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Subject:	Japan's Science, Technology and Innovation Policy & Moonshot Research and Development Program - Powerpoint presentation (Informal videoconference of the Research WP members 27.01.2022)

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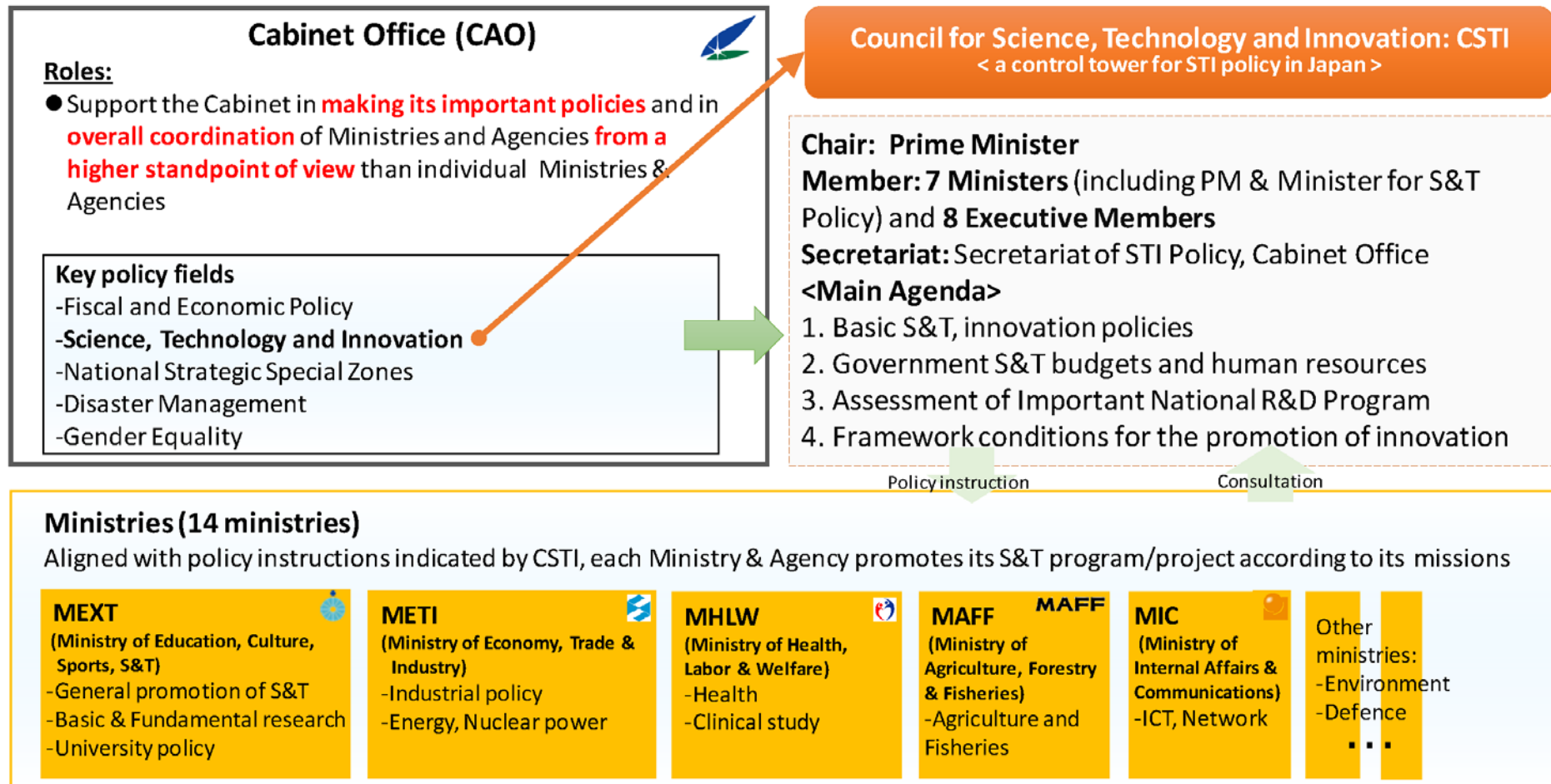———————

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Japan's Science, Technology and Innovation Policy & Moonshot Research and Development Program

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The Mission of Japan to the European Union,

Government of JAPAN

27 January 2022

MOONSHOT
RESEARCH & DEVELOPMENT PROGRAM

JAPANGOV
THE GOVERNMENT OF JAPAN

1. **Administrative structure of Japan STI** (Science, Technology & Innovation) **Policy Governance**

2. **Japan's Science, Technology and Innovation Policy**
   ○ **The 6th Science, Technology & Innovation Basic Plan**

3. **Moonshot Research & Development Program**
   ○ **Background, Points, Timeline**
   ○ **Concept for Moonshot Goals**
   ○ **Outline of Moonshot Goals**
   ○ **Overviews of Moonshot Goal #1 - #9**
   ○ **Administrative Structure**
   ○ **Promotion System**
   ○ **Evaluation System**

Cabinet Office (CAO)

Roles:
- Support the Cabinet in **making its important policies** and in **overall coordination** of Ministries and Agencies **from a higher standpoint of view** than individual Ministries & Agencies

Key policy fields
- Fiscal and Economic Policy
- **Science, Technology and Innovation**
- National Strategic Special Zones
- Disaster Management
- Gender Equality

Council for Science, Technology and Innovation: CSTI
< a control tower for STI policy in Japan >

Chair: Prime Minister
Member: 7 Ministers (including PM & Minister for S&T Policy) and **8 Executive Members**
Secretariat: Secretariat of STI Policy, Cabinet Office
<Main Agenda>
1. Basic S&T, innovation policies
2. Government S&T budgets and human resources
3. Assessment of Important National R&D Program
4. Framework conditions for the promotion of innovation

Policy instruction   Consultation

Ministries (14 ministries)
Aligned with policy instructions indicated by CSTI, each Ministry & Agency promotes its S&T program/project according to its missions

MEXT
(Ministry of Education, Culture, Sports, S&T)
- General promotion of S&T
- Basic & Fundamental research
- University policy

METI
(Ministry of Economy, Trade & Industry)
- Industrial policy
- Energy, Nuclear power

MHLW
(Ministry of Health, Labor & Welfare)
- Health
- Clinical study

MAFF
(Ministry of Agriculture, Forestry & Fisheries)
- Agriculture and Fisheries

MIC
(Ministry of Internal Affairs & Communications)
- ICT, Network

Other ministries:
- Environment
- Defence
. . .

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Members of the Council for Science, Technology and Innovation (CSTI)

Chair

KISHIDA Fumio
Prime Minister

Cabinet Members (Ministers)

KOBAYASHI Takayuki
Minister of State for Science
and Technology Policy

MATSUNO Hirokazu
Chief Cabinet Secretary

SUZUKI Shunichi
Minister of Finance

KANEKO Yasushi
Minister for Internal Affairs
and Communications

SUEMATSU Shinsuke
Minister of Education, Culture,
Sports, Science and Technology

HAGIUDA Koichi
Minister of Economy,
Trade and Industry

※Relevant ministers are appointed as ad-hoc members when needed to attend plenary session meetings of CSTI

Executive Members

Dr. UEYAMA Takahiro
Former Vice President & Professor,
National Graduate Institute
for Policy Studies

Ms. KAJIWARA Yumiko
Corporate Executive Officer,
Fujitsu Ltd.

Dr. KOTANI Motoko
Executive Vice President,
Professor, Tohoku University

Mr. SATO Yasuhiro
Chairman, Mizuho Financial Group Inc.

Head of an Affiliated Organisation

Mr. SHINOHARA Hiromichi
Chairman of the Board, NTT Corporation
Chair of the Committee on IT Policy, Keidanren

Dr. HASHIMOTO Kazuhito
President,
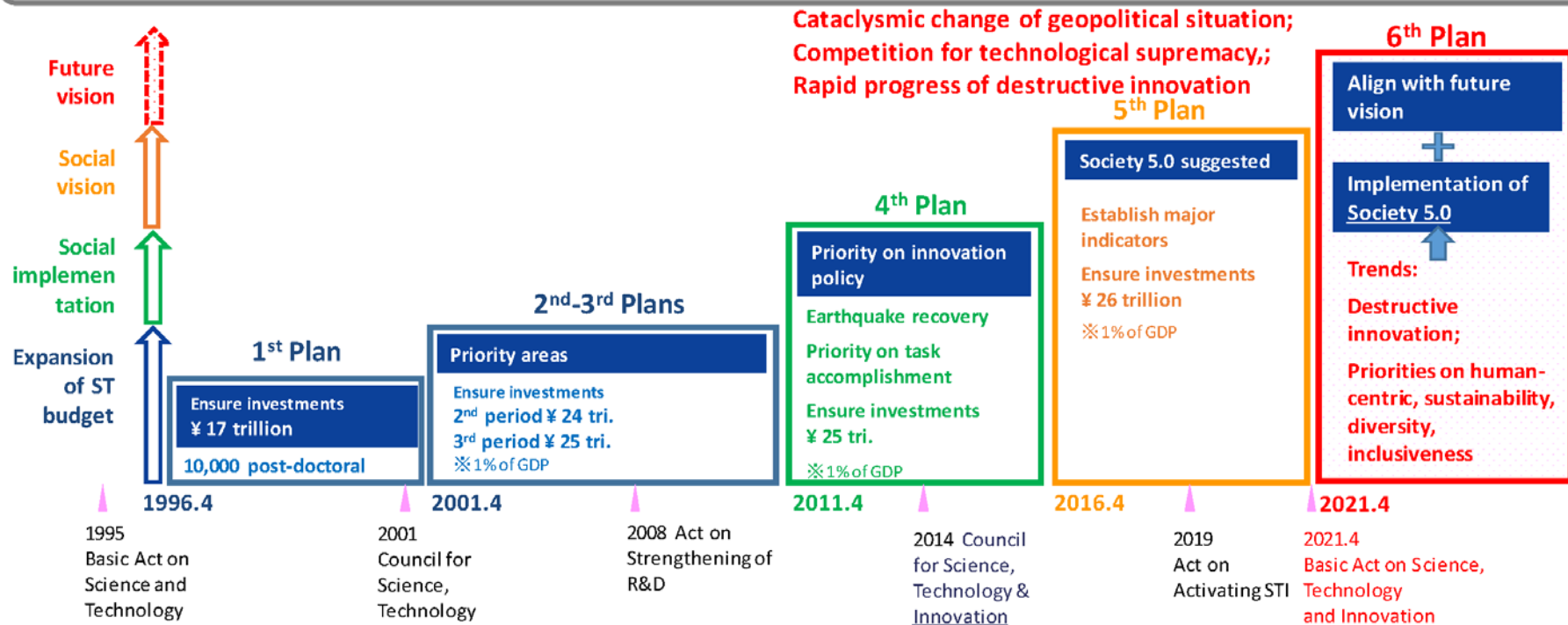National Institute for
Materials Science

Dr. FUJII Teruo
President,
University of Tokyo

Dr. KAJITA Takaaki
President,
Science Council of Japan

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- Formulation of 'the Science and Technology Basic Plan' every 5 years based on the Basic Act on Science and Technology (Advisory to the Prime Minister).
- Expansion of S&T budget prioritised in the 1st-3rd Plans; Social implementation prioritised in the 4th Plan; Society 5.0 proposed in the current 5th Plan.
- Current 6th Plan is the first "Science, Technology and Innovation Basic Plan" based on the revised the Basic Act on Science, Technology and Innovation.

Cataclysmic change of geopolitical situation;
Competition for technological supremacy,;
Rapid progress of destructive innovation

6th Plan

Align with future vision

+

Implementation of Society 5.0

Trends:

Destructive innovation;

Priorities on human-centric, sustainability, diversity, inclusiveness

5th Plan

Society 5.0 suggested

Establish major indicators

Ensure investments ¥ 26 trillion

※1% of GDP

4th Plan

Priority on innovation policy

Earthquake recovery

Priority on task accomplishment

Ensure investments ¥ 25 tri.

※1% of GDP

2nd-3rd Plans

Priority areas

Ensure investments
2nd period ¥ 24 tri.
3rd period ¥ 25 tri.
※1% of GDP

1st Plan

Ensure investments ¥ 17 trillion

10,000 post-doctoral

Future vision

Social vision

Social implemen tation

Expansion of ST budget

1996.4   2001.4   2011.4   2016.4   2021.4

1995
Basic Act on
Science and
Technology

2001
Council for
Science,
Technology

2008 Act on
Strengthening of
R&D

2014 Council
for Science,
Technology &
Innovation

2019
Act on
Activating STI

2021.4
Basic Act on Science,
Technology
and Innovation

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4

"Society 5.0"

"Society 5.0" is **a new society coming up after Information Society**:

- Produced by **sophisticated integration of cyberspace and physical space**;
- **Reconciles economic growth and resolution of social issues**;
- Realizes **a human-centered and inclusive society**.
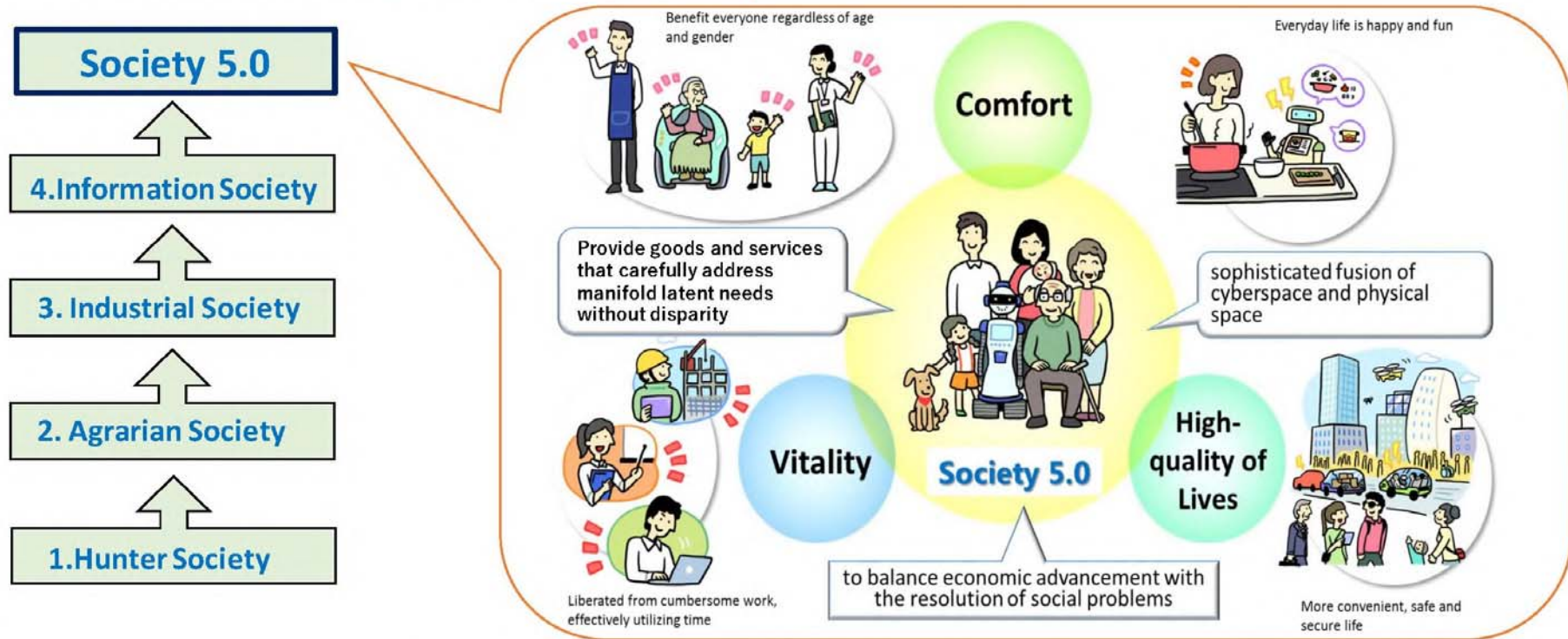
Glance at 6th Science, Technology and Innovation Basic Plan

● Background -current situation-
- Changes in the situation at home and abroad – Advanced techs, Disaster, Climate change, etc.
- Expansion of the novel coronavirus infection – Social changes, Economic resilience, Life change, etc.
- Review of STI policies – Decline in research capacity, Revision of S&T basic law

Three Pillars of Japan's STI Policy

For the realisation of Society5.0

1. Innovation Capability

- Digitalisation of society; Realisation of carbon neutral society
- Resilient, Safe & Secure Society
- Solving social issues by social implementation

2. Research Capability

- Support for Doctoral students, Young researchers; Female researchers
- Basic and Academic research, Humanities and Social Sciences
- 10 trillion JPY fund for university reform

3. Education & Human Resource Development

- STEAM education; GIGA school initiative at primary & secondary education stage
- Fostering Environment / Culture to promote recurrent education

Transition to Sustainable & Resilient Society

Creation of Knowledge

Adaptation to a new society

Society that Japan aims for

Society ensuring the safety and security of the people

Society that realises of diverse happiness (well-being) for each individual

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Glance at 6th Science, Technology and Innovation Basic Plan

Content of STI Policy -1.

1. Innovation Capability — **Transformation into a Sustainable and Resilient Society**

(1) **Creating new value through fusion of cyber space and physical space**
Digital Gov., Digital Agency, Data strategy; Beyond 5G, Supercomputers, Space systems, Quantum tech, Semiconductors, Data/AI tech

(2) Promoting social transformation & innovation to **overcome global challenges**
Carbon neutrality by 2050; Green Growth Strategy, Green innovation tech (**2 trillion JPY fund**)

(3) Building **a resilient safe & secure society**

(4) Formulation of **innovation ecosystem for creating new industries**
SBIR system, entrepreneurial education, Start-ups hub cities

(5) Urban & regional development (**Smart cities**)

(6) **R&D & social implementation** and utilising **convergence of knowledge** to **solve social issues**
Next-SIP (Strategic Innovation Program), M&A with IPs & Standards, S&T Diplomacy

2. Research Capability

3. Education & Human Resource Development

Glance at 6th Science, Technology and Innovation Basic Plan

Content of STI Policy-2., 3.

1. Innovation Capability

2. Research Capability — Creation of "Knowledge"

(1) Rebuilding an environment that **fosters diverse and outstanding research**
Improved treatment for **doctor students**, Good career paths for postdoctoral fellows, **Securing positions for young researchers**, Promoting activity of female researchers, encouraging **basic & academic research**, promotion of humanities & social sciences

(2) Building new research systems (promotion of **open science** and **data-driven research**, etc.)
Good management & utilisation of research data; Acceleration of research using smart labs, AI, Shared research assets; New research community exploited by research DX

(3) Promotion of **university reform** & expansion of function for **strategic management**
Establishment of **10 trillion JPY (~770 billion EUR) university fund** for stable R&D assets & HR of univ.

3. Education & Human Resource Development

● Promoting **STEAM education** in primary & secondary schools, **GIGA school initiative**
STEAM: Science and mathematics and creative education method (Science, Technology, Engineering, Arts and Mathematics)

● Fostering an environment and culture encouraging society/companies to continue learning

● Enhancement of S&T communication

☞ **Total Gov. R&D investment: approx. 30 trillion JPY (~2.3 trillion EUR) & Total public-private R&D investment: approx. 120 trillion JPY for 5 years(2021-25).**

Background

☐ Japan is now faced with many difficult issues like;
- an aging and declining population,
- extreme natural disasters and
- global climate change

  These issues should be addressed and resolved by S&T for a better future of our society.

☐ The EU, the United States, and China aim to introduce disruptive innovation by announcing their ambitions and setting their goals for resolving difficult social/global issues

  ex.)   EU -> Horizon2020, European Innovation Council, Horizon Europe Missions

          US -> DARPA, NSF2050, emergence of GAFA

          China -> Made in China 2025

☐ Based on the past programs (FIRST, ImPACT), the new Moonshot Research and Development Program aims to create innovations from Japan and promotes challenging R&D based on revolutionary concepts that are not the extension of existing technologies
- FIRST: Funding Program for World-Leading Innovative R&D on Science and Technology (2009-2014)
- ImPACT: Impulsing Paradigm Change through Disruptive Technologies Program (2014-2019)

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1. **The Government of Japan sets ambitious goals and concepts** for societal issues that are difficult to tackle but will have profound impact once resolved.

2. Opens call for domestic and foreign top-class researchers as Project Manager(PM)s under the direction of the Program Director(PD) who oversees multiple projects.

3. Builds a portfolio overlooking the program and promotes challenging R&D without fear of failure.

4. Reviews a portfolio flexibly by stage-gates and actively encourages utilization of the R&D results.

5. Establishes the most advanced research support system by utilizing a data management infrastructure.

6. 100 billion yen was appropriated in the supplementary budget for FY2018, and a fund was created. 15 billion yen in the supplementary budget for FY2019 and 80 billion yen in the supplementary budget for FY2021 were appropriated. (Total fund: About 200 billion yen ~ 1.5 billion euro)
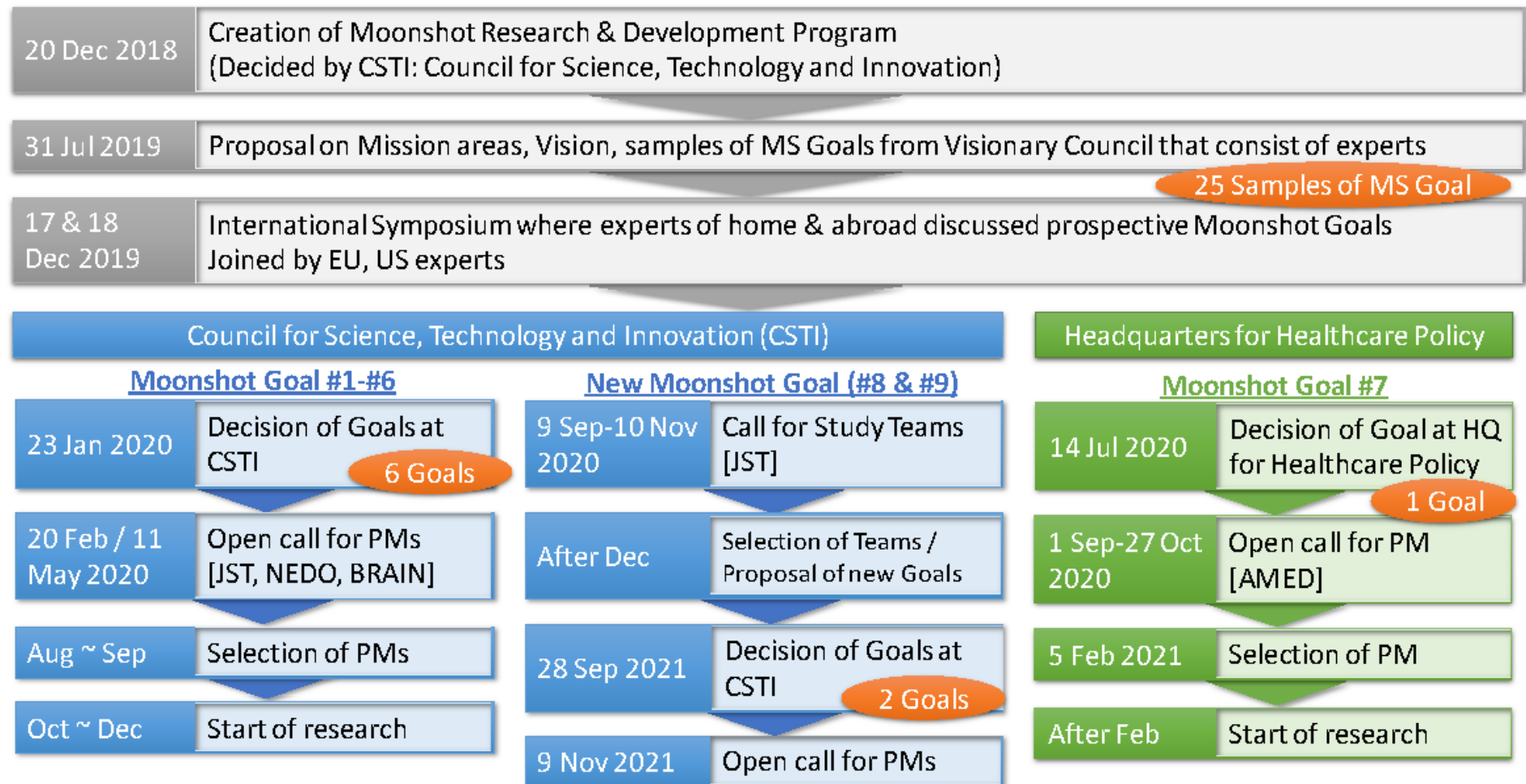
7. Supports the program up to 10 years.

	Supplementary budget for 2019	Supplementary budget for 2020	Supplementary budget for 2021	Fund in total as of Jan 2022
Budget	¥100 billion	¥15 billion	¥80 billion	Approx. ¥200 billion

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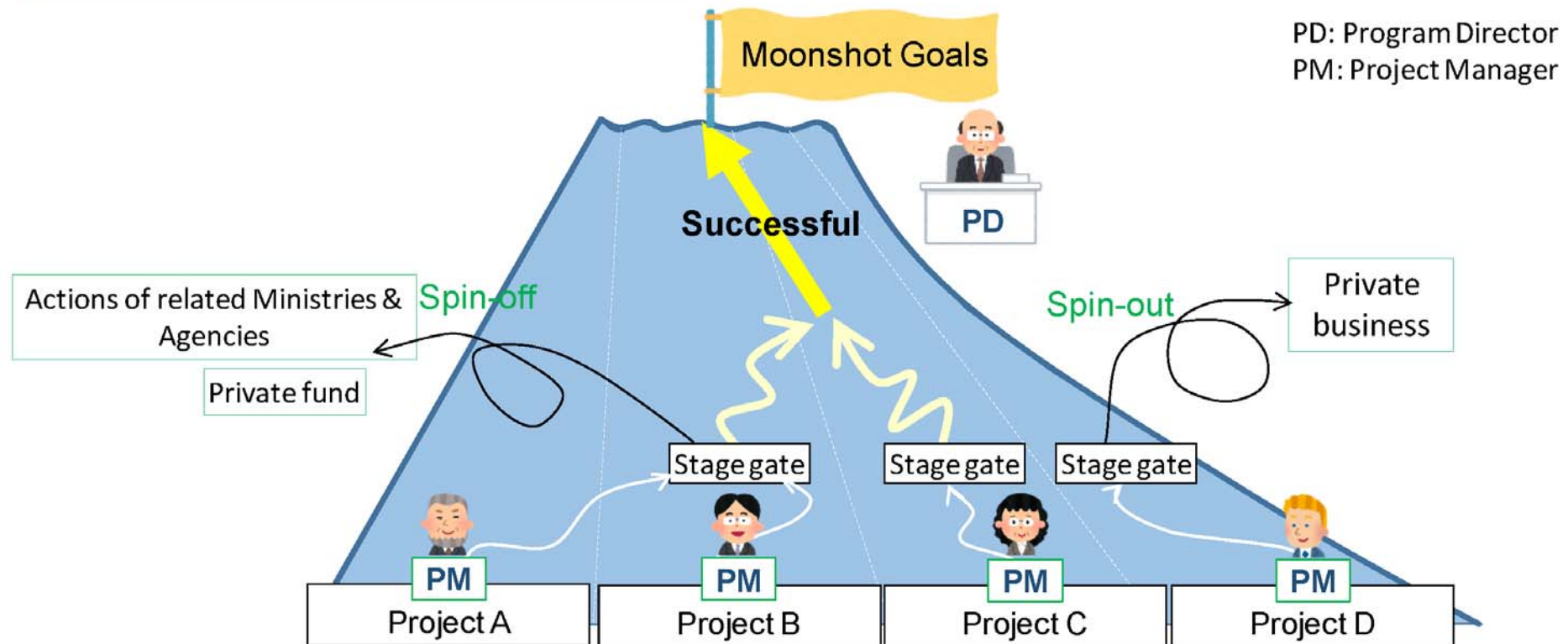
Timeline of Moonshot Research & Development Program

MOONSHOT RESEARCH & DEVELOPMENT PROGRAM

20 Dec 2018	Creation of Moonshot Research & Development Program (Decided by CSTI: Council for Science, Technology and Innovation)

31 Jul 2019	Proposal on Mission areas, Vision, samples of MS Goals from Visionary Council that consist of experts

25 Samples of MS Goal

17 & 18 Dec 2019	International Symposium where experts of home & abroad discussed prospective Moonshot Goals Joined by EU, US experts

Council for Science, Technology and Innovation (CSTI)

Moonshot Goal #1-#6

23 Jan 2020	Decision of Goals at CSTI *6 Goals*
20 Feb / 11 May 2020	Open call for PMs [JST, NEDO, BRAIN]
Aug ~ Sep	Selection of PMs
Oct ~ Dec	Start of research

New Moonshot Goal (#8 & #9)

9 Sep-10 Nov 2020	Call for Study Teams [JST]
After Dec	Selection of Teams / Proposal of new Goals
28 Sep 2021	Decision of Goals at CSTI *2 Goals*
9 Nov 2021	Open call for PMs

Headquarters for Healthcare Policy

Moonshot Goal #7

14 Jul 2020	Decision of Goal at HQ for Healthcare Policy *1 Goal*
1 Sep-27 Oct 2020	Open call for PM [AMED]
5 Feb 2021	Selection of PM
After Feb	Start of research

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Concept of Moonshot Goals

Point of Views | **Inspiring** | **Credible** | **Imaginative**

Mission Areas

1. Turning the aging society into the innovative and sustainable society — Society

Solving issues Japan is facing, and leverage them to transform Japan
ex.) Inclusive society, realization of well-being, Industrial innovation by full automation

2. Recovery for global environment and growth of civilization — Environment

Solving global agenda issues affecting the future of civilization
ex.) Resource, Cities, Natural Environment

3. Exploring frontiers with science and technology — Economics

Making wildest imaginations in to Reality
ex.) A.I., Bio, Brain & Neuro, Quantum, Earth, Space -- Science

-Revitalise our society based on human centric S&T
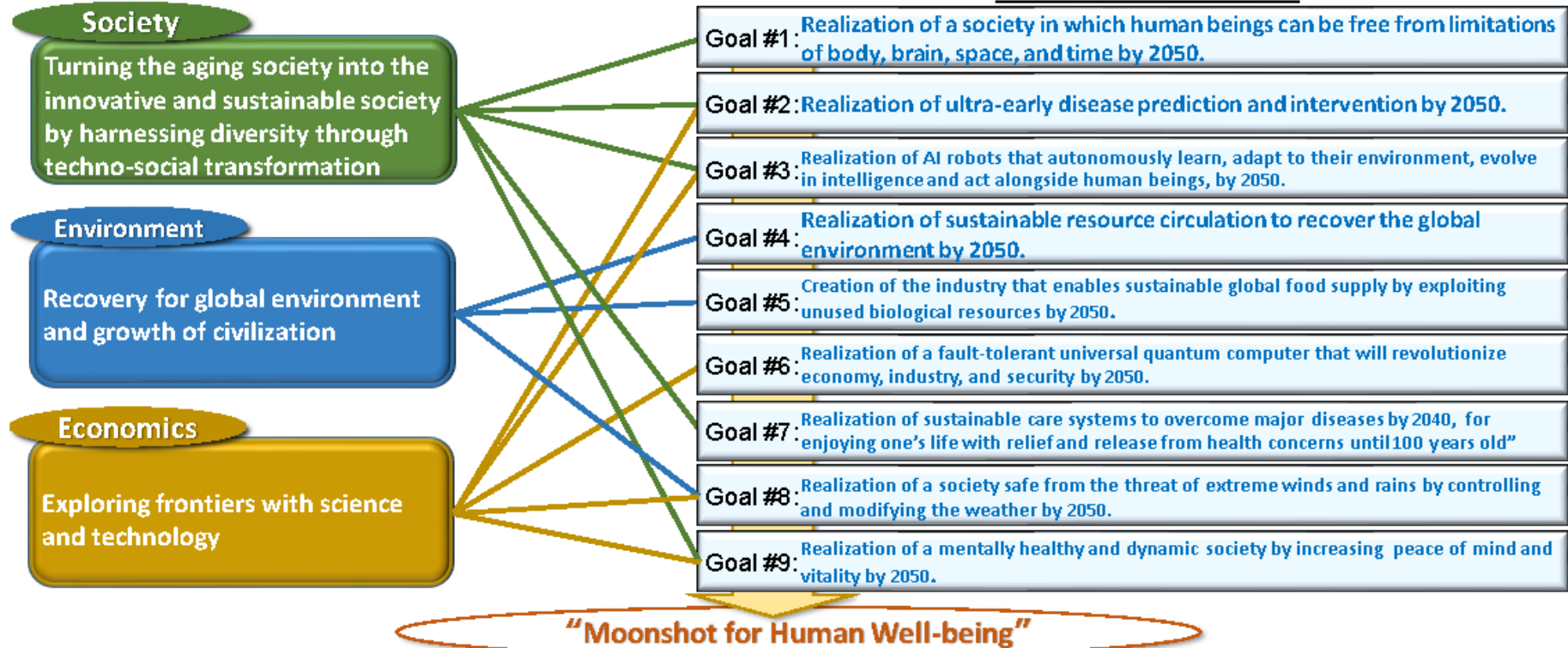**-realise Human Well-being**

25 examples of Moonshot Goals

By the Visionary Council & external experts

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Outline of Moonshot Goals

MOONSHOT RESEARCH & DEVELOPMENT PROGRAM

Outline To develop radical solutions for difficult societal challenge, the Government of Japan set inspiring and ambitious goals for challenging R&D.

Goals **To realize "Human Well-being"**, Nine Moonshot goals (MS goals) were decided in the area of society, environment, and economics.

9 MS Goals to be achieved

Society

Turning the aging society into the innovative and sustainable society by harnessing diversity through techno-social transformation

Environment

Recovery for global environment and growth of civilization

Economics

Exploring frontiers with science and technology

Goal #1: Realization of a society in which human beings can be free from limitations of body, brain, space, and time by 2050.

Goal #2: Realization of ultra-early disease prediction and intervention by 2050.

Goal #3: Realization of AI robots that autonomously learn, adapt to their environment, evolve in intelligence and act alongside human beings, by 2050.

Goal #4: Realization of sustainable resource circulation to recover the global environment by 2050.

Goal #5: Creation of the industry that enables sustainable global food supply by exploiting unused biological resources by 2050.

Goal #6: Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050.

Goal #7: Realization of sustainable care systems to overcome major diseases by 2040, for enjoying one's life with relief and release from health concerns until 100 years old"

Goal #8: Realization of a society safe from the threat of extreme winds and rains by controlling and modifying the weather by 2050.

Goal #9: Realization of a mentally healthy and dynamic society by increasing peace of mind and vitality by 2050.

"Moonshot for Human Well-being"

14

Moonshot Goal #1

Goal #1

Realization of a society in which human beings can be free from limitations of body, brain, space, and time by 2050.

<Target of Moonshot Goal>

Cybernetic avatar[*1] infrastructure for diversity and inclusion

- Development of technologies and infrastructure to carry out large-scale complex tasks combining large numbers of robots and avatars teleoperated by multiple persons by 2050.
- Development of technologies and infrastructure that allow one person to operate more than 10 avatars for one task at the same speed and accuracy as one avatar by 2030.

Cybernetic avatar life

- Development of technologies that will allow anyone willing to augment their physical, cognitive, and perceptional capabilities to the top level, and spread of a new lifestyle that will be welcomed by society, by 2050.
- Development of technologies that will allow anyone willing to augment their physical, cognitive, and perceptional capabilities for specific tasks, and proposal of a new lifestyle that will be welcomed by society, by 2030.

(Reference: Future Visions to be achieved)

A society in which everyone can participate in various activities

- Development of technologies that allow anyone to participate in social activities beyond the limitations of place and capabilities, by 2050.

No need to be on site

Possible to get required abilities by wearing devices

A society where everyone can participate in various activities

3 projects

*1 Cybernetic Avatar is a concept that includes not only remote avatars using robots and 3D images as proxies but also empowerment of the physical/cognitive abilities of humans using ICT and robotics. Cybernetic Avatar aims to be active not only in the physical world, but also in the cyber-physical world, i.e. Society 5.0.

Source: Cabinet Office of Japan

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Goal #2

Realization of ultra-early disease prediction and intervention by 2050.

\<Target of Moonshot Goal\>

- Establishment of a system for disease prediction and evaluation of pre-symptomatic states in order to suppress and prevent disease onset, through integrated analysis of the entire functional network between human organs, by 2050.

- Establishment of a strategy that enables the conversion of a pre-symptomatic state to a healthy state, by clarification of functional changes in human physiology along life course considering the comprehensive network between organs, by 2050.

- Identification of disease-related network structures and establishment of innovative prediction and intervention methods by 2050.

- Understanding of the comprehensive network between human organs by 2030.

(Reference: Future Visions to be achieved)

Prevent diseases

- Development of technologies preventing serious diseases such as dementia and cancer by analyzing unclear networks between organs such brain and intestines, by 2050.
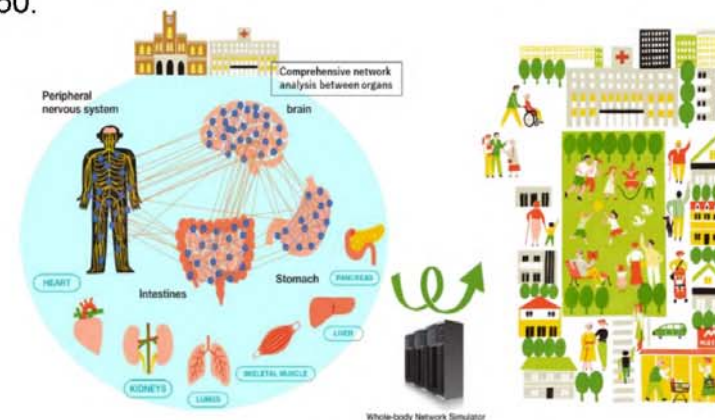
World's first 'Whole-body Network Atlas'

5 projects

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Goal #3

Realization of AI robots that autonomously learn, adapt to their environment, evolve in intelligence and act alongside human beings, by 2050.

<Target of Moonshot Goal>

- Development of AI robots that humans feel comfortable with, have physical abilities equivalent to or greater than humans, and grow in harmony with human life, by 2050.
- Development of AI robots that behave well with humans under certain conditions, and allow over 90% of people to feel comfortable with them, by 2030.

- Development of an automated AI robot system that aims to discover impactful scientific principles and solutions, by thinking and acting in the field of natural science, by 2050.
- Development of an automated AI robot system that aims to support the process of discovery for scientific principles and solutions to specific problems by 2030.

- Development of AI robots that autonomously make judgements and act in environments where it is difficult for humans to act by 2050.
- Development of AI robots that operate unattended under human supervision in specific circumstances by 2030.

(Reference: Future Visions to be achieved)

A society in which humans and robots coexist

- Development of AI robots that have same sensitivity as humans and physical abilities equivalent to or better than humans, growing together with human life.

4 projects

Goal #4

Realization of sustainable resource circulation to recover the global environment by 2050.

<Target of Moonshot Goal>

Solutions to the global warming problem (the Cool Earth) and environmental pollution problem (the Clean Earth) through realization of sustainable resource circulation for the global environment.

Cool Earth & Clean Earth

- Global deployment of commercial plants or products utilizing circulation technology by 2050.

Cool Earth

- Development of circulation technology on a pilot scale for reducing greenhouse gases that is also effective in terms of life cycle assessment (LCA) by 2030.

Clean Earth

- Development of technology on a pilot scale or in a form of prototype that converts environmentally harmful substances into valuable or harmless materials by 2030.

(Reference: Future Visions to be achieved)

Cool Earth & Clean Earth

- Implementation of technologies such as DAC(Direct Air Capture) of CO_2, conversion of CO_2 into materials and decomposition of marine plastic litter, in society, by 2050.

Example of a new sustainable resource circulation to be realized
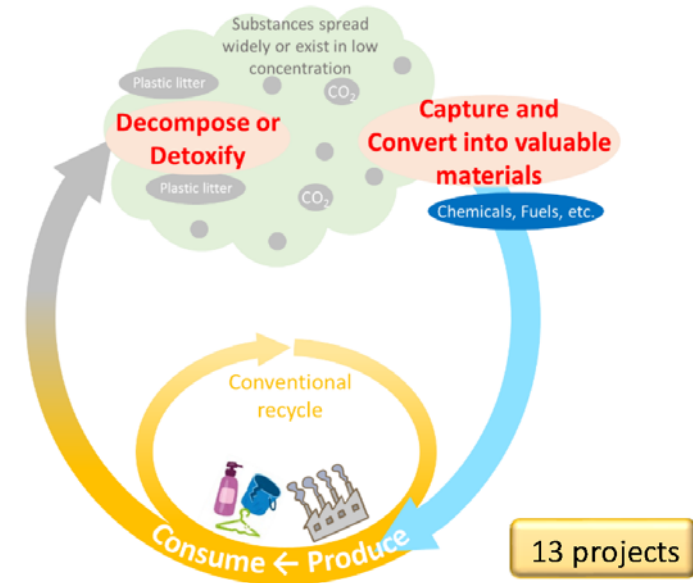
Substances spread widely or exist in low concentration

Plastic litter · CO₂

Decompose or Detoxify

Capture and Convert into valuable materials

Chemicals, Fuels, etc.

Conventional recycle

Consume ← Produce

13 projects

Goal #5

Creation of the industry that enables sustainable global food supply by exploiting unused biological resources by 2050.
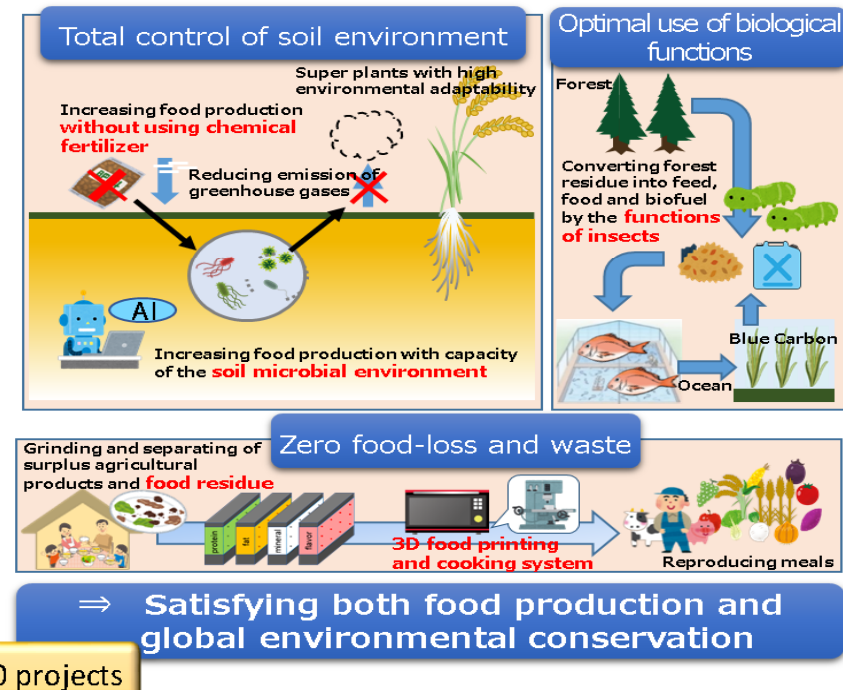
<Target of Moonshot Goal>

- Technical development of the circular food production systems by biological measures, e.g. utilizing microbes and insects, by 2050.

- Development of technical solutions for eliminating food loss and waste and for achieving both healthy life and sustainable food consumption by 2050.

- Evaluation of the technical achievements and discussion on the ethical, legal and social implications (ELSI) matters will be done by 2030, for global spread of the technology by 2050.

(Reference: Future Visions to be achieved)

Sustainable food supply without food-loss and environmental loading

- Creation of the industry that enables sustainable global food supply by exploiting unused biological resources by 2050.

Total control of soil environment

Super plants with high environmental adaptability

Increasing food production **without using chemical fertilizer**

Reducing emission of greenhouse gases

Increasing food production with capacity of the **soil microbial environment**

Optimal use of biological functions

Forest

Converting forest residue into feed, food and biofuel by the **functions of insects**

Blue Carbon

Ocean

Grinding and separating of surplus agricultural products and **food residue**

Zero food-loss and waste

3D food printing and cooking system

Reproducing meals

⇒ **Satisfying both food production and global environmental conservation**

10 projects

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Goal #6

Realization of a fault-tolerant universal quantum computer that will revolutionize economy, industry, and security by 2050.

<Target of Moonshot Goal>

- Achievement of the large-scale integration required for fault-tolerant universal quantum computers[1] by around 2050.
- Development of a certain scale of NISQ computer[2] and demonstration of the effectiveness of quantum error correction by 2030.

(Reference: Future Visions to be achieved)

A universal quantum computer that will dramatically revolutionize our society

- Realization of a large-scale and multipurpose quantum computer that will revolutionize economy, industry and security, by 2050.

7 projects

[1] Fault-tolerant universal quantum computer is a quantum computer that realizes large-scale integration while guaranteeing on sufficiently high accuracy for various applications.

[2] NISQ(Noisy-Intermediate Scale Quantum) is a small to medium scale quantum computer that does not have a function to correct errors.

Goal #7

Realization of sustainable care systems to overcome major diseases by 2040, for enjoying one's life with relief and release from health concerns until 100 years old

<Target of Moonshot Goal>

[Realization of a society where everyone can prevent diseases spontaneously in daily life]

- Establish infrastructure to maintain good mental and physical health by developing technologies, in order to stay healthy and prevent the onset and aggravation of diseases by regulation of immune systems or sleep, etc., and to visualize individual physical and mental state in daily life and urge people to voluntarily take healthy maintenance actions most suitable for them by 2040.
- Develop technologies to monitor all living body trends with lower physical and mental load by 2030.

[Realization of medical networks accessible for anyone from anywhere in the world]

- Establish a medical network to provide the same level of medical care as a normal time regardless of region and even upon disasters and emergencies by developing diagnostic and treatment devices for simple tests and treatments at home, etc. and diagnosis- and treatment-free technologies for part of chronic diseases by 2040. In addition, develop methods for radical treatment and precision medicine for diseases such as cancer and dementia by substantially reducing the development period of drugs and medical devices, etc. through establishment of data science and evaluation systems by 2040.

- Establish a technology platform to provide quality medical and nursing care suitable for each individual appropriately even with less providers by developing compact, speedy and high-sensitivity diagnostic and treatment devices as well as technologies to further enhance doctors' medical opinion and diagnostic capability by 2030.

[Realization of drastic improvement of QoL without feeling load (realization of an inclusive society without health disparity)]

- Establish a social infrastructure to enable self-reliant life at home without depending on nursing care by developing such technologies as the recovery of body function with rehabilitation without feeling load, normalization of ailing biocontrol systems, regeneration or substitution of weakened organs and so forth by 2040.
- Develop technologies to improve body function through load-reducing rehabilitation and support self-reliant life at home and to improve ailing living biocontrol systems by 2030.

(Reference: Future Visions to be achieved)

Sustainable care system for enjoying one's life until 100 years old

5 projects

Goal #8

Realization of a society safe from the threat of extreme winds and rains by controlling and modifying the weather by 2050.

<Target of Moonshot Goal>
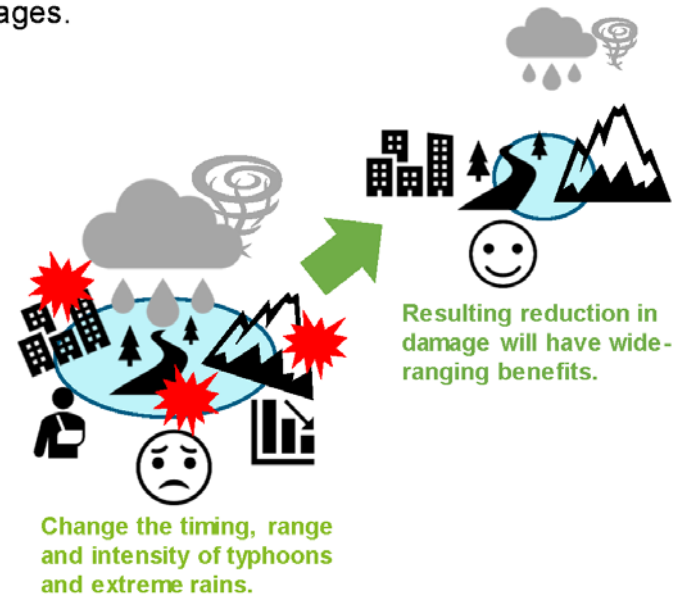
- Making it possible to intervene to change the timing, range and intensity of typhoons and extreme rains (including those that occur in linear precipitation zones), significantly reducing disaster damage and bringing a wide range of benefits to society by 2050.

- Demonstration on a computer that it is possible to reduce disaster damage by controlling typhoons and extreme rains using realistic intervention operations, and conduct experiments to verify these operations by 2030.

(Reference: Future Visions to be achieved)

Safe from the threat of extreme weather

- Change the timing, range and intensity of typhoons and extreme rains, and drastically reduce human and economic damages.

Resulting reduction in damage will have wide-ranging benefits.

Change the timing, range and intensity of typhoons and extreme rains.

Goal #9

Realization of a mentally healthy and dynamic society by increasing peace of mind and vitality by 2050.
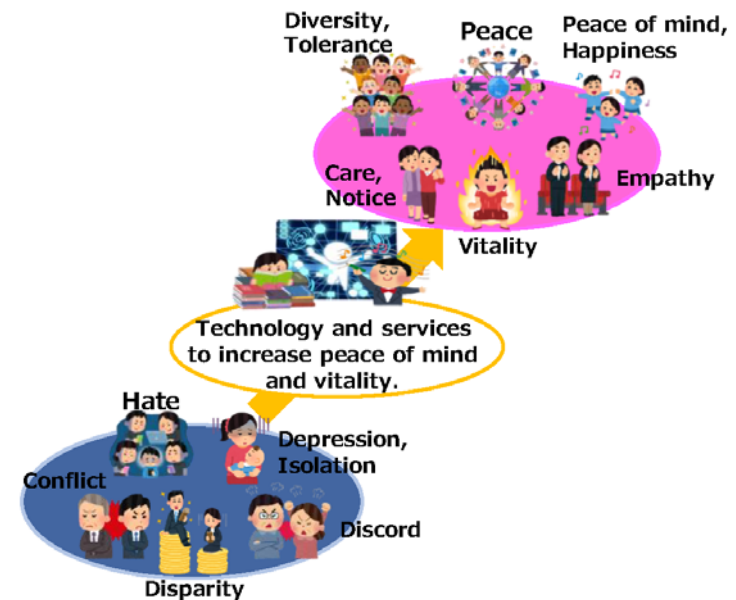
<Target of Moonshot Goal>
- Realization of a society in which people have high individual mental stability with an active role in their own lives, and people can accurately understand their mental status and move towards their desired status through technology by 2050.
- Development of motivating technologies through extraction and measurement of elements that influence the human mind (present in culture, tradition, art, etc.) and elucidate the mechanism of mental influence by 2030. In addition, to undertake broad consideration of the issues in implementing these technologies in the community and thereby finding solutions to achieve wide uptake by the populace.

- Realization of a society that can widely accept and utilize diversity, using technology to enhance the empathy, stability, and creativity of groups, and to disseminate mental support services around the world by 2050.
- Development of science and technology that enhances human communication and sharing of emotions, and to develop mental support services that enhance the empathy, stability, and creativity of groups through collaboration with humanities and social sciences, by 2030.
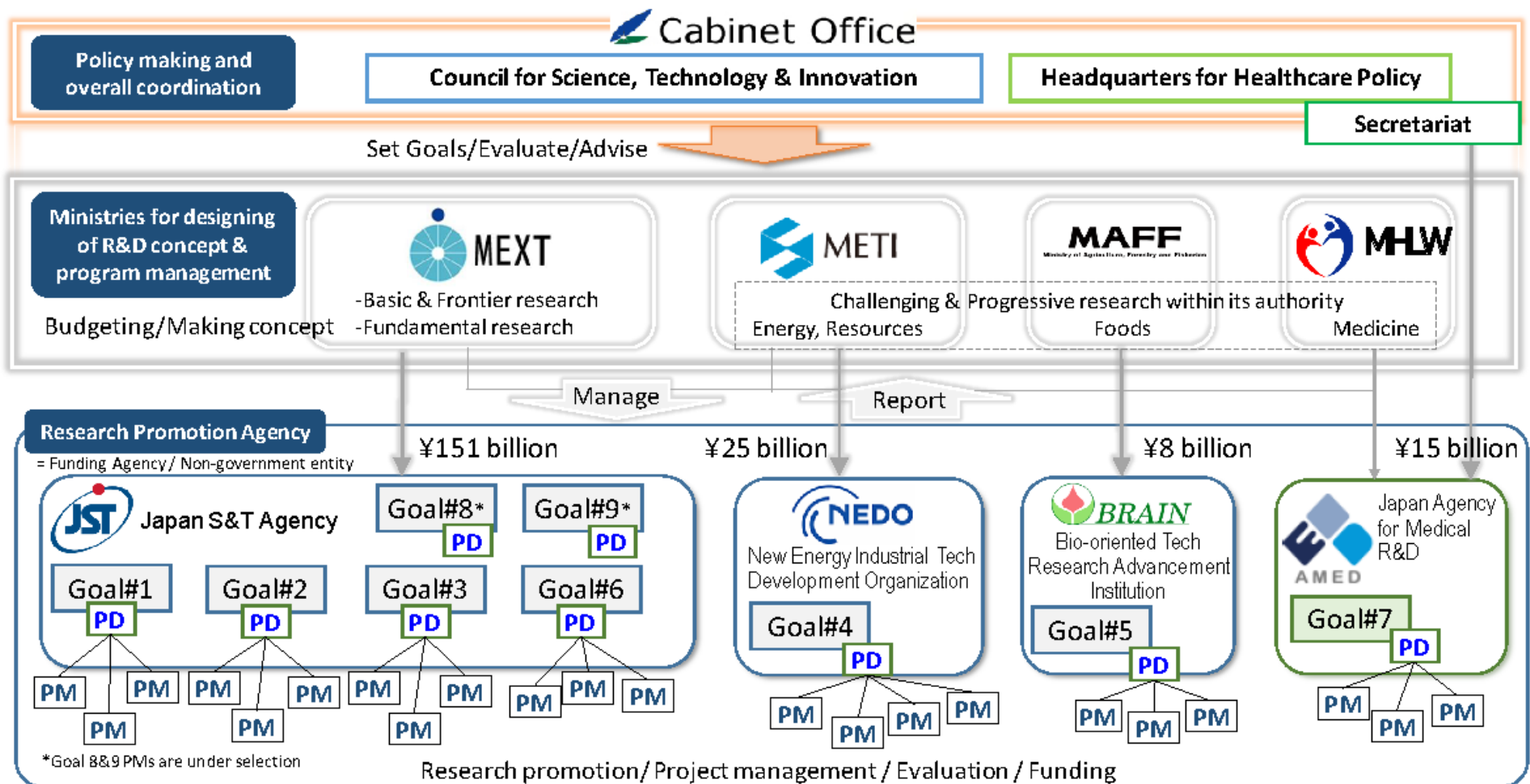
Source: Cabinet Office of Japan

(Reference: Future Visions to be achieved)

Mentally healthy and dynamic society

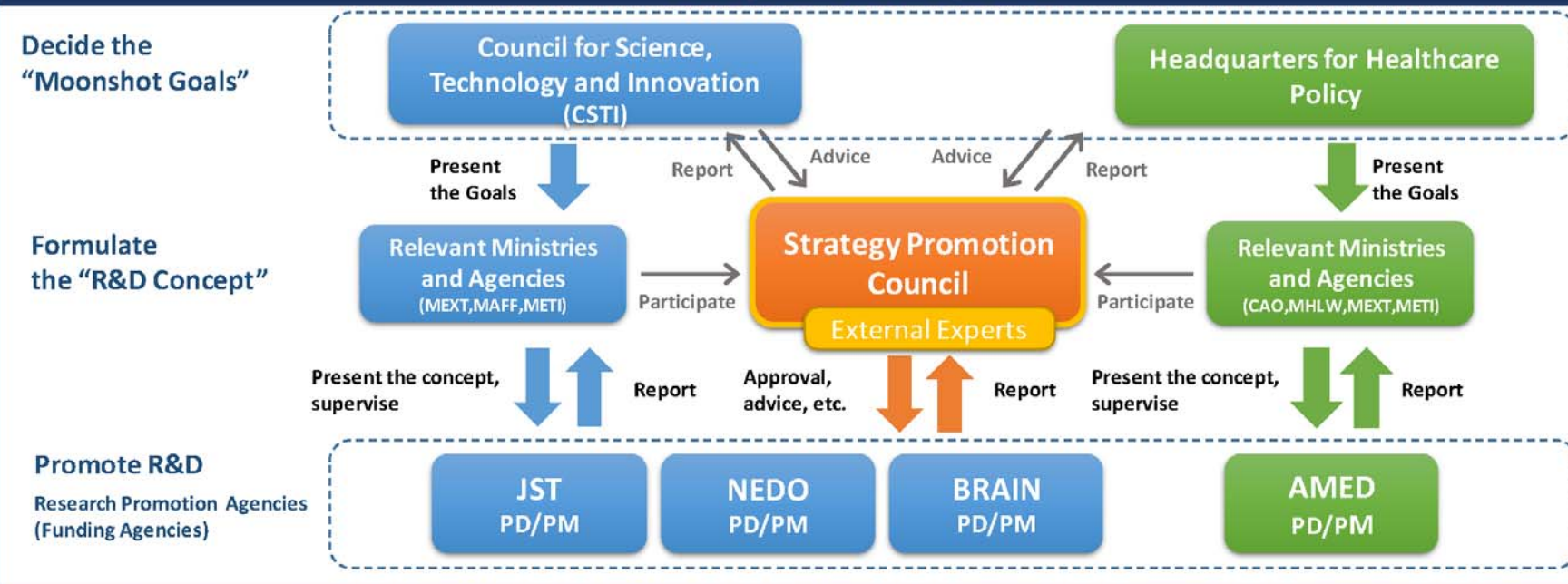- Decrease conflict, isolation and depression, and increase peace of mind and vitality.

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Administrative Structure on MS R&D Program

MOONSHOT
RESEARCH & DEVELOPMENT PROGRAM

Cabinet Office

Policy making and overall coordination

Council for Science, Technology & Innovation

Headquarters for Healthcare Policy

Secretariat

Set Goals/Evaluate/Advise

Ministries for designing of R&D concept & program management

Budgeting/Making concept

MEXT
- Basic & Frontier research
- Fundamental research

METI
Challenging & Progressive research within its authority
Energy, Resources

MAFF
Foods

MHLW
Medicine

Manage   Report

Research Promotion Agency
= Funding Agency/ Non-government entity

¥151 billion   ¥25 billion   ¥8 billion   ¥15 billion

JST Japan S&T Agency

Goal#8* PD
Goal#9* PD

Goal#1 PD
Goal#2 PD
Goal#3 PD
Goal#6 PD

PM PM PM PM PM PM PM PM PM
PM PM PM

*Goal 8&9 PMs are under selection

NEDO
New Energy Industrial Tech Development Organization
Goal#4 PD
PM PM PM PM
PM

BRAIN
Bio-oriented Tech Research Advancement Institution
Goal#5 PD
PM PM PM
PM

AMED
Japan Agency for Medical R&D
Goal#7 PD
PM PM PM
PM

Research promotion/Project management / Evaluation / Funding

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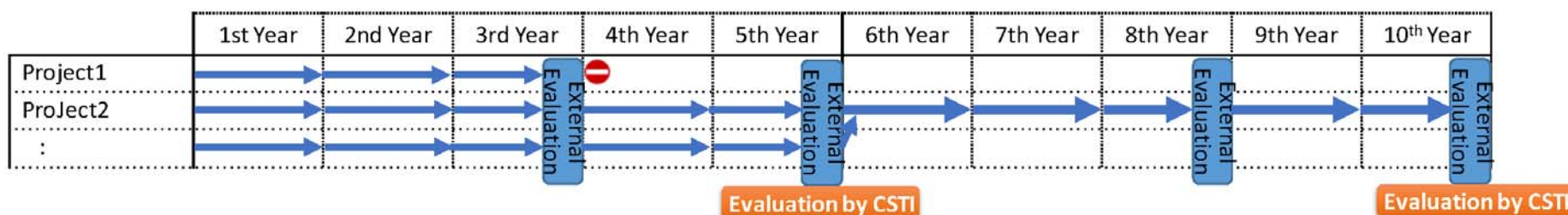
- CSTI and Headquarters for Healthcare Policy decide the MS Goals.
- To achieve the MS Goals, Research Promotion Agencies (Funding Agencies) promote related R&D.
- A Strategy Promotion Council comprised of people from industry, relevant ministries and offices, and researchers, is established to strategically promote R&D, to accelerate the practical use of the R&D results in society, and to achieve effective cooperation and coordination among the relevant ministries/offices and the relevant FAs.

R&D promotion system

Decide the "Moonshot Goals"

Council for Science, Technology and Innovation (CSTI)

Headquarters for Healthcare Policy

Present the Goals | Report | Advice | Advice | Report | Present the Goals

Formulate the "R&D Concept"

Relevant Ministries and Agencies (MEXT,MAFF,METI)

Participate

Strategy Promotion Council
External Experts

Participate

Relevant Ministries and Agencies (CAO,MHLW,MEXT,METI)

Present the concept, supervise | Report | Approval, advice, etc. | Report | Present the concept, supervise | Report

Promote R&D

Research Promotion Agencies (Funding Agencies)

| JST PD/PM | NEDO PD/PM | BRAIN PD/PM | AMED PD/PM |

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- Research Promotion Agencies (Funding Agencies: FAs) implement external evaluations which are, in principle, implemented in the third and fifth years from the start of research. If it is decided that a project will continue for more than five years, it will then be evaluated in its eighth and tenth years.

    ➢ FA may terminate some projects (PMs research) in the third and fifth years.

- FAs report the results of external evaluations and self-evaluations to the Strategy Promotion Council etc. and decide project continuation, acceleration, deceleration, modification, and termination (such as a portfolio review), based on the Council's advice.

- In the fifth year after the start of research, CSTI evaluates the status of progress and decides whether to continue or terminate the R&D program aimed at achieving the MS Goals

- FAs implement a self-evaluation annually (except for those years in which external evaluations are implemented) and report the results to the Strategy Promotion Council and the competent Ministries and Agencies that formulate the concept.

	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
Project1										
ProJect2										
:										

External Evaluation — Evaluation by CSTI — External Evaluation — External Evaluation — External Evaluation — Evaluation by CSTI

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