

Part 2 describes the measures taken to promote science, technology and innovation creation in FY 2022 in accordance with the 6th Science, Technology, and Innovation Basic Plan (March 26, 2021 Cabinet Decision).

## Chapter 1

# Development of Science, Technology, and Innovation Policies

## Section 1

### Science, Technology, and Innovation Basic Plan

Science, technology, and innovation policy in Japan is promoted comprehensively and in a planned manner according to the Science, Technology, and Innovation Basic Plan (hereinafter referred to as the Basic Plan). The government renews and implements the 5-year Basic Plan pursuant to the Basic Act on Science, Technology, and Innovation (Act No. 130, 1995).

The government has developed the 1st (FY1996 to FY2000), the 2nd (FY2001-FY2005), the 3rd (FY2006-FY2010), the 4th (FY2011-FY2015) and the 5th (FY2016-FY2020) Basic Plans and promoted science and technology policy according to the plans. (The 1st to 5th plans were called the Science and Technology Basic Plan.)

The 6th Science, Technology and Innovation Basic Plan (for the period from FY2021 to FY2025) (“the 6th Basic Plan”) that started in FY2021 is the first plan after the Basic Act on Science and Technology was renamed the “Basic Act on Science, Technology, and Innovation” with its full-scale revision in June 2020. Study for formulation of the 6th Basic Plan was conducted by the Expert Panel on Basic Policy for two years. The panel was set up when the Prime Minister solicited advice from the Council for Science, Technology and Innovation (CSTI) regarding the 6th Basic Plan by issuing the Consultation Request #21, Regarding the Basic Plan in April 2019. On March 26, 2021, the 6th Basic Plan was decided by the Cabinet.

As major changes in society during the period of the 5th basic plan, the 6th Basic Plan listed: reorganization of the world order caused by intensified competition between nations with focus on state-of-the-art technologies (AI, quantum, etc.); surfacing of the technology leak issue and strengthening of countermeasures; the manifestation of climate change and other global problems, and; exposure of the limitations of the information society (Society 4.0). The new plan pointed out that these changes are accelerated by the expansion of COVID-19. Next, it examined the past science, technology and innovation policies and described Japan’s failure to make full use of the information communication technologies on which Society 5.0 is premised; the lowering of international position of Japan’s papers; the severe environment surrounding young researchers, and; the inclusion of promotion of “humanities and social sciences” and “innovation creation” by the revision of the Basic Act on Science and Technology.

In this context, the 6th Basic Plan put the Society 5.0 presented by the 5th Basic Plan into a concrete shape, and expressed it as a “society that is sustainable and resilient against threats and unpredictable and uncertain situations, that ensures the safety and security of the people, and that enables each and every one of them to realize well-being.” The plan presented the following specific initiatives for its realization.

① Transformation into a sustainable and resilient society that ensures the safety and security of the people

The government aims for a society where each and every member can realize well-being by redesigning our society to solve global challenges first in the world and ensuring the safety and security of all inhabitants.

For this purpose, the government will change our society to one where cyberspace (virtual space) and physical space (real space) generate a dynamic virtuous cycle so that anyone can use data and AI anytime, anywhere and securely. Then, Japan will lead the net zero greenhouse gas emissions of the world and build a more resilient society by reducing risks, including natural disasters and COVID-19.

In addition, Japan will construct new industrial infrastructure to turn out startups and facilitate value creation through cooperation of diverse entities, while at the same time deploying Smart City (cities/areas pioneering Society 5.0) all over Japan and in the world.

In order to support these initiatives and address new social challenges, the government will use the Convergence Knowledge (So-Go-Chi) to promote R&D and social implementation including the next SIP<sup>1</sup> and Moonshot Research and Development programs to address social challenges and develop S&T diplomacy to support social changes.

② Developing frontiers of knowledge and strengthening research capabilities as sources of value creation

Diverse research activities based on the intrinsic motivation of the researchers and accumulation of in-depth “knowledge” in the natural sciences and

the humanities and social sciences will not only have intellectual/cultural value but also will lead to innovations contributing to new technologies and solution of social challenges. The first measure for strengthening the research capacity that cultivates such knowledge is reinforcing the support for doctoral course students and young researchers. Next, while promoting basic/academic research including humanities and social sciences and convergence knowledge, the government will bolster promotion of challenging research where dedicated researchers create ingenious results through knowledge exchange with diverse entities.

This will be followed by construction of new research systems including open science and data-driven research.

In terms of universities, which make up the essential cutting-edge foundation of Japan’s knowledge, the government will strive to enhance and diversify the strengths of individual universities and strengthen their research capabilities while also promoting university reforms aimed at enabling the diverse individuals learning at universities to achieve self-realization. In particular, the government will support Universities for International Research Excellence via a 10-trillion-yen University Endowment Fund aimed at achieving world-class research universities, strengthen diverse functions for regional core universities as well as universities that have strengths in specific fields, and use the Package for Comprehensive Promotion of Research Universities with a Regional Core and Distinctive Characteristics, which is intended to help make such universities a driving force between Japanese growth, to boost Japan’s overall research capabilities.

<sup>1</sup> Cross-ministerial Strategic Innovation Promotion Program

③ Education and human resource development to realize diverse happiness (well-being) and challenges for each individual

In order to redesign society and create values in Society 5.0, the government aims to realize education/human resource development systems that will foster an increase in the number of people who have the ability and the will to pursue individual happiness and tackle challenges through trial and error. Specifically, learning based on curiosity is supported and the power to search is strengthened through promotion of STEAM<sup>1</sup> education at the stages of primary and secondary education, promotion of DX in education including initiatives based on the GIGA<sup>2</sup> School Program, participation/utilization of external human resources and other resources in learning, for example. The government will also develop an environment that encourages continued learning

by providing diverse curriculums at universities, etc., fostering environment/culture that promotes recurrent education and other measures.

To ensure steady progress on initiatives called for by the 6th Basic Plan, the government set a target of approximately 30 trillion yen for the government as a whole and 120 trillion yen for the public and private sectors combined for R&D investment.

Furthermore, to ensure steady implementation of the initiatives presented in the 6th Basic Plan, the government will strengthen the functions to use convergence knowledge, develop policies toward the future, strengthen policy-making functions and ensure their effectiveness by using the evidence system (e-CSTI<sup>3</sup>), implement policy evaluation linked to annual integrated strategy and the basic plan, and ensure effectiveness of the headquarter functions.

<sup>1</sup> Science, Technology, Engineering, Art(s) and Mathematics

<sup>2</sup> Global and Innovation Gateway for All

<sup>3</sup> Evidence data platform constructed by Council for Science, Technology and Innovation

## Section 2 Council for Science, Technology and Innovation (CSTI)

CSTI in the Cabinet Office is positioned as an “Important Council” toward vigorously promoting Japan’s science, technology and innovation policies under the leadership of the Prime Minister. CSTI consists of the Prime Minister as the chairperson, as well as related Cabinet members, executive members, and others. It has the mission of overseeing the nation’s science, technology, and innovation efforts and offering comprehensive and fundamental policy plans and general coordination

(Table 2-1-1).

CSTI has established seven Expert Panels that deliberate on technical aspects of key issues (Expert Panel on Basic Policy, Expert Panel on STI Strategy, Expert Panel on Important Issues, Expert Panel on Bioethics, Expert Panel on Evaluation, Expert Panel on the World Level Research Universities, and Expert Panel on Innovation Ecosystem).

Table 2-1-1/List of CSTI members (Current as of April 1, 2023)

Cabinet Members	KISHIDA Fumio	Prime Minister
	MATSUNO Hirokazu	Chief Cabinet Secretary
	TAKAICHI Sanae	Minister of State for Science and Technology Policy
	MATSUMOTO Takeaki	Minister of Internal Affairs and Communications
	SUZUKI Shunichi	Minister of Finance
	NAGAOKA Keiko	Minister of Education, Culture, Sports, Science and Technology
	NISHIMURA Yasutoshi	Minister of Economy, Trade and Industry
Executive Members	UEYAMA Takahiro (full-time)	Former Vice President, National Graduate Institute for Policy Studies
	KAJIWARA Yumiko (part-time)	Corporate Executive Officer EVP, CSO, Fujitsu Ltd.
	SATO Yasuhiro (part-time)	Senior Advisor of Mizuho Financial Group, Inc. Vice Chair, the Japan Business Federation (Keidanren)
	SHINOHARA Hiromichi (part-time)	Executive Advisor, Nippon Telegraph and Telephone Corporation (NTT) Vice Chair and Chair of the Committee on Digital Economy, the Japan Business Federation (Keidanren)
	SUGA Hiroaki (part-time)	Professor, The Department of Chemistry, Graduate School of Science, The University of Tokyo Professor, Research Center for Advanced Science and Technology, The University of Tokyo Council Member, Science Council of Japan (SCJ) Director, MiraBiologics Inc.
	HATANO Mutsuko (part-time)	Professor, Department of Electrical and Electronic Engineering, School of Engineering, Tokyo Institute of Technology Senior Aide to the President, Tokyo Institute of Technology Section Manager, Quantum Beam Science Research Directorate, National Institutes for Quantum Science and Technology President, The Japan Society of Applied Physics Member, Science Council of Japan (SCJ)
	FUJII Teruo (part-time)	President of the University of Tokyo
KAJITA Takaaki (part-time)	President of the Science Council of Japan (SCJ) (The head of an affiliated organization)	

Source: Prepared by the Cabinet Office

## 1 Major Initiatives of CSTI in FY2022

The Council for Science, Technology and Innovation (CSTI) has been discussing policy, budgets, and systems. Such discussions address the following: 1) the establishment of the Integrated Innovation Strategy 2022 (approved on June 3, 2022 by Cabinet Decision), and 2) the operation of SIP<sup>1</sup> and the Public/Private R&D Investment Strategic Expansion Program (PRISM<sup>2</sup>).

In FY2022, CSTI discussed the topic “advance the direction of science, technology, and innovation policies” on February 8, 2023, based on three cornerstones (strategic promotion of advanced science and technology, enhancement of knowledge bases (research capabilities) and human resource development, and creation of an innovation ecosystem). CSTI also revised the “Package for Comprehensive Promotion of Research Universities with a Regional Core and Distinctive Characteristics.”

## 2 Changes in the Number of Papers and Number of Adjusted Top 10% Papers Strategically Prioritizing the Science and Technology Budget

The Council for Science, Technology and Innovation (CSTI) prioritizes important fields and policies when allocating the government’s overall science and technology budget, and—in an effort to reliably execute the Basic Plan and Integrated Innovation Strategy—the council considers a bird’s eye view of the science, technology, and innovation policies when drafting the budget and provides leadership related to the initiatives of related ministries and agencies.

### 1 Science and Technology Budget Allocation Policy

Under the Basic Plan, which shows the direction

of the government’s medium to long-term policy, the CSTI considers changes in the situation every year, indicates which initiatives should be prioritized each year, and formulates a policy based on the above for prioritizing the allocation of the government’s overall science and technology budget to important fields and policies while also executing the corresponding PDCA cycle, etc.

### 2 Promotion of the Strategic Innovation Promotion Program (SIP)

SIP is a program that enables the CSTI to utilize its control tower functions to overcome barriers between ministries and agencies as well as industries, universities, and governments to comprehensively tackle multidisciplinary research and development, including everything from basic research to implementation (practical application and commercialization). Under the policy stipulated by the CSTI, the “funds for promoting the creation of science and technology innovation” (FY2022: 55.5 billion yen) reported to the Cabinet Office are secured as financial resources.

Regarding the 12 issues of SIP phase 2, the program is up to its fifth year, and the council therefore organized the results of research related to each issue while also achieving social implementation or working on developing systems aimed at doing so in the case of certain topics. In addition, in terms of SIP phase 3, based on the 6th Basic Plan, the council determined 15 candidate issues related to achieving the country’s vision of the future by the end of 2021 (Society 5.0). The council also set up a task force (TF) for considering the situation—which consists of a publicly recruited program director (PD) candidate as the chair, experts on various sub-issues, etc., related ministries and agencies, resource promotion corporations, and others—and conducted a

<sup>1</sup> Cross-ministerial Strategic Innovation Promotion Program  
<sup>2</sup> Public/Private R&D Investment Strategic Expansion Program

feasibility study (FS). Based on the results of the FS, the council conducted a preliminary evaluation, decided on 14 issues at the meeting of the CSTI governing board held on January 26, and formulated a Social Implementation Strategy and Research and Development Plan (Strategy and Plan) (tentative) for each issue. The council announced the formulated Strategy and Plan as a public comment in February and then made the final decision in March along with the PD in charge of inviting applications for funding. On March 17, SIP/PRISM Symposium 2022<sup>1</sup> was held.

**3** Promotion of the Public/Private R&D Investment Strategic Expansion Program (PRISM) and Social Implementation via a Program for “Bridging the Gap Between R&D and the Ideal society (society 5.0) and Generating Economic and social value” (BRIDGE)

PRISM is a program established in FY2018 with the aim of directing the policies of various government ministries and agencies to areas that are highly effective in inducing private investment and areas where government spending is expected to be more efficient through the utilization of R&D results. According to the various strategies decided by the Council for Science, Technology and Innovation (CSTI), the funds are being allocated focusing on the fields of AI technologies, innovative technologies for construction/infrastructure maintenance and disaster prevention/mitigation,

biotechnologies, and quantum technologies, and additional allocations were made to 33 policies in these four fields in FY2022. In FY2022, the existing PRISM framework was utilized to conduct a review aimed at not only developing technologies but also strengthening the policies of ministries and agencies aimed at achieving social implementation, and—given that the purpose of this was to create a bridge to social implementation—the name was also changed to “BRIDGE.” The plan is to continue to use BRIDGE to expand public/private investment in research and development, such as by resolving social issues related to innovative technologies, creating new technologies, and promoting innovation related to ministries and agencies, including not only various strategies formulated or revised by the CSTI but also important issues set by the council every year, such as improving the business environment and creating startups.

**4** Promotion of the Moonshot Research and Development Program

Under the Moonshot Research and Development Program<sup>2</sup>, the government sets ambitious goals that fascinate people (Moonshot Goals) to address important social challenges including the super-aging society and global warming, and to promote aggressive R&D. CSTI decided Moonshot goals #1 to #6 in January 2020, and the Headquarters for Healthcare Policy decided Moonshot goal #7 in July 2020. Goals are added in response to changes in the social

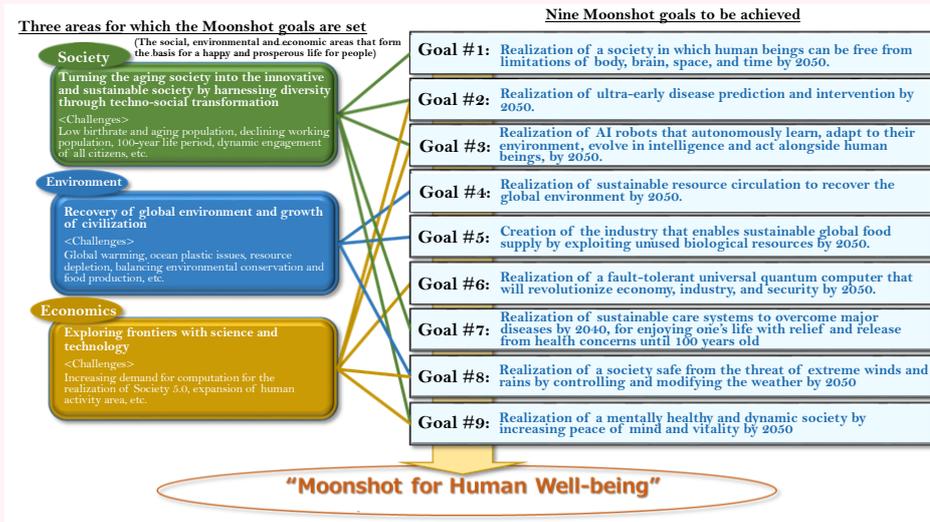
<sup>1</sup> SIP/PRISM Symposium 2022 event report (video contents, etc.)  
<https://www8.cao.go.jp/cstp/stmain/20230331sipsymposium.html>



<sup>2</sup> The Moonshot Research and Development Program  
<https://www8.cao.go.jp/cstp/english/moonshot/top.html>



Figure 2-1-2/Moonshot Research and Development Program



Source: Prepared by the Cabinet Office

environment and other factors under this program. CSTI determined the new Moonshot Goals #8 and #9 in September 2021, considering the transformation in the economy and society due to the COVID-19 pandemic and the climate change issue, based on investigative research conducted by young researchers (57th Plenary Session of CSTI). Based on the approach of human-centered society presented at the Visionary Council on the Moonshot Research and Development Program, the program ultimately aims for well-being of each and every person.

At the end of May of FY2022, research and development were launched in relation to the two

new goals decided on in FY2021 (goals #8 and #9). In addition, to enhance R&D capacity so as to win in an arena of intensifying international competition, the CSTI publicly recruited new research and development project managers (PMs)<sup>1</sup> in relation to goals #1, #3, #4, #6, and #7 and then started up research and development around autumn. The council also steadily promoted research and development aimed at achieving the above goals and reported on the progress at Moonshot Research and Development Program strategy promotion meetings made up of industry-university-government representatives.

<sup>1</sup> Research and development project  
<https://www8.cao.go.jp/cstp/english/moonshot/top.html>



### 3 Evaluation of Nationally Important Research and Development

To comprehensively and systematically promote Japan's science and technology policies based on article 26-1-3 of the Cabinet Office Establishment Act (law number 89 of 1999), the CSTI evaluates nationally important research and development, including large R&D development projects<sup>1</sup> implemented by ministries and agencies.

In addition, based on article 5 of the Act on Special Measures Concerning Promotion of Research and Development, etc. by Specific National Research and Development Agencies (law number 43 of 2016) and the Act on Special Measures for the Reconstruction and Revitalization of Fukushima (law number 25 of 2012), the CSTI has expressed opinions on the new medium-term goal proposal for the Fukushima Institute for Research, Education and Innovation, which was established in FY2023, for the final year of the medium to long-term goal period of the designated national research and development agency (NARD) in terms of the outlook evaluation from the perspective of the linkage of the Basic Plan, etc. with the national strategy as well as the next medium to long-term goal proposal.

(1) CSTI opinion on the outlook evaluation, etc. for the end of the medium to long-term goal period of the designated national research and development agency (NARD) (decision and notification dated November 18, 2022)

The CSTI formulated its opinion on the outlook evaluation, etc. for the end of the medium to-long term goal period of the National Institute for Materials Science (NIMS) in FY2022 and notified the Minister of Education, Culture, Sports, Science and Technology, who has jurisdiction over this corporation.

(2) Opinion of the CSTI on the next medium to

long-term goals (proposal) of the designated national research and development agency (NARD) (decision and recommendation dated February 27, 2023)

The CSTI formulated its opinion on the next medium to long-term goals (proposal) (April of 2023 to March of 2030) of the National Institute for Materials Science (NIMS), which was advised by the Minister of Education, Culture, Sports, Science and Technology, and issued a recommendation to the Minister of Education, Culture, Sports, Science and Technology, who has jurisdiction over this corporation.

(3) Opinion of the CSTI on the medium-term goals (proposal) of the Fukushima Institute for Research, Education and Innovation (decision and recommendation dated March 10, 2023)

The CSTI formulated its opinion on the medium-term goals (proposal) (April of 2023 to March of 2030) of the Fukushima Institute for Research, Education and Innovation, which was advised by the Prime Minister, the Minister of Education, Culture, Sports, Science and Technology, the Minister of Health, Labor and Welfare, the Minister of Agriculture, Forestry and Fisheries, the Minister of Economy, Trade and Industry, and the Minister of the Environment, and issued its recommendation.

In addition, based on the Guideline for Evaluation of Research and Development in MEXT (decided on by the Minister of Education, Culture, Sports, Science and Technology on June 20, 2002, with the final revision on April 1, 2017)—which was revised in line with the National Guideline on the Method of Evaluation for Government R&D (decided on by the Prime Minister on December 21, 2016)—the Ministry of Education, Culture, Sports, Science and Technology aims to ensure the effective, efficient

<sup>1</sup> Research and development projects that involve total national expenditure of at least 30 billion yen and that need to be evaluated by the Expert Panel on Evaluation given their importance in terms of Japan's science and technology policies

promotion of outstanding research and development by evaluating research and development issues through the Council for Science and Technology (CST) Subdivision on Research Planning and Evaluation and by conducting more effective research and development evaluations, such as through repeated discussions and trials aimed at evaluating research and development programs.

#### 4 Major Agenda Items of Expert Panels, etc.

##### 1 Expert Panel on Evaluation

The 6th Basic Plan calls for an “understanding of progress based on the use of indicators as well as ongoing evaluations by the Expert Panel on Evaluation,” so the Expert Panel on Evaluation system was reviewed.

In FY2021, the Expert Panel on Evaluation, which had a new system, tried investigating and considering the Basic Plan’s goal of “restructuring research to achieve more diverse and outstanding research.”

Goals starting in FY2022 include increasing the number of target cases covered by the Basic Plan while also gaining a better understanding of progress and increasing the sophistication of the

evaluation program.

In addition, in terms of conventionally implemented evaluations of nationally important research and development, the Expert Panel on Evaluation also started implementing evaluations aimed at ensuring that the endpoint setting and evaluation criteria approach for ministry evaluations is consistent with the Basic Plan and Fundamental Guidelines.

##### 2 Expert Panel on Bioethics

In February of 2022—based on discussion by the Expert Panel on Bioethics concerning the policy for handling fertilized human embryos given the progress of science and technology and other considerations—the panel compiled the Report (Tertiary) Concerning the Review of the Basic Policy on the Handling of Human Embryos: Details on the Use of Genome Editing Technologies, etc. to Create New Embryos for Research Use. In the future, the Expert Panel on Bioethics will consider the situation based on evaluations of both the latest scientific knowledge and social validity in cases where new fertilized human embryo technologies appear or bioethical issues arise in connection with the relevant science and technology.

## Section 3 Integrated Innovation Strategy

The Japanese Government has been formulating the “Integrated Innovation Strategy” for cross-departmental and integrated promotion of related measures toward realization of Society 5.0. This strategy has been reviewing related measures after analyzing the situation surrounding science and technology innovations in Japan and abroad during the year, and identifying the needs for strengthening and new tasks to tackle.

The “Integrated Innovation Strategy 2022,” formulated in FY2022, is the second annual strategy positioned as an implementation plan of the 6th Basic Plan. This strategy clearly delineates the science, technology, and innovation policies to be implemented in the next year based on changes surrounding science, technology, and innovation, including international competition as well as measures to address the issue of climate change.

The three policies below are the pillars of Integrated Innovation Strategy 2022, and the government is attempting to mutually link these pillars as it effectively and efficiently promotes policies to achieve a virtuous cycle of growth and distribution.

### ① Enhancement of the knowledge base (research capabilities) and human resource development

The Japanese government is taking the opportunity presented by the 10-trillion-yen University Endowment Fund to support university reform and doctoral students, promote regional universities, further promote STEAM education, and sustainably create the knowledge that will serve as the source of future innovation and value creation.

### ② Creation of an innovation ecosystem

The Japanese Government will bring startups to the forefront as bearers of innovation, and will return the benefits of science, technology, and innovation to the Japanese people, society,

and communities.

### ③ Strategic promotion of advanced science and technology

The Japanese Government is developing technologies that will create Japan’s Scenario to Goals through new AI/quantum strategies and a think tank, and implementing the program to foster critical and emerging technologies for economic security and SIP for the next term.

In addition, in the quantum field—which Japan is strategically working on—as the external environment changes in recent years, including intensifying international competition surrounding the quantum industry, Japan has formulated its Vision of Quantum Future Society (Decision of the Integrated Innovation Strategy Promotion Council on April 22, 2022) to achieve the future social implementation of quantum technologies and enhance the quantum industry by securing Japan’s competitive superiority and building strong relationships with volunteer countries. Under the Quantum Technology and Innovation Strategy, which was formulated in January of 2020, and this vision, the government is vigorously promoting comprehensive, strategic initiatives related to collaborative public/private quantum technology innovation.

In addition, the government has formulated the AI Strategy 2022 (Decision of Integrated Innovation Strategy Promotion Council on April 22, 2022) as a new national strategy in the AI field. This strategy focuses on the importance of taking action against large-scale disasters, etc., while keeping in mind implementation in society by companies in particular as it sets new goals—improvement of the reliability of AI, enhancement of data, environmental improvements such as securing human resources, etc.—and promotes the corresponding initiatives.

Section 4

Science, Technology, and Innovation Administration System and Fund Cycle Invigoration

**1 Science, Technology, and Innovation Administration System**

Japan’s administrative organizations consider various recommendations by the CSTI, and then—based on their individual jurisdictions—related administrative offices promote research by national experiment and research institutions, national research and development agencies, universities, etc. as well as research by various research programs, set up related research and development organizations, and take similar measures.

The Ministry of Education, Culture, Sports, Science and Technology creates concrete field-specific research and development plans, makes administrative adjustments related to the science and technology of related administrative offices,

and comprehensively promotes initiatives that include conducting research and development in advanced, important science and technology fields as well as fleshing out and enhancing creative basic research. In addition, in accordance with advice from the Minister of Education, Culture, Sports, Science and Technology, the Council for Science and Technology (CST) investigates and discusses critical issues related to the comprehensive promotion of science and technology as well as academic promotion while also providing opinions to the Minister of Education, Culture, Sports, Science and Technology.

Table 2-1-3 shows the decisions made and reports provided by CST.

■ Table 2-1-3/Major Decisions Made and Reports Provided by the Council for Science and Technology (CST) (FY2022)

Date	Major report, etc.
July 8, 2022	[Subdivision on Research Planning and Evaluation] Vision for Research and Development in the Field of Aeronautical Science and Technology
August 18, 2022	[Subdivision on Research Planning and Evaluation] Field-Specific Research and Development Plan
August 30, 2022	[Subdivision on Ocean Development] Vision for Future Ocean Science and Technology (Proposal): the United Nations Decade of Ocean Science and Related Major Basic Plan Considerations
December 20, 2022	[Subdivision on Ocean Development] Vision for Future Scientific Ocean Drilling (Proposal)
December 28, 2022	[Nuclear R&D, Infrastructure and human resource Working Group, Committee on Nuclear Science and Technology, Subdivision on Research Planning and Evaluation] Current Situation and Issues of Japan's Test Research Reactors and the Direction of Future Initiatives (Interim Report)
January 23, 2023	[Committee on Human Resources] 11th Term Committee on Human Resources Discussion Report (Summary Report)
January 25, 2023	[Subdivision on Professional Engineer] 11th Term Subdivision on Professional Engineer Report on Professional Engineer System Reform [Committee on Information Science and Technology, Subcommittee on University Library Vision in the Age of Open Science] Vision for University Libraries in the Age of Open Science (Conclusion of Deliberation)
February 7, 2023	[Special Committee on Humanities and Social Science of the Subdivision on Science] Indicators for Monitoring Humanities and Social Science Research Results (Summary)

Created by MEXT

The Science Council of Japan (hereinafter referred to as the “SCJ”) is under the jurisdiction of the Prime Minister. It consists of 210 council members and approximately 1,900 associate members, and serves as the representative organization of the Japanese scientist community. The SCJ’s functions are to deliberate on important issues concerning science and help solve such issues, and to conduct coordination among scientific studies to achieve higher efficiency (Figure 2-1-4).

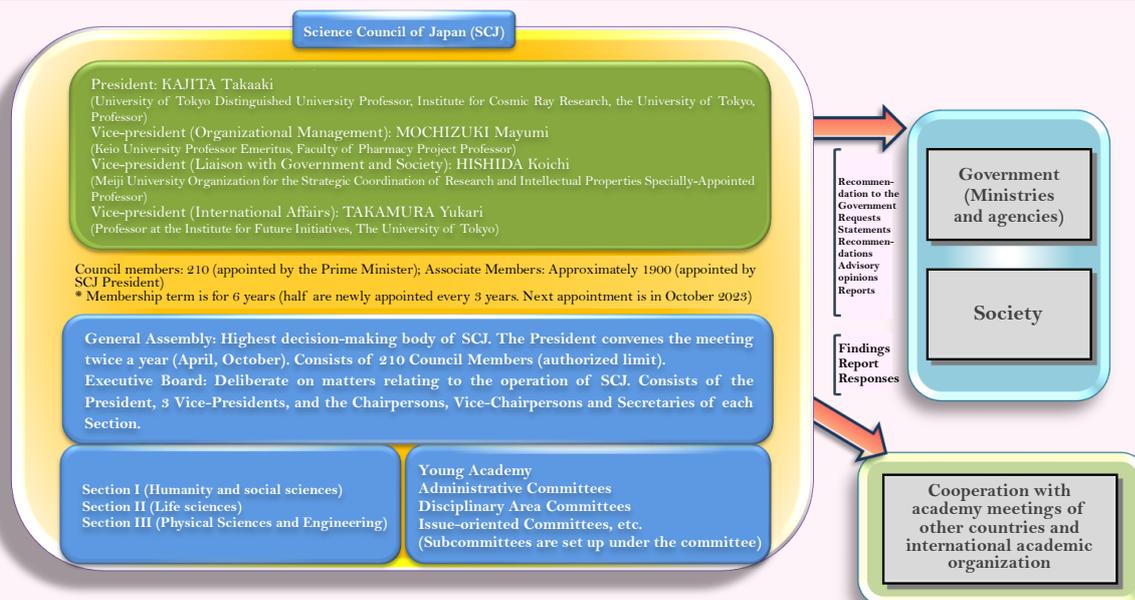
The SCJ has been working on improvements based on “the Future Prospects for the Science Council of Japan (the Advisory Panel for the New Prospects of the Science Council of Japan, March 2015).” The SCJ has once again conducted a self-assessment of the current situation and identified issues in order to enable the SCJ to play a better role and consider the origin of academies, and implemented specific initiatives for reforms (Towards better functioning of the Science Council of Japan (General Assembly of the SCJ, April 2021)).

Given the above, the SCJ amended its bylaws and

related regulations in January 2022, set up the Committee on Scientific Advice, and has been conducting activities based on these. In particular, the SCJ has addressed two requests for deliberation from the Cabinet Office ((1) Strengthening Research Capabilities – especially from the Perspective of Improving the Research Environment at Universities and Other Research Institutions (Response published on August 5, 2022) and (2) Promoting Research DX – especially from the Perspective of Promoting Open Science and Data Utilization (Response published on December 23, 2022)). The SCJ is also discussing a request for deliberation from the Ministry of Education, Culture, Sports, Science and Technology on the Peer Reviews of Research Papers (requested on December 27, 2022). Other expression of opinions issued by the SCJ includes one advisory opinion and three statements by the President of the SCJ in the 2022 fiscal year.

In addition, the SCJ is working on strengthening and utilizing networks within the scientist community such as partnership academic and research societies (2,118 organizations as of

■ Figure 2-1-4/Composition of the SCJ



Note: Current as of February 1, 2023  
 Source: Prepared by the Cabinet Office

the end of FY2022). The SCJ is also promoting engagement and communication outside the scientific community through various symposia, press conferences, and other events.

Furthermore, the SCJ promotes international academic exchange activities, such as representing Japan in 43 international academic societies, including the International Science Council (ISC<sup>1</sup>). In FY2022, the SCJ hosted nine co-organized international conferences in accordance with the verbal approval of the Cabinet Meeting. In May 2022, the G-Science Academies' Meeting was held in Berlin, and the SCJ worked in collaboration with G7 national academies to prepare and publish joint statements on four themes including climate

change and health. In March 2023, the SCJ hosted the G-Science Academies' Meeting and then led the efforts to prepare and publish joint statements on the three themes: climate change, health, and the oceans.

Regarding the modality of the SCJ, based on the "Compilation of the Policy Discussions on the Modality of Science Council of Japan" compiled in January 2022, etc., discussions proceeded from the perspective of what roles and functions the SCJ should fulfill in order to continue to be understood and trusted by the public, and in December 2022, the "Policy on the Modality of the Science Council of Japan," etc. were compiled and published.

### Column 1 Policy Recommendations by G7 National Academies (G-Science Academies' Meetings)

The G-Science Academies' Meeting (S7: Science 7) is an academic scientific meeting body launched in 2005 for the purpose of enabling national academies of G7 member countries to make policy recommendations for the G7 Summit meeting. Annually, the academy of the G7 presidency in the given year initiates the themes, coordinates joint statements, and hosts the relevant meetings.

In 2023, the SCJ hosted the G-Science Academies' Meeting 2023 as Japan held the G7 presidency. In light of the global challenges facing the international community, such as climate change and health issues, the G-Science Academies' Meeting 2023 adopted joint statements on three themes: Addressing Systemic Risks in a Changing Climate, Delivering Better Health and Well-being of Older People, and the Ocean and its Biodiversity.

On March 7, the SCJ organized a public symposium in Tokyo relating to the G-Science Academies' Meeting 2023. The symposium was attended by the presidents and other representatives from the G7 national academies as well as from the International Science Council (ISC), the Global Young Academy, and the national academy of India, the G20 chair country in 2023. Representatives delivered keynote speeches and held panel discussions on the themes of the joint statements.

On the same day, representatives of the G7 national academies made a courtesy call on Prime Minister KISHIDA Fumio, and in the presence of Mr. GOTO Shigeyuki, Minister of State for Economic and Fiscal Policy. Dr. KAJITA Takaaki, President of the SCJ, handed over the G-Science Academies' Meeting 2023 Joint Statement to Prime Minister KISHIDA.



Provided by: Science Council of Japan Secretariat, Cabinet Office

## 2 Fund Cycle Invigoration to Create Knowledge and Value

### 1 Science and Technology Budget

In Japan's initial budget for FY2022, the science and technology budget amounted to 4.2921 trillion yen, including a general account budget of 3.4881 trillion yen and a special account budget of 804 billion yen. In the supplementary budget for

FY2022, the science and technology budget amounted to 4.6064 trillion yen, including a general account budget of 4.4898 trillion yen and a special account budget of 116.6 billion yen. Table 2-1-5 shows the changes in the science and technology budget (initial budget), while Table 2-1-6 shows the science and technology budget by ministry/agency.

Table 2-1-5/Changes in the Science and Technology Budget

(Unit: hundreds of millions of yen)

Item		Year					
		FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Funds for promoting S&T (A)		13,045	13,175	13,597	13,639	13,638	13,787
	Year-on-year change %	100.9	101.0	103.2	100.3	100.0	101.1
Other research-related funds (B)		15,339	17,340	20,584	22,054	19,780	21,094
	Year-on-year change %	100.7	113.0	118.7	107.4	89.7	106.6
Science and technology budget in the general account budget (C) = (A) + (B)		28,384	30,515	34,182	35,693	33,418	34,881
Year-on-year change %		100.8	107.5	112.0	104.5	93.6	104.4
Science and technology budget in the special account budget (D)		7,497	7,908	8,237	8,094	7,776	8,040
Year-on-year change %		99.8	105.5	104.2	98.3	96.1	103.4
Science and Technology Budget (E) = (C) + (D)		35,881	38,423	42,419	43,787	41,194	42,921
Year-on-year change %		100.6	107.1	110.4	103.3	94.1	104.2
National general account budget (F)		974,547	977,128	1,014,571	1,026,580	1,066,097	1,075,964
Year-on-year change %		100.8	100.3	103.8	101.2	103.8	101.0
National general expenditure budget (G)		583,591	588,958	619,639	634,972	669,023	673,746
Year-on-year change %		100.9	100.9	105.2	102.5	105.4	100.7

Note: 1. The table shows initial budget amounts for each fiscal year.

2. Various indicated totals might not match due to rounding.

Source: Prepared by the Ministry of Education, Culture, Sports, Science and Technology based on Cabinet Office and Ministry of Finance data

Table 2-1-6/Science and Technology Budget by Ministry/Agency

(Unit: hundreds of millions of yen)

Item	FY2021 (initial budget amount)				FY2021 (supplementary budget amount)				FY2022 (initial budget amount)				FY2022 (supplementary budget amount)				
	Name of the ministry, agency, etc.	General account budget	Funds for promoting S&T	Special account budget	Total amount	General account budget	Funds for promoting S&T	Special account budget	Total amount	General account budget	Funds for promoting S&T	Special account budget	Total amount	General account budget	Funds for promoting S&T	Special account budget	Total amount
National Diet	12	11	-	12	-	-	-	-	-	12	11	-	12	-	-	-	-
Cabinet Secretariat	653	-	-	653	222	-	-	222	626	-	-	626	199	-	-	-	199
Cabinet Office	1,159	882	-	1,159	2,066	1,746	-	2,066	1,223	953	-	1,223	2,895	2,397	-	-	2,895
National Police Agency	23	21	-	23	-1	-1	-	-1	22	20	-	22	3	3	-	-	3
Financial Services Agency	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	6
Consumer Affairs Agency	30	-	-	30	3	-	-	3	30	-	-	30	-	-	-	-	-
Digital Agency	-	-	-	-	3	-	-	3	53	-	-	53	55	-	-	-	55
Reconstruction Agency	-	-	275	275	-	-	-	-	-	-	299	299	-	-	-	-	-
Ministry of Internal Affairs and Communications	1,133	598	-	1,133	1,320	677	-	1,320	1,065	661	-	1,065	880	788	-	-	880
Ministry of Justice	12	-	-	12	-	-	-	-	11	-	-	11	-	-	-	-	-
Ministry of Foreign Affairs	156	-	-	156	2	-	-	2	345	-	-	345	30	-	-	-	30
Ministry of Finance	11	10	-	11	-	-	-	-	11	10	-	11	1	1	-	-	1
Ministry of Education, Culture, Sports, Science and Technology	19,510	8,844	1,088	20,598	11,436	10,664	82	11,518	19,514	8,863	1,086	20,599	11,288	6,978	148	-	11,436
M H L W	1,610	667	178	1,787	2,945	30	-	2,945	2,205	647	658	2,863	551	52	-	-	551
Ministry of Agriculture, Forestry and Fisheries (M A F F)	1,949	943	-	1,949	495	88	-	495	1,997	943	-	1,997	322	93	-	-	322
M E T I	1,713	1,090	4,932	6,645	14,495	10,101	1,811	16,306	1,722	1,104	4,708	6,430	27,631	17,588	759	-	28,390
Ministry of Land, Infrastructure, Transport and Tourism (M L I T)	3,904	281	110	4,013	322	83	-	322	3,963	284	95	4,058	1,016	117	-	-	1,016
Ministry of the Environment	404	289	1,193	1,597	35	33	383	418	436	290	1,193	1,630	19	14	259	-	278
Ministry of Defense	1,139	-	-	1,139	-	-	-	-	1,645	-	-	1,645	-	-	-	-	-
<b>Total</b>	<b>33,418</b>	<b>13,638</b>	<b>7,776</b>	<b>41,194</b>	<b>33,345</b>	<b>23,421</b>	<b>2,277</b>	<b>35,622</b>	<b>34,881</b>	<b>13,787</b>	<b>8,040</b>	<b>42,921</b>	<b>44,898</b>	<b>28,031</b>	<b>1,166</b>	<b>-</b>	<b>46,064</b>

Notes: 1. The indicated supplementary and initial budget amounts are not calculated using the same criteria. Instead, each ministry and agency calculates these figures based on its own discretion.

2. Various indicated totals might not match due to rounding.

Source: Prepared by the Ministry of Education, Culture, Sports, Science and Technology based on Cabinet Office data

## ② Tax System Measures to Promote Private Research and Development Investment

In Japan, private companies account for approximately 70% of the total amount of investment in research and development. To maintain or increase such investment while also

encouraging medium to long-term research and development aimed at achieving innovation, the government has set up an R&D Tax Credit System.

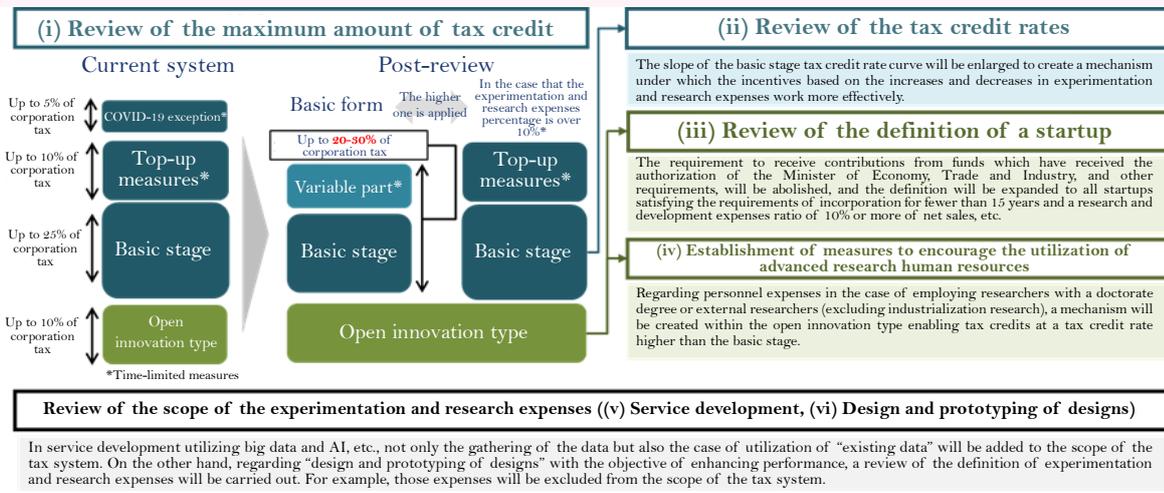
The R&D Tax Credit System enables companies engaged in research and development to deduct a certain percentage of their testing and research

expenses from their corporate taxes.

To ensure that this system encourages the achievement of innovation by Japan, the government continuously review the system. Under the FY2023 tax reform plan (Cabinet decision dated December 23, 2022), the government decided to review the maximum deduction and deduction rate, strengthen

incentives to invest in research and development, define and review research and development startups targeting joint research, etc., implement measures to encourage the utilization of advanced research personnel, review the scope of testing and research expenses, and make other revisions (Figure 2-1-7).

■ Figure 2-1-7/R&D Tax Credit System (Measures for the Period from April of 2023 to the end of FY2025)



Source: Prepared by the Ministry of Economy, Trade and Industry