MEXT STI for SDGs Package

STI for SDGs： Science, Technology and Innovation for Sustainable Development Goals

Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan
August 31, 2018 (Formulated)
December 21, 2018 (Revised)

About MEXT STI for SDGs Package

[Background]

Sept. 2015   The United Nations adopted the "2030 Agenda for Sustainable Development" which comprises 17 Sustainable Development Goals (SDGs)

Dec. 2016   SDGs Promotion Headquarters, headed by the Prime Minister, formulated the "SDGs implementation Guiding Principles"

Dec. 2017   "SDGs Action Plan 2018" decided by SDGs Promotion Headquarters

Apr. 2017   MEXT formulated "Basic Policy on Promotion of STI for SDGs" (MEXT Basic Policy)

Jun. 2018   "Extended SDGs Action Plan 2018" decided by SDGs Promotion Headquarters. "Integrated Innovation Strategy" decided by the Cabinet

Aug. 2018   MEXT STI for SDGs Package

○   MEXT, putting in order the ways to contribute to the SDGs through MEXT's STI policy measures, formulated the Package to systematically indicate the policy measures necessary to materialize contributions to the SDGs.

○   The Package aimed to go forward to solving various issues related to the SDGs with an integrated approach and possible time line toward 2030, and encourage collaborations between the STI for SDGs policy measures in an organic and cross-field manner. STI for SDGs, based on the principles of the SDGs putting importance on "fostering a participatory approach in which all stakeholders play a role," gives a good opportunity for STI itself (STI ecosystem) to change, too.

○   MEXT will strategically and steadily promote the STI for SDGs policy measures included in the Package by appropriately reflecting those measures to the budget request every year, as well as by systematically implementing the measures with a holistic and comprehensive approach.

[Concept of formulating the Package]

◆ MEXT has contributed to solving issues related to the SDGs by conducting various STI policy measures in the fields of life sciences, environment & energy, space, ocean & earth, disaster prevention & disaster reduction, fostering human resources, international cooperation, etc.

◆ Having 17 Sustainable Development Goals (SDGs) and 169 Targets in mind, MEXT tries to put in order and systematize current MEXT's STI policy measures, considering their expected outputs and possible future developments, how they can contribute to the achievement of the SDGs, and how integrative outputs can be expected by encouraging collaborations between them.

(The policy measures are categorized into a group of cross-cutting & common effort and four groups of certain width of field. The latter groups are shown with possible time line toward implementing the SDGs.)

◆ Visualizing a system of MEXT's major STI for SDGs policy measures, MEXT would like to expect that interactions and dialogues with various stakeholders will be enhanced, leading to further co-operation and co-creation, through open discussions widely involving stakeholders across fields and sectors. MEXT would like to contribute to "fostering environment" and "developing open platforms." Also, it is important to promote the Package, while timely updating it based on the situations related.

| Goal 9 "Industry, Innovation & Infrastructure" Goal 17 "Partnership" | Goal 6 "Water & Sanitation" Goal 14 "Life below Water" | Goal 11 "Sustainable Cities" | Goal 7 "Energy" Goal 13 "Climate Action" | Goal 3 "Good Health" |

| Cross-Cutting & Common Effort | Ocean & Water | Cities & Disaster Prevention | Environment & Energy | Healthcare |

* The Package is promoted bearing in mind having effective collaborations with other policy measures in the fields such as education (Education for Sustainable Development (ESD) for example), sports, culture, and etc.

Address a wide range of issues related to economy, society and environment toward 2030 to realize society in which "no one will be left behind."

STI for SDGs

Promote inclusive and sustainable industrialization and foster innovation & revitalize the Global Partnership

Cross-Cutting & Common Effort

Implement Goal 9 (Industry, Innovation & Infrastructure) and Goal 17 (Partnership)

○ **Promotion of solving regional issues with "STI for SDGs" and "next generation in region" as the driving force**

・Thrash out various issues in regions through multidisciplinary collaborations among universities, research institutions, business enterprises etc. as well as use STI to envision the solutions and implement PDCA cycle to realize self-directive achievement of social issues by STI.

・SDGs as common language, promote bottom-up actions of social entrepreneurship and social implementation, and then lead to regional revitalization, promotion of society 5.0 and enhance productivity in region, and development of next generation rooted in region.

－ Science and Technology Innovative Solutions for Social Problems In Regions (INSPIRE for SDGs) [FY2019 draft budget：0.05 billion yen (new)]

－ Resolving issues and co-creating program for implementing SDGs(tentative translation) (JST) [FY2019 draft budget：0.1 billion yen (new)]

○ **Promotion of co-creation with multi-stakeholder through open platform**

・With a common goal of contributing to implementing SDGs and realizing Society 5.0, identify the urgent issues and design future society with unprecedented ideas which is obtained through dialogues and co-creation activities with various stakeholders across fields and sectors. Furthermore, promote science communication by visualizing and sharing outcomes of these activities, and accelerate co-creating activities all over the country.

－ Promotion of future co-creation program(tentative translation) (JST) [FY2019 draft budget：3.0 billion yen (FY2018: 2.6 billion yen)]

－ JST-Mirai Program（Promotion of high-risk and high-impact research and development）
－ Innovation Platform for Society 5.0
－AIP: Advanced Integrated Intelligence Platform Project
－Promotion of basic and fundamental R&D of nanotechnology and material science
－Addressing global issues exploiting comprehensive basic science capacity
－Research and Development Programs Focused on Technology Transfer
－Strategic Basic Research Programs（CREST, PRESTO, ERATO, ACCEL, RISTEX）
－Foster and secure human resources to lead scientific innovation

Domestic STI policy measures

○ **Joint research with developing countries and promotion of social implementation of research outputs**

・Based on the needs of developing countries, promote international joint research aiming for achievement of global issues and future social implementation.

・To promote social implementation of research outputs toward SDGs, build new bridging scheme for connecting outputs to social implementation stakeholders, with the cooperation of partner governments (focus on ASEAN countries which cover about 50% of all the adopted projects of SATREPS).

－ Science and Technology Research Partnership for Sustainable Development (SATREPS)
　　[FY2019 draft budget (JST)：1.8 billion yen (FY2018: 1.7 billion yen) / (AMED)：0.4 billion yen (FY2018: 0.4 billion yen)]

○ **Accelerate solving global issues utilizing global environmental big data**

・Archive, integrate and analyze big data of earth environment and projections on Data Integration and Analysis System (DIAS) to address global issues caused by climate change. This is global environmental information platform which has started experimental operation of distributing Malaria pandemic predicting information since 2017, preparing for full operation.

－ Data Integration and Analysis System (DIAS) [done within the program budget]

－Strategic International Collaborative Research Program (SICORP)
－International Collaborative Research Program for Tackling the Neglected Tropical Diseases (NTDs) Challenges
－Core-to-Core Program

International STI policy measures

Conserve the oceans, seas and marine resources for sustainable development and ensure availability and sustainable management of water for all

Ocean & Water

For the achievement of Goal 6 (Water and Sanitation) and Goal 14 (Life Below Water), MEXT aims to contribute to conservation and recovery of ocean ecosystem with grasp of ocean environment change and revelation of climate change effect, and to improve the water use efficiency and integrated water resource management by observation and accumulation of water environment information.

2018   2020   2025   2030

Contribute to conservation and recovery of ocean ecosystem with grasp of ocean environment change and revelation of climate change effect

【JAMSTEC】

Research and development for global change and its projection

Maintain and expand the network combined global observation with drifting profiling floats, important ocean array with discus buoys, and detailed array with ships. In addition, aim to offer scientific knowledge that contributes to global environment conservation by grasp and forecast of the change of marine-earth environment originated from nature and human.

【MEXT】

Technical Development for Grasp of Ocean Information

Utilize the high-level technique that universities have, and research and develop innovative techniques to grasp marine information effectively and precisely.

Reflect to IPCC Evaluation report.

Gain high-value information with application of ocean big data and prediction/integrated technology.

Accelerate marine research and strengthen Maritime Domain Awareness (MDA).

Achieve international agreement based on scientific basis from marine research etc.

Contribute to improve the water use efficiency and integrated water resource management by observation and accumulation of water environment information

【JAXA】

Development of the flood forecasting and warning system with GSMaP

Develop the Flood Forecasting and Warning System with Global Rainfall Data from Earth Observation satellites (Global Satellite Mapping of Precipitation：GSMaP) to reduce flood damage in cooperation with ADB and UNESCO.

【MEXT】

Data Integration and Analysis System (DIAS)

Archive, integrate and analyze big data of earth environment and address global issues.

Promote the use of the system by institutions and countries and establish the system as social infrastructure.

Contribute to solving issues in the fields on water resources, such as dam control, prevention of flood or water shortage.

Carry out preparation for disaster such as flood and drought. Spread the technology for accurate understanding, effective control and use of water resources

Implement Goal 6 (Water and Sanitation) and Goal 14 (Life below Water)

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STI for SDGs

Ocean & Water

[For reference] Policy measure (program) map

*This map provisionally arrange the programs of MEXT up to this point. Flexible views are required for further policy making.

Solve social issues/Create social values

Targets related to STI

| Protect and restore water-related ecosystems | Conserve marine areas based on scientific information | Sustainable use of marine resources | Scientific knowledge, develop research capacity | Increase water-use efficiency | Integrated water resources management |

6 CLEAN WATER AND SANITATION

14 LIFE BELOW WATER

[Goals of MEXT] Programs marked with ◇ is included in time-line map of major policy measures.
◇ Contribute to conservation and recovery of ocean ecosystem with grasp of ocean environment change and revelation of climate change effect
○ Contribute to conservation of ocean area and enhancement of scientific knowledge by strengthening activities related to ocean including polar region
○ Contribute to conservation of ocean resources and sustainable use by observing and accumulating information of biological resources and ecosystem in ocean
◇ Contribute to improve the water use efficiency and integrated water resource management by observation and accumulation of water environment information

Program Aim

Development of the flood forecasting and warning system with GSMaP — Understanding the volume of global precipitation & Reducing flood damage

Tohoku Marine Science Center Project
Research on ocean ecosystem in the disaster area — Survey on ocean ecosystem, technology for fishing industry

Promote the international cooperation project "Sentinel Asia" in purpose of monitoring disasters in Asia - Pacific region with Earth Observation satellites — Observation of environment information

Contribute to Disaster Risk Reduction activities by sharing the Earth Observation satellite images and other data

Research and development for earthquake and volcanic activity in ocean
Observation of sea floor crust change and survey on epicenters and faults, development of models based on observations — Wide ocean area observation

Utilize developed AUV technologies

Development of advanced Arctic observation technology — Acquisition of ocean area information / Upgrading polar observation technology
Promotion of Arctic research vessel and development of AUV for observing under ice sheets

Advanced technology securing ocean biological resources
R&D on elucidation of physiological functions of ocean life and prediction of amount of ocean resources — Conservation and use of ocean resources

Arctic Challenge for Sustainability (ArCS) — Grasp of environment change in polar region
Comprehensive R&D in Arctic region. Comprehensive grasp and detailed prediction of environment change in Arctic region and effects to the whole globe

Acquire new knowledge/ Innovate new technology

Deploy innovative measuring technology to grasp ocean environment information with precision, and develop integrated ocean and atmosphere observation network

Archive, integrate and analyze big data of earth environment and utilize the results for investigation of ecosystem and securing marine resources

Utilize developed sensors

Utilize observation data

Technical Development for Grasp of Ocean Information — Upgrade ocean observation technology / Grasp ocean resources
R&D on observation and measurement technology for ocean information

R&D foundation

Archive, integrate and analyze big data of earth environment and utilize the results to provide information on prevention of flood, water shortage and disaster risk reduction

Research and development for global change and its projection — Ocean observation network / Basic information on ocean resources
Develop ocean observation network, and simulate by Earth Simulator

Data Integration and Analysis System (DIAS)
Information on ocean areas
Information on polar observation
Information on water environment
Ocean resources

Mature (Present) ← Developing phase of technology (solution) → Emerging (Future)

5

Make cities and human settlements inclusive, safe, resilient and sustainable

Cities & Disaster Prevention

For the achievement of Goal 11(Sustainable Cities), MEXT aims to contribute to reduce damage from disasters by upgrading survey information about wide range of natural disasters such as meteorological information and oceanographic data, and to reduce comprehensive disaster risk by sharing related information after disaster, establishing warning systems, and cooperating with related organizations.

2018 **2020** **2025** **2030**

Contribute to reduce damage from disasters by upgrading survey information about wide range of natural disasters such as meteorological information and oceanographic data

【MEXT】

Construction and operation of seafloor observation network for earthquakes and tsunamis

For countermeasures against Nankai Trough Earthquake, start to construct Nankai Trough seafloor observation network for earthquakes and tsunamis (N-net) in the area of off the coast of Kochi Prefecture to Hyuga-nada. Moreover, operate the online and real-time seafloor observation network for earthquakes and tsunamis which has been established along Japan Trench and Nankai Trough.

Reduce damages of earthquake and tsunami occurred in the sea by sharing and utilizing observation date with related organizations.

【NIED】

Promote R&D for the fundamental science and technology of disaster reduction

Achieve safe and secure societies, and aim to improve the level of the fundamental research and basic R&D about science and technology of disaster risk reduction to support Japan's sustainable progress, and carry out comprehensive R&D to strengthen the abilities to (1)prediction, (2)prevention, (3)management, (4)recovery to various natural disasters.

Promote the creation of noble innovation of science and technology of disaster reduction to support Japan's sustainable progress.

Achieve disaster-resistant society with results of research and study

Contribute to reduce comprehensive disaster risk by sharing related information after disaster, establishing warning systems and cooperating with related organizations

【JAXA】

Promote the international cooperation project "Sentinel Asia" in purpose of monitoring disasters in Asia - Pacific region with Earth Observation satellites

Reduce the damage of natural disasters by sharing the disaster-related information such as images from Earth Observation satellites via Internet.

Provide member countries and agencies for effective and continuous support for disaster management.

【MEXT】

Tokyo Metropolitan Resilience Project

In order to improve disaster prevention capabilities toward Tokyo near-field earthquake, develop big-data used for synthetic counteractions of public and private entities, business continuity, and personal actions for disaster prevention.

Promote utilization of big data to exploit disaster information across private and public sector.

Promote to share disaster information by cooperation with related organizations, and spread the technology and method to strengthening resistance to disasters

Implement Goal 11 (Sustainable Cities)

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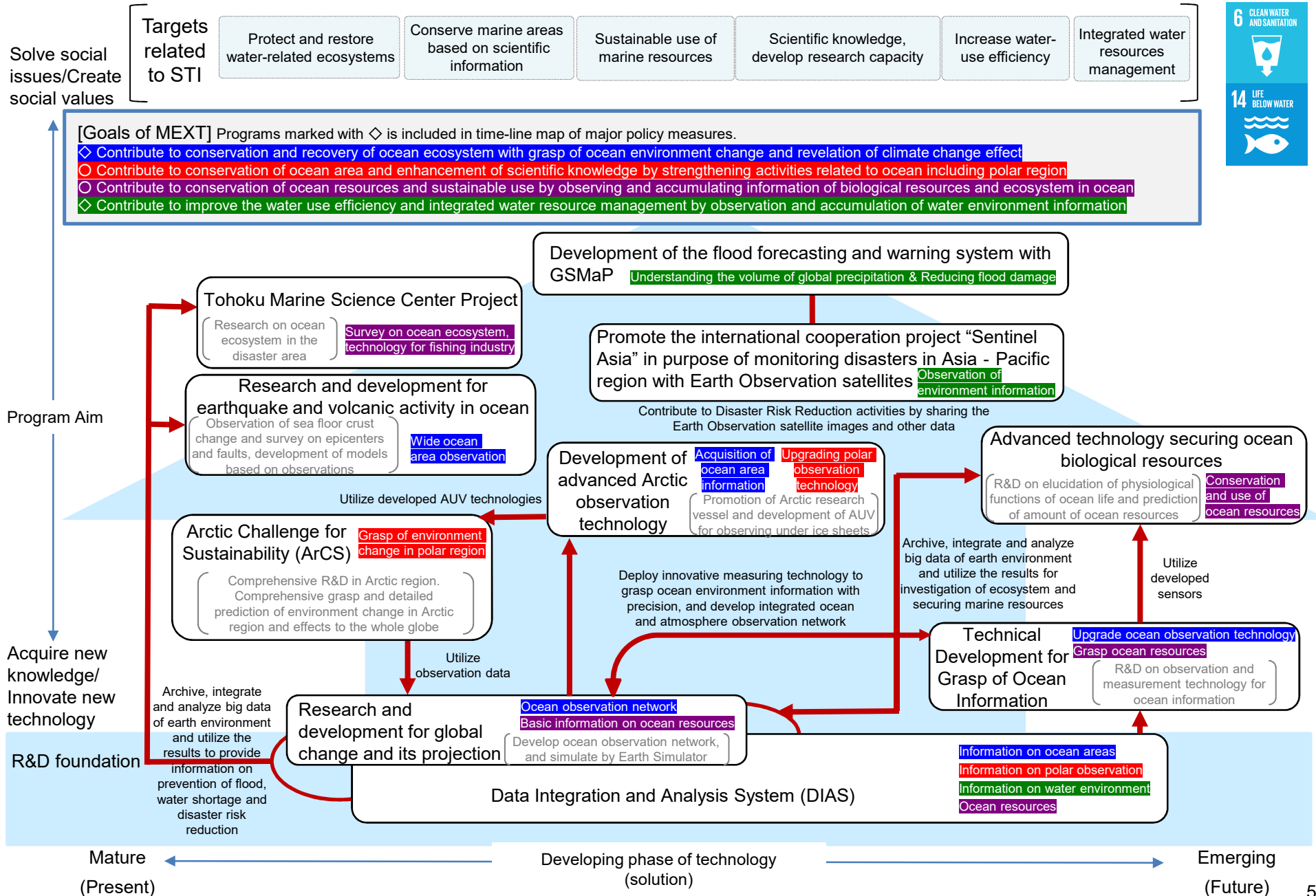# STI for SDGs

[For reference] Policy measure (program) map

*This map provisionally arrange the programs of MEXT up to this point.
Flexible views are required for further policy making.

Solve social issues/Create social values

Targets related to STI

| Sustainable transport systems | Resilient buildings | Reduce the impact of disasters, including water-related disasters | Holistic disaster risk management |

11 SUSTAINABLE CITIES AND COMMUNITIES
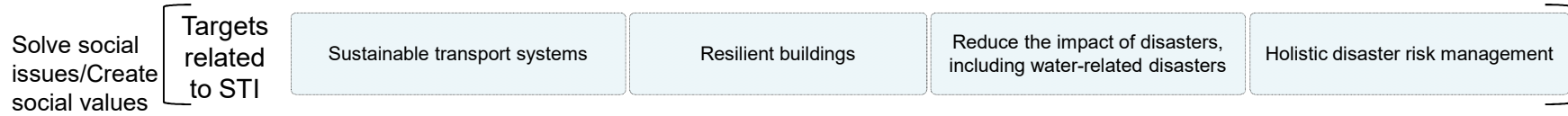
[Goals of MEXT] Programs marked with ◇ is included in time-line map of major policy measures.
○ Contribute to promote earthquake & disaster-reduction research and reduce impact by integrated analysis of big data from public and private sector
◇ Contribute to reduce damage from disasters by upgrading survey information about wide range of natural disasters such as meteorological information or oceanographic data
◇ Contribute to reduce comprehensive disaster risk by sharing related information after disaster, establishing warning systems and cooperating with related organizations

Program Aim

Development of the flood forecasting and warning system with GSMaP
- Understanding the volume of global precipitation
- Development of the flood forecasting and warning system

Provide Aerosol datasets for monitoring air pollution
- Accumulation of aerosol data

Form a research hub for active reduction of weather hazards with integration of human resources and technologies of industry and academia

Weather hazard reduction innovation hub
- Accelerate social implementation by industry-academia collaborations
- Disaster reduction of weather hazards

Promote the international cooperation project "Sentinel Asia" in purpose of monitoring disasters in Asia - Pacific region with Earth Observation satellites
- Sharing disaster information

Tokyo Metropolitan Resilience Project
- Develop big-data of earthquake disaster
- Detailed and instant grasp of damage

Collection of detailed damage information, and development and analyses of big-data toward information utilization method development

Form research hub for weather hazards and reduce damage using developed science and technology

Develop public and private big-data on earthquake disaster, and reduce damage by providing solutions using developed science and technology

Contribute to Disaster Risk Reduction activities by sharing the Earth Observation satellite images and other data

Acquire new knowledge/ Innovate new technology

Promote R&D for the fundamental science and technology of disaster reduction
Basic research and fundamental R&D on disaster reduction, and operate land earthquake observation networks
- New knowledge of earthquake and disaster reduction research
- Maintenance of whole-of-country observation networks
- Cooperation with related organizations in disaster situations

Construction and operation of seafloor observation network for earthquakes and tsunamis
- Develop observation networks in ocean area

For countermeasures against Nankai Trough Earthquake, start to construct Nankai Trough seafloor observation network for earthquakes and tsunamis (N-net) in the area of off the coast of Kochi Prefecture to Hyuga-nada. Moreover, operate the online and real-time seafloor observation network for earthquakes and tsunamis which has been established along Japan Trench and Nankai Trough.

Archive, integrate and analyze big data of earth environment and utilize the results for earth science and technology as well as disaster prevention research

R&D foundation

Data Integration and Analysis System (DIAS)
- Information related to earthquake and disaster-prevention
- Information of natural disasters

Mature (Present) ←——— Developing phase of technology (solution) ———→ Emerging (Future)

7

Ensure access to sustainable energy for all and take urgent action to combat climate change and its impacts

For the achievement of Goal 7 (Energy) and Goal 13 (Climate Action), MEXT aims to contribute to enforce effective plans to climate change through the R&D of advancing climate model, and to realize low carbon society through the R&D of innovative technologies for low carbonization.

2018   2020   2025   2030

Contribute to enforce effective plans to climate change through the R&D of advancing climate model

【MEXT】

Integrated Research Program for Advancing Climate Models
Contribute to specific Climate Change Countermeasures within and outside Japan through advancing climate models, understanding the mechanisms of climate change, creation of climate change projection information.

Reflect to the IPCC 6th evaluation report.

Contribute to planning adaption measures.

【MEXT】

Data Integration and Analysis System (DIAS)
Archive, integrate and analyze big data of earth environment and address global issues.

Contribute to research of earth environmental big data and promotion of its commercial usage.

【JAXA】

Promote R&D for contributing to forest monitoring with Forest/Non-Forest Maps
Aim to manage rich rainforest by promoting R&D of monitoring forest change with Forest/Non-forest Maps using satellite observation data.

Foster to spread as a foundation for forest monitoring.

Identify the amount of greenhouse gases reduction to achieve 2°C decrease and plan adaption measures within Japan and outside Japan

Contribute to realize low carbon society through the R&D of innovative technologies for low carbonization

【MEXT】

R&D of Next Generation Semiconductor Device contributing to achievement of energy-saving society
Foster R&D for the application of power devices with Next Generation Semiconductor Device such as GaN by 2030 under the cooperation of industry, academia, and government.

Provide the technologies to relevant governmental agencies or companies.
→ Contribute to the commercialization of the devices or systems.

【JST】

Advanced Low Carbon Technology Research and Development Program (ALCA)
Create innovative technical seeds contributing to the achievement of low carbon society and work for the practical use in society by 2030 for reduction of Greenhouse gases emission based on new scientific and technical knowledge.

Provide the technologies to relevant governmental agencies or companies.
→Contribute to the commercialization of the devices or systems.

Disseminate low carbon technology and energy-saving technology

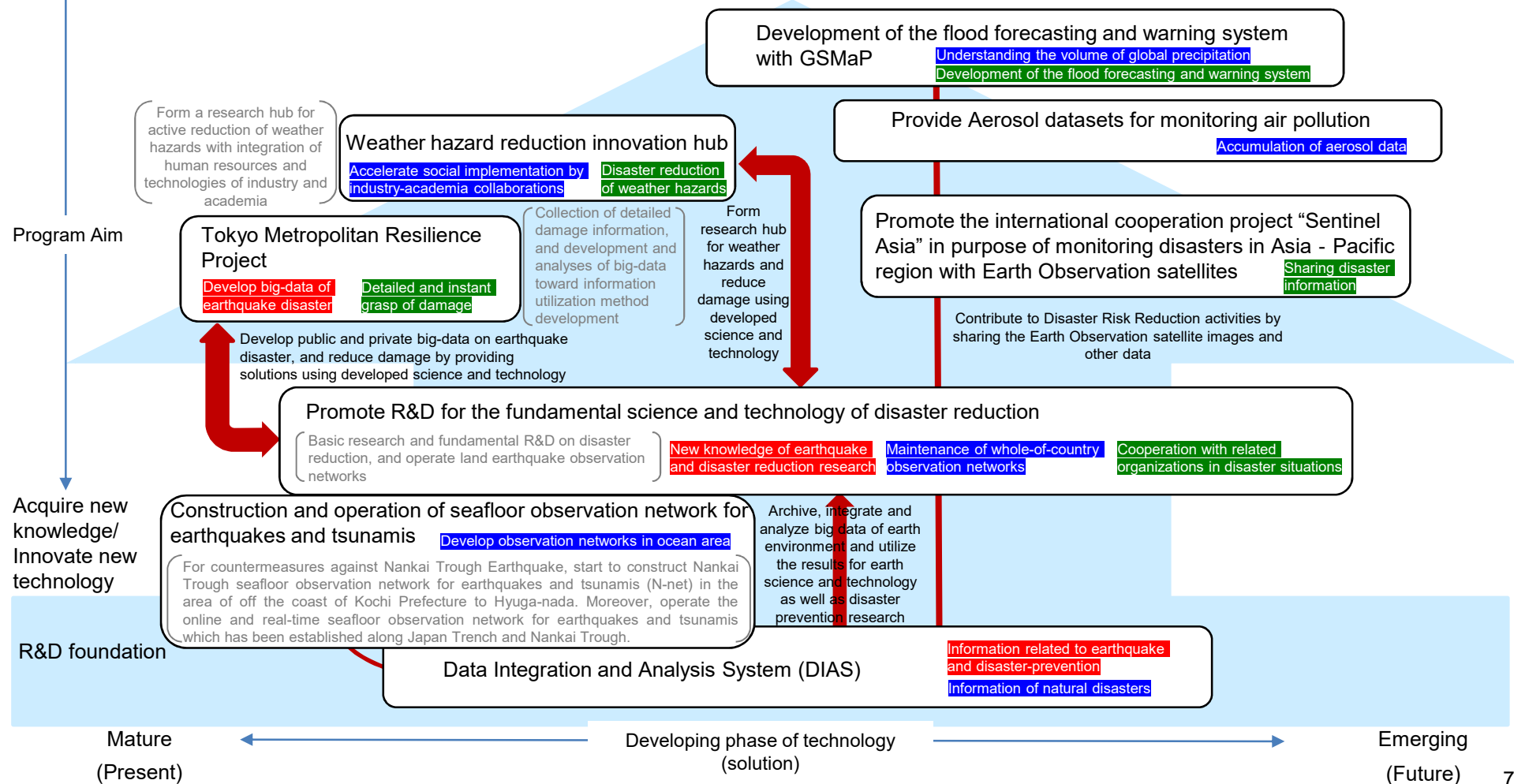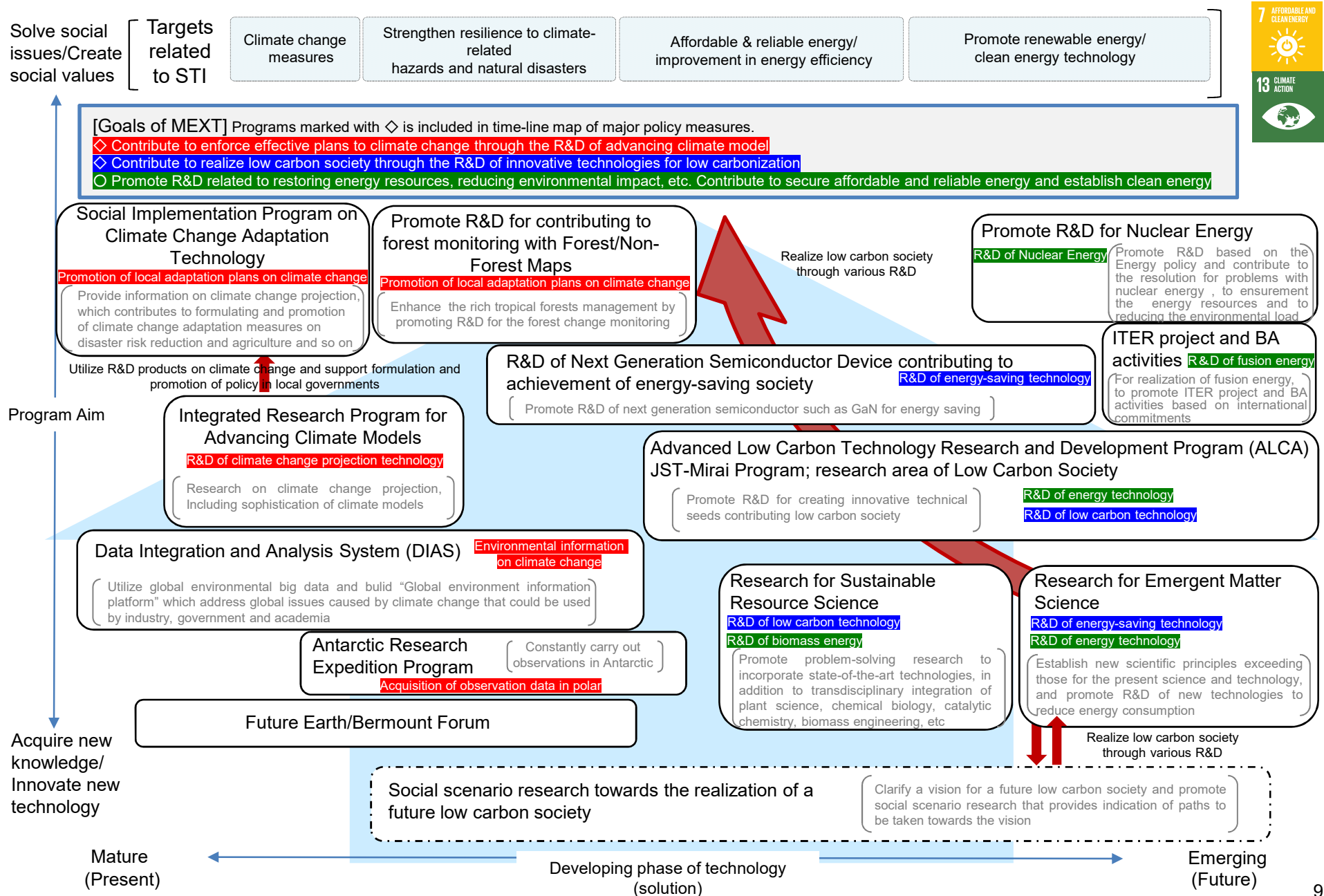Implement Goal 7 (Energy) and Goal 13 (Climate Change)

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STI for SDGs

[For reference] Policy measure (Program) map

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Flexible views are required for further policy making.

Solve social issues/Create social values

Targets related to STI

Climate change measures	Strengthen resilience to climate-related hazards and natural disasters	Affordable & reliable energy/ improvement in energy efficiency	Promote renewable energy/ clean energy technology

7 AFFORDABLE AND CLEAN ENERGY

13 CLIMATE ACTION

[Goals of MEXT] Programs marked with ◇ is included in time-line map of major policy measures.
◇ Contribute to enforce effective plans to climate change through the R&D of advancing climate model
◇ Contribute to realize low carbon society through the R&D of innovative technologies for low carbonization
○ Promote R&D related to restoring energy resources, reducing environmental impact, etc. Contribute to secure affordable and reliable energy and establish clean energy

Program Aim

Social Implementation Program on Climate Change Adaptation Technology
Promotion of local adaptation plans on climate change

Provide information on climate change projection, which contributes to formulating and promotion of climate change adaptation measures on disaster risk reduction and agriculture and so on

Utilize R&D products on climate change and support formulation and promotion of policy in local governments

Promote R&D for contributing to forest monitoring with Forest/Non-Forest Maps
Promotion of local adaptation plans on climate change

Enhance the rich tropical forests management by promoting R&D for the forest change monitoring

Realize low carbon society through various R&D

Promote R&D for Nuclear Energy
R&D of Nuclear Energy

Promote R&D based on the Energy policy and contribute to the resolution for problems with nuclear energy, to ensurement the energy resources and to reducing the environmental load

ITER project and BA activities R&D of fusion energy
For realization of fusion energy, to promote ITER project and BA activities based on international commitments

R&D of Next Generation Semiconductor Device contributing to achievement of energy-saving society
R&D of energy-saving technology

Promote R&D of next generation semiconductor such as GaN for energy saving

Integrated Research Program for Advancing Climate Models
R&D of climate change projection technology

Research on climate change projection, Including sophistication of climate models

Advanced Low Carbon Technology Research and Development Program (ALCA) JST-Mirai Program; research area of Low Carbon Society
Promote R&D for creating innovative technical seeds contributing low carbon society

R&D of energy technology
R&D of low carbon technology

Data Integration and Analysis System (DIAS)
Environmental information on climate change

Utilize global environmental big data and build "Global environment information platform" which address global issues caused by climate change that could be used by industry, government and academia

Research for Sustainable Resource Science
R&D of low carbon technology
R&D of biomass energy

Promote problem-solving research to incorporate state-of-the-art technologies, in addition to transdisciplinary integration of plant science, chemical biology, catalytic chemistry, biomass engineering, etc

Research for Emergent Matter Science
R&D of energy-saving technology
R&D of energy technology

Establish new scientific principles exceeding those for the present science and technology, and promote R&D of new technologies to reduce energy consumption

Antarctic Research Expedition Program
Acquisition of observation data in polar

Constantly carry out observations in Antarctic

Future Earth/Bermount Forum

Realize low carbon society through various R&D

Acquire new knowledge/ Innovate new technology

Social scenario research towards the realization of a future low carbon society
Clarify a vision for a future low carbon society and promote social scenario research that provides indication of paths to be taken towards the vision

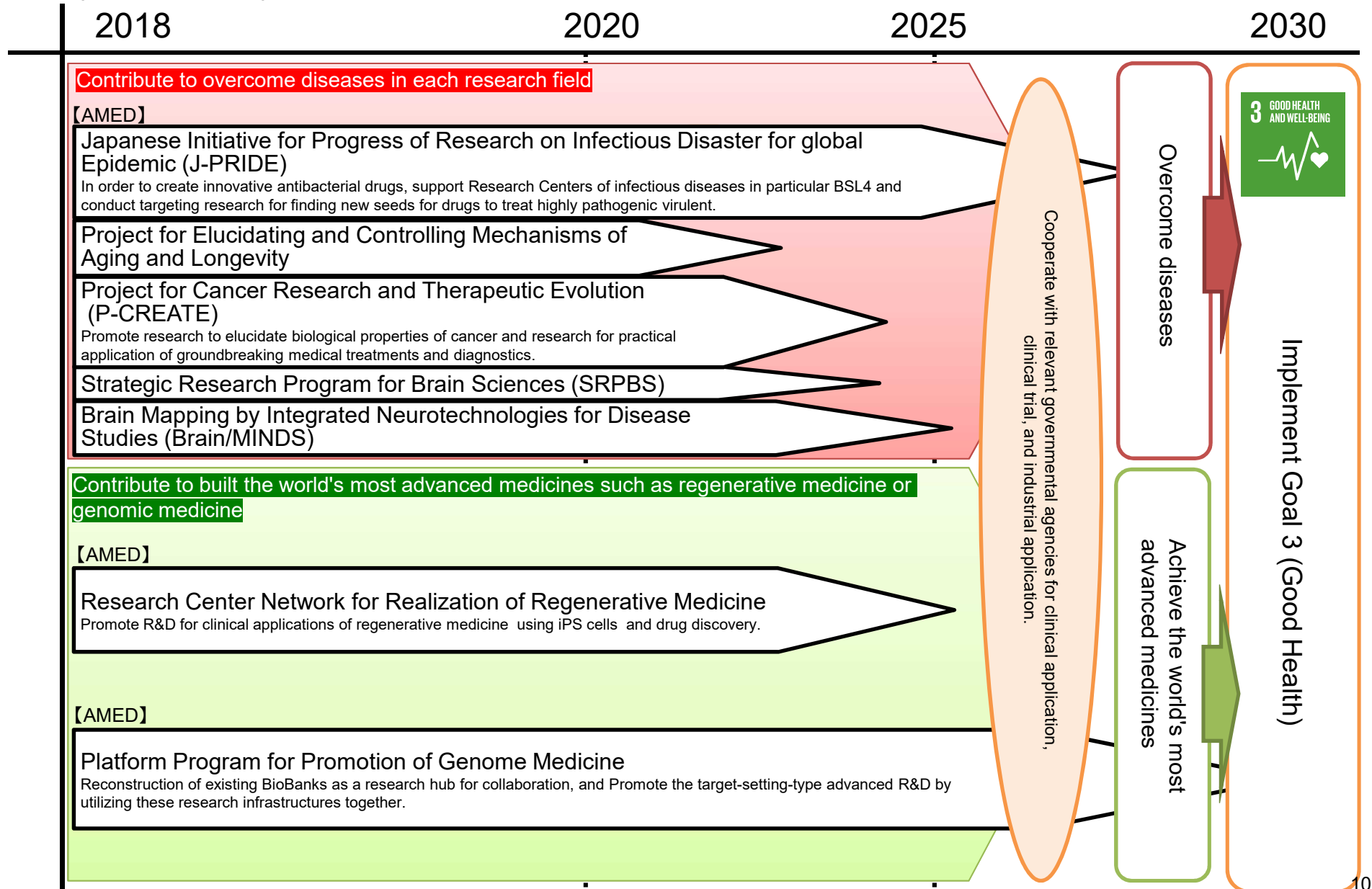Mature (Present) ← Developing phase of technology (solution) → Emerging (Future)

Ensure healthy lives and promote well-being for all at all ages

Healthcare

For the achievement of Goal 3 (Good Health), MEXT aims to contribute to overcome diseases in each research field, and to built the world's most advanced medicines such as regenerative medicine or genomic medicine.
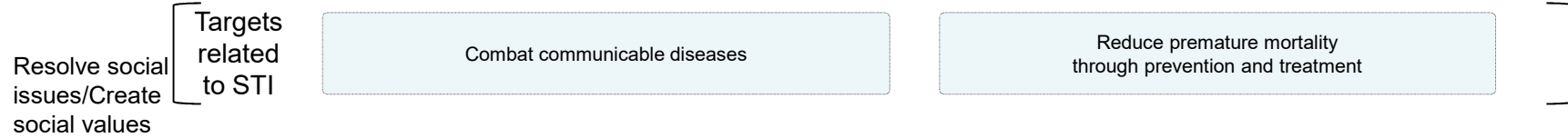
2018 **2020** **2025** **2030**

Contribute to overcome diseases in each research field

【AMED】

Japanese Initiative for Progress of Research on Infectious Disaster for global Epidemic (J-PRIDE)
In order to create innovative antibacterial drugs, support Research Centers of infectious diseases in particular BSL4 and conduct targeting research for finding new seeds for drugs to treat highly pathogenic virulent.

Project for Elucidating and Controlling Mechanisms of Aging and Longevity

Project for Cancer Research and Therapeutic Evolution (P-CREATE)
Promote research to elucidate biological properties of cancer and research for practical application of groundbreaking medical treatments and diagnostics.

Strategic Research Program for Brain Sciences (SRPBS)

Brain Mapping by Integrated Neurotechnologies for Disease Studies (Brain/MINDS)

Contribute to built the world's most advanced medicines such as regenerative medicine or genomic medicine

【AMED】

Research Center Network for Realization of Regenerative Medicine
Promote R&D for clinical applications of regenerative medicine using iPS cells and drug discovery.

【AMED】

Platform Program for Promotion of Genome Medicine
Reconstruction of existing BioBanks as a research hub for collaboration, and Promote the target-setting-type advanced R&D by utilizing these research infrastructures together.

Cooperate with relevant governmental agencies for clinical application, clinical trial, and industrial application.

Overcome diseases

Achieve the world's most advanced medicines

Implement Goal 3 (Good Health)

3 GOOD HEALTH AND WELL-BEING

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STI for SDGs

Healthcare

[For reference] Policy measure (program) map

Resolve social issues/Create social values

Targets related to STI

Combat communicable diseases	Reduce premature mortality through prevention and treatment

3 GOOD HEALTH AND WELL-BEING

[Goals of MEXT] Programs marked with ◇ is included in time-line map of major policy measures.
◇ Contribute to built the world's most advanced medicines such as regenerative medicine or genomic medicine
◇ Contribute to overcome diseases in each research field
○ Contribute to connect outcomes of innovative basic research to clinical research and clinical trial

Program Aim

Translational Research Network Program
For clinical research and clinical trial
Development of seeds into practical application based on translational research centers

Japanese Initiative for Progress of Research on Infectious Disease for global Epidemic (J-PRIDE)
For specific diseases
Supports research involved in BSL4 facility such as research directed to search for potential drug targets against highly pathogenic microorganisms for creation of innovative drugs

Strategic Research Program for Brain Sciences (SRPBS) / Brain Mapping by Integrated Neurotechnologies for Disease Studies (Brain/MINDS)
Contributing to the innovation of diagnostic, therapeutic, and preventive methods for treating brain diseases
For specific diseases

Project for Cancer Research and Therapeutic Evolution (P-CREATE)
For specific diseases
Promote research to elucidate biological properties of cancer and research for practical application of groundbreaking medical treatments or diagnostics

Project for Elucidating and Controlling Mechanisms of Aging and Longevity
For specific diseases
Promote research that will lead toward retarding human aging through studies on clarifying and controlling the aging mechanism

Provision of genomics R&D infrastructures

Acquire new knowledge/ Innovate new technology

Using R&D infrastructures

Platform Program for Promotion of Genome Medicine
For the most advanced medical care
Reconstruction of existing BioBanks as a research hub for collaboration, and Promote the target-setting-type advanced R&D by utilizing these research infrastructures together.

Research Center Network for Realization of Regenerative Medicine
For the most advanced medical care
Promote R&D for clinical applications of regenerative medicine using iPS cells and drug discovery

R&D foundation

Drag Discovery, Medical devices, Advanced medical basic science, Developing the framework for BioResources, International Collaboration research, Industrial-Academic Collaboration research

Mature (Present) ←→ Developing phase of technology (solution) ←→ Emerging (Future)

11

Outline of Sustainable Development Goals (SDGs)

Goal 1 (No Poverty)	End poverty in all its forms everywhere
Goal 2 (Zero Hunger)	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3 (Good Health)	Ensure healthy lives and promote well-being for all at all ages
Goal 4 (Quality Education)	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5 (Gender Equality)	Achieve gender equality and empower all women and girls
Goal 6 (Water & Sanitation)	Ensure availability and sustainable management of water and sanitation for all
Goal 7 (Energy)	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8 (Decent Work & Growth)	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9 (Industry, Innovation & Infrastructure)	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10 (Reduce Inequality)	Reduce inequality within and among countries
Goal 11 (Sustainable Cities)	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12 (Responsible Consumption & Production)	Ensure sustainable consumption and production patterns
Goal 13 (Climate Action)	Take urgent action to combat climate change and its impacts
Goal 14 (Life below Water)	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15 (Life on Land)	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16 (Peace)	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17 (Partnership)	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development