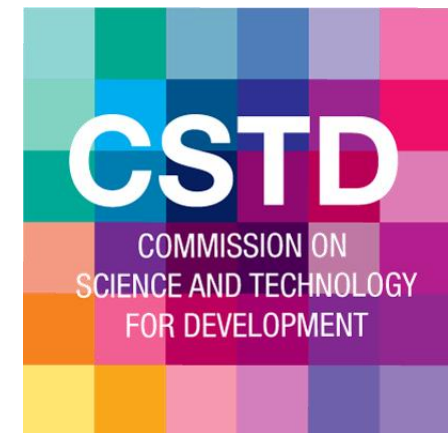


**CSTD 21st Session, 14-18 May 2018, Geneva.
“New STI policy framework and approaches to
finance innovation for the Sustainable
Development Goals”**



Developing STI for SDGs Roadmaps from Discussions to Actions - Japan’s perspective -

May 16 , 2018

Tateo Arimoto

**National Graduate Institute for Policy Studies(GRIPS) &
Japan Science & Technology Agency(JST)**

Discussions on STI for SDGs Roadmaps since 2016

STI forum in 2016 & 2017

“the STI roadmaps and action plans are needed at the subnational, national and global levels, and should include measures for tracking progress.”

2017 Incheon Workshop on STI for SDGs

STI for SDGs was extensively discussed as one of key agendas of the 2018 STI Forum.



UN IATT-STI Working group on STI Roadmaps for SDGs

Since February 2018, weekly teleconference among IATT member agencies.

Expert Group Meeting on STI for SDGs Roadmap in Tokyo May 8-9, 2018

Aiming to **cultivate peer-learning environment, strengthen the capacities and shape consensus and partnerships** among developing and developed countries and UN systems on STI roadmaps, action plans and strategies.

CSTD, 21st session May 14-18, 2018.

- ” The role of STI in supporting sustainable and resilient societies”,
- “ Impact of rapid technological change on the achievement of SDGs”,
- “ New STI policy framework and approaches to finance innovation for SDGs”

STI for SDGs : Journey to 2018, 2019 and beyond

CSTD, 21st session May 14-18, 2018

2018 STI Forum in NY June 5-6, 2018

2018 HLPF in NY July 9-18, 2018

INGSA (International Network for Government Science Advice) in Tokyo November 6-7, 2018

2019 CSTD, 22nd session May, 2019

2019 STI Forum May/June, 2019

2019 HLPF July, 2019

The General Assembly of the UN
September, 2019

G20 Summit 2019 hosted by Japan

Proposal for joint action plans on 'STI for SDGs' among G20 economies

TICAD7 (2019) hosted by Japan

Strengthening collaboration among African countries and Japan on 'STI for SDGs'

Tokyo Olympic/Paralympic 2020

Showcase for Japan's SDGs

STI for SDGs Roadmaps - Expert Group Meeting, International Workshop, 8 – 9 May 2018, Tokyo, Japan



Dr. Teruo Kishi (CSA to Japan' MOFA)

- * The importance of the STI Roadmaps for organizing STI potential into actions.**

Mr. Shantanu Mukherjee (UN/DESA)

- * STI can play a unique role in minimizing the tradeoffs and maximizing the potential of sustainable development. To that end collaboration among multiple stakeholders, international cooperation and the convergence of different technologies are vital.**

Dr. William Colglazier (10-Member Group to TFM)

- * Careful thinking and planning is required to ensure that the Agenda inspires actions. Developing STI Roadmaps is essential for that purpose. This work will involve not only governmental actors but also non-governmental actors and stakeholders at all levels.**

Dr. Michiharu Nakamura (10-Member Group to TFM)

- * It is necessary to develop Roadmaps that are executable, multidisciplinary and incorporate past experience. The implementation and development of the Roadmaps should be cyclical and interlinked.**

Roles of STI for SDGs Roadmaps

- ◆ To minimize the tradeoffs and maximize the potential of sustainable development
- ◆ To transform STI ecosystem for SDGs
- ◆ Motivation of policy maker through visualization
- ◆ Scientific knowledge and social technology are significant for tackling social inequality.
- ◆ Communication tool between various stakeholders
- ◆ Systematic integration with national development plan and STI policy

Approaches and Elements of STI for SDGs Roadmaps

Diagnostic

- ◆ Identification of nodes, negative trends, interlinkages, strengths and weakness for prioritization
- ◆ Data collection and indicators for diagnostics
- ◆ Visualization of qualitative and quantitative information
- ◆ Research on policy RM

Design

- ◆ Philosophy, values and visions
- ◆ Integration vision with existing and new policies
- ◆ Concrete vision and flexible roadmaps
- ◆ Coherency and consistency of regional, national and subnational levels
- ◆ Dealing with the risk of emerging technologies
- ◆ Matching existing/high technologies to local needs
- ◆ Impact of new technologies on jobs, production and firm capabilities

Action & Implementation

- ◆ Pilot projects for scaling up and flagship activities
- ◆ Trust among stakeholders
- ◆ Engagement particularly the science community and the private sector
- ◆ Coordination across the ministries & diverse stakeholders to overcome silos
- ◆ Awareness and engagement of previously-neglected stakeholders
- ◆ STI literacy for policy making
- ◆ Training of scientists and engineers with stakeholders
- ◆ Importance of science-policy interface

Key words/concepts at the Workshop on STI Roadmaps for SDGs in Tokyo

Reshaping National Development Plans and STI Strategies for SDGs

National Development Plan

Sectoral National Plans

Industry, environment, agriculture, health, city, transportation, communication etc.

Science, Technology & Innovation Strategy

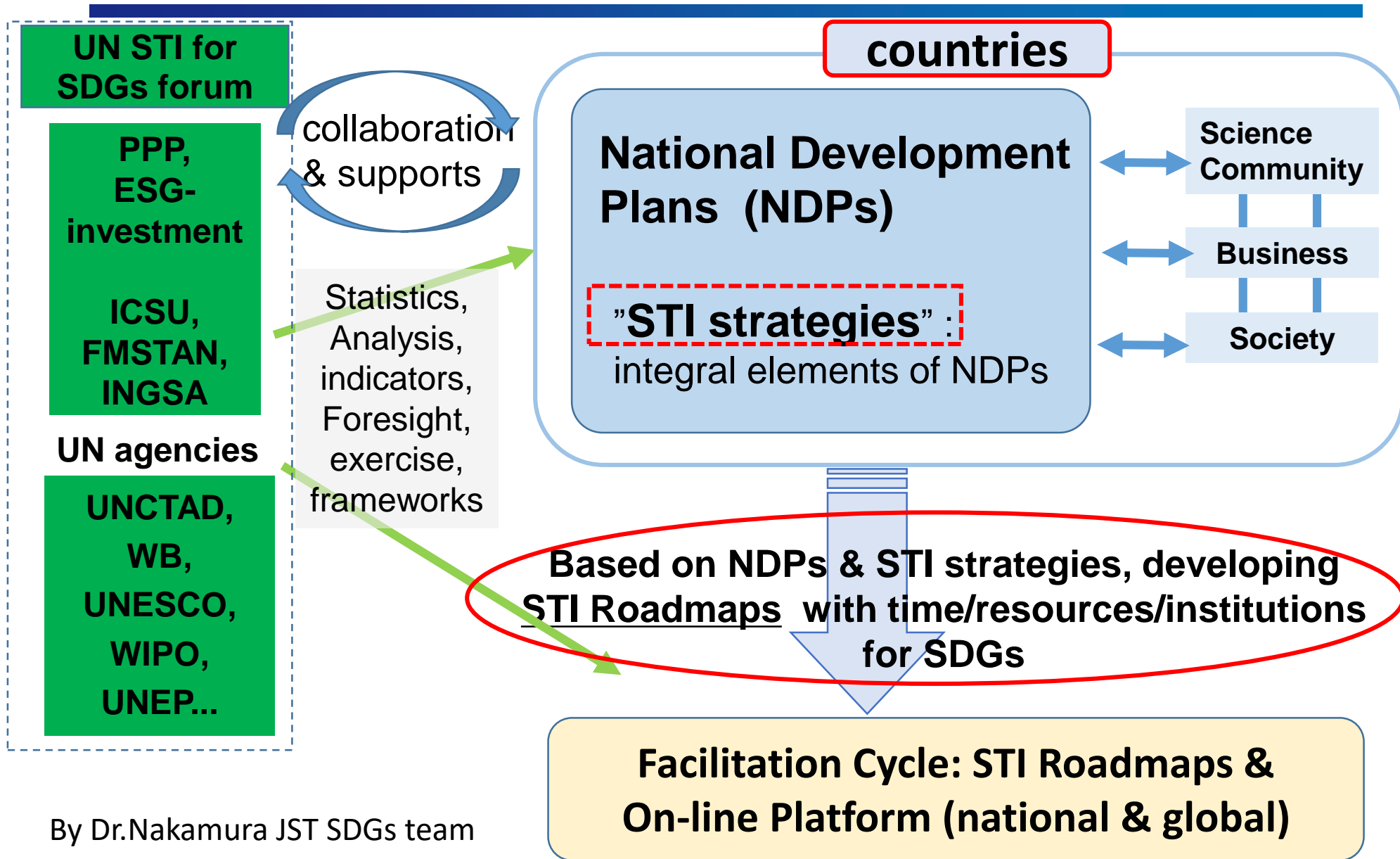
- **STI for SDGs: Road map, Online platform, Capacity building**
- **STI ecosystem** : Private Companies, Universities, PPP, Funding, Investment, IPR, Regulation, Tax

Top down :
political will

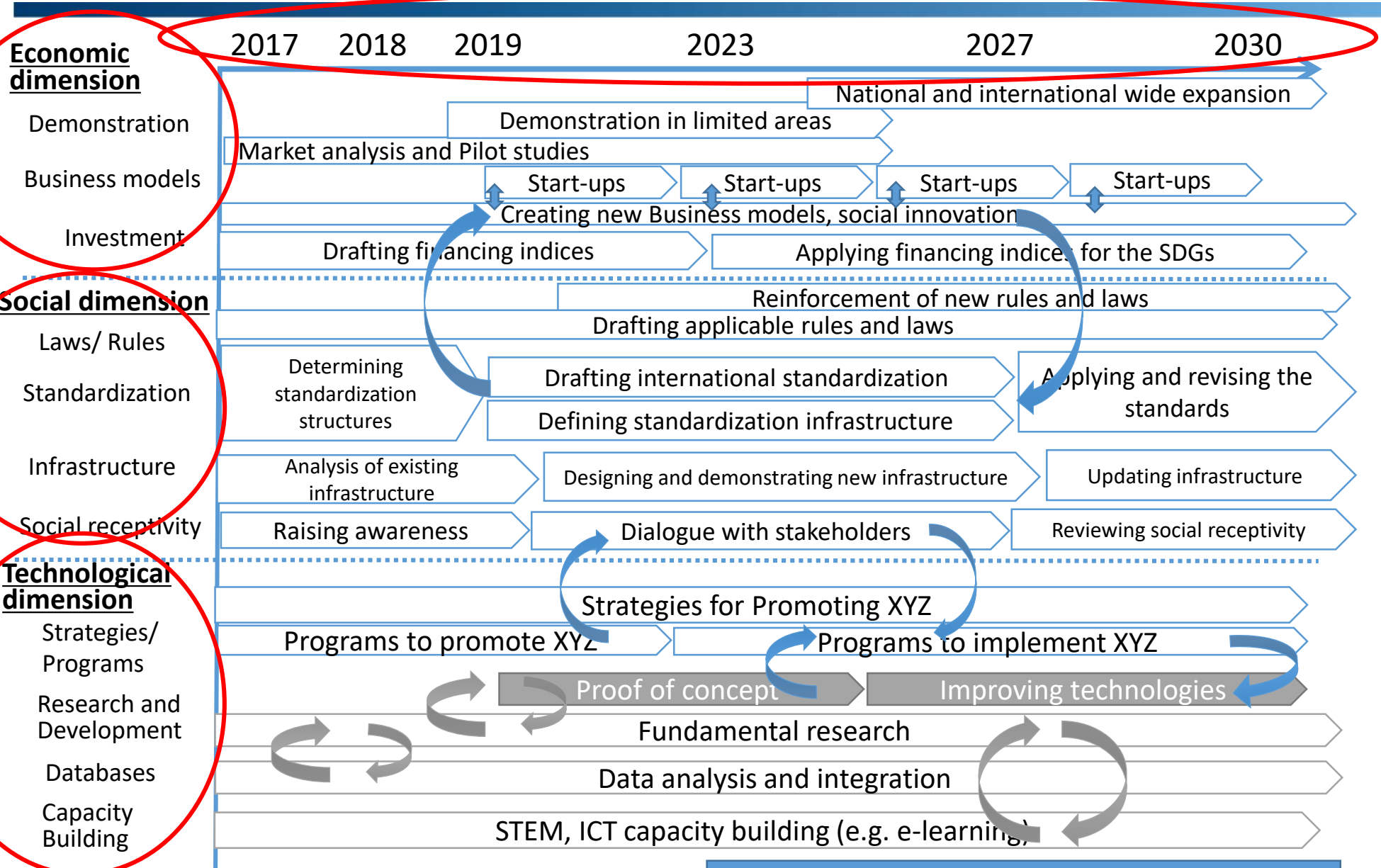
Sharing
visions
& trust

Bottom up :
Motivation
& incentive

National Development Plans and STI Strategies & Roadmaps



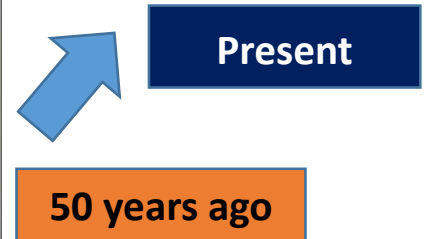
What is a “STI for SDGs Roadmap” for 17 goals ?



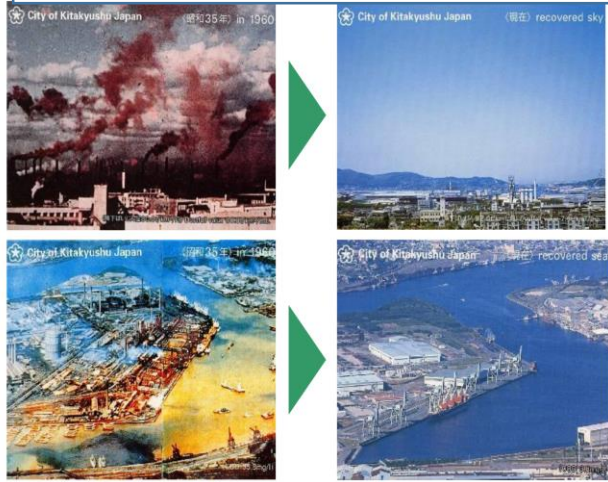
Examples of "STI for SDGs" by Japan' efforts in the past decades; decoupling of economic growth from environmental impact. We can transform our society by combination of technological innovation and social innovation; public-private partnerships : policies/laws/social systems (national/local), business/ investment, research & technologies, capacity building.



Mt.Fuji



Industrial area in Kyushu



50 years ago

Present

Tokyo metropolitan area

1967年

現在



50 years ago

Present

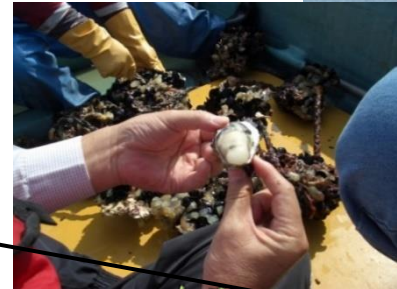
"OECD Environmental Performance Reviews JAPAN" ; "Japan has made steady progress in addressing a range of traditional environmental problems, notably air emissions, water pollution, and waste management."

Big Earthquake, Tsunami and Fukushima nuclear accidents (March 2011): Recovery & Reconstruction of cities, local economies and QOL using STI in impacted areas with different context

Sharing experiences & knowledge of recovery and reconstruction

Match-making & capacity building

Nationwide Network



EDITORIAL

Japan's longevity challenge

Japan is the front-runner of aging societies in terms of longevity and the proportion of the elderly in the population. In 2010, one-third of the population will be older than age 65, and 20% will be older than 75 years. Moreover, 25-year-old seniors in Japan are as physically healthy as those a decade younger, according to a recent government survey. If Japan is to deal effectively with the highly aged society of the future, and benefit from this growing sector of its society, it must come up with a new socially inclusive system for people living into their retirement years.

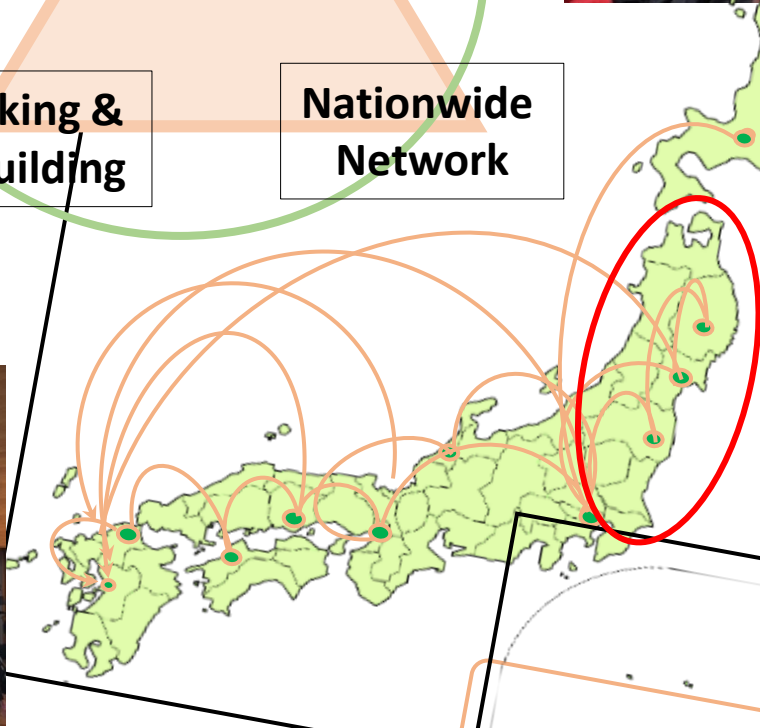
Currently, Japan treats the period after retirement at age 65 as the "senior years" of one's life, effectively discouraging even healthy retirees from working. This situation challenges Japan's social security system and fiscal national economy. In 1995, 54 persons could support one senior citizen in the social security system. This dependency ratio is now 34 persons to one senior, and should decrease to 1.5 by one in 2030. Social security benefits will exceed 100 trillion yen in 2030. With 10% of the work force expected to be lost by then,

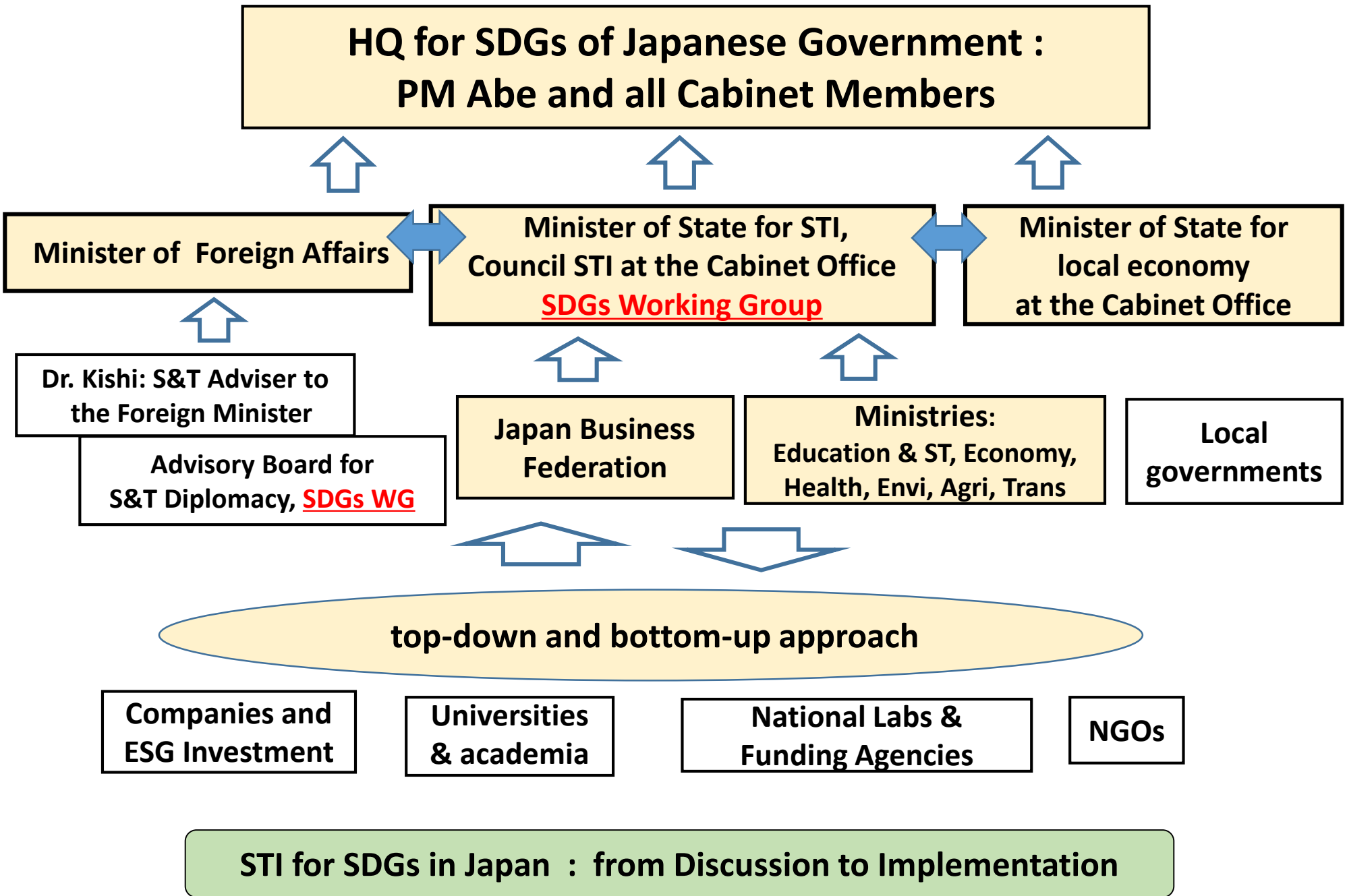
To achieve this healthy life span, maintaining worker quality of life is crucial. New living environments are needed that will allow seniors to "age in place" while enjoying good physical, mental, and social health that could allow, or even assist, the onset of declining conditions such as frailty and dementia. Lifelong learning will allow seniors not only to maintain their overall well-being, but to integrate into a working society. Thus, universities should expand programs that help seniors to improve skills, gain new knowledge, and nurture new interests. Japan also must accommodate a diversity of health and life-style issues of the senior community by providing a variety of workplaces and work styles. Employees can contribute as an individual's strengths while compensating for weaknesses. Innovative approaches can be devised for the workability of abilities as well as of time. Advances in information technology and robotic technology can address an employer's concerns about safety and productivity that hinder employment of older workers. For example, teleworking and tele-consultative assistance technology such as a "remote site"



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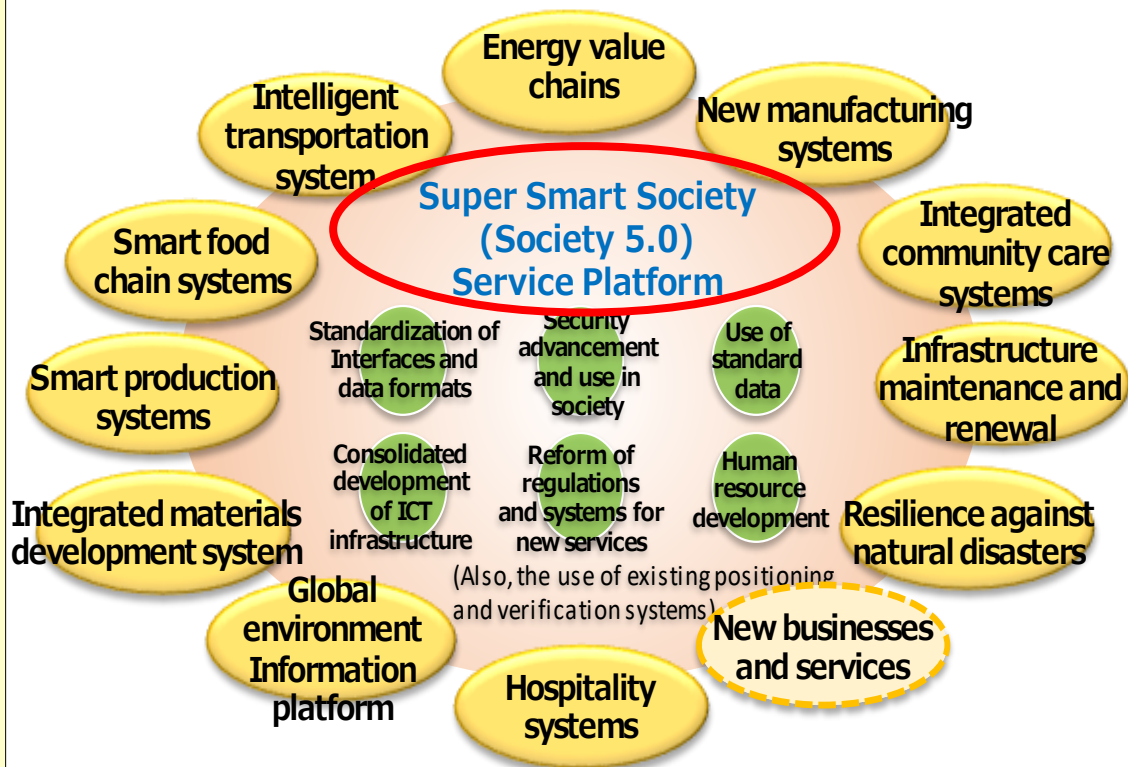
"The next generation of elderly will be healthier and better educated."





Japan's current STI policy : "Super Smart Society" "Society 5.0" * " Bridging national Policy "Society 5.0 " and SDGs "

○ Society 5.0 : A society where the various needs of society are finely differentiated and met by providing the necessary products and services in the required amounts to the people who need them when they need them, and in which all the people can receive high-quality services and live a comfortable, vigorous life that makes allowances for their various differences such as age, gender, society.



○ Integration of cyber-physical system and development of 14 key technologies will transform socio-economic structure: business & government services, production, healthcare, energy, food, traffic, infrastructure, disaster, finance.

- * ① hunter-gatherer society,
 ② agricultural society,
 ③ industrial society, and
 ④ information society.



GOJ SDGs Promotion Headquarters (Dec.2017)

Japan is committed to make every effort both domestically and internationally to achieve SDGs. Japan has established the “SDGs Promotion Headquarters” led by Prime Minister Abe and consists of all Ministers, as well as the “SDGs Promotion Roundtable Meeting” as a multi-stakeholder framework in May 2016. The Headquarters formulated the “SDGs Implementation Guiding Principles” and held 4th meeting on Dec. 26, 2017

1. Core message of the meeting: Realize a rich and vibrant future through promoting the SDGs

- Japan intends to lead the promotion of the SDGs in the international community, building upon its strength in traditional wisdom, cutting-edge technologies and information as well as its conviction not to leave anyone behind. Japan will take initiative to demonstrate how to realize a rich and vibrant future amid of globalization and population aging as Japan’s SDGs Model.
- The GoJ aims to communicate and outreach such SDGs Model to the world, taking the opportunities of hosting the G20 and Tokyo International Conference on African Development (TICAD) in 2019, the Tokyo Olympic and Paralympic Games in 2020 where Japan is expected to lead global agenda.
- At the Meeting, the Headquarters decided “SDGs Action Plan 2018” that includes the basic directions of Japan’s SDGs Model and its major efforts. Prime Minister Abe instructed all Ministers to steadily implement the Action Plan and to strengthen and expand their efforts by mid-2018.

2. Three basic directions of Japan’s SDGs Model

(1) Promotion of Society 5.0 that corresponds to SDGs

- Fully support the implementation of the revised Charter of Corporate Behaviors by Japan Business Federation (Keidanren) that commits to the SDGs through the Society 5.0.
- Promote Society 5.0 and “Productivity Revolution” with IoT, Big Data and AI in order to respond to the SDGs.
- Promote the SDGs management and roadmaps for “STI for SDGs”
By mid-2018, will come up with concrete measures to support private companies



(2) Regional vitalization driven by the SDGs

Promote the SDGs in local areas making the most of their unique needs and strengths, and thereby vitalize local areas and create resilient, environmental-friendly and attractive communities.

- **Newly create a project “SDGs Models of Local Governments” through which the entire central government will intensively support selected local governments in their SDGs implementation, and expand success and lessons learnt to other local governments.**
- Raise awareness towards the SDGs and promote its implementation through preparing **for the Tokyo Olympic and Paralympic Games and bidding for 2025 Expo in Kansai.**



(3) Empower next generations and women

Empower next generations who have rich creative and communication skills and women who are the SDGs goal.

- Promote steadily the “work-style reform,” women’s active role and “a revolution in human resources development,” all of which are the priority agenda for the Abe Administration.
- **Foster next-generation leaders for implementing the SDGs through education.**
- Based on the concept of Human Security, **promote international cooperation in the major areas of the SDGs** such as health (including Universal Health Coverage (UHC)) as well as gender, education and disaster risk reduction.



3. Implement and expand major efforts by the GoJ to crystalize the Japan’s SDGs Model

- Based on the three basic directions of Japan’s SDGs Model, the GoJ **will implement and expand major efforts that are incorporated in Action Plan mostly with their respective draft budgets** and categorized by the following eight priority areas of the SDGs Guiding Principles (decided at the 2nd meeting held in Dec. 2016):
 - (i) Empowerment of All People, (ii) Achievement of Good Health and Longevity, (iii) Creating Growth Market, Revitalization of Rural Areas, and Promoting Technological Innovation, (iv) Sustainable and Resilient Land Use, Promoting Quality Infrastructure, (v) Energy Conservation, Renewable Energy, Climate Change Countermeasures, and Sound Material-Cycle Society, (vi) Conservation of Environment, including Biodiversity, Forests and Oceans, (vii) Achieving Peaceful, Safe and Secure Societies, and (viii) Strengthening the Means and Frameworks of the Implementation of the SDGs.
- The GoJ **will proactively disseminate and deploy the best practices of both public and private sectors**, including Japan’s SDGs Award.



1st Japan's SDGs Award (2017)

Outline



- Companies, local governments and NGOs making outstanding efforts, either domestically or internationally, to achieve SDGs are eligible for the Award.
- The SDGs Promotion Headquarters decided award winners based on the opinions of a wide-range of stakeholders in the SDGs.
- Selection criteria are **universality, inclusiveness, participation, integration, and transparency and accountability**, which are the main principles of the "SDGs Implementation Guidelines" stipulated by the Headquarters.
- The Award ceremony took place at the Prime Minister's Office on Dec. 26, 2017.

The UN Secretary-General's Message to the Award ceremony

UNSG commended the  Government of Japan for creating this award to raise awareness of the SDGs, and extended his congratulations to the winners of SDG awards, having the initiative to become agents of change in their communities.



Winners

~~Chief's Award (by Prime Minister)~~

- ◆ **Shimokawa-town, Hokkaido (Successfully realizing regional vitalization through the SDGs)**

~~Deputy-chiefs' Award (by Chief Cabinet Secretary)~~

- ◆ NPO Shinsei (Supporting the employment of those with disabilities in the disaster-affected areas)
- ◆ Palsystem Consumers' Co-operative Union (Promoting ethical purchase and consumption)
- ◆ **Kanazawa Institute of Technology** (Fostering SDGs young leaders with concrete projects)

~~Deputy-chiefs' Award (by Foreign Minister)~~

- ◆ Saraya.Co.Ltd (Promoting hand-washing campaign to improve health in developing countries)
- ◆ **Sumitomo Chemical Co., Ltd.** (Addressing infectious diseases with their cutting-edge mosquito net)



~~Special Award (SDGs Partnership Award)~~

- ◆ Yoshimoto Kogyo Co.,Ltd. (Raising domestic awareness of the SDGs through entertainment)
- ◆ **ITO EN. LTD.** (Making their entire tea-making value chain sustainable)
- ◆ Yanagawa Elementary School, Koto-ku, Tokyo (Leading education for sustainable development (ESD))
- ◆ **Okayama University (Aligning its entire educational program with the SDGs)**
- ◆ JOICFP (Comprehensively supporting maternal and child health in developing countries)
- ◆ **Kitakyushu-city, Fukuoka (Supporting cities in developing countries to be more environmental friendly)**

Objectives of STI for SDGs Roadmaps

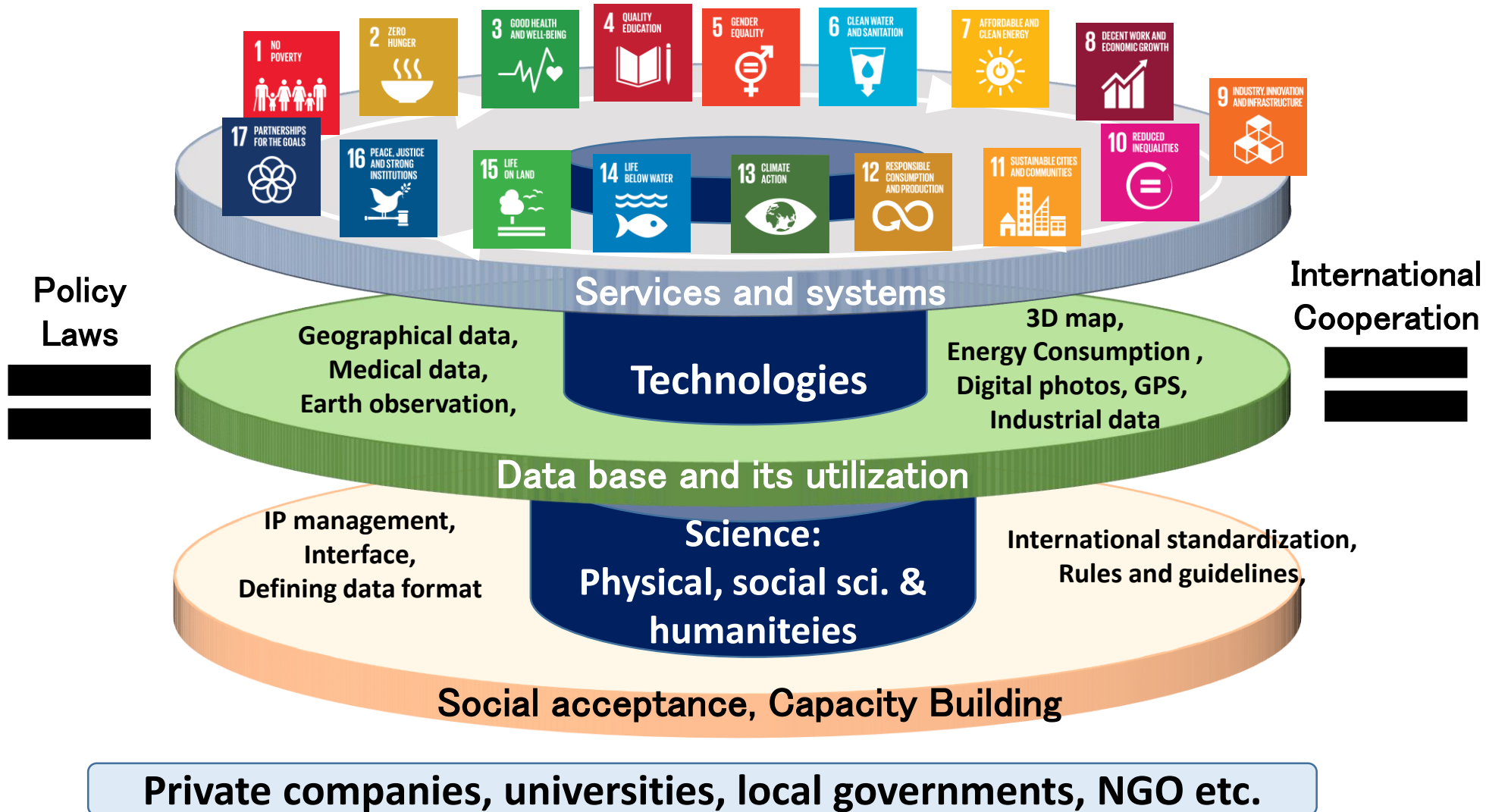
- Roadmaps are main facilitation tools for communications among multi-stakeholders to enhance public-private partnerships (PPPs) and investment for implementing SDGs with trust.
- Roadmaps depict pathways towards 2030 by analyzing interlinkages of SDGs, reflecting gaps, and horizontal scanning of new way and means of STI on future society.
- Roadmaps contribute to redesign domestic and global innovation ecosystems.
- Roadmaps are used to monitor progresses and revised/updated if necessary towards 2030.
- Sharing practices on roadmaps us to enhance the quality of facilitation and achieve SDGs goals more effectively.



***Thank you very much
for your attention***

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Framework for “STI for SDGs”



Policy
Laws



International
Cooperation



Services and systems

Technologies

Data base and its utilization

Science:
Physical, social sci. &
humaniteies

Social acceptance, Capacity Building

Private companies, universities, local governments, NGO etc.

Geographical data,
Medical data,
Earth observation,

3D map,
Energy Consumption,
Digital photos, GPS,
Industrial data

IP management,
Interface,
Defining data format

International standardization,
Rules and guidelines,

Facilitation and co-learning Cycle of “STI for SDGs”

- subnational, national, regional & global -

