

# Promotion of Science and Technology Diplomacy

## **KOTANI Motoko**

Science and Technology Co-Advisor to the Minister for Foreign Affairs of Japan

Executive Director of Science, RIKEN

Executive Vice President for International Research Strategy, Tohoku University

# What's happening in the World of STI?

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## The world faces “turning point in history”: Times of uncertainty and unpredictability

- Profound impact on our values, lifestyle and society due to the **rapid development of science and technology**
- Global polarization due to **geopolitical challenges**
  - Increased competition/collaboration between countries to ensure economic and national security, especially in emerging technologies
- **STI as the key to tackle current global challenges**, such as climate change and infectious diseases, and to achieve sustainable growth
- Science and technology policy has become characterized as a social public policy, and **the importance of science and technology diplomacy is increasing.**

# S&T Advisor to the Minister for Foreign Affairs

S&T Advisor and S&T Co-advisor to the Minister for Foreign Affairs have been established in 2015 and 2019 respectively, to better utilize scientific expertise in planning and implementing diplomatic policy.



Prof. MATSUMOTO Yoichiro  
Science and Technology Advisor  
to the Minister for Foreign Affairs



Dr. KOTANI Motoko  
Science and Technology Co-Advisor  
to the Minister for Foreign Affairs

## Role of the S&T Advisor to the Foreign Minister

- Support the activities of the Foreign Minister from the S&T perspective
- Provide advice to the Foreign Minister and relevant departments on the utilization of S&T in various foreign policy-makings
- Reinforce networking among S&T advisors, scientists/academics for better international relations

# S&T Advisor's Activities: Providing advice on S&T

## The Advisory Board for Promoting Science and Technology Diplomacy

Gathering expertise from 22 board members with a variety of disciplines to develop policies on S&T Diplomacy, to strengthen STI networks in Japan and overseas, to support public relations, and to hold seminars to improve S&T literacy of MOFA officials.

**Chair: Prof. MATSUMOTO Yoichiro (S&T Advisor to FM) Vice Chair: Dr. KOTANI Motoko (S&T Co-Advisor to FM)**

Neuroscience Data x AI Business strategy	<b>Prof. ATAKA Kazuto</b>	Professor, Keio University Senior Strategist, LY Corporation	International cooperation and development	<b>Prof. ISHII Naoko</b>	Project Professor, Institute for Future Initiatives, The University of Tokyo
Material chemistry Electronics	<b>Mr. ISHIMURA Kazuhiko</b>	President, National Institute of Advanced Industrial Science and Technology (AIST)	Industry Economy	<b>Ms. OGAWA Naoko</b>	Director, Industrial Technology Bureau, Keidanren
T&I Management STI policy	<b>Prof. KAJIKAWA Yuya</b>	Professor, Institute for Future Initiative, The University of Tokyo	Global health Health policy	<b>Dr. KANAMORI Sayako</b>	Professor, Osaka University
ICT Wireless- communication	<b>Prof. KANEKO Megumi</b>	Professor, National Institute of Informatics (NII) & The University of Tokyo, Dept. of Computer Science	Physical chemistry Surface science	<b>Prof. KAWAI Maki</b>	President, National Institutes of Natural Sciences (NINS)
Systems biology AI	<b>Dr. KITANO Hiroaki</b>	President and CEO, Sony Computer Science Laboratories, Inc.	Applied physics	<b>Dr. KYUMA Kazuo</b>	President, National Agriculture and Food Research Organization (NARO)
International politics	<b>Prof. SAHASHI Ryo</b>	Professor, Institute for Advanced Studies on Asia, The University of Tokyo	Disaster prevention	<b>Prof. TAKARA Kaoru</b>	President, National Research Institute for Earth Science and Disaster Resilience (NIED)
Environmental Science	<b>Prof. TAKEUCHI Kazuhiko</b>	President, Institute for Global Environmental Strategies (IGES)	International politics	<b>Dr. TANAKA Akihiko</b>	President, Japan International Cooperation Agency (JICA)
Molecular Oncology Environmental Carcinogenesis Cancer Genomics	<b>Dr. NAKAGAMA Hitoshi</b>	President, Japan Agency for Medical Research and Development (AMED)	Molecular biology Virology	<b>Prof. NAGATA Kyosuke</b>	President, University of Tsukuba
Medicine Tumor biology	<b>Prof. HAMAGUCHI Michinari</b>	President, Strategic Center of Biomedical Advanced Vaccine Research and Development for Preparedness and Response (SCARDA), Japan Agency for Medical Research and Development(AMED)	Thermal engineering Fluid engineering	<b>Prof. HISHIDA Koichi</b>	Advisor, Organization for the Strategic Coordination of Research and Intellectual Properties, Meiji University
Public administration Public policy	<b>Prof. MORITA Akira</b>	President, Next Generation Fundamental Policy Research Institute (NFI)	Aerospace Engineering	<b>Dr. YAMAKAWA Hiroshi</b>	President, Japan Aerospace Exploration Agency (JAXA)
Naval Architecture and Ocean Engineering Transportation system	<b>Prof. YAMATO Hiroyuki</b>	President, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)	Mathematics Mathematical science	<b>Prof. WAKAYAMA Masato</b>	Fundamental Mathematics Research Principal, NTT Institute for Fundamental Mathematics, NTT, Inc. President, ZEN University

# Science and Technology Fellows at Overseas Establishments

- Based on the recommendations submitted to Foreign Minister in June 2022 by the Advisory Board for Promoting Science and Technology Diplomacy, the “**Science and Technology Fellow**” initiative has launched in 2023.
- Japanese researchers based overseas have been appointed as Science and Technology, at 6 Overseas Establishments: **India, Israel, Sweden, the UK, the EU, and San Francisco.**
- The initiative aims to strengthen the functions of overseas establishments that play an important role in promoting science and technology diplomacy.
- Fellows play a key role in monitoring the latest local science and technology trends, liaising between Japan and the local science and technology community, including local researchers and research institutions, and communicating Japan's science and technology capabilities.



Prof. Matsumoto presented to Minister Kamikawa (at the time) a recommendation document prepared by Science and Technology Fellows at overseas establishments

# What we need to do

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- **Investment in basic research and development and ensuring academic freedom**
  - Diverse basic research and development based on free thinking will lead to important technologies in the future.
- **Investment in human resources**
  - Research and development personnel
  - Science and technology literate diplomats and policy makers
- **Promotion of international talent mobility and circulation**
  - Modern scientific research is difficult to carry out alone / in a closed environments.
  - “Circulation” is also desirable to prevent brain drain.
- **Expansion of science and technology networks**
  - Interdisciplinary, intersectoral and **international networks** are needed.

# Discussion Points for the next (7th) STI Basic Plan

資料1 総合科学技術・イノベーション会議 基本計画専門調査会(第11回)より抜粋  
パブコメ中(2月5日～2月19日)

Unofficial Translation

## Strategic Direction of the Basic Plan

1. Revitalization of “Science” as the foundation for the future (Strengthening Basic Research & Human Resource Development) **知の基盤としての「科学の再興」**
2. Strategic Prioritization of Technology Areas **技術領域の戦略的重点化** National Strategic Technology Areas (16 fields) and Emerging and Foundational Technology Areas (10 fields)
3. Organizational Coordination with National Security Policy **科学技術と国家安全保障との有機的連携**
4. Enhancement of Innovation Ecosystem **産学官を結節するイノベーション・エコシステムの高度化**
5. **Promotion of Strategic Science and Technology Diplomacy 戦略的科学技術外交の推進**
  - **Strengthening collaboration with allies and like-minded countries in critical technology areas**
  - **Formation of international rules for emerging technologies**
  - **Formation of international brain circulation networks**
6. **Reform of Promotion Framework and Governance 推進体制・ガバナンスの改革**

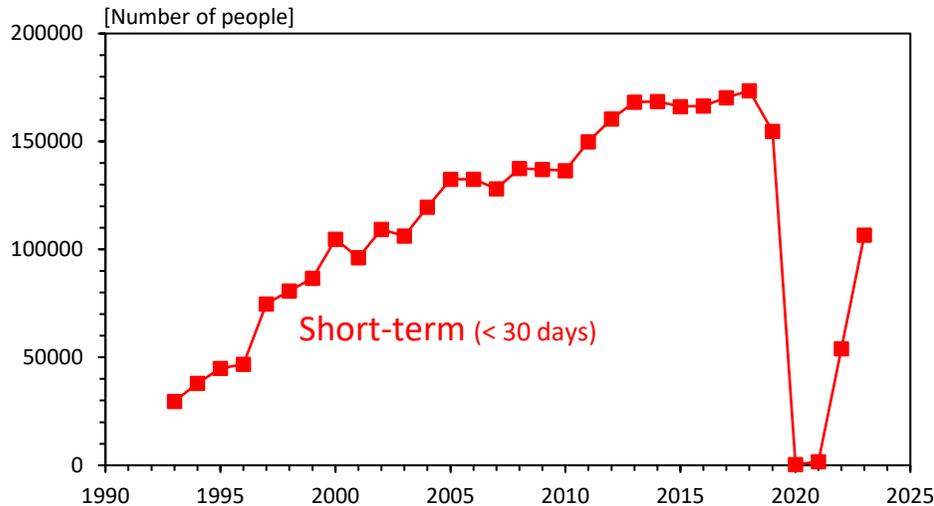
内閣府 総合科学技術・イノベーション会議(第80回)資料

“第7期科学技術・イノベーション基本計画の検討状況について”( <https://www8.cao.go.jp/cstp/siryu/haihui080/siryu1.pdf> ) より一部抜粋、非公式仮訳

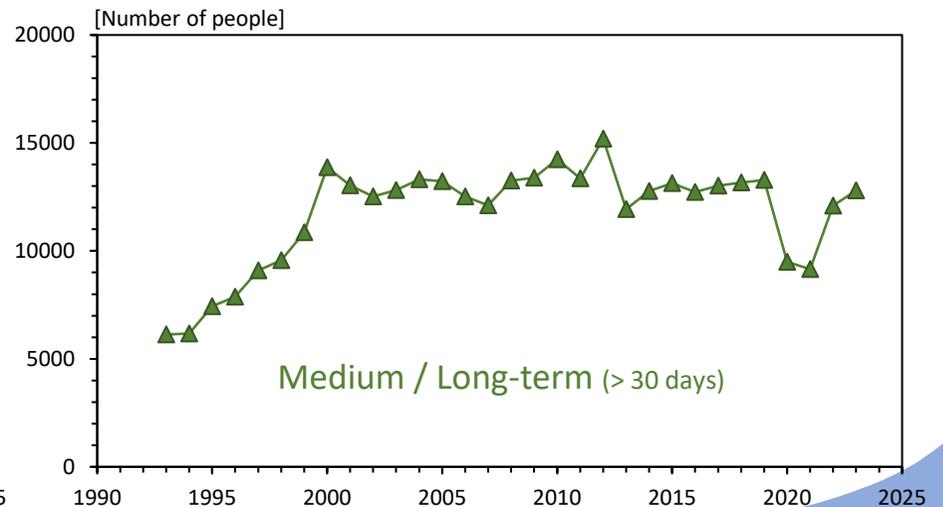
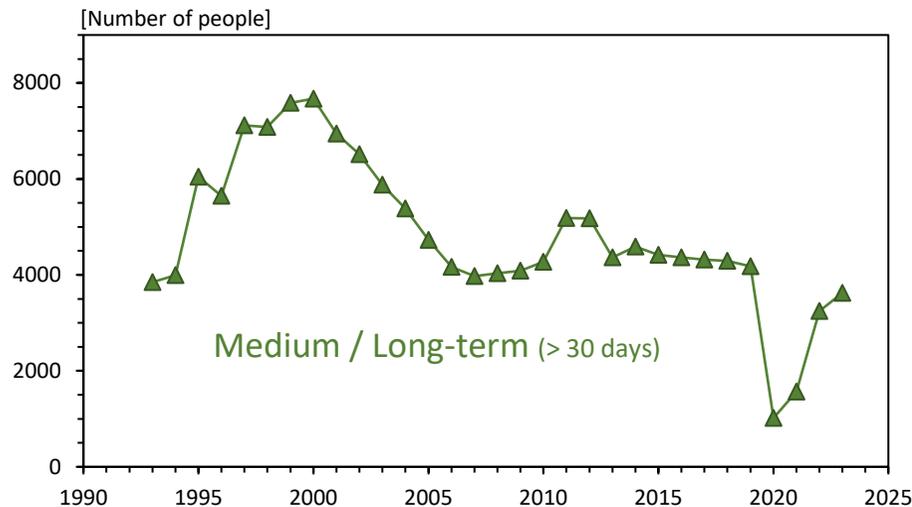
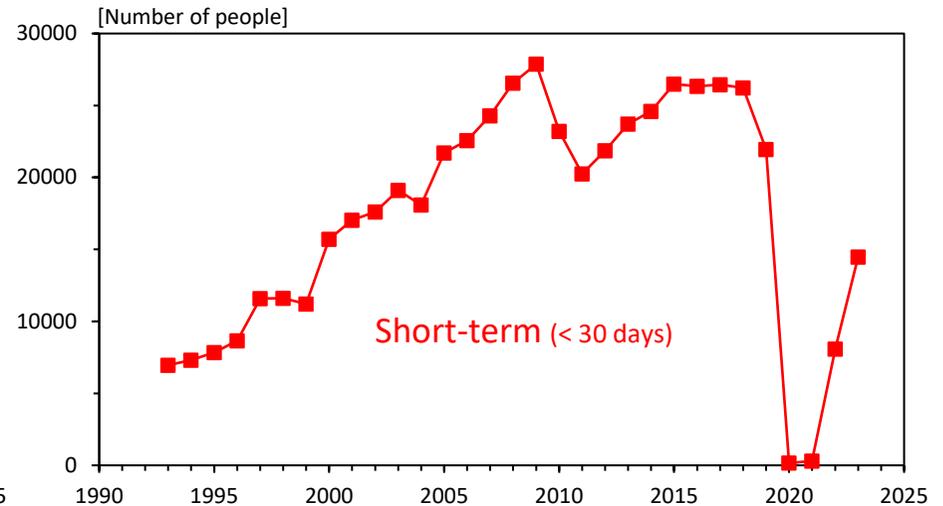
# Overview of international exchange

- Exchange of researchers suffered from the COVID-19 restrictions is recovering.

### Number of researchers dispatched from Japan



### Number of researchers accepted in Japan from overseas



# Promoting International Brain Circulation and Strengthening International Joint Research

## Important Points

- Active participation in international joint research and programs encouraging young researchers to work abroad are crucial for expanding overseas research opportunities and promoting international brain circulation.
- The circulation and networking of highly skilled science and technology professionals across global industry, academia, and government sectors are essential for strengthening Japan's S&T foundation and science and technology diplomacy.
- Synergies are expected through collaboration between Japanese researchers and engineers abroad and Japan's diplomatic missions, fostering robust international science and technology networks.

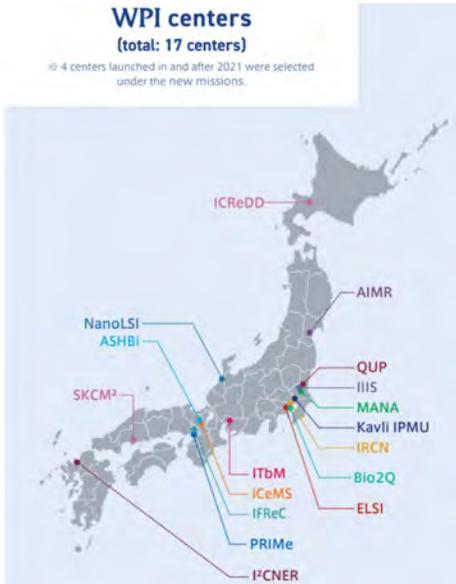


## Japanese Actions

Unofficial Translation

- Raise the international co-authorship rate of scientific papers to 50% or more—comparable to leading nations—during the 7th Basic Plan period.
- In key fields, **double the number of Japanese researchers sent abroad by 2035** compared with the current level.
- Introduce **incentives** (e.g., additional evaluation points) for overseas study and international co-authorship experience into the review criteria of competitive research funding programs.
- **Promote the acceptance of foreign researchers through related initiatives under the J-RISE Initiative (with a total project scale of JPY 100 billion).**
- Through participation in the J-RISE Initiative and preparation for **Horizon Europe**, further internationalize Japan's research environment and strategically promote international joint research.

# World Premier International Research Center Initiative (WPI)



WPI was established in 2007 by the MEXT to create globally influential Japanese research centers, producing work with major science and societal impact

3 missions:

- World leading scientific excellence and recognition
- Global research environment at reform
- Values for the future



## INTERNATIONAL COLLABORATION

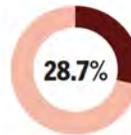


## FOREIGN RESEARCHERS

Almost every WPI centre has achieved its goal of 30% foreign researchers and 20% foreign primary investigators (PIs) by 2021.

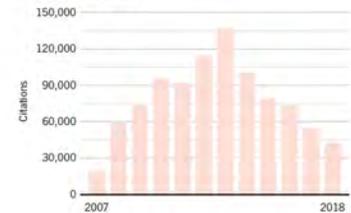


The average percentage of foreign researchers at each of the 13 WPI centres in 2019.



The average percentage of foreign PIs at each of the 13 WPI centres in 2019.

## CITATIONS



The WPI's Field Citation Ratio (FCR) is 3.2 times higher than the average.



- English is the official language and overseas researchers make up approx. 40% of the research staff in WPI centers.
- By recruiting postdoctoral researchers internationally and taking measures to promote the employment of overseas researchers, WPI centers are establishing highly competitive, internationally attuned research systems.
- Nearly 50% of the papers published by WPI centers stem from international joint research.

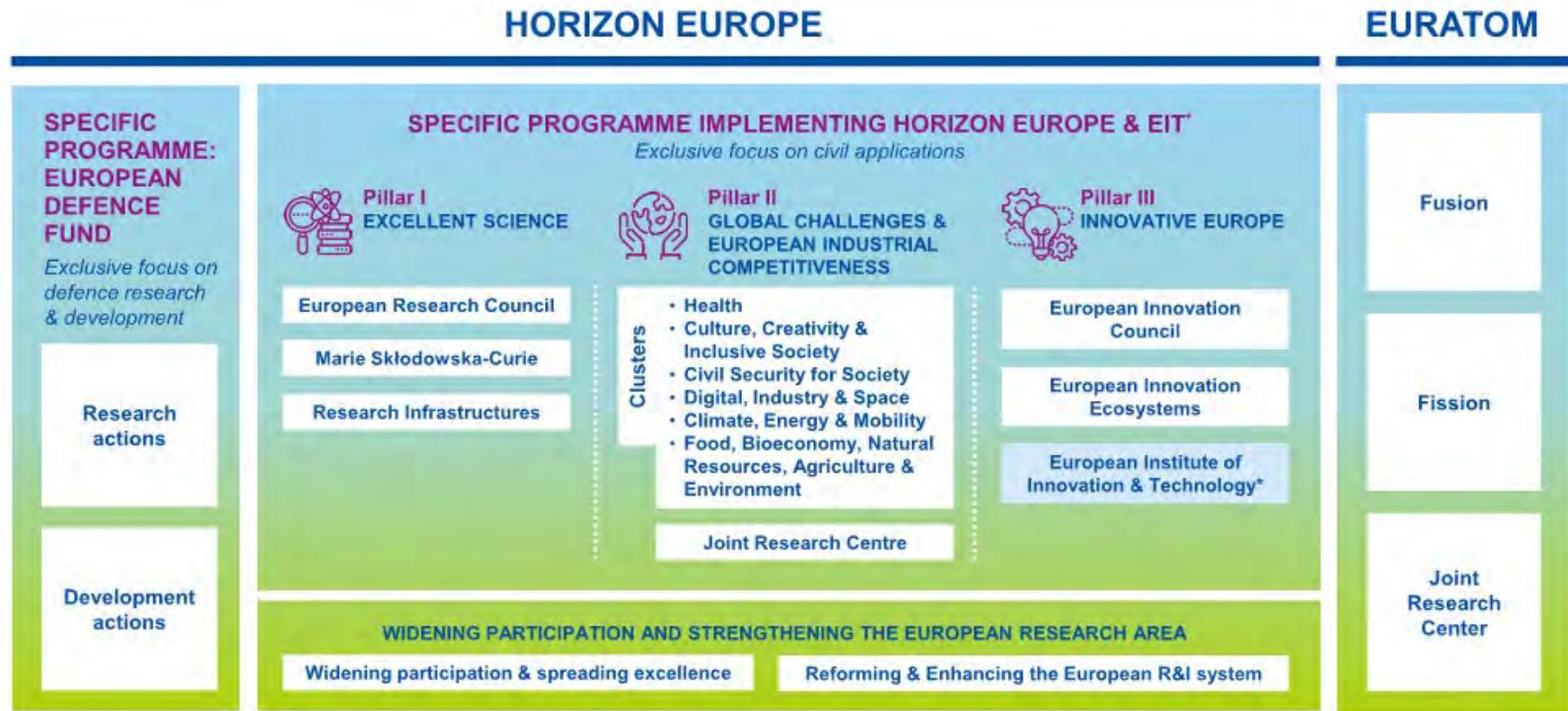
# Japan's national programs to promote international joint research

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- Various international exchange programmes operated by JSPS
  - **SICORP (Strategic International Collaborative Research Program)**: program operated by JST to contribute solutions to challenges facing world today and to bolster Japan's scientific and technological capabilities through collaboration with a broad range of countries.
  - **ASPIRE (Adopting Sustainable Partnerships for Innovative Research Ecosystem)**: program operated by JST/AMED to build a network among the world's top research talent, promote Japan's participation in the international top research community, and nurture and mobilize future research leaders.
  - **NEXUS (Networked Exchange, United Strength for Stronger Partnerships between Japan and ASEAN)**: framework operated by JST to further strengthen the cooperative research relationship between Japan and ASEAN as partners in co-creating innovations in science and technology.
  - **SATREPS (Science And Technology Research Partnership for Sustainable Development)**: Japanese government program operated by JICA/JST, that promotes international joint research aimed at solving global issues.
- etc.

# Horizon Europe

- Japan and EU reached an agreement in principal on the Agreement for Japan's association to Horizon Europe programme in late-December 2025.
- Both sides are currently working on necessary procedures for the signing of the Agreement.



\* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

# Principal Investigator (PI) Map Project

## Listing of Japanese Principal Investigators (PIs) abroad is:

- An initiative to promote international brain circulation and international joint research in science and technology.
- Led by the Ministry of Foreign Affairs, the project aims to identify Japanese researchers around the world and build a foundation for an international academic network through smooth two-way communication between overseas missions and researchers.
- To contribute to enhancing Japan's presence by realizing a science, technology, and innovation ecosystem.

## Benefits for Stakeholders

### Administrative Institutions



Enables the identification of suitable overseas destinations for visits, study abroad, collaboration, partnerships, and research support.

### Japanese PIs abroad



Serve as overseas satellites to enhance Japan's visibility, improve institutional support, and strengthen the presence of Japanese researchers through human and financial assistance.

### Young Researchers in Japan



Gain access to new information and opportunities, allowing them to pursue research abroad with confidence in a supportive environment.

# Principal Investigator (PI) Map Project

- “PI Map Project” was initiated for the San Francisco and Bay Area region of the US (thanks to the significant contribution of the ST Fellow at the SF Consulate-General), and with the understanding and cooperation of the region’s PIs, the PIs list was published in late 2025.
- The Project is currently being rolled out globally.

