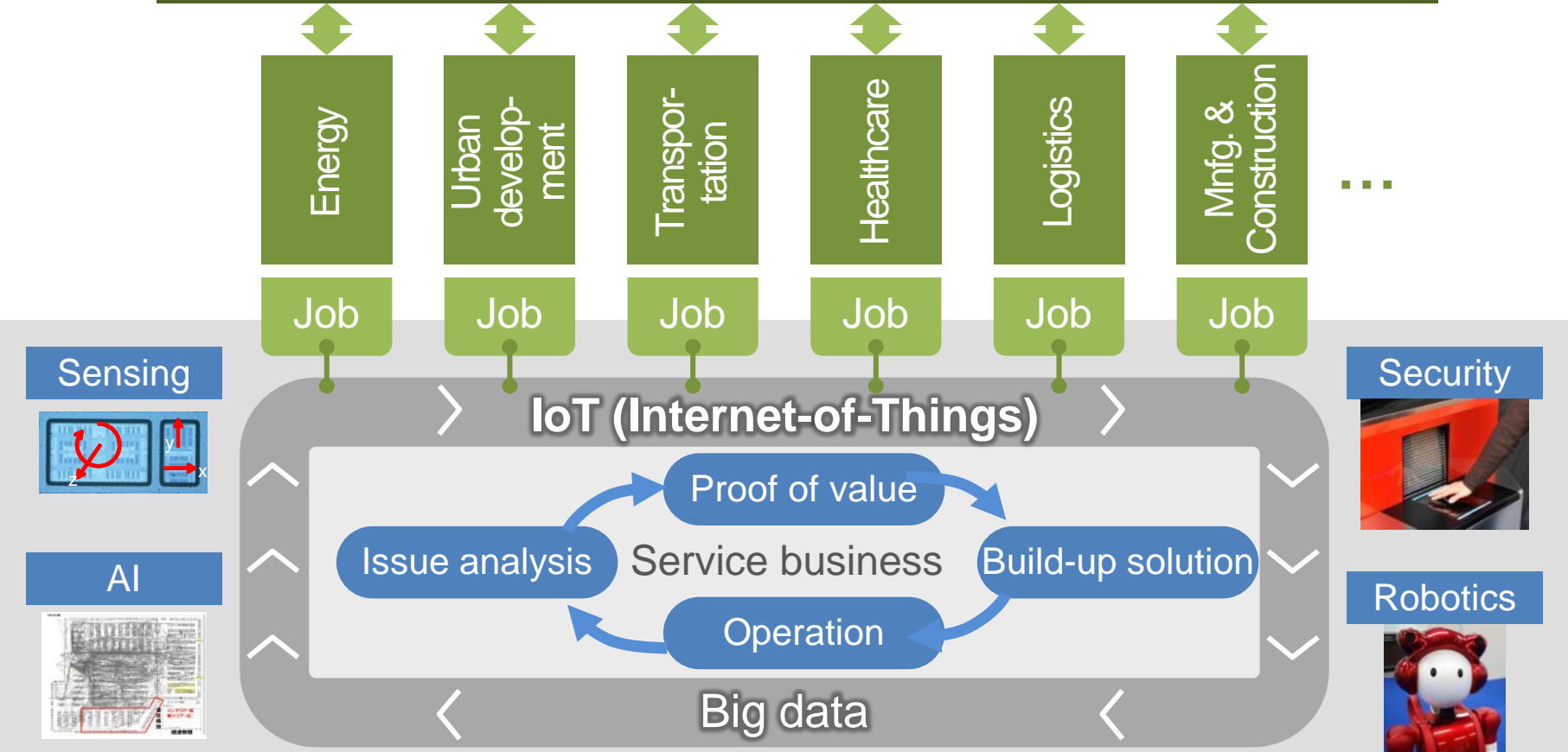
Mine devt.



Big data analytics

Build-up common platforms, accelerate business expansion

Accelerate global collaborative creation with customers



Scale-up using symbiotic ADS platform

Position researchers close to customers to accelerate collaborative creation

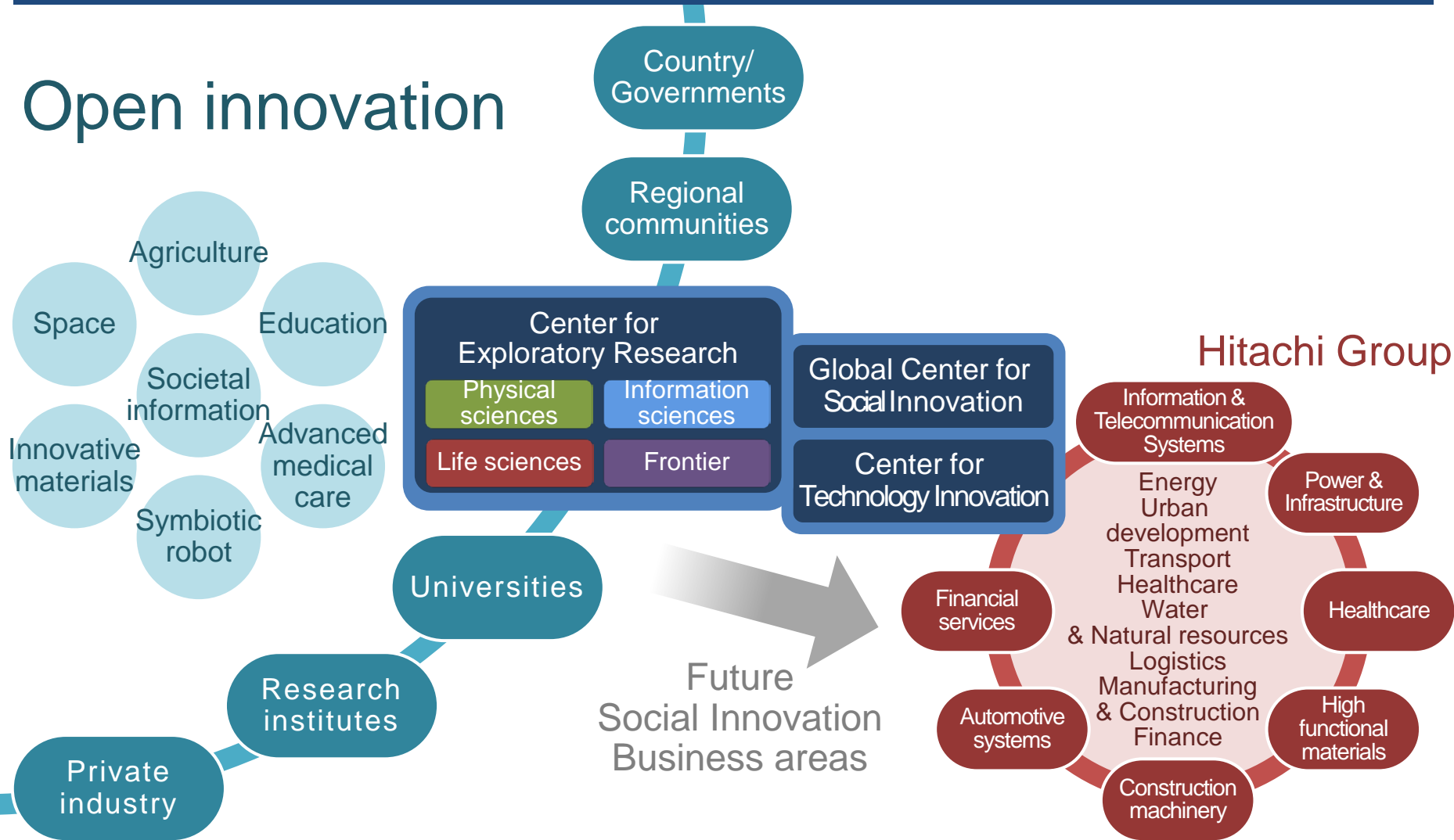
Region	Research strategy
Tokyo (APAC)	Co-create solutions with key accounts in the APAC region leveraging customer collaborative creation methods developed through service design research
North America	Construct big data analytics platforms, and pursue collaborative creation with customers in areas such as energy, telecommunications, finance and healthcare
China	Strengthen collaborative creation with key accounts in elevators/escalators, ATMs, etc. to realize solutions to industrial policies such as low-carbon society and new-type urbanization
Europe	Together with major institutions, participate in market creation through standardization activity in Europe, to realize solutions for developed nations which resolve issues in mature society

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Pioneer new frontiers through creative vision-driven exploratory research

Open innovation



3-2 Case Examples

Physical sciences

Realize an eco-friendly society by creating innovative material using the holography electron microscope

Hitachi, Ltd.

RIKEN

Prof. TOKURA Yoshinori

Prof. SHINDO Daisuke

Holography EM
World's highest resolution: 0.043 nm

NIMS

Overseas/domestic research institutes & user companies

Supported by the FIRST program (Cabinet Office) through JSPS

Information sciences

Realize a smart society by new paradigm computing

"Ising chip" solving combinatorial optimization problem at ultra-high-speeds

Prototype

Develop applications for the "Ising Chip" through industry-academia-government collaboration

Life sciences

Realize a healthy high QoL society by innovations in automatic cell culturing

Automated cell culturing equipment

Cell sheet

Dev't. with the Tokyo Women's Medical University through broad industry-academia-government collaboration

Supported by MEXT program for the creation of innovation centers for advanced interdisciplinary research. This work was based on the results of research supported by NEDO.

Frontier

Realize increased organizational productivity & satisfaction through human big data analytics

Management R&D HR Design & Mngf. Sales & Marketing Services

Transportation Energy Buildings Health care Logistics Finance

Wearable sensor

Applicable to many industries & operations

Realize corporate management focusing on collective happiness

Collaboration with MIT & other US universities

NIMS: National Institute for Material Science, EM: Electron microscope CMOS: Complementary metal-oxide semiconductor, QoL: Quality-of-Life

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Realignment of global R&D structure

- Realign R&D organization to strengthen innovation
 - Global Center for Social Innovation
 - Center for Technology Innovation
 - Center for Exploratory Research

For new growth

- Build-up autonomous ADS platforms, expand business
- Accelerate global collaborative creation with customers

Strategic steps for the future

- As an innovation hub, pioneer new frontiers

END



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HITACHI
Inspire the Next 