



MEXT

MINISTRY OF EDUCATION,
CULTURE, SPORTS,
SCIENCE AND TECHNOLOGY-JAPAN

Contribution for Nuclear Nonproliferation and Nuclear Security through Science and Technology of Japan

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Global trend for strengthening Nuclear Nonproliferation and Security is accelerating.
Increasing engagement of Japan is important

→ released interim report in June 2017

Role of MEXT

- Capacity Building
- Promotion of R&D
- Human Resources(HR) Development
- Construction of structure of agencies (e.g. universities, research institutes) for R&D and HR development
- Promotion of ISCN's project

Challenges

- Definition of R&D areas and preparation of promotion structure considering global situations and future
- Social implementation of R&D
- Promotion of HR development considering roles of sectors and characteristics of Japanese Institutes

Future Policy Direction

- **R&D**
 - Understanding of the needs
 - Directions considering advantages of Japan
 - study for cyber security problems considering social implementation
- **Support for Research and Technology**
 - HR Development
 - Domestic/International Cooperation
 - e.g. expansion of cyber security measures
- **International Strategy**
- **Pursuing measures from R&D to use in society**
- **Corporation with agencies**

“Science and Technology Basic Law” is enacted in 1995

Aiming to the comprehensive and systematic promotion of Japan's science, technology and innovation (STI) policies, the government of Japan has been formulating **STBP** every 5 years.

- Rapid advances in ICT ... “Era of Drastic Change”
- Globalization ... Increase scale and complexity of domestic and global-scale challenges (e.g. changes in security environment)

5th term (2016-2020)

Enhance “Science, Technology & Innovation Measures”

Target National Profile

- ① **Sustainable growth** and self-sustaining regional development
- ② **Ensure the safety and security** with high quality, prosperous way of life
- ③ **Respond to global challenges and contribute to global dev.**
- ④ Sustainable creation of intellectual property

4 pillars

- **Dev. of Future Industry and Social Transformation**
- **Addressing Economic and Social Challenges**
- **Reinforcing the “fundamentals” of STI**
- **Establishing virtuous cycle of HR, Knowledge, and Capital**

■ Fostering R&D and Human Resources that Boldly Challenge the Future

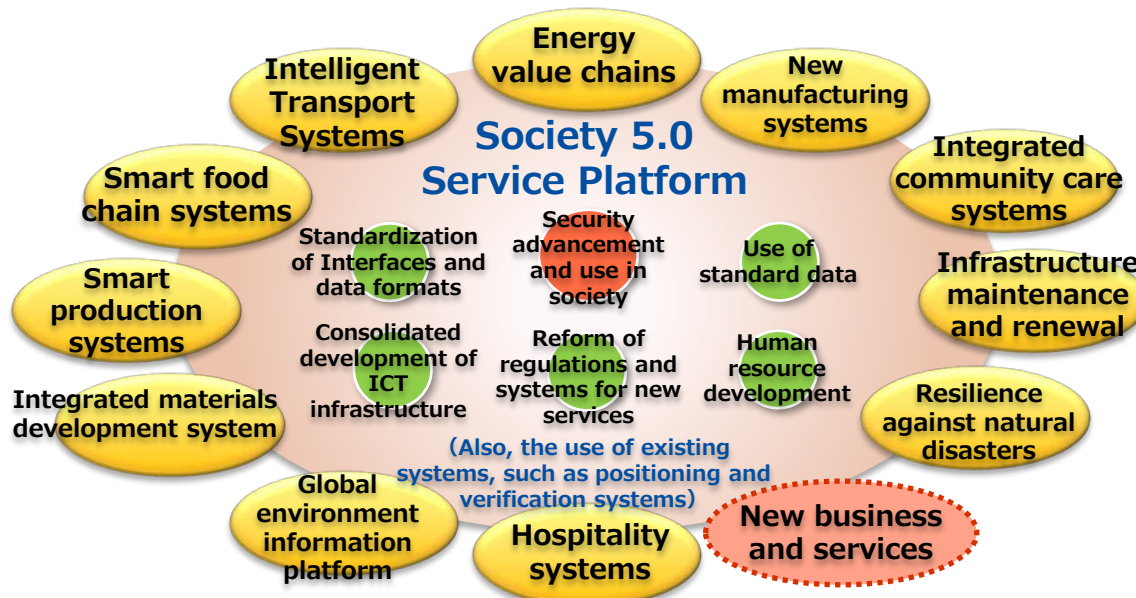
- Promote challenges for R&D focused on novelty, economical/social impact
- Provide opportunity for innovative/active person

■ Realizing “Super Smart Society”

- Expand network and IoT to various area
 - ➔ promote penetration of social transformation and result of Science and technology into various area
- Share “**Super Smart Society**” as a future vision
 - ➔ Evolve and enhance the unified acts as “**Society 5.0**”

e.g. Further developing and expanding **ImPACT**

Society 5.0



Further development of technologies which Japan has advantage

- Fundamental for platform: **AI, Cyber Security**
- Core for next innovation: **Robotics, Sensors**

- Government sets up **13 Important Policy Issues**
- Pursuing STI in attempts to find solutions



Preemptively address emerging national and global challenges

- 13 Important Policy Issues -

Systematically pursuing measures from R&D to use in society

Sustainable growth and self-sustaining regional development

- Ensuring stable energy and improving energy efficiency
- Ensuring stable resources and cyclical use
- Establishment of a society in which people enjoy long and healthy lives with world-leading medical technology
- Stable food supply
- Building infrastructure for sustainable cities and regions
- Extending service life for efficient, effective infrastructure
- Improving competitiveness in manufacturing and value creation

Addressing global challenges and contributing to global development

- Addressing global climate change;
- Responding to biodiversity loss

Ensure safety and security for our nation and its citizens and a high-quality, prosperous way of life

- Addressing natural disasters
- Ensuring food safety, living environments, and occupational health
- Ensuring Cybersecurity
- Addressing national security issues

Innovation of Science and Technology is...
generated by Human Resources, and
utilized by Human Resources



HR Development
is important

Developing High-quality **HR**

- Development of young researchers, establishing an environment to actively demonstrate abilities and motivation according to the stage of career
- Improve women’s career prospects
- Develop international research networks, promote greater mobility of personnel

Promoting Excellence in Knowledge Creation

- Reforms and enhancements aimed at promoting of academic and basic research
- Strategic enhancement of common fundamental technologies, facilities, equipment, and information infrastructure

Strengthening Funding Reform

- Fundamental expenses in order to enable more efficient and effective management of universities
- Integrate national university reform with research funding reform

Establishing virtuous cycle of HR, Knowledge, and Capital

- Enhancing Mechanisms for Promoting Open-innovation
- Strategic Use of International Intellectual Property and Standardization
- Cultivating Opportunities for Generating Innovation in Anticipation of Global Needs etc...



Using of Domestic and Overseas **human resources, knowledge, and capital**
➔ **Create new value and rapidly pursue its use in society rapidly**

Points for anti-nuclear terrorism policy (Technical)

- **Strengthening of deterrence**
 - IN ADVANCE prevention
- **Improvement of detection technique**
 - Detection of fraud
 - **Real time, high accuracy technology**
- **Improvement of tracking/identification Technology**
 - Early identification, appropriate response

Japan's Know-how

- Contribution for **construction of Int'l framework**, like IAEA, since the early days in nuclear field
- Peaceful use of nuclear energy as **the only victim nation of atomic bombs**



Science Technology Promotion

- **Further development of existing technologies**
- **Improvement of technologies through collaboration with the technologies in other areas**

Thank you for your attention.

