Innovation & Universities
~From our experiences~

STI (Science, Technology & Innovation) Policy of Japan

Michinari Hamaguchi

Chairperson of the Council for Science and Technology, Ministry of Education, Culture, Sports, Science and Technology (MEXT),

President of Japan Science and Technology Agency (JST)

Nov. 5, 2015 at Sapporo

Preface

Science for the 21th century

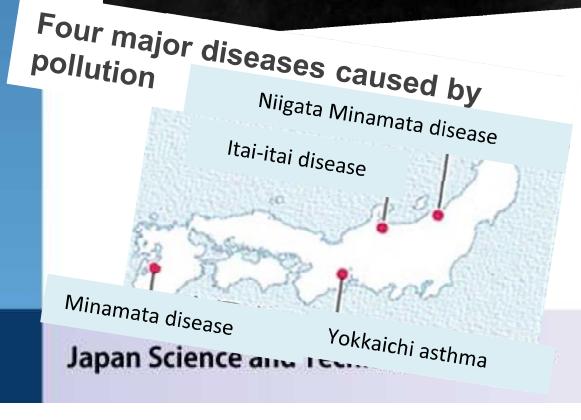
DECLARATION ON SCIENCE AND THE USE OF SCIENTIFIC KNOWLEDGE (Budapest Declaration 1999)

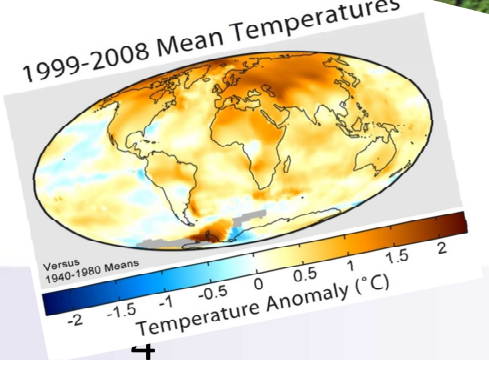
1. Science for knowledge; knowledge for progress
2. Science for peace
3. Science for development
4. Science in society and science for society

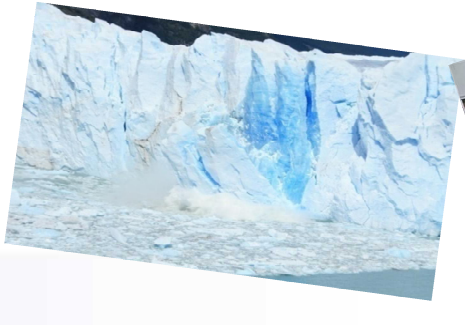
The practice of scientific research and the use of knowledge from that research should always aim at the welfare of humankind, including the reduction of poverty, be respectful of the dignity and rights of human beings, and of the global environment, and take fully into account our responsibility towards present and future generations.

The 21st Century: An Era for Realizing a Sustainable Society

- Exhaustion of resources, food crisis, global warming, environmental destruction and dramatic increase of world population
- Seven billion people around the world must learn to live together
- Shift from **competition to coexistence**: a global challenge to foster individuals who will create a new set of values
- Aspiring to overcome environmental pollution and realize a safe, free and equal society

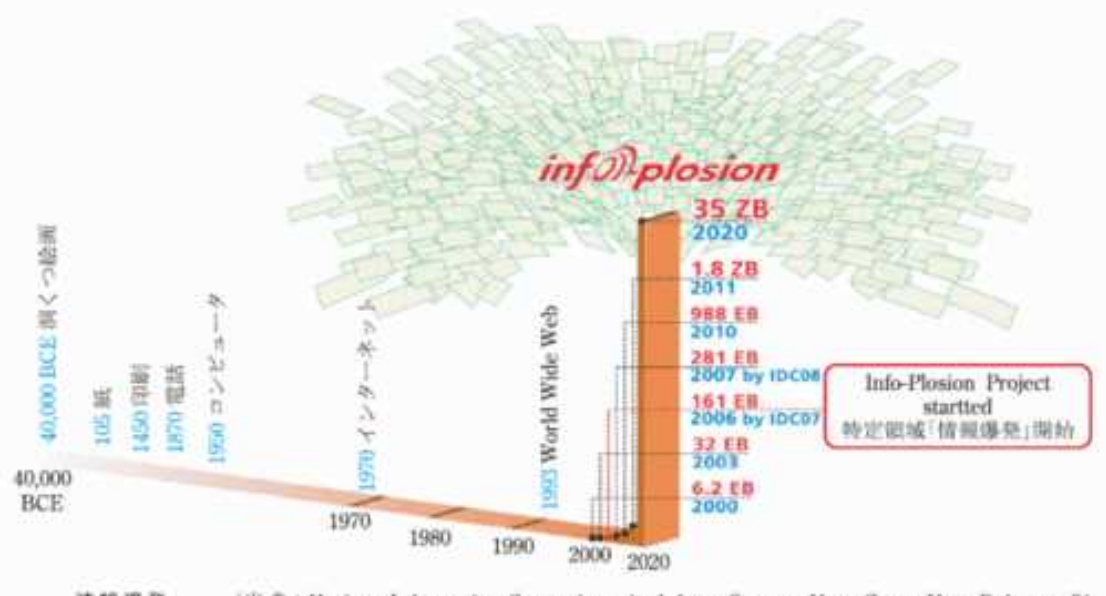






The 21st Century: An Era of the Information Revolution

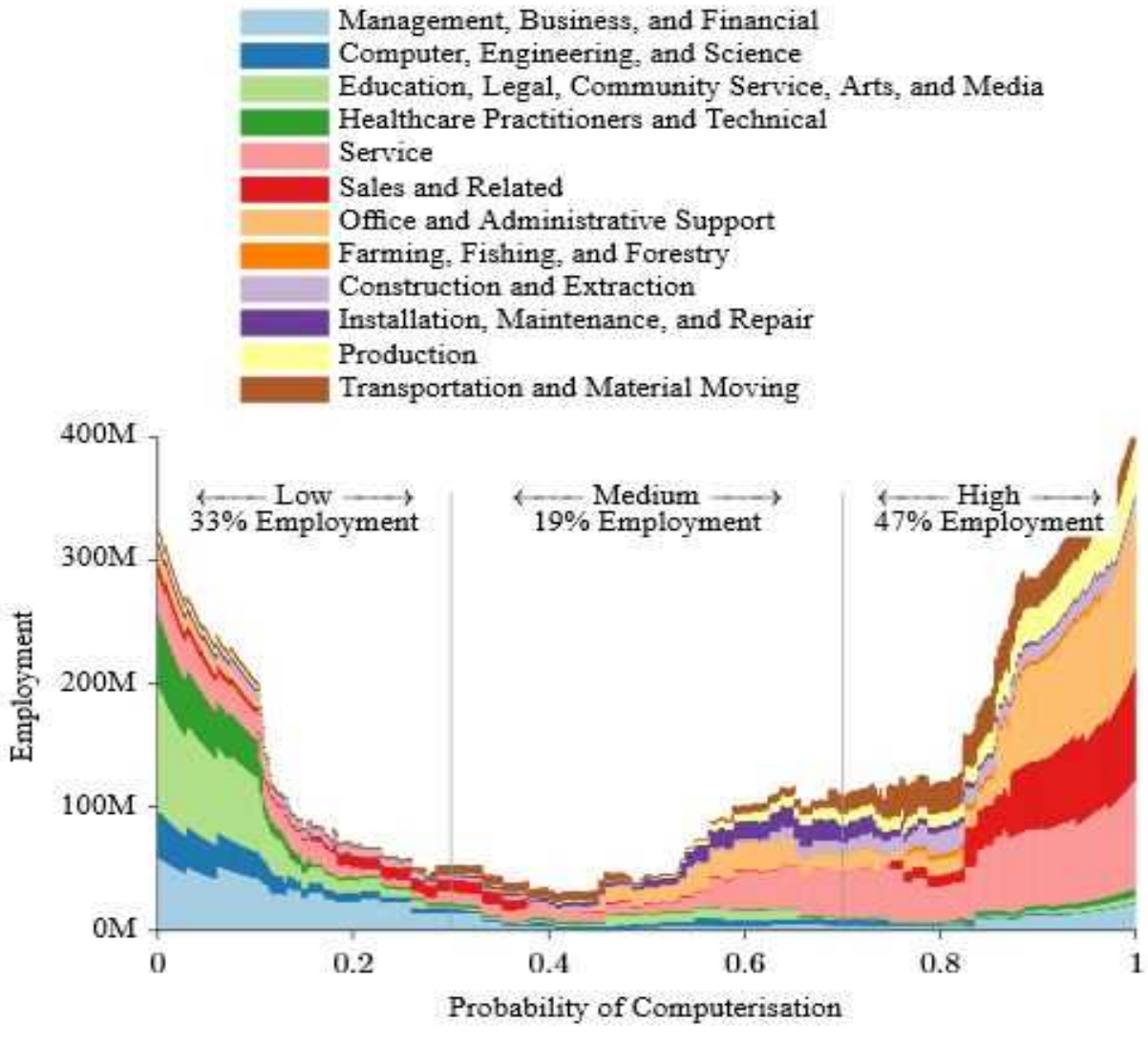
- Information Revolution
  - A framework of knowledge has been reconstructed via flattened, instant, and fluidized information
  - With the dramatic increase in information, traditional education that sorts out information and passes it down to the next generation is partly dysfunctional.



情報爆発 (出典：Horison Information Strategies, cited from Storage New Game New Rules, p. 34 (www.horison.com), IDC, The Diverse and Exploding Digital Universe 2020 (http://www.emc.com/collateral/demos/microsites/idc-digital-universe/iview.htm))

THE FUTURE OF EMPLOYMENT: HOW SUSCEPTIBLE ARE JOBS TO COMPUTERISATION?

C. B. Frey & M. A. Osborne 2013 University of Oxford.



Within 20 years , roughly half of the 702 types of jobs in the US will disappear due to ICT.

コンピューターによって代替される仕事

680位 調達事務員
681位 パッケージング＆充填機械オペレーター
682位 銅版画工と彫刻師
683位 受付、レジ係
684位 スポーツの審判
685位 保険鑑定士
686位 融資担当者
687位 オーダーを受けるスタッフ
688位 仲介スタッフ
689位 保険の集金者
690位 組み立てラインスタッフ
691位 データ入力者
692位 図書館技術者
693位 新規顧客アカウント作成スタッフ
694位 写真処理労働者及び加工機オペレーター
695位 税務申告者
696位 貨物の荷積みスタッフ及び代理店
697位 時計の修理工
698位 保険引受け業務
699位 数理技術者
700位 裁縫師
701位 タイトル審査・調査
702位 電話営業

Why innovations?

- **Global Biosphere in Danger**
- **The Information Revolution**

- **The 21st Century: An era for realizing a sustainable society**
  - Individualization and collaboration: a new type of university network
  - From competition to coexistence
  - Realization of a safe, free and equal society

STI (Science, Technology & Innovation) Policy of Japan

Overview of Japanese Funding for Innovation

STI Administration in Japan

Prime Minister

Cabinet Office

Council for S&T Innovation (CSTI)

(1) Investigation and deliberation on basic policy relating to S&T

(2) Investigation and deliberation concerning the policy for allocation of S&T related budget, human resources, etc.

(3) Evaluation of nationally important R&D

- **Ministry of Education, Culture, Sports, S&T (MEXT)**
- **Ministry of Internal Affairs and Communications (MIC)**
- **Ministry of Health, Labor and Welfare (MHLW)**
- **Ministry of Agriculture, Forestry and Fisheries (MAFF)**
- **Ministry of Economy, Trade, Industry and Tourism (METI)**
- **Ministry of Land, Infrastructure and Transport (MLIT)**
- **Ministry of the Environment (MOE)**

Japan Agency for Medical Research and Development (AMED)

Universities

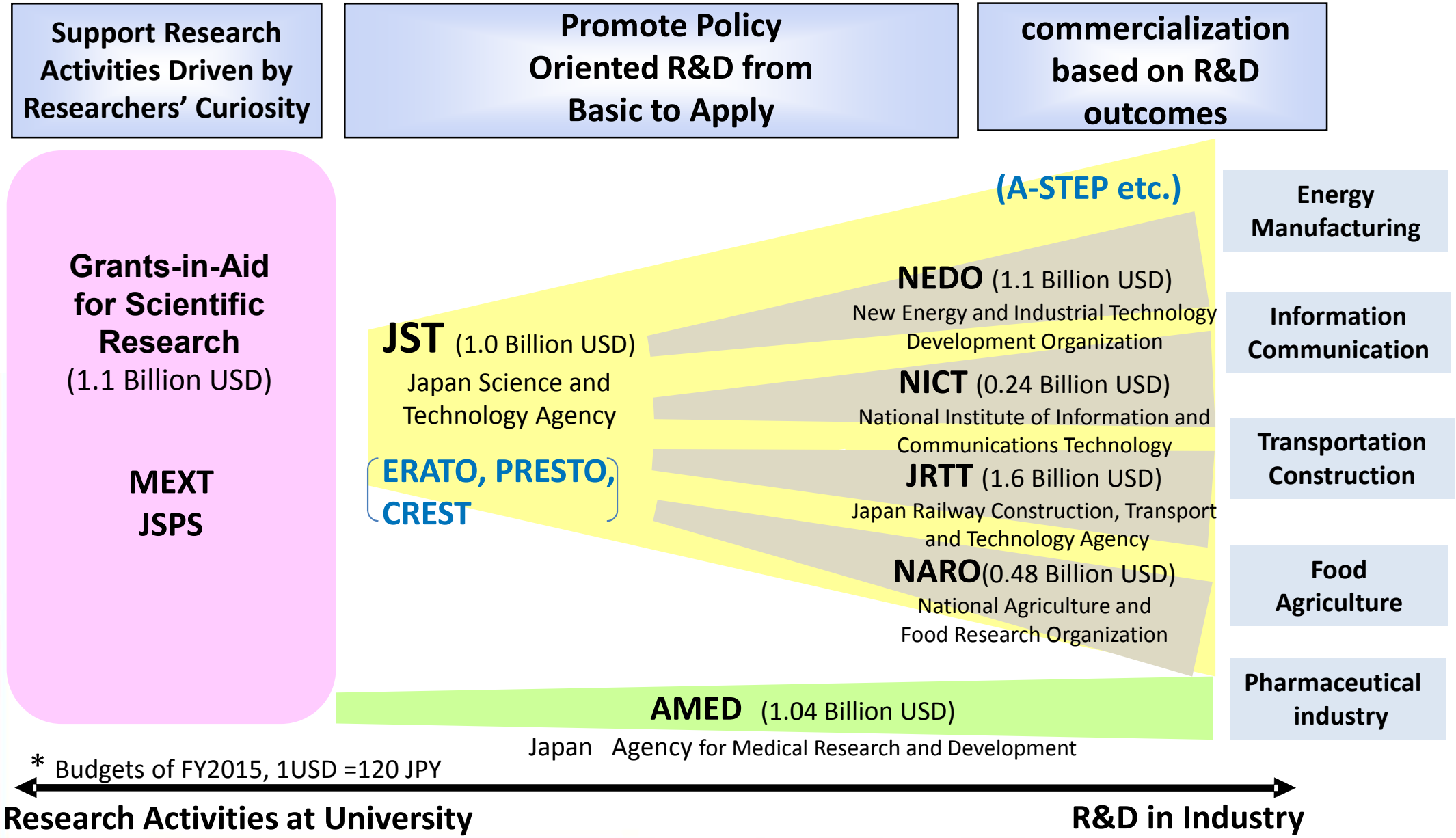
National R&D Agencies

- Japan Agency for Marine Earth Science and Technology (JAMSTEC)
- Japan Aerospace Exploration Agency (JAXA)
- **Japan Science and Technology Agency (JST)**
- National Research for Earth Science and Disaster Prevention (NIED)
- National Institute for Material Sciences (NIMS)
- National Institute of Radiological Science (NIRS)
- RIKEN

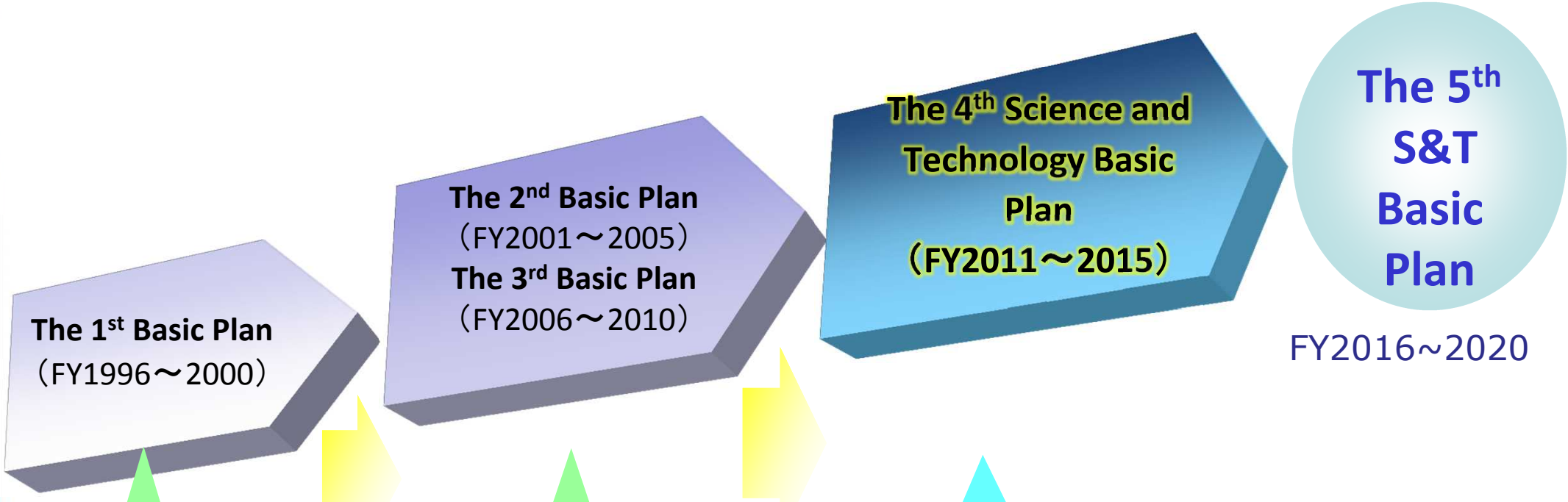
Independent Administrative Institutes

- Japan Society for the Promotion of Science (JSPS)

Overview of Competitive Funding System of Japan



The Science and Technology Basic Plan



Total Budget:
17trillion JPY

Construction of new R&D system

Total budget:
2nd Plan: 24 trillion JPY
3rd Plan: 25 trillion JPY

Promotion of R&D on prioritized area

Total budget:
25 trillion JPY

Promotion of R&D to address societal and economical issues

The 5th Science and Technology Basic Plan

FY2016-FY2020

Three important matters (Under consideration)

1. **Efforts to get ahead of time towards the future industrial creation and social change in the revolution era**
2. **Efforts to take the initiative towards the resolution of the economic and social issues**
3. **Efforts to reinforce the fundamental ability to adapt unexpected changes**

Developing the innovation systems to induce positive growth cycle of human resources, knowledge, and funds in order to accomplish these 3 matters

Roles & Activities of JST

Declaration as the President of JST

JST has a leadership role in developing both Japanese and global science and technology (S&T) as **an innovation navigator**.

JST's Operating Policy

Mission

We contribute to actualize the prosperity and sustainable society in Japan through implementing the advanced R&D as well as transferring achievements to the industry.

Vision

1. Achieving innovations in science and technology through creative research and development
2. Maximizing research outcomes by managing research resources on a virtual network
3. Developing Japan's infrastructure for science and technology so as to accelerate innovation in science and technology

Goal Value

Quantum Leaping	High Impact	Sustainability	Human Development

Strategic Program Packages

Integrated promotion of science, technology and innovation

Problem-solving Innovation

Green Innovation

- Building energy management system
- Creating, transmitting, storing energy for expanding renewable energy supply
- Improving energy use efficiency: energy saving

Science and Technology for Society and Social Infrastructure

- Designing resilient communities
- Transformations to sustainability
- Fulfill the risk procedures in daily lives
- Technology for Societal System and Service System

Information and Communication Technology

- Creation of new industries and services
- Solution of diverse social challenges
- Lifestyle innovation
- Solution of diverse scientific challenges
- Social information system design
- Big Data
- Human-Machine harmonious collaboration
- Cyber Physical Systems
- Information processing platform

Basic Technology

Life Innovation

- Green Bio-Technology
- Next-Generation Fundamental Technology
- Life System Technology

Nanotechnology and Materials Science

- Low-power-consumption and Multi-functional Nanoelectronics
- Optical /Quantum Analysis and Measurement Fundamental Technology
- Advanced Materials Creation / Manufacturing Fundamental Technology
- Element strategy

Major Operation of JST

R&D Strategy

R&D Strategy Planning

- Center for R&D Strategy (CRDS)
- China Research and Communication Center (CRCC)
- Center for Low Carbon Society Strategy (LCS)

Strategic Basic Research | **Innovative Research** | **Commercialization R&D**

Promoting Creation of Science, Technology and Innovation

- Strategic Promotion of Basic Researches
- R&D based on University-Industry Collaboration
- Recovery and Revival from the Great East Japan Earthquake
- Promotion of International S&T Joint Projects
- R&D System Reform
- Promotion of ImPACT, SIP

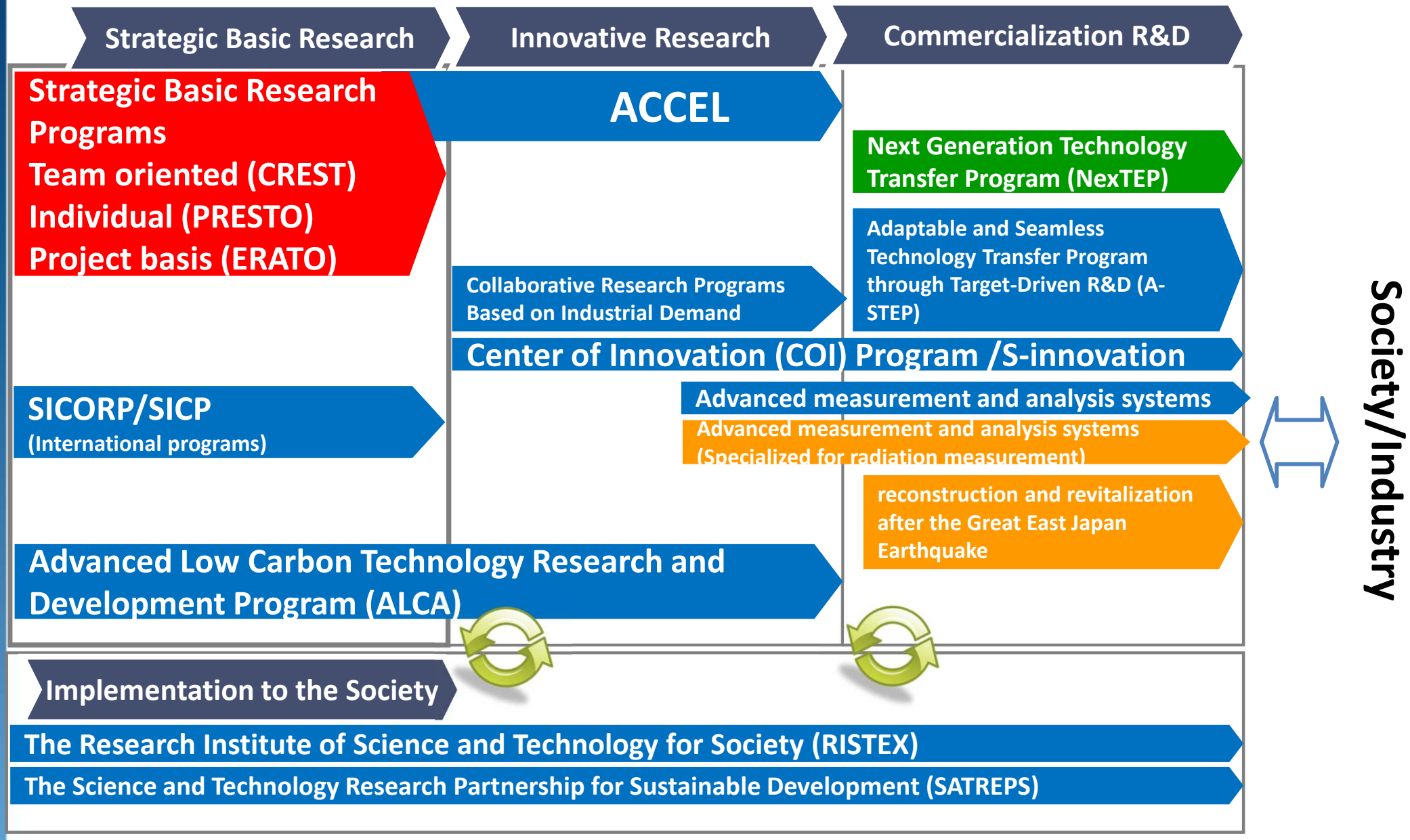
Total budget of FY2015 about **106.5 billion yen**

S&T Infrastructure

Establishing an infrastructure to drive the generation of innovation
- Soft infrastructure to support innovation -

- Knowledge Infrastructure
- Next-Generation Development
- Science Communication

Major Funding Programs of JST



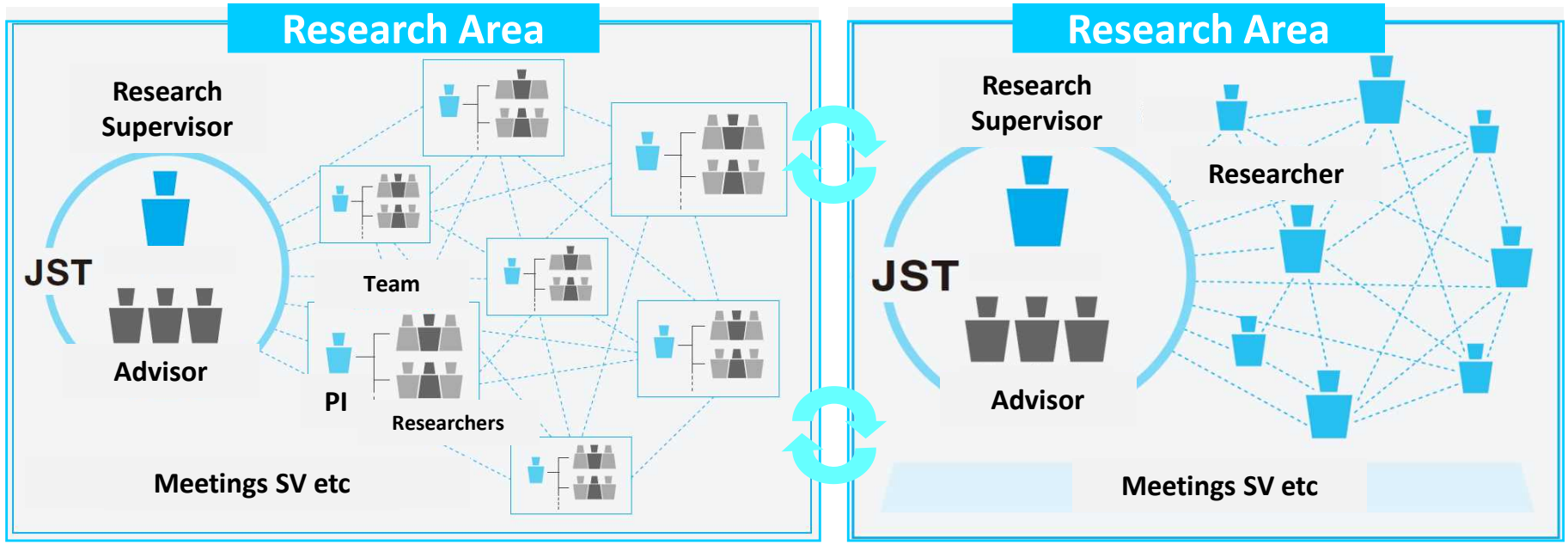
Structure of CREST and PRESTO Programs

CREST/PRESTO = Virtual Networking Research Institute

Strategic Objectives by MEXT

CREST Team Oriented

PRESTO Individual Basis



Research Type	Budget per year	Total Budget	Research Period
CREST	¥30 - 100 Million /yr	¥150 - 500 Million	~ 5.5 years
PRESTO	¥10 Million /yr	¥30 - 40 Million	~ 3.5 years

Example of CREST Research

Category	Research Areas
Life Innovation	Innovative Technology Platforms for Integrated **Single Cell** Analysis
	Structural Life Science and Advanced Core Technologies for Innovative Life Science Research
	Creation of Fundamental Technologies for Understanding and Control of **Biosystem Dynamics**
Green Innovation	Creation of Innovative Core Technology for Manufacture and Use of **Energy Carriers** from Renewable Energy
	Establishment of core technology for the preservation and regeneration of **marine biodiversity and ecosystems**
	Phase Interface Science for Highly Efficient Energy Utilization
	Creation of essential technologies to utilize **carbon dioxide as a resource** through the enhancement of plant productivity and the exploitation of plant products
Nanotechnology and Materials	Development of Atomic or Molecular **Two-Dimensional Functional Films** and Creation of Fundamental Technologies for Their Applications
	Innovative **Nano-electronics** through Interdisciplinary Collaboration among Material, Device and System Layers
	Creation of Innovative Functional Materials with Advanced Properties by **Hyper-nano-space Design**
	Establishment of **Molecular Technology** towards the Creation of New Functions
Information and Communications Technology	**Intelligent Information Processing Systems** Creating Co-Experience Knowledge and Wisdom with Human-Machine Harmonious Collaboration
	Modeling Methods allied with Modern Mathematics
	Advanced Application Technologies to Boost **Big Data Utilization** for Multiple-Field Scientific Discovery and Social Problem Solving
	Advanced **Core Technologies for Big Data** Integration
	Creation of Fundamental Theory and Technology to Establish a Cooperative Distributed **Energy Management System** and Integration of Technologies Across Broad Disciplines Toward Social Application

JST Industry-Academia Collaboration Programs

Japan Science and Technology Agency

Overview of JST's Industrial-Academic Collaboration Support

(a) Intellectual Property Support

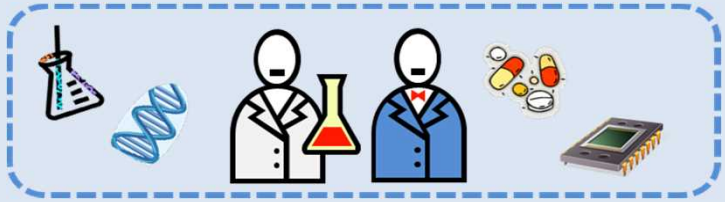
- Supporting patent acquisition
- Enhancing patent values
- Licensing patents
- Managing IP database
- Formulating IP strategies

(b) Matching Support

Special meetings:

- New Technology Presentation Meetings
- The Universities Exhibition of Technology
- Open Innovation Seminars

(c) Research and Development Support

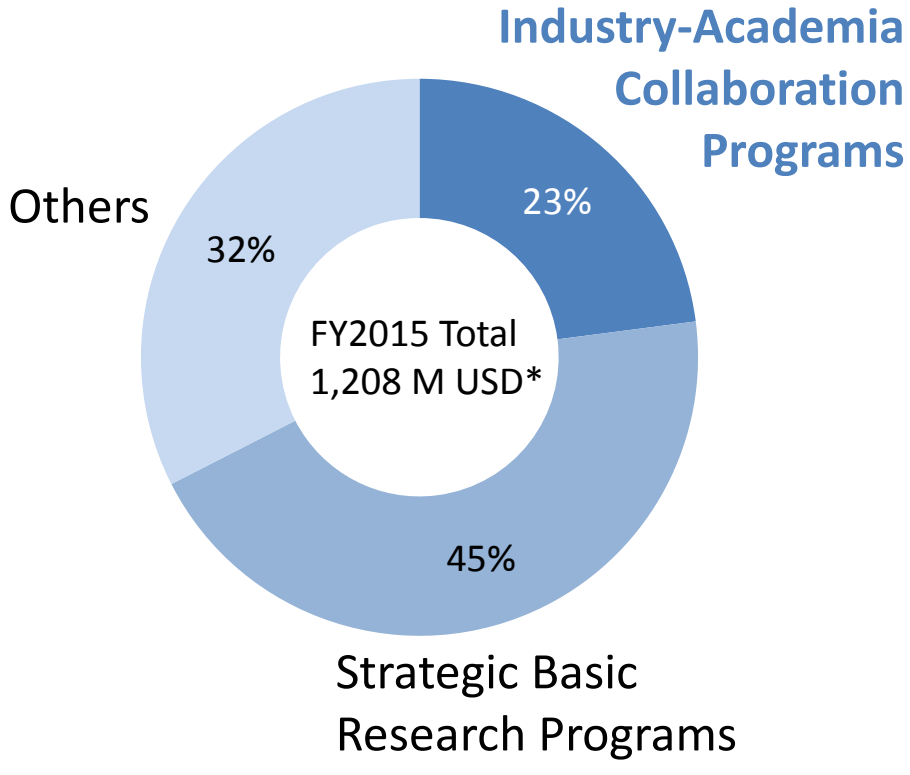


Various funding programs:

A-STEP / S-Innovation / KYOUSOU (共創)
SENTAN (先端) / COI / SUCCESS , etc.

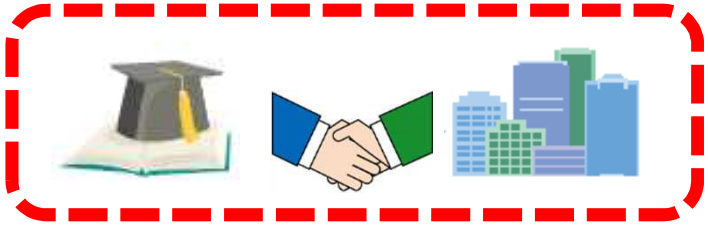
Industry-Academia Collaboration Programs

- JST's budget & support



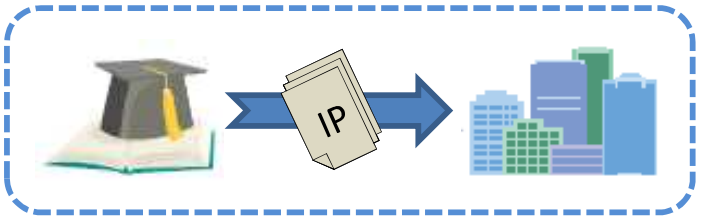
* 1 USD = 100 JPY

(a) Matching Support



(b) R&D Support

(c) IP Support



Matching Support

• Approach from academia to industry

- Innovation Japan
  - Demonstration of cutting-edge research outcomes from academia to industry to promote business matching
  - Annual event since 2004 (August 27-28, 2015)
  - Co-hosted with NEDO
- New Technology Presentation Meetings
  - Offer opportunities to academic researchers to demonstrate research achievements to industry
  - 85 meetings in FY2014
  - Successful matching* ratio in FY2014: ≈24%

* Successful results such as joint research, technological advice

Matching Support

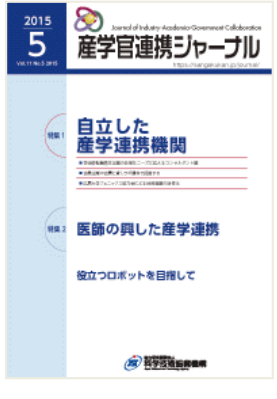
Approach from industry to academia

- Open Innovation Seminars
  - Offer opportunities to companies to give presentations on technological bottlenecks or needs to academia
  - 6 seminars in FY2014
  - Successful matching* ratio in FY2014: ≈ 27%

    * Successful results such as joint research, technological consultation

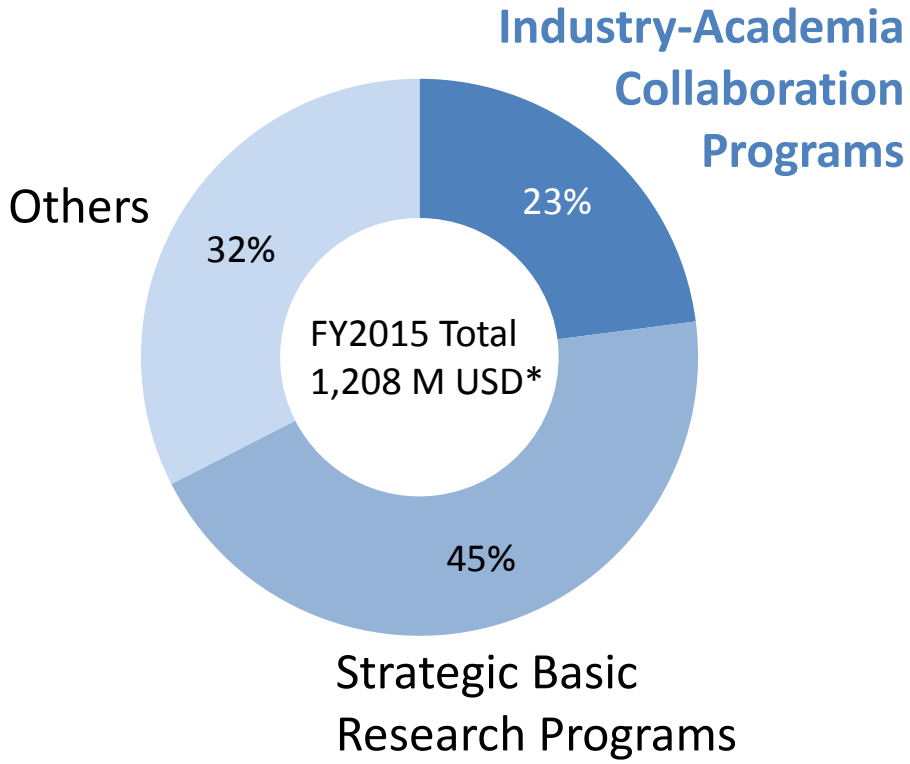
Other services to facilitate industry-Academia collaboration

- Portal Site
- Monthly magazine
- Human Resource Development Program for Technology Transfer



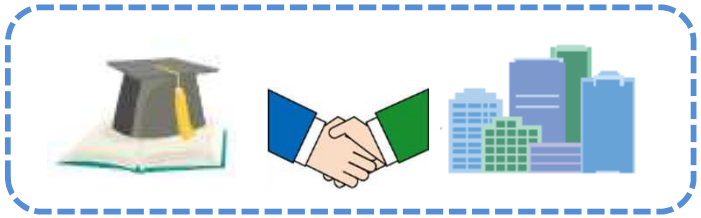
Industry-Academia Collaboration Programs

JST's budget & support



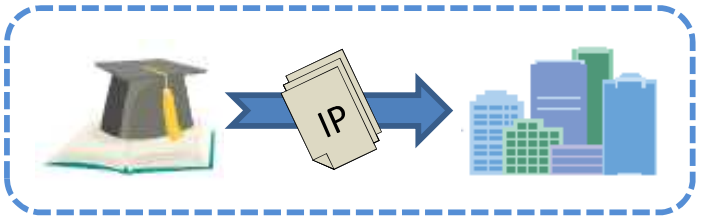
* 1 USD = 100 JPY

(a) Matching Support



(b) R&D Support

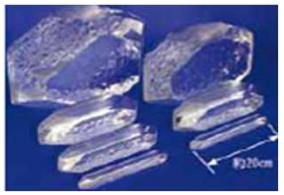
(c) IP Support



Remarkable Achievements of JST's Industrial-Academic Collaborative Projects

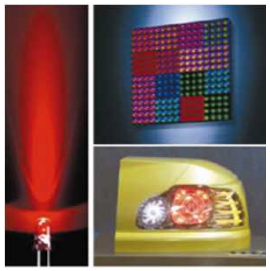
1960 | 1970 | 1980 | 1990 | 2000 | 2010

1959-
Artificial quartz



Since 1958

1972-1976
GaAlAsRed LED



1978-1980
Magnetic material
Amorphous metals

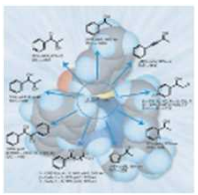
1980-
Natural interferonβ

1986-
GaN Blue LED

Nobel Prize in Physics (2014)

1991-1996
Bi-Based superconducting wire

1991- ▪1998-
NOYORI catalyst



Nobel Prize in Chemistry (2001)

2001-2004
Water- ^{18}O for PET (positron-emission tomography)

2005-
Producing antibodies for therapeutic and industrial use

2006-
Low-cost ultrasmall satellite with short-term R&D

The total sales of these products are estimated to be upward of 6.8 billion USD from 1958 to 2013.

Our Recent Top Achievements



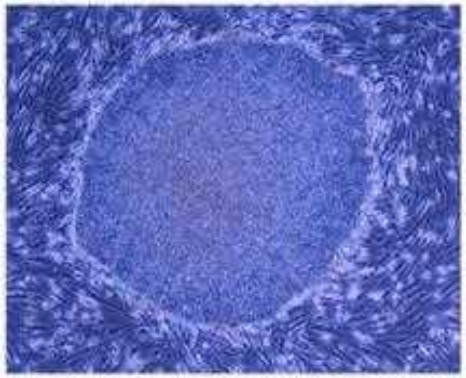

Prof. I. Akasaki
Prof. H. Amano
Prof. S. Nakamura

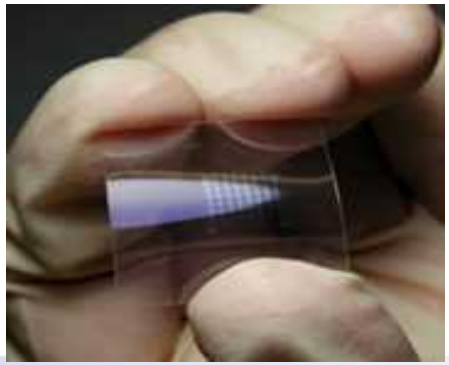
Blue Light-emitting Diode
The Nobel Prize 2014

Prof. Shinya Yamanaka

iPS Cell
The Nobel Prize 2012

Discovery that mature cells can be reprogrammed to become pluripotent

Prof. Hideo Hosono

IGZO Oxide Semiconductor TFT

Invention of thin film oxide semiconductor transistor for high-resolution low-power consumption display

R&D Support

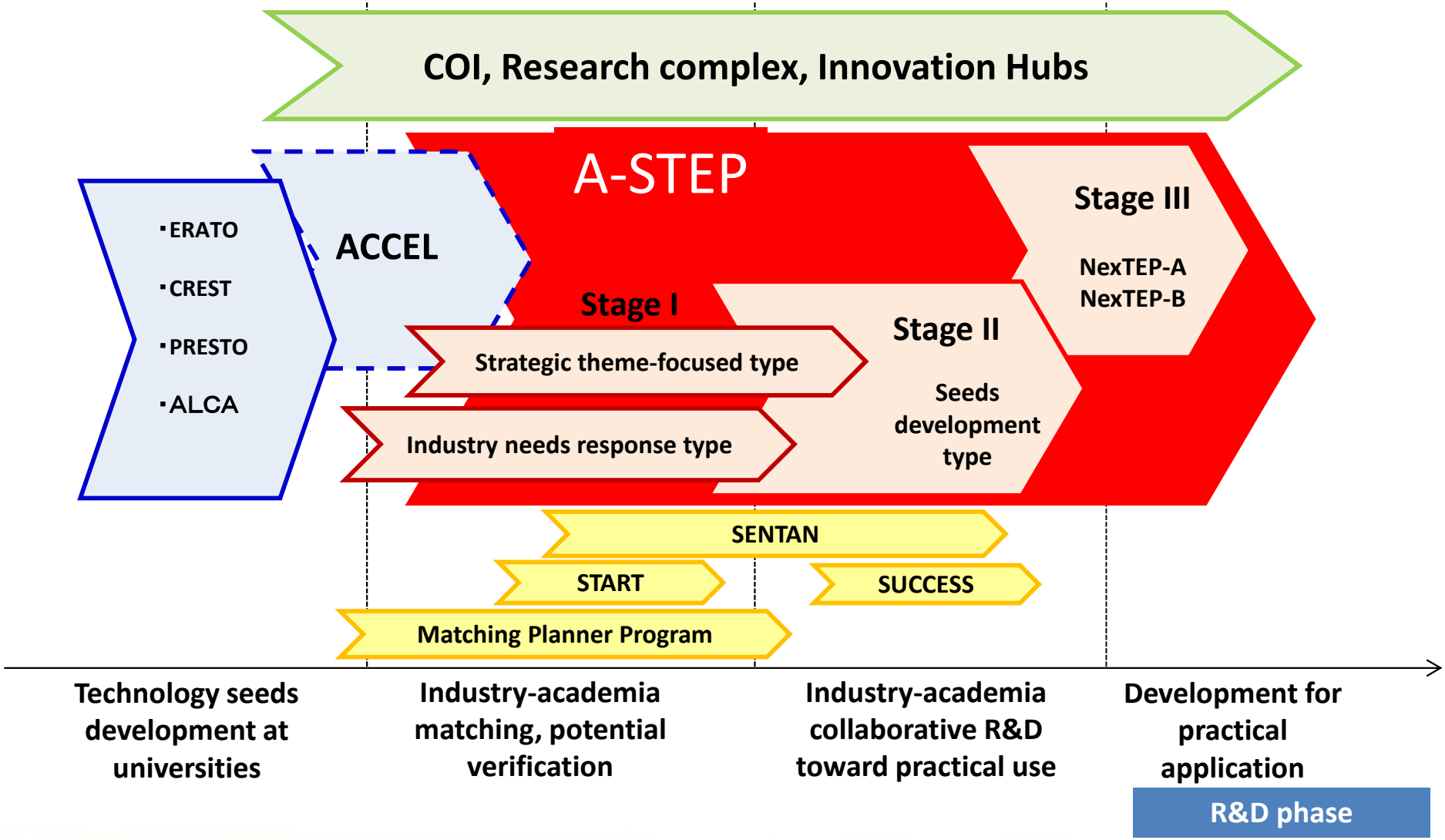
Funding Programs

Programs	**FY2015 Budget** (Million USD*)
A-STEP (Adaptable and Seamless Technology Transfer Program)	80.5
SENTAN (Development of Systems and Technologies for Advanced Measurement Analysis)	17.9
Matching Planner Program	8.6
START (Program for Creating STart-ups from Advanced Research and Technology)	22.9
SUCCESS (SUpport program of Capital Contribution to Early-Stage companieS)	(25.0)**
COI (Center of Innovation) Program	81.9
Innovation Hub Construction Program	15.0
Research Complex Program	17.6

* 1 USD = 100 JPY, ** capital fund

R&D Support

JST Funding Programs Map



R&D Support

Funding Programs

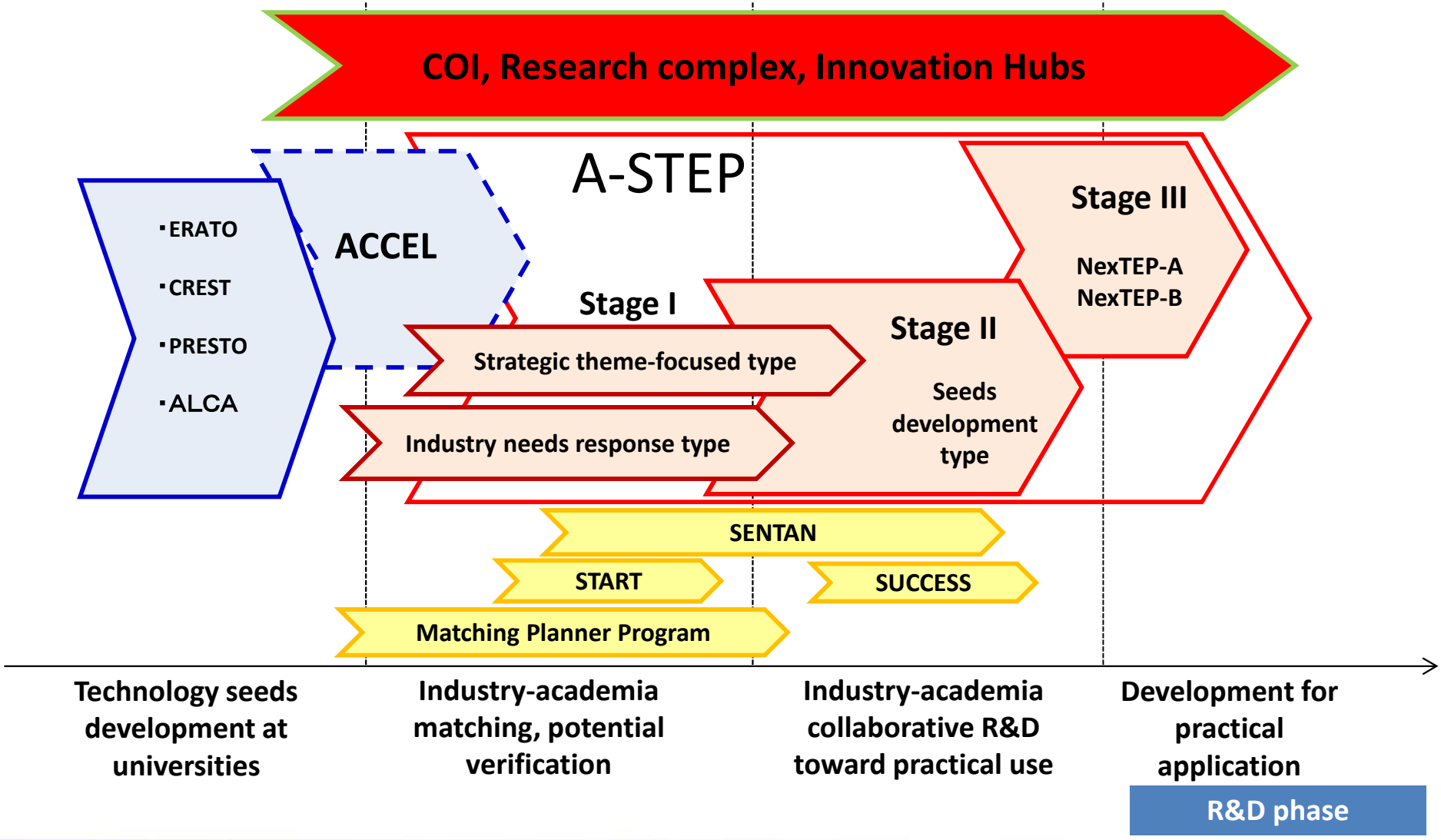
- A-STEP
  - Transform academic research results into products

Phase	Fund type	Amount*	Duration
Feasibility Study	Grants	≤ 0.2 M USD	1-2 years
Industrial need-specific		≤ 0.25 M USD	2-5 years
Strategic theme-specific		≤ 0.5 M USD	≤ 6 years
Practical Verification	Matching funds	0.2-5.0 M USD	2-6 years
Contract Development	Quasi loan	≤ 3.0 M USD	≤ 5 years
		≤ 15.0 M USD	≤ 10 years

* 1 USD = 100 JPY

R&D Support

JST Funding Programs Map



The Center of Innovation (COI) Program

COI STREAM

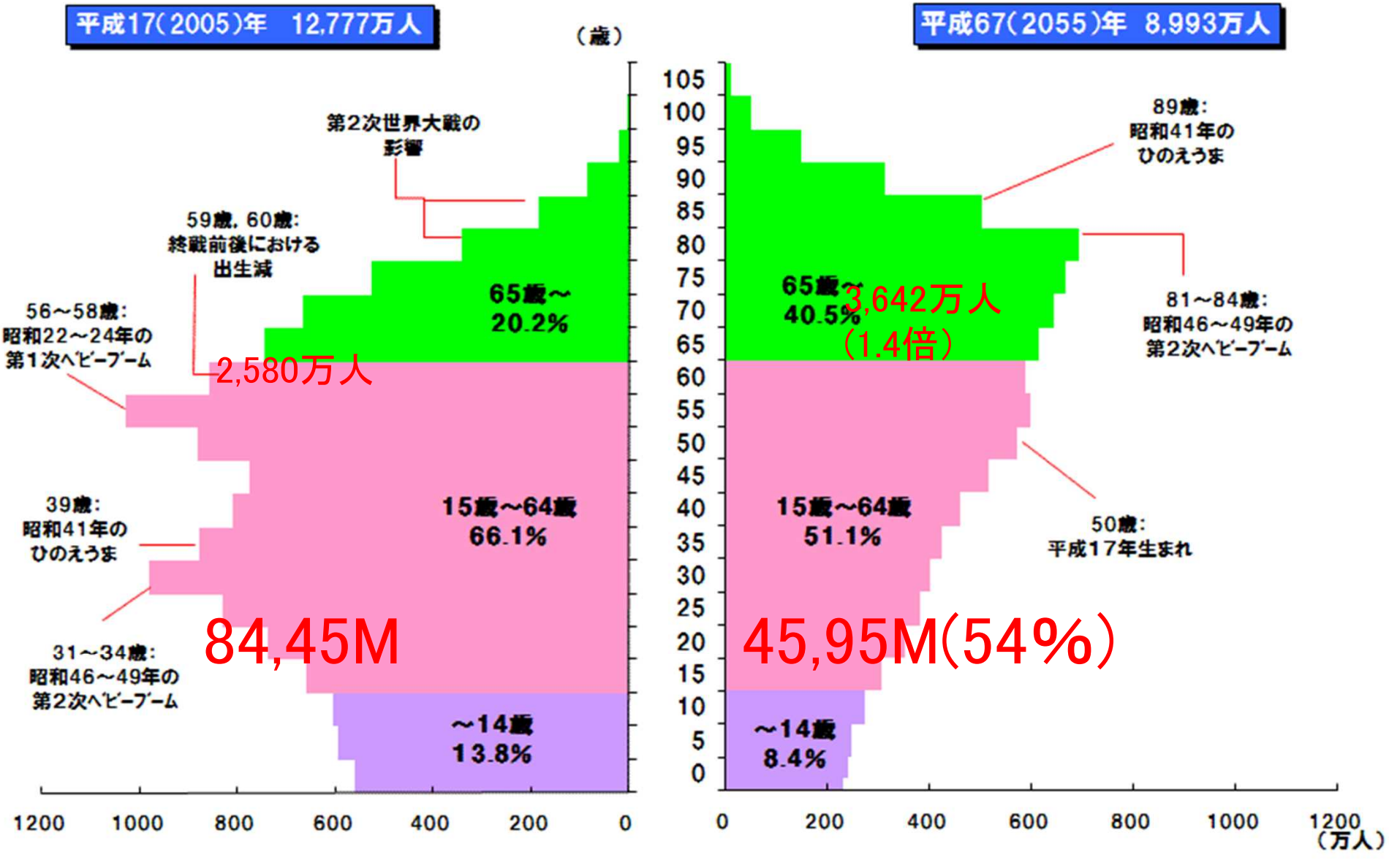
“Wish to Create a New Future”

How could we achieve mature society and lively atmosphere in a decade?

The COI Program encourages and promotes challenging and high-risk R&D to realize our visions for our ideal society.

JST Japan Science and Technology Agency

Aging & Population Decrease in Japan



Japan's Burden

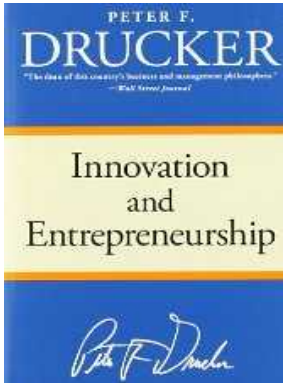
Each person in retirement was supported by 1.8 in work in 2025.

http://www.mof.go.jp/gallery/201401.htm

http://www.economist.com/node/17522568

Seven sources for innovative opportunity

(P.F. Drucker Innovation and Entrepreneurship)



Within the enterprise or industry（企業・産業の内部的要因）:

1. The unexpected（予期せぬ事）
2. The incongruity（不調和、ギャップ）
3. Innovation based on process need（ニーズ）
4. Changes in industry structure or market structure（産業構造変化）

Outside the enterprise or industry（企業・産業の外部的要因）:

5. Demographics (population changes)（人口構造の変化）
6. Changes in perception, mood and meaning（認識の変化）
7. New knowledge, both scientific and nonscientific（新しい知識）

Japan in the 21th century= An Era of Continuous Innovation

COI（Center of Innovation）program

Vision-oriented, risk-taking R&D program aiming for a desirable society in the next decade

Features

- **R&D program with a backcasting method**
  Aiming for a desired society, MEXT/JST has set the three visions.
  R&D agendas are designed to achieve those visions.
- **Under One Roof**
  Academia and industry are brought together under one roof for discussion and collaborative R&D.

Visions for a Society after a Decade

Change People

Vision 1: Secure sustainability as a country advanced in its aging population and declining birthrate (7 sites)

Change Society

Vision 2: Create a living environment with a high qualith of life as a prosperous and reputable country (4 sites)

Vision 3: Establish a sustainable society with vitality (7 sites)

Backcasting

Multi- and/or interdisciplinary R&D themes

COI SITES

【Management of the Site】
PL: Project Leader (from Industry)
Oversees the site's overall operations.
RL: Research Leader (from Academia)
Oversees the R&D and assists PL.

System of COI program

Backcasting Approach

R&D from the view of **ideal society** to be realized in a decade

Under one roof

Universities and companies work on R&D together under one roof.

Support

R&D expenses from 100 million to 1 billion yen/year for **9 years** (2013-2021)

1 % of outlays for promoting science and technology

Management Structure of the COI Program

COI STREAM
Governing Committee Chairman

Hiroshi Komiyama
Chairman of the
Mitsubishi Research Institute, Inc.
President Emeritus of the University of Tokyo

Principal
Visionary Leader

Michinari Hamaguchi
President Emeritus of the
Nagoya University

Vision 1

Visionary Leader

Yuzuru Matsuda
Former Executive President,
Kyowa Hakko Kirin Co., Ltd

Assistant:
Ichiro Miki

Vision 2

Visionary Leader

Akira Yokota
Former Executive Vice President,
ITOCHU Co.

Assistant:
Seiichi Kimoto

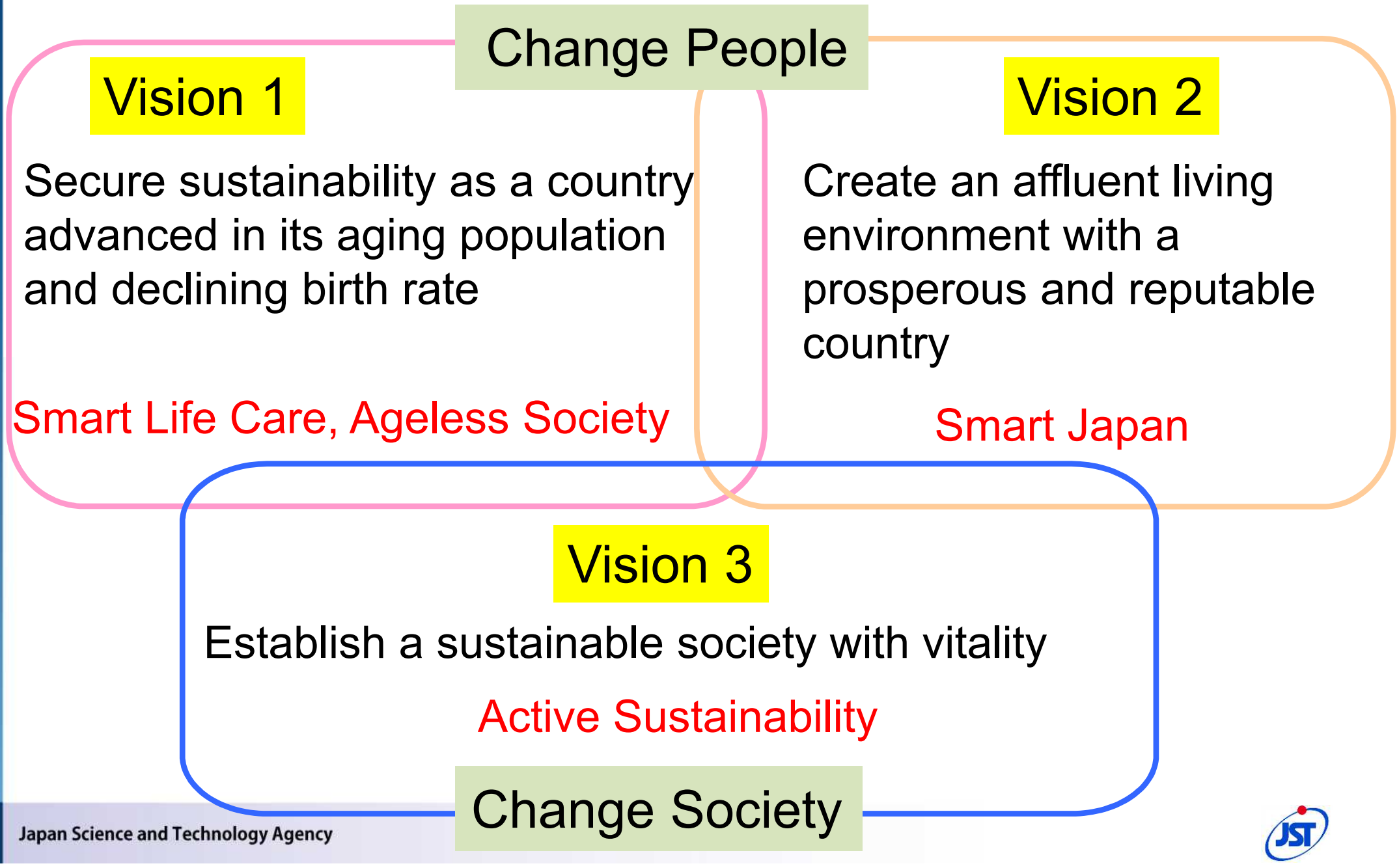
Vision 3

Visionary Leader

Masaharu Sumikawa
Former Chairman,
Hitachi, Ltd.

Assistant:
Hisashi Sawada

Visions of COI



Structure of COI Program

How should we change society and people by the end of the next decade? Challenging and high-risk R&D.

Vision

- Vision 1: Aging population and declining birth rate
- Vision 2: Living environment with high quality of life
- Vision 3: Establish a sustainable society

Visionary Leader (VL) = Program Officer

Successive creation of innovation

Backcasting Approach

Collaboration between dissimilar fields

COI Site

Research Promotion Institution

Project Leader (from industry)

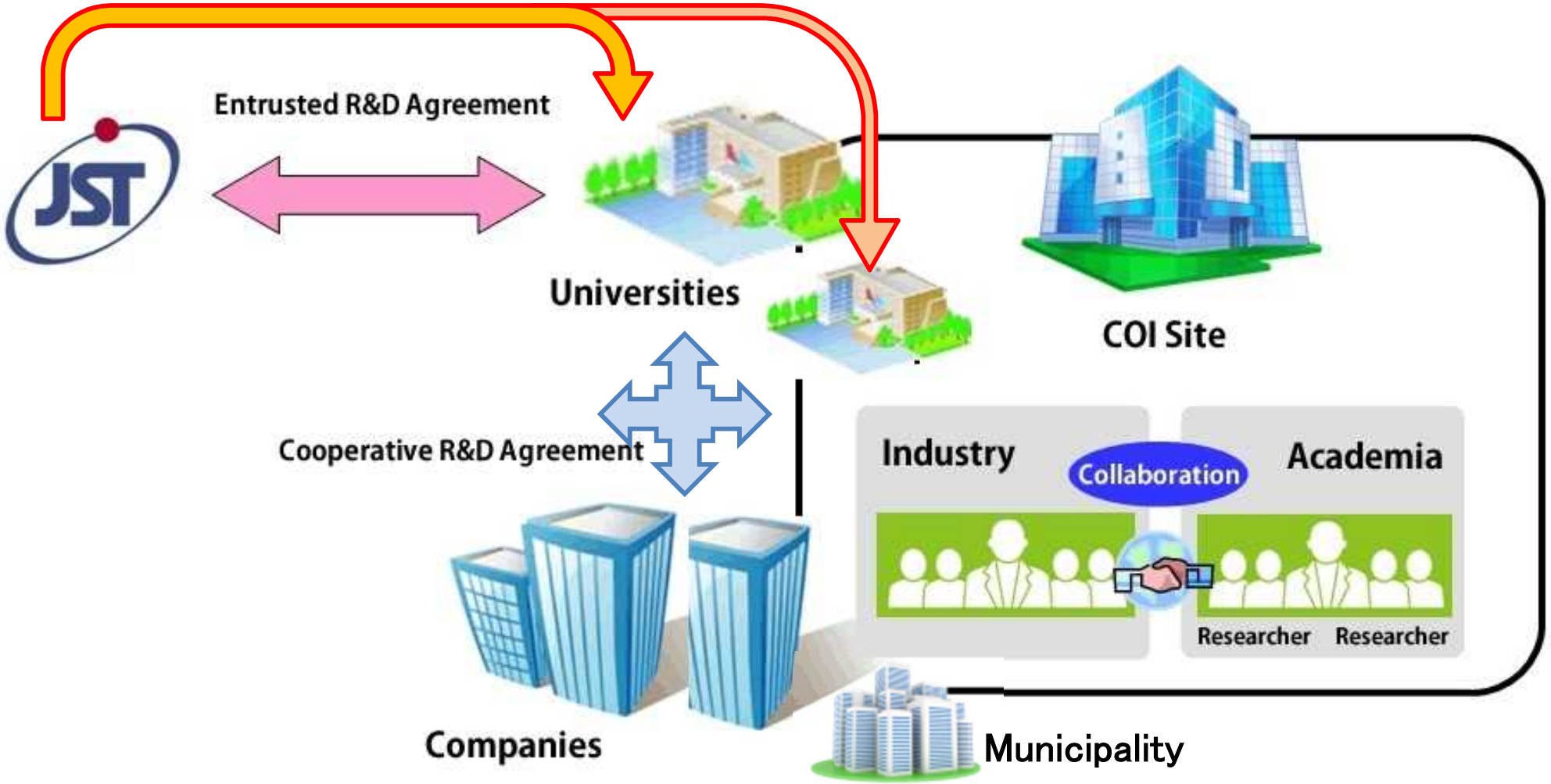
Research Leader (from academia)

COI (lasting for 9 years)

managed through resources from industry as well as support from MEXT/JST

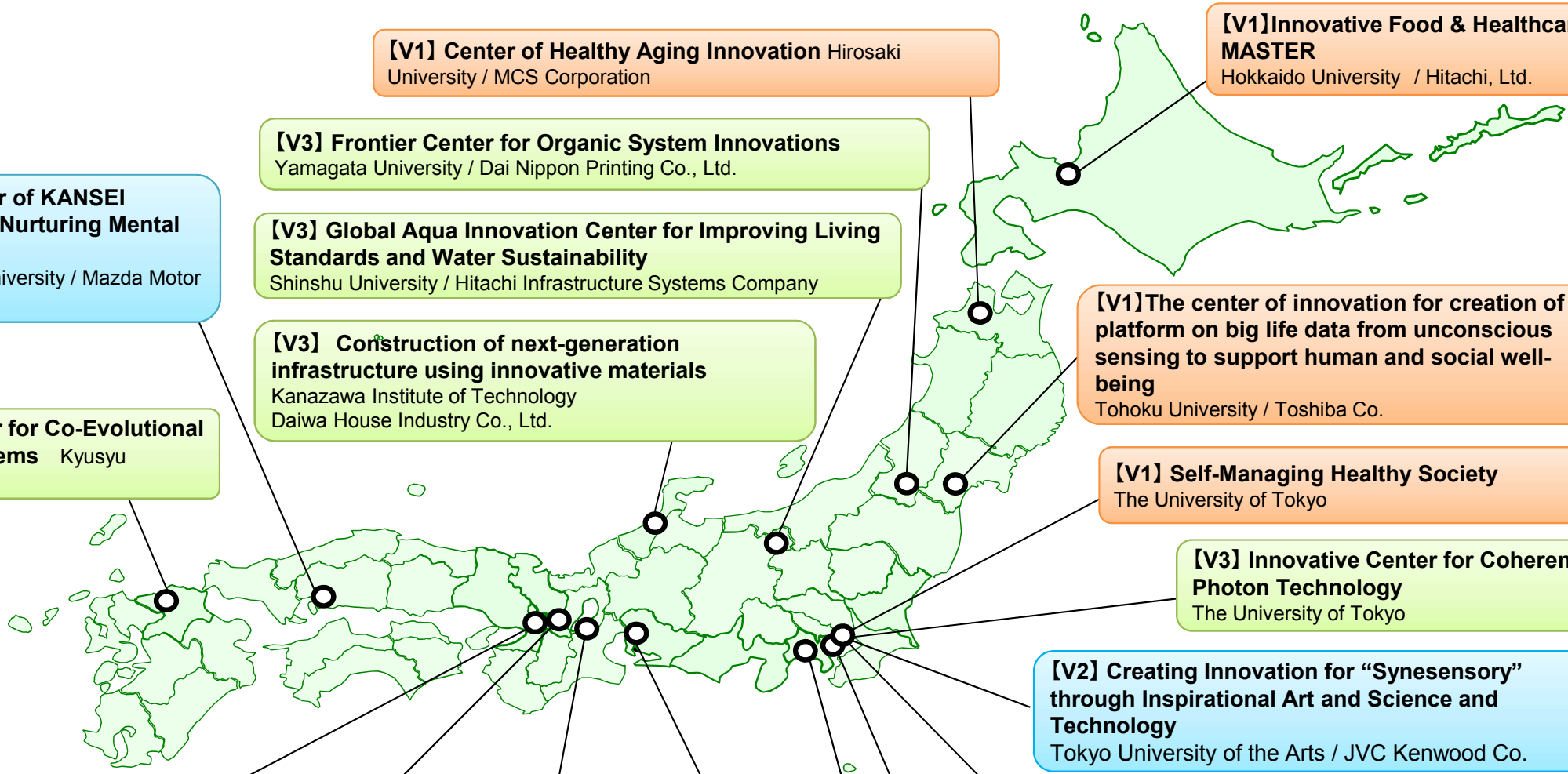
Research and Development Agreement and Funding

R&D funding for COI sites (Only for academia)



COI Program is the main funding program in Center of Innovation Science and Technology based Radical Innovation and Entrepreneurship Program (**COI STREAM**) by MEXT and JST.

COI Sites (V1: 7, V2: 4, V3: 7, Total: 18 Sites)



【V1】Center of Healthy Aging Innovation Hirosaki University / MCS Corporation

【V1】Innovative Food & Healthcare MASTER
Hokkaido University / Hitachi, Ltd.

【V3】Frontier Center for Organic System Innovations
Yamagata University / Dai Nippon Printing Co., Ltd.

【V2】Center of KANSEI Innovation Nurturing Mental Welfare
Hiroshima University / Mazda Motor Corporation

【V3】Global Aqua Innovation Center for Improving Living Standards and Water Sustainability
Shinshu University / Hitachi Infrastructure Systems Company

【V1】The center of innovation for creation of platform on big life data from unconscious sensing to support human and social well-being
Tohoku University / Toshiba Co.

【V3】Construction of next-generation infrastructure using innovative materials
Kanazawa Institute of Technology
Daiwa House Industry Co., Ltd.

【V3】Center for Co-Evolutional Social Systems Kyusyu University

【V1】Self-Managing Healthy Society
The University of Tokyo

【V3】Innovative Center for Coherent Photon Technology
The University of Tokyo

【V2】Creating Innovation for "Synesensory" through Inspirational Art and Science and Technology
Tokyo University of the Arts / JVC Kenwood Co.

【V2】COI Site to develop a "Super Nippon-jin" by activating human power Osaka University / Panasonic Corporation

【V2】Happiness Co-Creation Society through Intelligent Communications
Tokyo Institute of Technology / KDDI R&D Labs., Inc.

【V1】Bright Future for All Ages with Health Innovation by Daily Exercise
Ritsumeikan University / Toyobo Co., Ltd.

【V1】Center of Open Innovation Network for Smart Lifecare
Kawasaki Institute of Industry Promotion

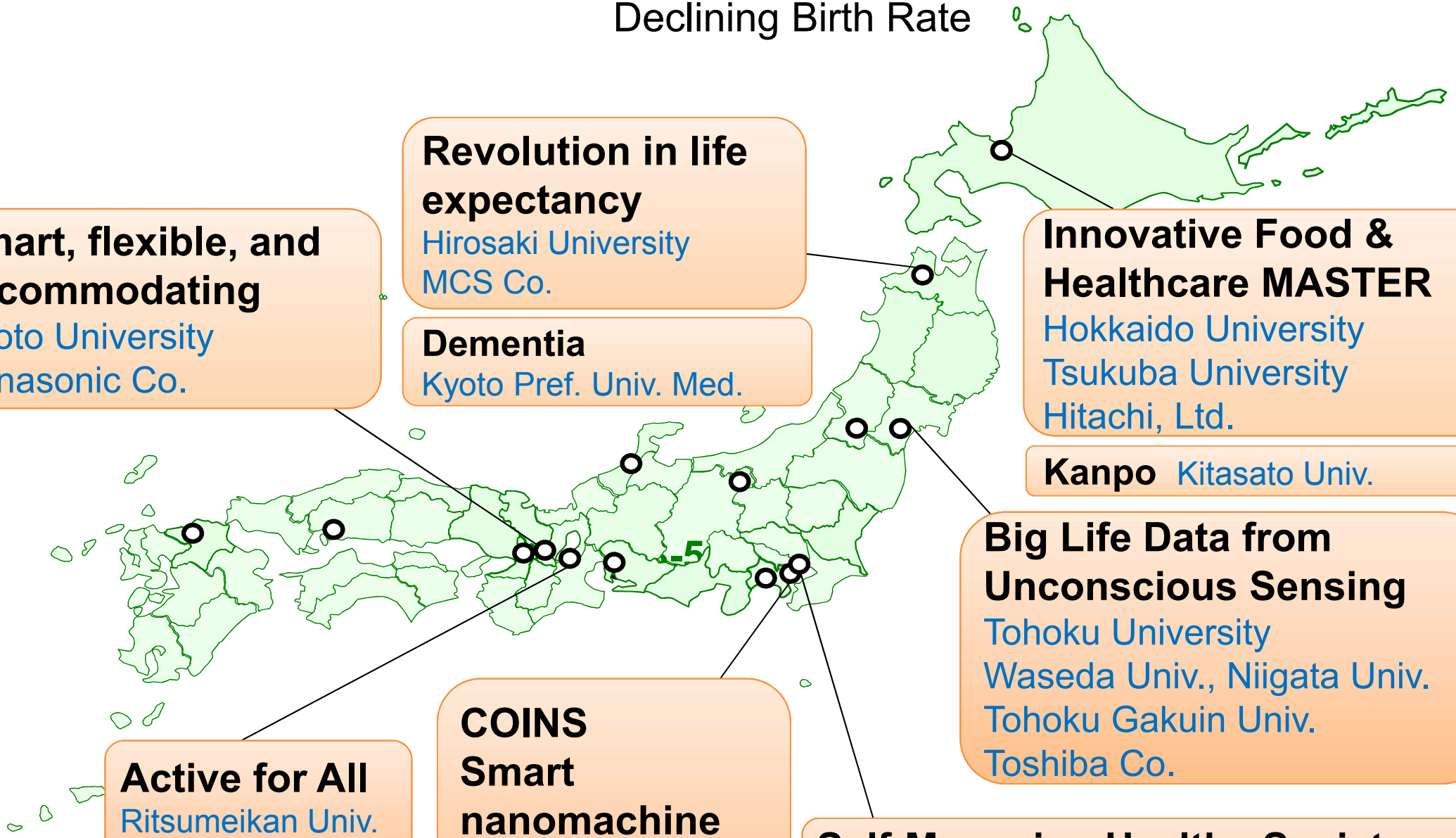
【V1】The Last 5X Innovation R&D Center for a Smart, Happy, and Resilient Society
Kyoto University / Panasonic Corporation

【V3】Innovation Hub for a "Mobility Society
Nagoya University / Toyota Motor Corporation

【V3】Center of Kansei-oriented Digital Fabrication
Keio University

Objective of COI Sites (Vision 1)

Assure Sustainability as Developed Country Facing Aging Population with Declining Birth Rate



Revolution in life expectancy
Hirosaki University
MCS Co.

Smart, flexible, and accommodating
Kyoto University
Panasonic Co.

Dementia
Kyoto Pref. Univ. Med.

Innovative Food & Healthcare MASTER
Hokkaido University
Tsukuba University
Hitachi, Ltd.

Kanpo Kitasato Univ.

Big Life Data from Unconscious Sensing
Tohoku University
Waseda Univ., Niigata Univ.
Tohoku Gakuin Univ.
Toshiba Co.

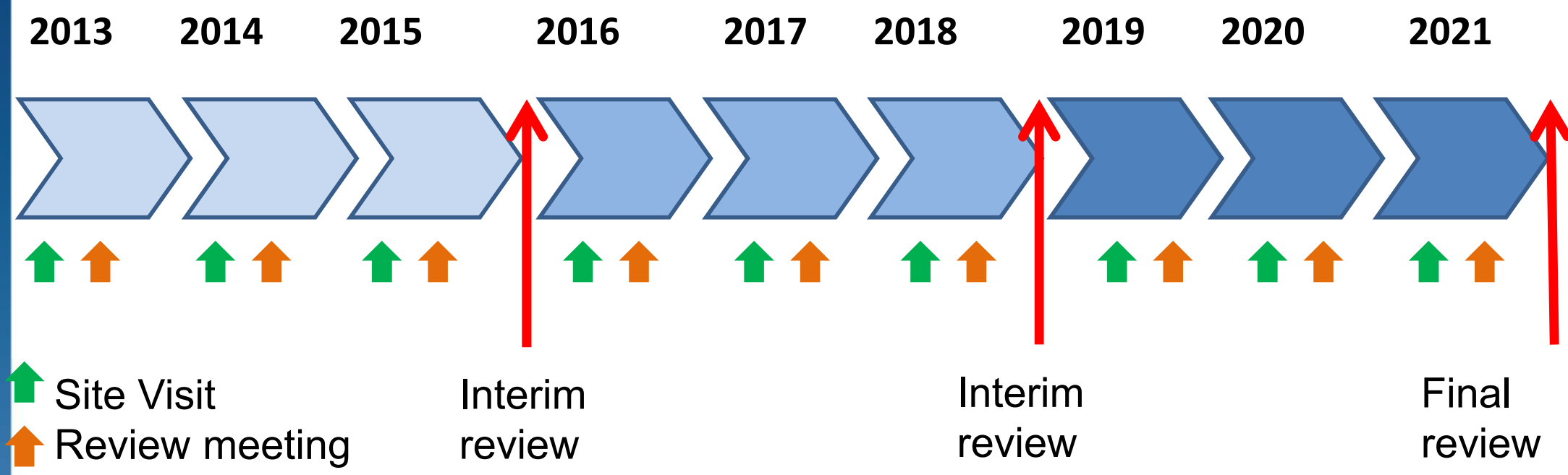
Active for All
Ritsumeikan Univ.
Toyobo Co., Ltd.

COINS Smart nanomachine
Kawasaki Institute of Industry Promotion

Self-Managing Healthy Society
The University of Tokyo

Locomo Jyuntendo Univ.

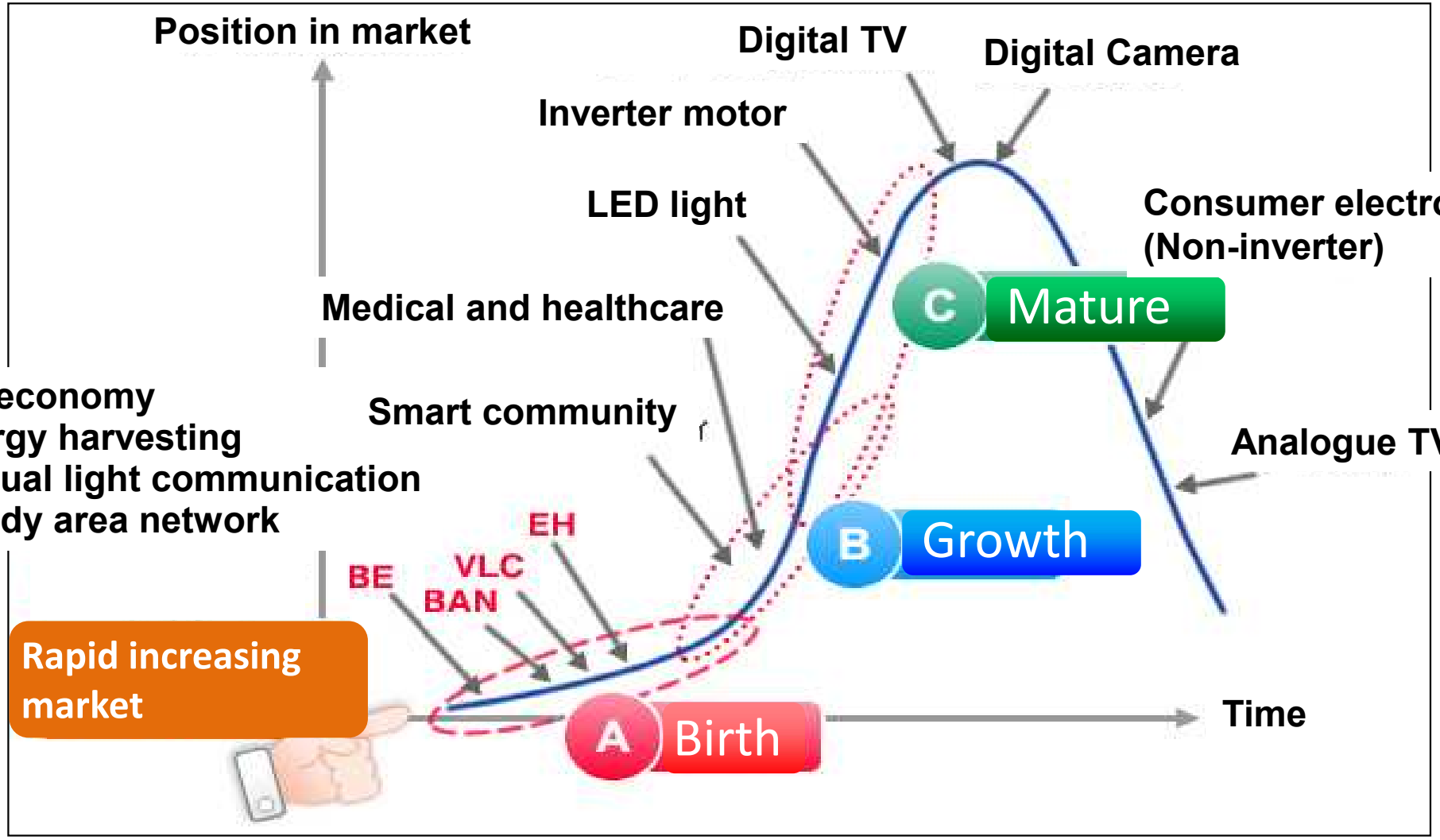
Review of COI Sites



Visionary Leader

Monitoring the progress
Support and suggestions for R&D activities
Funding in accord with R&D plan
Arrangement of collaboration

Growth of Market



BE: Bio-economy
EH: Energy harvesting
VLC: Visual light communication
BAN: Body area network

A and B are real targets of COI program： Innovation in a decade

Renesas HP http://japan.renesas.com/edge_ol/features/07/index.jsp

Remarkable Results in 2014

☐ Products

DeNA Life Science, Inc.

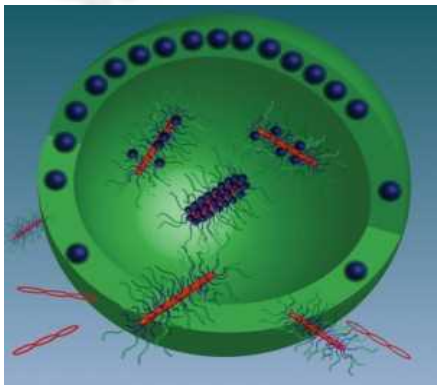
✓ Mycode, a genetic testing service in Japan (8/12~)

Toshiba Co., Ltd.

✓ Japonica Array™, a genotyping array optimized for ethnic Japanese (12/1~)

Kawasaki (COINS)

✓ Light-responsive nanomachine : transfer specific gene into target cells and release gene by irradiation with light



Remarkable Results in 2015

☐ Products

Toyobo Co., Ltd.

✓ Strechable print electrode COCOMI™ for smartware (8/11~)

☐ Collaboration

Joint of cohort studies.

✓ COI Cohort Collaboration Organization has been established in COI stream.

✓ Iwaki cohort at Hirosaki Univ. and Hisayama cohort at Kyusyu Univ. have started a joint study on dementia

DECLARATION ON SCIENCE AND THE USE OF SCIENTIFIC KNOWLEDGE (Budapest Declaration 1999)

1. Science for knowledge; knowledge for progress
2. Science for peace
3. Science for development
4. Science in society and science for society

The practice of scientific research and the use of knowledge from that research should always aim at the welfare of humankind, including the reduction of poverty, be respectful of the dignity and rights of human beings, and of the global environment, and take fully into account our responsibility towards present and future generations. There should be a new commitment to these important principles by all parties concerned.

Nurturing Young Generation

SSH Super Science High Schools

Japan High School Science Championships

Asian Science Camp 2013

Fostering Human Resources in S&T

Super Science High Schools (SSHs)

Reinforcement of Experience-Oriented Education

R&D for Fostering Next-Generation Scientists

Science Challenge Support

◇Supporting International S&T Contest
◇Japan High School Science Championships
◇Science Camp ◇Fostering Next-Generation Scientists
◇Science Partnership Program ◇Supporting Science Club

Supporting Science & Math Teachers Program

◇Science Leaders Camp ◇Establishing Training Centers for Core Science Teachers
◇Development & Provision of Digital Materials for S&T Education

University
High school
Junior high school
Elementary school

Science Communication

- ✓ Science, technology and innovation is deeply related to the society
- ✓ More efforts are given to science communication to bridge our activities to the society

Science Museum “MIRAIKAN”

Science Agora

The biggest and most successful science event in Japan “Science Agora”

Programs for Global Collaboration -Generate synergies-

Bi-lateral International Collaboration

SICP: More than 400 projects since 2003 with 23 countries and area

SICORP: 23 projects since 2009 with 6 countries and area

J-RAPID

Promoting Globalization on Strategic Basic Research Programs

SAKURA SCIENCE Exchange Program in Science
日本・アジア青少年サイエンス交流事業
さくらサイエンスプラン
Japan-Asia Youth Exchange Program in Science

R&D Support of Collaboration with Developing Countries (Partnership with JICA)

Satreps
Science and Technology
Official Development Assistance
For the Earth, for the Next Generation

20 Projects in 14 countries in Africa

(87 Projects in 41 countries since 2008)

Multi-lateral International Collaboration

CONCERT JAPAN
Connecting and Coordinating European Research and Technology Development with Japan

IHEC
International Human Epigenome Consortium

BELMONT FORUM

e-ASIA JRP

futureearth
research for global sustainability

SICP: Strategic International Cooperative Program
SICORP: Strategic International Collaborative Research Program
SATREPS: Science and Technology Research Partnership for Sustainable Development
e-ASIA JRP: East Asia Joint Research Program
J-RAPID: Japanese Grants for Rapid Response Research
CONCERT Japan: Connecting and Coordinating European Research and Technology Development with Japan project
IHEC: International Human Epigenome Consortium

“JST has been working and will work to create a sustainable and hopeful future through innovation”

Thank you for your attention!

Japan Science and Technology Agency