FY2023

RISTEX R&D Programs
Solution-Driven Co-creative R&D Program for SDGs (SOLVE for SDGs)
:Trust formation from social aspects in the information society

Call for R&D Proposals

[Application Guidelines]

Application Call Period

April 25 (Tue.) ~ Noon (12:00, Japan time) on June 28 (Wed.), 2023

Note: This translation is provided as a reference material. If there is any discrepancy between this translated version and the original Japanese version, the original Japanese version prevails.

Research Institute of Science and Technology for Society (RISTEX)
Japan Science and Technology Agency (JST)
April 2023

RISTEX R&D Programs
“Solution-Driven Co-creative R&D Program for SDGs (SOLVE for SDGs)
: Trust formation from social aspects in the information society”

Overview of the FY2023 Call for R&D Proposals

The main schedule for call for R&D proposals and selection (FY2023) is as follows. The schedule is subject to change in the future, so be sure to confirm the latest information on the specified website.

RISTEX “Call for R&D Proposals” website:

https://www.jst.go.jp/ristex/proposal/proposal_2023.html

Applications will be made through the Cross-ministerial R&D Management System (e-Rad) (Please refer to “4.6 Application Method.” Applications by paper, postal mail, express parcel delivery and/or email will not be accepted).

e-Rad will experience higher than normal volume near the application deadline. As a result, applicants may find it difficult to complete submission procedures depending on the work and application environment of the proposal. Please give yourself adequate time for submission. A withdrawal of an application through e-Rad after the deadline cannot be processed. JST will not accept proposals for which the application process has not been completed in e-Rad by the deadline for any reason.

The title and affiliation of the applicant in e-Rad should match that provided in the R&D proposal. Please note that the application of a R&D proposal uploaded to e-Rad will not be accepted if it contains defects making the review of the proposal difficult. “A defect making the review of the proposal difficult” refers to omission of proposal application forms, character corruptions that make it difficult to read, and omissions of important items on the application forms.

Furthermore, JST is not responsible for any defects in a R&D proposal that may occur before the submission deadline, regardless of whether the proposal was received or not. As such, all R&D proposal applicants must understand that JST will not modify the R&D proposals with prior confirmation from the applicants or request the applicant to make any revisions to their R&D proposals before the R&D proposal submission deadline.

■ Selection Schedule

Call begins	April 25 (Tue.), 2023
Briefings of solicitation	April 27 (Thu.) 2023 Online Meeting Details will be posted on the proposal application website. （https://www.jst.go.jp/ristex/proposal/proposal_2023.html）
Application deadline *1	Noon (12:00 p.m., Japan time) on June 28 (Wed.), 2023 (No delays accepted)
Notification of document screening results	Mid-August(planned)
Interview screening *2	September 1 (Fri.) and 4 (Mon.), 2023 (planned)
Candidates interview with the Program Supervisor	September 29 (Fri.) and October 11 (Wed.), 2023 (planned)
Notification and anouncement of selection results	Late October 2023 (planned)
Start of research and development	Early November 2023 (planned)

*1 Deadline for submitting applications through the Cross-ministerial R&D Management System (e-Rad).

*2 Interview screening will be held online using Zoom, etc.

■ Other Considerations

a. Proposers eligible for the interview after document screening will be notified in writing and informed regarding the guidelines for the interview, date and time, and additional documents to be submitted. During the interview, the Proposer (Principal Investigator) will be asked to explain the concept of his/her R&D project.
b. The Principal Investigator will be notified of the results of document screening and interview screening regardless of if they are accepted or not.
c. In addition to the above, please make sure that your e-mail address and phone number registered in the e-Rad are available for receiving and sending, as JST may contact the Proposer.
d. The Principal Investigator must have completed the educational program on research integrity at the time of proposal application. For details, please refer to “4.5 Requirements for Application” and “6.1 Enrolling in and Completing the Educational Program on Research Integrity.”

When submitting a proposal, please carefully check the application guidelines for the Call for R&D Proposals. We Are Waiting for Your Application.

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Chapter1. Introduction to the Call for R&D Proposals

1.1 Overview of RISTEX R&D Programs

The Research Institute of Science and Technology for Society (RISTEX) of the Japan Science and Technology Agency (JST) seeks to create new social and public value through solving specific social problems. By building networks of stakeholders and R&D participants who engage in solving social problems, and promoting research and development (R&D) that makes use of knowledge in natural sciences, humanities and social sciences (HSS) under a competitive environment, we aim to obtain outcomes that will lead to practical solutions to problems in the actual society and to promote utilization of obtained outcomes in wider society.

In the JST RISTEX R&D Programs, RISTEX sets up R&D Focus Areas and Programs (referred to as “Focus Areas and Programs”) which it considers important in solving social problems, calls for proposals and promotes those selected as R&D projects.

The management of Focus Area and Program is performed by the Program Supervisor with the cooperation of Program Advisors. Principal Investigators and R&D participants conduct R&D within the institutions with which they are affiliated under the Program Supervisor’s management.

This program corresponds to the project name in the Competitive Research Fund System list on the Cabinet Office website (https://www8.cao.go.jp/cstp/compefund/index.html).

○ **Program Supervisor**

The Program Supervisor performs management of the Program as the person responsible for the operation of R&D that contributes to achieving the program targets.

○ **Assistant Program Supervisor**

The Assistant Program Supervisor is delegated by the program supervisor to act on behalf of some of the Program Supervisor's roles.

○ **Program Advisor**

The Program Advisor provides appropriate advice to the Program Supervisor from an expert perspective.

The Program Supervisor, Assistant Program Supervisor, and Program Advisor monitor the progress

of the project through site visits, etc., and provide guidance and advice while respecting the independence and autonomy of the R&D team. They also conduct project selection, approval of R&D plans, and post-evaluation. In addition, project activities and results will be made public to provide opportunities to promote networking and to incorporate external opinions.

○ **Principal Investigator**

The Principal Investigator represents the project and has overall responsibility for the project. The Principal Investigator performs suitable management of implementation of R&D and appropriately manages the outcomes and overall R&D expenses of the project with R&D institution.

1.2 For Researchers Considering Applying for or Participating in the Programs

1.2.1 Contribution to the Accomplishment of Sustainable Development Goals (SDGs)

JST to contribute to the accomplishment of SDGs!

At the “United Nations Sustainable Development Summit” held in September 2015, “Transforming our world: the 2030 Agenda for Sustainable Development” was unanimously adopted; the document was an achievement with “SDGs” at the core as a further comprehensive and new action target common to the world for the human beings, the Earth, and the welfare. The seventeen goals in the SDGs do not only indicate various problems in relation to the sustainability that is facing the humankind but also demand that those problems be solved comprehensively and in an integrated way. It is expected that scientific and technological innovation solves such social problems, and that scientific evidence is provided to contribute to the formulation of excellent policies. We can say that these roles conform to “the science in the society and the science for the society,” a new task of the science that was declared in “World Declaration on Science and the Use of Scientific Knowledge” (Budapest Declaration*), adopted at International Council for Science in 1999. As a core organization to promote the science and technology policies in Japan, JST promotes advanced fundamental research and works on the research and development of a problem-solving type to meet the requests from the society. SDGs are one of the worldwide objectives that can itemize all JST missions. We, in the course of the JST programs, want to collaborate with industries, academia, government agencies, and private enterprises and cooperate with researchers to realize a sustainable society.

President, Japan Science and Technology Agency (JST)

*The Budapest Declaration states that “science for knowledge,” “science for peace,” “science for development,” and “science in society and science for society” are the responsibilities, challenges, and obligations of the science in the 21st century.

1.2.2 Promotion of Diversity

JST Promotes Diversity!

The diversity is essential requisite for promotion of scientific and technological innovations. It is possible to open a new perspective of science and technology by the collaboration and discussion with various stakeholders having different specialties and values, irrespective of gender and nationality.

JST is, by promoting advances in diversity in its all activities in science and technology, undertaking possible problems of our future society, contributing to the strengthening of industrial competing power of Japan as well as to the enrichment of spiritual happiness of people. Our activities in this field accord with the “Sustainable Development Goals (SDGs)” agenda of the United Nations, in which goals relevant to diversity advancement are shown, including gender equality, contributing to efforts on our domestic problems but also to those on problems common to various countries.

Currently, the activity of woman is being positioned at the core of the Growth Strategy of the Japanese Government, being started as “the largest potential of Japan” in the strategy paper. Expanding the participation of woman researchers in R&D projects is substantially important for advancing research and development, as they are a party of various researchers supporting science and technology innovations. JST is expecting that woman researchers would take this opportunity, positively and will apply to our Strategic Basic Research Programs, actively. JST is undertaking the

improvement of our “Childbirth, Child-raising, Nursing Care Support System,” to constantly, based on the voice of the system users, creating environments enabling a researcher on leave to return his/her research, for example.

The call for and review of R&D proposals will be conducted also from a viewpoint of advancing diversity. Our dear researchers, we cordially invite you to the call for R&D proposals.

President, Japan Science and Technology Agency (JST)

We Are Waiting for Your Application!

JST is promoting diversity in research, based on our perspective that the diversity is for understanding of other researchers having ideas different from yours, and for creation of new values by combining your and their ideas. The diversity thus has potentials to give solutions not only to the domestic problems but also to problems common in all nations across the world. Therefore, JST is undertaking the societal problem of the globe such as the Sustainable Development Goals (SDGs), through the promotion of diversity in research, collaborating with foreign institutions.

JST is promoting the diversity by ensuring the activities of women researchers, of course young researchers, and foreign researchers having foreign citizenship. To ensure that each researcher is fully able to exercise his/her skills, JST is providing continual supports for childbirth, childcare, and homecare of elderly relatives, and also endeavoring to maintaining a balanced membership composition in committees and alike. JST especially welcomes the application of women researches to our program, from whom we cannot have so many R&D proposals in previous years, to realize environments where various kinds of researcher can work, cooperating and competing with each other. Through these activities, JST is pursuing the creation of new values.

We are sincerely waiting for your active applications, especially those form woman researchers.

Director of Diversity and Inclusiveness
Director of the Office for Diversity and Inclusiveness
Japan Science and Technology Agency (JST)

1.2.3 Toward the Promotion of Fair Research

Toward the Promotion of Fair Research

Recent incidents involving misconduct and dishonesty in research activities have resulted in an alarming situation that threatens the relationship of trust between science and society, and hinders the healthy development of scientific technologies. To prevent misconduct in research activities, there must be a function of autonomous self-purification in the scientific community. Each researcher must

strictly adhere to strict discipline and work to create new knowledge and inventions that are useful for society, based on high moral standards that meet the expectations of society.

As a funding agency for research, the Japan Science and Technology Agency (JST) considers research misconduct to be a grave issue and makes every effort to prevent it in cooperation with relevant organizations, with the goal of regaining public trust.

1. JST believes that honesty in research activities is extremely important for Japan, which seeks to develop itself through science and technology.
2. JST supports honest and responsible research activities.
3. JST strictly condemns any misconduct in research activities.
4. JST will promote education in research ethics and reform its research funding programs in cooperation with relevant organizations, in order to prevent misconduct.

We must develop a healthy scientific culture based on social trust, so as to build a society filled with hopes and dreams for a bright future. We therefore request the continued understanding and cooperation of the research community and related institutions.

President, Japan Science and Technology Agency (JST)

Chapter2. Concept of Program Supervisor in Solicitation and Selection

Program Supervisor：YUASA Harumichi

Professor, Graduate School of Global Governance, Meiji University

2.1 Current situation

Against the backdrop of the rapid development of artificial intelligence (AI) and information and communications technology (ICT), among other developments, digitalization is spreading throughout every aspect of society on a global scale. Japan's Fifth Science and Technology Basic Plan (FY2016-FY2020) (approved by the Cabinet on Jan. 22, 2016) proposed "a concept of Society 5.0, which will build a future society that brings affluence to people by fully utilizing ICT and integrating cyberspace and physical space." The Sixth Science, Technology, and Innovation Basic Plan (FY2021-FY2025) ((approved by the Cabinet on Mar. 26, 2021) clearly states the necessity of materializing this concept. In order to aggressively promote the digitalization of society, the Japanese government established the Digital Agency as the agency in charge in September 2021, and digital transformation aimed at realizing "human-friendly digitalization that leaves no one behind" is being promoted as a national strategy.

The digitalization of society will bring significant changes and benefits to people's lives, and it is expected that the level of convenience enjoyed in society will continue to improve in the future. However, at the same time we must look at the negative aspects of digitalization. Internet users exceed 80% of the population of Japan[1], and the average time spent online as an average for all generations is about 3 hours per day (5 hours per day on holidays and 4.5 hours on weekdays for those in their 20s, the group with the longest usage time)[2], and as the amount of data acquired from these habits increases dramatically, cyberspace is becoming the foundation of economic and social activities. On the other hand, as digital information distributed via the Internet and various information services that utilize digital technologies such as AI rapidly permeate people's lives, issues such as the difficulty of recognizing the authenticity of information and the difficulty of understanding advanced

[1]Ministry of Internal Affairs and Communications, "2021 Survey: Survey on Telecommunications Usage Trends" (May 27, 2022). The ratio of Internet users (individuals) in Japan rose from 21.4% in 1999 to 70.8% in 2005, increasing rapidly in the early 2000s, and has continued to expand since then, reaching 82.9% in 2021.

[2]Institute for Information and Communications Policy, Ministry of Internal Affairs and Communications, "FY2021 Survey Report on Usage Time of Information and Communications Media and Information Behavior" (August 26, 2022)

technologies are also emerging, as well as problems such as information overload and bias, and information contamination in which fake information is mixed into genuine information.

Amidst such changes in society, it is becoming increasingly difficult and risky for people to obtain and utilize the information they need from an enormous amount of information. Furthermore, as society has changed from one in which most people were in a position of only receiving information to a society in which anyone can become a provider of information, the risk of falling victim to fraud and other crimes is becoming more serious due to the intentional or unintentional engagement in distribution of disinformation, and increased impersonation of information providers, and this has brought about social issues such as increased worry and disadvantages to people when acquiring information from or utilizing the Internet.

On the other hand, looking at those involved in information provision, such as platform operations that provide spaces for media and online services, there are aspects of how they provide information to capture people’s interest and attention as a part of their business which makes it more difficult to improve the issues noted above. Furthermore, in addition to business purposes, there is an increasing number of information providers who make radical remarks in order to attract public attention, spread information in a “crime for pleasure” manner, or induce people to think in a certain way. One example of this is so-called outrage marketing, which aims to leverage people’s emotions such as anxiety, fear, and anger, rather than the quality and accuracy of the information, and which arose as a result of the increased value of attracting people’s interest and attention as the development of information society has progressed. Such information provision may induce radical behavior by those who receive the information and social division, which is a negative aspect of the attention economy.

With these changes in the way information is utilized and disseminated, it is becoming difficult for the sender of information and the information itself to be trusted by the recipients of the information and society. Unlike "old trust" that is supported by face-to-face human relationships and rules between people, this "trust" differs in that it relies on human relationships in virtual spaces as well as systems that use complex technologies such as AI and other “black boxes,” and combined with the advancement of “deception technologies” such as the generation of fake images, videos, and audio by AI and account impersonation, there is a growing number of cases that cannot be completely covered by “old trust,” which further complicates the problem.

In response to these problems, research and development of "digital trust" on the technical side, such as information preservation and tampering prevention, improvement of communications safety and security, and ensuring information traceability, has been actively promoted. However, looking at information-related “trust,” we can see that there are social aspects that cannot be resolved by

technological development alone. For example, regarding countermeasures against fake information and misinformation, research and development of AI-based fact-checking technology is not the only thing that is required; it is also necessary to take social initiatives such as investigating the actual state of fake information and misinformation, ensuring transparency and accountability by platform operations, and improving ICT literacy. In addition, when introducing new rules and regulations, for example, it is necessary to take into account considerations for freedom of expression and speech, as well as concerns about the application of laws and regulations, including those outside Japan, and there are a wide range of academic fields and social fields that need to be addressed. Various limitations have been pointed out with AI-based fact-checking technology, which is one of the countermeasures against fake information and misinformation, such as the difficulty of disseminating to many people the fact-checking results of information that is already in circulation, the difficulty of ensuring neutrality in fact-checking, and determining what is true for each information recipient; furthermore, a backfire effect can occur when a corrective fact result is presented to someone who strongly believes the original information. This is an example that cannot be addressed through technological development alone.

With the evolution of information technology and services due to the development of digital technology, new forms of crimes and disputes that were not envisioned when the laws were created are now emerging. In response to these issues, it may become necessary in the future to review laws and regulations in accordance with technology trends and other factors to ensure easier relief for victims while giving consideration to freedom of expression and confidentiality of communications. In a digital society that is changing at a dizzying pace, in order to realize “human-friendly digitalization that leaves no one behind,” it is necessary for both the sender and recipient of information to acquire literacy, but the appropriate approach varies depending on the target, such as school education, reskilling of working adults, and the digital divide of the elderly.

When these issues are viewed from a bird’s-eye perspective, they involve not only the recipient and sender side; people, organizations, and information services are also involved. By viewing this as an issue with the formation and maintenance of “trust” between the recipients and senders, and between recipients and information itself, and furthermore “trust” for the involved people, organizations, and information services, it is thought that more substantial problems can be solved which could not be achieved through technological development alone. Based on the above, this program promotes comprehensive initiatives, positioning “digital social trust” as “trust formation from social aspects in the information society,” which differs from technological digital trust.

Through the sound formation of this “trust,” we aim to create a society in which both the receiver

and sender of information can enjoy the benefits of the development of information technology while interacting with each other.

2.2 Required research and development

Based on the trends and perceptions described above, we define "trust" as "a state in which one does not believe the other party will fall short of their expectations[3]," and have organized the remaining issues in research and development to address this social issue and the direction of future research and development required as follows.

2.2.1 R&D that leads to problem solving in the field

The causes of information-related trust issues include: (1) the fact that the related fields are wide-ranging, such as law, economics, psychology, informatics, and education, and there is a lack of spaces for informed discussions with the frontlines, which directly face these issues, and a lack of opportunities to work on problem solving in an interdisciplinary manner, (2) the data necessary for research and development exists disproportionately at certain businesses, making it difficult to utilize, and (3) issues related to the income structure of businesses, such as the attention economy, which limit the number of researchers who can engage with the frontlines. Presently, there are not many examples of research and development being conducted in cooperation with the frontlines, such as people, local governments, media companies, and platform operations who face these social issues.

Therefore, it is necessary to have a program in which various people can participate to engage in exchange and expand personal networks while promoting research and development, and a program management structure with experts who understand each field and the circumstances of the people involved. Furthermore, it is important to be aware of the realization of mechanisms (research centers, research databases, etc.) to continue research and development after the program ends.

2.2.2 Necessity of R&D to identify issues on the frontlines

The above describes the necessity of research and development that leads to the resolution of frontline issues, but we also recognize the need for problem-specific research to clarify whether the issues themselves were identified based on sufficient evidence in the first place. As an example, we

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[3] For the definition of trust, see JST/CRDS Strategy Proposal "Formation of New Trust in Digital Society" CRDS-FY2022-SP-03, p.8

will use the contents of a report[4] compiled by the Royal Society in January 2022 on combating fake news. Thus far, problems such as "echo chambers" in which people are surrounded by similar opinions, and information bias due to "filter bubbles" that restrict the information that algorithms can see, have been pointed to as the background to the flood of fake information and misinformation. However, in a survey of seven Western countries (Austria, Denmark, Germany, Norway, Spain, the United Kingdom, and the United States), the “echo chamber" ratio of those who were exposed only to information from extremely partisan sources on the left or right was only about 5%. It has also been pointed out that "filter bubbles" tend to slightly increase the quantity of media that people come into contact with rather than bias, and at any rate "no research papers have been found to prove the filter bubble hypothesis."

In addition, regarding fake information / misinformation and infodemics, etc.:

・Mechanisms for the generation and spread of information that causes anxiety and disadvantage to people

・Ecosystems that generate economic benefits from the spread of information that causes anxiety and disadvantage

・Mechanism of trust formation between recipient and provider/mediator

・ Hypothesis that people with high IT literacy are more likely to fall into the filter bubble

・Literacy education that takes into account the contamination of information surrounding people

The above and other topics have not been sufficiently verified, and if the recognition of the issues is wrong, it will be difficult to apply appropriate solutions. Therefore, it is necessary to promote upstream research to clarify these issues.

In September 2022, the JST Center for Research and Development Strategy (CRDS) also made a strategic proposal[5] titled "Formation of New Trust in Digital Society." Based on the awareness that with the advancement of digitalization there is a growing number of cases that cannot be completely covered by “old trust” that is supported by face-to-face human relationships and rules between people, resulting in the deterioration of the role of trust in society, the need for research and development related to the creation of new mechanisms to solve such problems has been proposed. In particular, the issue of information trust as seen with fake information, misinformation, and “infodemics,” is considered to be an urgent issue at many frontline sites.

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[4] Royal Society "Report on Countermeasures against Fake News"
https://news.yahoo.co.jp/byline/kazuhirotaira/20220124-00278634
https://royalsociety.org/topics-policy/projects/online-information-environment/

[5] JST/CRDS Strategy Proposal "New Trust Formation in Digital Society" CRDS-FY2022-SP-03
https://www.jst.go.jp/crds/pdf/2022/SP/CRDS-FY2022-SP-03.pdf

Furthermore, the following points need to be clarified in upstream research.

- Verification of how appropriate the trust approach is
- Negative aspects of trust (e.g., division between those who formed trust and those who did not)
- Trust evaluation methods that go beyond mere authenticity judgment
- Methods for ensuring the costs and business feasibility of forming and maintaining trust (e.g., formation and maintenance of trust in fact-checking and continuity as a business)
- Collateral methods for when trust is damaged (insurance, guarantee mechanism, etc.)

2.2.3 Relationship with JST initiatives

In relation to the social issues targeted this time, RISTEX has been working in the Research and Development (R&D) Focus Area of "Human Information Technology Ecosystem (HITE) (FY2016-FY2023) to "reconsider information technology from a human-centric perspective and design systems and technologies in a collaborative manner in order to address the latent risks and concerns caused by advances in information technology" with the aim of conducting research to socialize such technologies. HITE focuses on upstream research that predicts the impact of information technology on society and discusses countermeasures based on ELSI/RRI.

In contrast, this program aims for research and development for implementation in society that will contribute to the resolution of problems on the frontlines, with a view to utilizing HITE research results and the research community. Specifically, the purpose of this program is to obtain verification findings for models (e.g., applicable regional characteristics and constraints) and methodologies for utilizing problem resolution measures in various organizations and regions, and the development and acquisition of those who will promote the measures.

JST's CREST "Fundamental Technologies Supporting Trusted AI Systems" and Precursory Research for Embryonic Science and Technology "Fundamental Technologies for Trusted AI" are both research areas centered on technological development, and differ from research and development that creates social mechanisms for problem resolution through an interdisciplinary approach, such as this program. However, it is also very important to collaborate with both fields in order to leverage the results of technological development.

2.3 Comprehensive knowledge approach subsuming problem understanding and problem solving, and research knowledge to frontlines knowledge

In Japan, the Basic Act on Science and Technology, the law that forms the basis of the Science and Technology Basic Plan, was revised in June 2020, and the name was changed to the Basic Act on

Science, Technology and Innovation in April 2021, and the promotion of Humanities and Social Sciences (HSS) and the creation of innovation were added to the scope of the law. The 6th Basic Plan for Science, Technology and Innovation (approved by the Cabinet on March 26, 2021) states that science, technology and innovation policy has become a policy that contributes not only to the promotion of science and technology (S&T), but also to the comprehensive understanding and problem solving of people and society through “comprehensive knowledge” that fuses HSS knowledge, which generates social value, and natural sciences knowledge. Subsequently, in April 2022, the “Basic Approach to Comprehensive Knowledge and Strategic Promotion Measures,” which had been repeatedly discussed at the Council for Science, Technology and Innovation Advisory Panel since July 2021, was announced as an interim report.

(https://www8.cao.go.jp/cstp/stmain/20220408.html)

As mentioned thus far, it is difficult to say that an approach of comprehensive knowledge has been broadly taken for the issue of "digital social trust," which is the information-related trust that this program is working on, because of the wide range of related academic fields, as well as the ubiquitous presence of workplaces and stakeholders facing specific issues throughout society.

In this program, in regard to research and development focusing on trust-related issues, we emphasize integration of research and development phases, such as the phase of developing measures for the understanding and problem identification of related mechanisms, and the phase of making efforts to implement them in society to solve problems, as well as fusing the research knowledge of interdisciplinary research that spans natural sciences, humanities and social sciences (HSS) and social sciences, with the frontlines knowledge of those facing specific issues. In order to implement problem solving in society, it is necessary to consider institutional design and social acceptance from the research and development stage, and since there can be multifaceted approaches such as the formation of rules in society such as regulations and rules, impact on the economy, and education such as literacy improvement, we expect proposals for progressive research and development in collaboration with various entities that can respond to these approaches.

Chapter3. Overview of R&D Program

3.1 Goal of the Program

At RISTEX, the R&D program titled “SOLVE for SDGs” is aimed at creating immediate solutions using existing technology seeds and deploying solutions to other regions for regional issues with complex and wide-ranging topics in order to achieve the SDGs. Since fiscal 2019, we have been implementing two types of activities for this program: the scenario creation phase and the solution creation phase. In addition, since social isolation and loneliness are one of the key aspects of the SDGs, we established "Prevention of Social Isolation and Loneliness and Building of Diverse Social Networks" under this program in fiscal 2021 and are promoting research and development.

Since the research and development on information trust issues, which is the topic of this program, aims to create solutions to social issues in the same way, we will promote research and development by establishing “Trust Formation from Social Aspects in the Information Society (Digital Social Trust).”

Regarding social issues such as people’s concern and disadvantages resulting from the acquisition and utilization of information generated by the development of an advanced information society, by identifying issues with trust between recipients and senders, or between recipients and information itself, as well as the formation of trust between the involved people, organizations, information technology, and services, this program aims to identify issues and develop solutions that will lead to more substantial problem solving.

To this end, we aim to create a society in which both the receiver and the sender can enjoy the benefits of the development of information technology while interacting with each other by promoting proposals and verification activities from research to implementation in society by taking approaches from multiple perspectives such as regulation, economics, technology utilization, and education, and utilizing "comprehensive knowledge" from related academic fields and the frontlines, and by forming sound "trust".

3.2 R&D targets

This program focuses on research and development that addresses the problems of trust as they relate to fake information, misinformation, and information seen in infodemics, in response to social issues created by an information-oriented society, as well as research and development that contributes to the resolution of issues faced by the frontlines through a multifaceted approach that is not limited to only technical aspects.

Specifically, we will use the three R&D elements shown in “3.3 R&D Elements”: (1) Understanding

the mechanisms of trust formation and analyzing obstructive factors, (2) Development of measures based on the analysis results, and (3) Proposal of social implementation methods and effect measurement methods. We will promote research and development in a unified way so that it can be deployed in the areas of regulation, economy, technology utilization, and education.

In particular, this program recognizes the necessity of research and development that contributes to the resolution of frontline issues through R&D element (3) and will promote research and development for that purpose, but at the same time, with regard to problems such as trust of the information, fake information, misinformation, infodemics, etc., the mechanism of the problem is not yet sufficiently understood and the analysis of obstructive factors has not yet been sufficiently conducted. We recognize that it is difficult to adopt appropriate solutions in this area.

Therefore, in promoting R&D element (3), it is necessary that the R&D elements (1) and (2) are fully taken into account. Conversely, even if the content focuses on R&D element (1) for problems for which the understanding of the mechanism is not sufficient, we ask for proposals that take frontline problem solving into account so that research results can be appropriately linked to R&D elements (2) and (3).

In addition, for all R&D elements, it is expected that the cause of the problem will not be limited to technical factors, but will actively utilize comprehensive knowledge, such as interdisciplinary research initiatives that span a wide range of related fields such as law, economics, psychology, informatics, and education, and the fusion of research knowledge and frontlines knowledge.

3.3 R&D elements

The program has established the following three R&D elements.

(1) Understanding the mechanisms of trust formation and analyzing obstructive factors

(2) Development of measures based on the analysis results

(3) Proposal of social implementation methods and effect measurement methods

For R&D element (1) "Understanding the mechanisms of trust formation and analyzing obstructive factors," we envision analysis of what kind of mechanisms are involved in forming and maintaining trust, or obstructing that trust, based on insights into the behavior, psychology, and social background of people, organizations, and communities that exchange information, taking into account new social changes such as the advancement of technology centered on ICT, the diffusion of information services, and the development of related laws, thereby identifying issues and acquiring related proof. This element is positioned to establish the basic theories and knowledge required for problem solving in

this program, and it is expected that research will be conducted to identify issues by analyzing mechanisms and obstructive factors from various perspectives. In doing so, the objective is to create methodologies and models for the realization of measures that will ultimately be useful on the frontlines, based on the opinions of frontline sites that face specific issues. This requires a stance of promoting research and development based on a wide variety of perspectives including law, economics, psychology, informatics, and education, while facing fundamental questions such as “the appropriateness of trust-related approaches to frontlines issues,” “the negative aspects of trust (e.g., division between those who formed trust and those who did not),” “the costs and beneficiaries of trust formation and maintenance,” and “the ecosystem necessary for trust formation and maintenance.”

For R&D element (2) "Development of measures based on the analysis results," measures will be developed to resolve issues identified through the understanding of trust formation mechanisms and obstructive factors. Specifically, this includes R&D on “regulation and economics” related to rule-formation and incentives for the distribution and transmission of information, “technology utilization” related to the development of services utilizing new ICT technologies, “education” on literacy and digital citizenship necessary for disseminating measures among people, and indicators for visualizing and evaluating the effectiveness of these measures. In doing so, it is important to take measures by social groups that utilize the connections between people and organizations in real world spaces, such as local governments and communities, as well as virtual spaces on the Internet.

For R&D element (3) "Proposal of social implementation methods and effect measurement methods," measures obtained through the development of measures based on the analysis results are evaluated and verified based on indicators. Specifically, there are various possible methods, such as building a prototype and conducting a Proof of Concept (PoC) on the frontlines to analyze verification data, or by simulation, but regardless of the method used, it is important to obtain a prospect of verifying the effectiveness of the measures at the frontlines sites facing the problem.

In addition, in order to clarify these R&D elements, it is preferable to have interdisciplinary research conducted with the participation of researchers in various fields such as law, business administration, behavioral economics, economics, social informatics, sociology, cognitive science, and education, as well as platform operators, educational institutions, and local governments which form the frontlines of problem solving.

3.4 Examples of topics

The results that this program aims to achieve are as described in “3.1 Goal of the Program”: “Regarding social issues such as people’s concern and disadvantages resulting from the acquisition and utilization of information generated by the development of an advanced information society, by identifying issues with trust between recipients and senders, or between recipients and information itself, as well as the formation of trust between the involved people, organizations, information technology, and services, this program aims to identify issues and develop solutions that will lead to more substantial problem solving.” The program will aim to achieve this objective by working on the following R&D topics.

3.4.1 R&D element (1): Understanding the mechanisms of trust formation and analyzing obstructive factors

Cross-disciplinary topics

- Understanding the actual situation of those involved in the generation and distribution of information (media operators, local governments, companies, industry groups, etc.), considering the ecosystem to be built, and analyzing the missing functions
- Consideration of trust to be established between recipients/senders/intermediaries (including organizations and systems) of information, analysis of obstructive factors to trust, analysis of mechanisms by which trust is formed and maintained
- Analysis of mechanisms for the generation and spread of information that causes anxiety and disadvantage to people (including interactions not only in virtual spaces but also real world spaces)
- Analysis and verification of negative aspects of trust (e.g., division between those who formed trust and those who did not)
- Verification of how appropriate the trust approach is for resolving the social issues targeted by this program
- Prediction of new problems taking into account the speed of technological progress

The following research topics can be given as examples of upstream research closely related to solving problems in the fields of “regulation and economics,” “technology utilization,” and “education.”

Regulation and economics

・Social impact of fake information and misinformation, and classification methods

・The ideal way of thinking and approach to regulations and rules that take into account the freedom of expression, the right to know, and the global flow of information

・ The state of, and approach to, rules for platform operators (for example, the creation of industry guidelines and policies on how to apply rules to operators outside Japan, etc.)

・Prediction of the impact of suppressing the negative aspects of the attention economy, and consideration of business models to replace the unfavorable attention economy. Research on the mechanism by which information gains consumer attention and its negative effects

Technology utilization

・Verification of hypotheses such as filter bubbles/echo chambers

・Understanding the actual situation of bias in intake information, analyzing its impact, and understanding the mechanism through which bias arises based on component analysis of information people take in.

・Analysis of user burden caused by the increasing advancement and complexity of information technology and services

・Trust evaluation methods that go beyond mere authenticity judgment

・Structural understanding of problems where correct information worsens the situation

・ Analysis of information dissemination methods that damage trust, such as intentional transmission of fake information or misinformation

・Prediction and analysis of new factors that will affect the formation and maintenance of trust in the future based on the latest technological trends (including both positive and negative effects)

Education

・ Verification of the hypothesis that people with high IT literacy are more likely to fall into the filter bubble

・Building a trust formation model between information senders / recipients / intermediaries based on the diversification of media, pollution of the information ecosystem, diversification of individual preferences, etc.

・Clarification of literacy necessary for each participant, such as literacy on the sender/intermediary side based on understanding of the psychology and behavior of the recipient, and analysis of obstructive factors to acquiring and improving it

・Analysis of the characteristics, thought patterns, and behaviors of people at high risk of being

disadvantaged in disseminating and utilizing information, such as those who are susceptible to cybercrime, or people who are anxious or uncomfortable with the use of ICT, and providing a direction of response to minimize the disadvantages that such people may incur.

3.4.2 R&D element (2): Development of measures based on the analysis results

Regulation and economics

- Proposal of methods for voluntary rules for platform operators and individual contributors (e.g., incentive design methods)
- Proposal of methods for ensuring the costs and business feasibility of forming and maintaining trust (e.g., formation and maintenance of business trust in fact-checking and continuity as a business)
- Proposal of collateral methods for when trust is damaged (insurance, guarantee mechanism, etc.)
- Simulation of the impact of implementing various regulations such as laws, self-regulation, and joint regulation
- Proposal of methods to apply rules to platform operators outside Japan in addition to laws and regulations
- Proposal of methods to realize missing functions of the ecosystem

Technology utilization

- Development of measures for sound information acquisition and utilization in collaboration with platform operators, local governments, etc. based on component analysis of information taken in by people
- Development of mechanisms and tools that allow people to access appropriate information without excessive burden
- Development of methodologies and standards that incorporate appropriate trust formation from the "planning and design stage" of information technology and services
- Development of information analysis services for the frontlines of infodemic countermeasures (disaster sites, public opinion surveys, corporate public relations, libraries and museums, etc.)
- Development of methods for determining trustworthy media and information
- Development of methods for disseminating and distributing corrected information that do not reduce the credibility of the media, and countermeasures in real world spaces such as local

frontlines sites

Education

- Development of support methods based on analysis of the characteristics, thought patterns, and behaviors of people at high risk of being disadvantaged in disseminating and utilizing information, or people who are anxious or uncomfortable with the use of ICT
- Development of media information literacy education programs and teaching materials for recipients, senders, and intermediaries in response to changes in digital technology and pollution of the information ecosystem

  In particular, measures to improve literacy for organizations and groups that handle information (local governments, advertising agencies, etc.) and people and organizations in charge of literacy education (educational institutions, community support groups, etc.)

3.4.3 R&D element (3): Proposal of social implementation methods and effect measurement methods

Regulation and economics

- Proposal of methods to realize and evaluate the missing functions of the ecosystem obtained in R&D element (2)
- Proposal of implementation in society of self-regulation rules and methods for verifying their effectiveness through collaboration with information disseminators such as platform operators, advertising companies, and advertisers
- Proposal of countermeasures against new risks (e.g., cyberattacks) that are difficult to effectively regulate under the current legislation

Technology utilization

- Proposal of diffusion methods for tools and services developed in R&D element (2), methods for confirming the diffusion status, and methods for evaluating efficacy

Education

- Proposal and demonstration of social implementation methods for educational services (support sites for the elderly in the community, recurrent education, correspondence education, etc.) for sites that support the improvement of media information literacy, and evaluation of efficacy in collaboration with the frontlines

- Visualization of learning effects, comprehension, and disparities using educational methodologies such as Instruction Design, and improvement of programs
- Proposal of methods for diffusing programs that enhance practical skills using social media itself, games, etc., methods for measuring effectiveness, and verification of their effectiveness
- Proposal of diffusion methods and effectiveness measurement methods for literacy acquisition tools for recipients, senders, and intermediaries developed in R&D element (2), and verification of their effectiveness

The following figure is a conceptualization of research that leads to specific problem solving for each R&D element being developed in each field (regulation, economy, technology utilization, and education). The above example topics and the figure below are examples only, and we expect that efforts will incorporate R&D elements suitable for the issues to be solved.

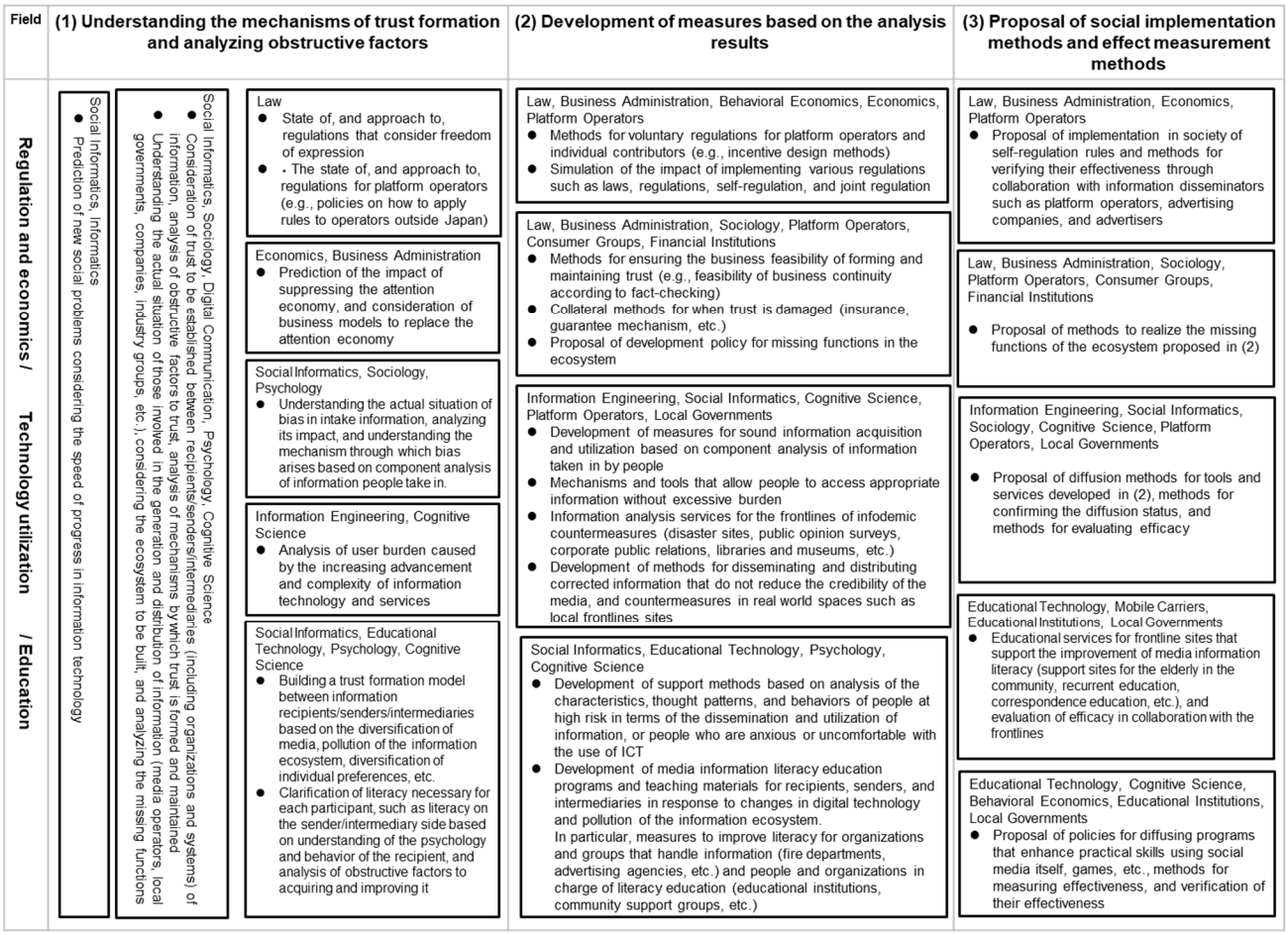

Figure 1. Conceptualization of R&D elements

3.5 Two R&D frameworks and project requirementss

As in the past, for this program we expect projects that can implement R&D elements (1) to (3) in a comprehensive manner; however, on the other hand, due to the nature of the “trust” problem, there

are limited R&D topics that satisfy all of the R&D elements (1) to (3) given the limited time and budget, as well as R&D teams that can implement them. At the same time, there are important topics that are worth taking the time to gather evidence and verify even if they cover only R&D element (1). Therefore, we have established the following two frameworks for the implementation of this program.

(a) Problem-solving projects

Each R&D Project will formulate measures having clarified the actual frontlines facing the problem, what kind of trust should be formed and maintained with who/what, and what kind of frontlines they should aim to achieve, proposing implementation methods for the frontlines (society) and methods for measuring effectiveness, and work mainly to obtain a prospect of verifying the effectiveness of the measures. In addition, by clarifying the methodology of measure development based on indicators for evaluating the effectiveness of measures, teams should aim to realize measures that are not independent on any individual and are easy to deploy horizontally.

For implementation, an R&D structure including R&D elements (1) to (3) must be built during the R&D period for the integrated implementation of these measures. Although we do not require that all R&D elements be started at the proposal stage or that all relevant stakeholders participate in the project, it is necessary to have a clear vision of how to develop the R&D elements and expand the structure accordingly during the R&D implementation period.

(b) Problem-identification projects

As mentioned above, among the social problems targeted by this program, some require focus on identifying the issue to be targeted before working on resolving the issue or formulating measures for problem solving. Therefore, while being aware of the frontlines facing the actual issue, these projects will work to create scenarios and models for the realization of measures that reflect the opinions of the frontlines regarding problem solving, focusing on R&D element (1), such as analysis of the mechanism by which the issue occurs.

While focusing on R&D element (1), it is expected that the plan and structure will include actual frontlines facing the issue (R&D element (3)) and solution methods (R&D element (2)) necessary for identifying the issue in order to contribute to the future resolution of social issues, and that the team includes members to engage in these.

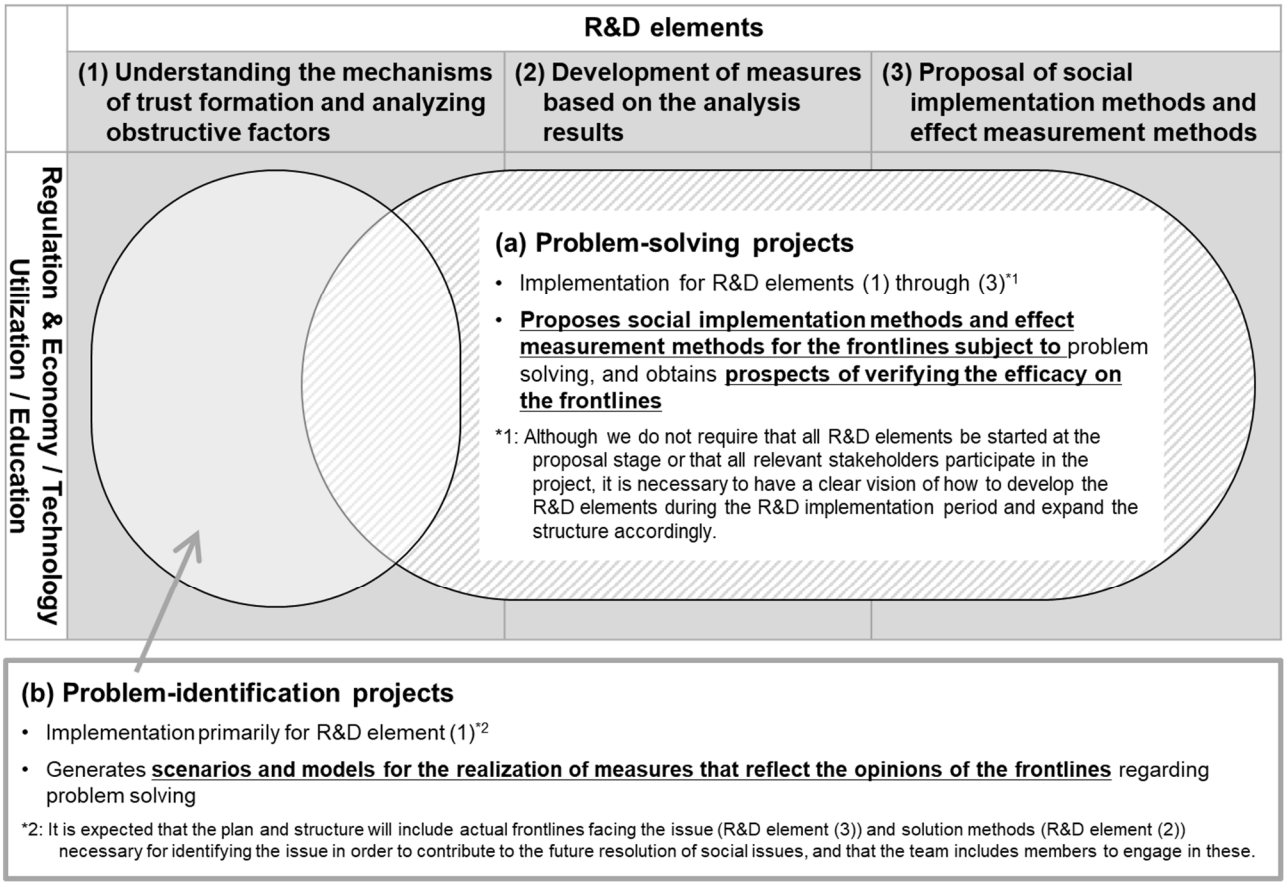

Figure 2. Overview of Problem-solving projects and Problem-identification projects

In addition, the requirements for each type of project are as follows:

Shared requirements for (a) Problem-solving projects and (b) Problem-identification projects

・Can be expected to be effective through a multifaceted approach using interdisciplinary research.

・Targets social issues that are not considered to be sufficiently resolved by other funding programs and research institutions.

・Targets cross-ministerial and cross-sectoral issues.

・Can be completed within the R&D period established for this program.

Requirements specific to (a) Problem-solving projects

・Proposes social implementation methods and effect measurement methods for the frontlines subject to problem solving, and obtains prospects of verifying the efficacy on the frontlines.

Requirements specific to (b) Problem-identification projects

・Is able to generate scenarios and models for the realization of measures that reflect the opinions

of the frontlines regarding problem solving.

Research and development of underlying technologies only is not targeted by this program. However, R&D related to applied services and social implementation, with a view to collaborating with underlying technology R&D in other funding programs, etc., is eligible if the R&D elements and requirements required by the program are met.

3.6 Example of expected output

Examples of output generated by R&D based on the elements described in "3.3 R&D elements", "3.4 Examples of possible topics", and "3.5 Two R&D frameworks and project requirements" are provided as follows.

- A model for the generation and dissemination of information (including information other than fake information and misinformation) that causes anxiety and disadvantage to people. Includes scenarios for systematically organizing trust formation entities and implementing trust formation and maintenance models required for this purpose.
- Analysis of the missing functions of the ecosystem necessary to promote self-purification against information pollution and proposal of development methods
- Methods for determining the trustworthiness of online media and distributed information. Proposal of self-regulatory rules based on the review of the attention economy, cooperation with advertisers, etc.
- Creation, dissemination, and distribution methods for corrected information and information that counteracts risks from misinformation, and effectiveness measurement methods
- Trust formation models between recipients and senders/intermediaries, literacy acquisition tools that take information pollution and personal preferences into consideration, diffusion methods, effect measurement methods

A further outcome is "the creation of an ecosystem in which both recipients and senders can interact with each other to enjoy the development of information technology and the benefits of the information society," and it is necessary to continue efforts to realize this outcome even after the project is completed. Therefore, starting from the project implementation period, it is important to build a foundation for activities with a view to the end of the project (R&D base, researcher community,

research database, etc.)

These outputs are only examples, and we expect more effective results to be produced according to the issues you are aiming to solve without being restricted to the above.

3.7 Points to note about the R&D implementation structure and approach

- Japanese government agencies, universities, research institutes, public interest corporations, NPOs, private companies, and other entities that JST can outsource research to as organizations will cooperate to conduct R&D.
- We expect the promotion of R&D that focuses on comprehensive knowledge, approaching various fields such as regulation, economics, technology utilization, and education from multifaceted perspectives, utilizing cross-disciplinary knowledge that spans both the natural sciences and Humanities and Social Sciences (HSS), as well as the prior knowledge of the frontlines targeted for problem solving.
- In order to promote (1) to (3) of "3.3 R&D elements" in an integrated manner, it is necessary to conduct co-creation with related parties from the start of R&D, bridge the gap between the research side and the frontlines side targeted for problem solving, promote research and practice at the same time, and conduct R&D to link various knowledge and feedback obtained from the frontlines to social implementation. Therefore, it is preferable that both the research side and the frontlines side targeted for problem-solving participate in the project from an early stage.
- In order to ensure that developmental efforts can continue even after the completion of R&D, it is necessary to sufficiently collaborate with related organizations such as platform operators, local governments, and educational institutions from the R&D stage.
- We will consider the perspective of diversity, including gender, in all aspects of R&D, such as research subjects, research methods and prerequisites, and design in R&D.
- Since the issues raised in this program are not limited to Japan, and similar issues exist now in other countries and will emerge there in the future, proposals that collaborate with entities outside Japan are also eligible, such as utilization of knowledge, fields, and human resources from other countries.

3.8 Management of this program

Under this program, the program manager and program advisor will use a hands-on approach to management to monitor the progress and results of R&D and work together with the principal

researchers to carry out activities to achieve the program goals using the following structures and methods.

- We will appoint a program manager as the person responsible for program operation and management of the entire program.
- A program advisor will be appointed to provide expert advice to the program manager.
- The program manager, program advisor, and the secretariat will work together to recruit and select R&D Projects, as well as hold meetings and initiatives necessary for effective program operations (advice on R&D, implementation of site visits, etc.)
- The program manager will, as necessary, conduct reviews such as adjusting R&D expenses, and restructuring, consolidating, and discontinuing R&D Projects.
- In the operation of the program, we will respond flexibly, including prioritization and changes in the entry selection policy, while paying due care to social conditions and international trends. In particular, the fields covered by this program are subject to significant short-term changes with the situation regarding technology and laws and regulations, including regions outside Japan; therefore, we will monitor these and manage them with a view to conducting research activities to provide prompt feedback to each R&D Project.
- The program manager, with the cooperation of the program advisor, etc., will appropriately optimize the content and implementation structure in light of changes in the situation related to the severity of the social issues targeted by each R&D project, the appropriateness and feasibility of the R&D approach, etc. In this regard, the program manager shall have the discretion to decide whether to continue or discontinue an R&D Project.
- In operating this program, we will actively plan exchange, cooperation, and interaction between adopted R&D Projects, and create opportunities for discussions with internal and external stakeholders who span and overlook the R&D Projects (such as program-wide meetings). We will also conduct outreach activities for the R&D results (such as results reporting meetings and information dissemination on website, etc.)

In addition, we are considering implementing the following.

- In order to promote the formulation of concepts for the realization of a new digital society and the creation of structures such as connections with the frontlines that are targeted for measures under this program, through a management structure consisting of people with diverse expertise pertaining to this program and people with experience developing and operating measures who

are well versed in the characteristics of various involved parties such as media operators and IT platform operators, we will provide advice on concept formulation, match research and frontline sites to strengthen structures, and provide accompanying support to cultivate projects In doing so, we will share knowledge by collaborating with other funding programs closely related to this program, such as JST's CREST "Fundamental Technologies Supporting Trusted AI Systems" (FY2020-) and Precursory Research for Embryonic Science and Technology "Fundamental Technologies for Trusted AI" (FY2020-).

・We will create a system to link the results of problem-identification R&D projects to problem solving. Specifically, we envision expanding project activities by connecting with new frontline sites, providing feedback for public applications from the next fiscal year onward, and supporting connections to other funding programs.

Chapter4. Call for R&D Proposals and Selection

4.1 Call Period and Selection Schedule

The main schedule for selection is as follows. Please note that the submission deadline differs from other areas and programs.

Applications will be made through the Cross-ministerial R&D Management System (e-Rad) (Please refer to “4.6 Application Method”). As the application deadline approaches, heavy demands on the e-Rad system could slow the application process and even cause the application deadline to be missed. Please give yourself enough time to complete application of proposal. A withdrawal of an application through e-Rad after the deadline cannot be processed. JST will not accept proposals for which the application process has not been completed in e-Rad by the deadline for any reason.

The name and affiliation of the Proposer in e-Rad should match that provided in the research proposal. The application of a research proposal uploaded to e-Rad will not be accepted if it contains defects. A defect making the review of the proposal difficult refers to omission of proposal application forms, serious character corruptions that make it difficult to read, and omissions of important items on the application forms.

Furthermore, JST is not responsible for any defects in a research proposal that may occur before the submission deadline, regardless of whether the proposal was received or not. As such, Proposers must understand that JST will not require or request the Proposer to make any revisions to their research proposals before the research proposal submission deadline.

Call begins	April 25 (Tue.), 2023
Briefings of solicitation	April 27 (Thu.) 2023 Online Meeting Details will be posted on the proposal application website. （https://www.jst.go.jp/ristex/proposal/proposal_2023.html）
Application deadline *1	Noon (12:00 p.m., Japan time) on June 28 (Wed.), 2023 (No delays accepted)
Notification of document screening results	Mid-August(planned)
Interview screening *2	September 1 (Fri.) and 4 (Mon.), 2023 (planned)
Candidates interview with the	September 29 (Fri.) and October 11 (Wed.), 2023 (planned)

Program Supervisor	
Notification and announcement of selection results	Late October 2023 (planned)
Start of research and development	Early November 2023 (planned)

*1 Deadline for submitting applications through the Cross-ministerial R&D Management System (e-Rad).

*2 Interview screening will be held online using Zoom, etc.

4.2 R&D Period

In principle, around 3.5 years

*The R&D period will be adjusted according to the content of the proposal, the R&D plan, and the policy for adoption of proposals.
*If further improvement in the potential for establishing and deploying R&D outputs is expected, the R&D period can be extended up to two years after evaluation.

4.3 R&D Budget (Direct Costs)

(a) Problem-solving projects：Maximum of approx. 12 million yen per year

(b) Problem-identification projects：Maximum of approx. 7.5 million yen per year

*The R&D budget will be adjusted according to the content of the proposal, the R&D plan, and the policy for adoption of proposals.
*For FY2023, since it is assumed that R&D will start in November, please allocate expenses for 5 months until the end of the fiscal year.
*For details such as how the R&D budget (direct costs) and indirect costs will be used, refer to “5.5 R&D Budget” and “Chapter 8. Q&A on Call for R&D Proposals”.
*JST will not directly employ principal investigators or other R&D personnel.

As per the Collaborative Research Agreement, JST will pay the institution implementing the project for all R&D budget (direct costs) and indirect costs (in principle, 30% of direct costs). This will be paid as consigned research funds to the institution.

We may make adjustments according to management (e.g., grasping the project’s progress situation) by the Program Supervisor, Assistant Program Supervisor and Program Advisor when determining the R&D fund to be allocated after adoption. For details, please refer to “5.5 R&D Budget.”

4.4 No. of Projects to be Selected

(a) Problem-solving projects：About 1 or 2 projects

(b) Problem-identification projects：About 3 or 4 projects

The number of projects to be adopted will be adjusted according to the contents and conditions of the proposals.

4.5 Requirements for Application

Principal Investigators must have completed the educational program on research integrity at the time of proposal application!

Note that if completion of the program cannot be confirmed, the application will be disqualified for failing to meet the requirements. At the time of proposal application, it is acceptable if the Principal Investigator only completed the program. For details, please read “6.1 Enrolling in and Completing the Educational Program on Research Integrity” and “Chapter 8 Q&A on Call for R&D Proposals.”

Proposers, who will serve as Principal Investigator, will submit the proposal themselves. Requirements for proposal application are presented below. Please ensure you understand these requirements for your application.

*In principle, if the determination is made that an application does not meet the requirements by the time of selection, the research proposal will either not be accepted or not be selected.

*If an application is selected, the application requirements must be maintained for the entire duration of the period of R&D project. If the R&D project fails to meet the requirements during the research period, the research project will in principle be completely or partially suspended (i.e., be terminated early).

In addition, proposals must be submitted after understanding the matters herein as well as “Chapter 6 Key Points in Submitting Proposals.”

4.5.1 Multiple Applications

（1）One person may only submit one proposal as Principal Investigator for one project only.

（2）Multiple applications will not be permitted for those applying to the FY2023 Call for R&D Proposals for “Responsible Innovation with Conscience and Agility,” “Solution-Driven Co-creative R&D Program for SDGs (Scenario Creation Phase, Solution Creation Phase, Social Isolation

Framework).”

（3）Current Principal Investigators of the Research Institute of Science and Technology for Society (RISTEX) cannot submit proposals (excluding cases where the R&D implementation period ends during FY2023).

4.5.2 Requirements for Proposers

a. The Proposer must be able to head up the R&D project members and exhibit leadership in implementing the project in order to realize the concept.

b. The Proposer who will serve as Principal Investigator must belong to a domestic Japanese research institute and be able to organize and implement research and development at that institution.

Furthermore, persons who correspond to the following can also apply as Proposers.

・Researchers who have foreign citizenship, but who are affiliated with a domestic Japanese research institution.

・Researchers who are not currently affiliated with a research institution, or are affiliated with an overseas research institution, and, if selected as a Principal Investigator, must be able to organize and pursue project as a researcher affiliated with a domestic Japanese research institution.

・A Japanese national who currently resides overseas, and, if selected as Principal Investigator, must be able to organize and pursue project as a researcher affiliated with a domestic Japanese research institution.

*Domestic Japanese research institution indicates universities incorporated in Japan, national research and development corporations, specified non-profit corporations, companies, and local governments. However, the prescribed conditions must be satisfied. For more details, please refer to “5.9 Responsibilities of Research Institutions.”

*This also covers those affiliated with private sector companies and other non-university research institutions.

*Must not be in breach of restrictions of application requirements related to improper accounting practices and misconduct in research.

c. Able to assume responsibility for the entire project as the Principal Investigator throughout the entire period of the project. For details, please refer to “5.8 Responsibilities of Principal Investigator and Lead Joint Researchers.” For example, during the project period, the Principal Investigator

must reside in Japan and the Principal Investigator must be able to fulfill his/her responsibilities for a long period of time without interruptions, such as overseas business travel and other reasons.

d. Have already completed the educational program for research integrity at his/her affiliated research institution or will complete the JST- designated educational program by the application deadline. For details, refer to “6.1 Enrolling in and Completing the Educational Program on Research Integrity.”

e. The Proposer must make the following four pledges upon application of his/her proposal.

・Understand and comply with “Guidelines for Responding to Misconduct in Research” (decided by the Minister of Education, Culture, Sports, Science and Technology on August 26, 2014).

・Understand and comply with “Guidelines on Management and Audit of the Public Research Expenses in Research Institutions (Implementation standards)” (decided by the Minister of Education, Culture, Sports, Science and Technology on February 15, 2007; revised on February 1, 2021)

・If the research proposal is accepted, the Principal Investigator and other R&D participants must not engage in misconduct in their research (fabrication, manipulation, and plagiarism) nor in inappropriate usage of research funds.

・The Proposer must not have engaged in misconduct in the past to achieve the research results that are mentioned in the submitted research proposal.

*The above verification will be part of the e-Rad Application Information Entry screen.

4.5.3 Requirements for Research Institutions

In principle, only Japanese research institutions can promote R&D in this program (can enter into the Collaborative Research Agreement). However, it does not matter if this entity is a private company, one of various organizations, an NPO, a university, a research institution or otherwise. Please also refer to “5.10 When a Person Belonging to an Overseas Institution Participates as the Lead Joint Researcher.”

Research Institutions must fully understand that the research funds are public funding, ensure compliance with related laws, and make efforts to implement the research effectively. Any research organization that cannot perform the responsibilities described in “5.9 Responsibilities of Research Institutions” will not be approved to conduct research. Therefore, be sure to obtain prior approval from

the Research Institution at which you plan to conduct your R&D before your application.

We may investigate and confirm the administrative management structure and financial status of each research institution prior to the adoption of the project, before entering into the Collaborative Research Agreement and during the period of the agreement. Institutions deemed to need appropriate execution and management of the consigned research fund as a result may be subject to a reduction in the R&D fund, a research suspension, a shortening of the agreement period, cancelation of the agreement and other measures even if the agreement is withholden or it is during the agreement period. This is in addition to having to follow the consignment method designated by JST.

If it is not possible to enter into the agreement, it may not be possible for the said research institution to conduct the R&D. In that case, we may ask the Proposer to review the implementation structure.

It is not a problem if the organization that will conduct the R&D newly organizes for the proposal. However, at the time of selection, we will consider whether the organization will exist for the period necessary to solve social issues and whether it has the organizational structure to be able to continue operations even after the end of the project.

4.6 Application Method

Applications will be submitted using the Cross-ministerial R&D Management System (e-Rad).

Please note that applications using paper media (postal email, express parcel delivery,

For details, please refer to “Chapter 7 Submission via the Cross-ministerial R&D Management System (e-Rad).”

(1) Registration of research institution and Principal Investigator

An e-Rad log-in ID and password must be issued for the Proposer (Principal Investigator only).

When an e-Rad log-in ID and password are newly issued, the institution the Proposer is affiliated with must carry out the following registration in advance.

① If unregistered, the institution must first register as a “research institution”

② The Proposer must be registered in “Researcher Information”

Furthermore, if the Proposer is not affiliated with a specific domestic Japanese research institution

at the time of application, the Proposer him/herself must register under 2. above only (however, it is assumed the person plans to be affiliated with a domestic Japanese research institution after adoption).

For details about registration method, please refer to the e-Rad portal site.

Please complete registration procedures at least two weeks prior to the deadline because the registration process may take several days to complete.

Furthermore, once registration is complete, the Proposer does not need to register again when submitting applications for programs or projects implemented by other ministries and agencies. In addition, if registration has been completed for programs or projects implemented by other ministries and agencies, the Proposer does not need to register again. Institutions and Proposers who have never submitted a proposal for competitive research funds or received such funds (specified non-profit corporation, administrative institutions, institutions of private sector companies and affiliated individuals) should pay particular attention.

（2）Preparation and submission of proposal

The Proposer should please personally prepare the proposal document and then apply to this program. Please download the proposal document format from the e-Rad portal site (https://www.e-rad.go.jp/en/) or this program's proposal application website (https://www.jst.go.jp/ristex/proposal/proposal_2023.html) and complete the proposal document based on the explanation found in "Chapter 9 Guide to Completing the Proposal."

Please be sure to complete the proposal using objective statements wherever possible using language that is simple and not overly specialized.

Please submit the proposal document via the e-Rad site.

4.7 Selection Method

4.7.1 Selection Process

Selection will be determined comprehensively based upon "4.8 Notes on Selection" following a review of proposal documents and interview of Proposers that passed the document selection process.

(1) After the document screening, the Proposers selected for interviews will be notified in writing and will also be informed of the interview procedures, schedule, and additional materials to be submitted. During the interview, the Proposer him/herself will be asked to explain the concept of his/her project specifically.

(2) The results of the document screening and interview screening will be notified to the Proposer (Principal Investigator) regardless of whether the proposal is accepted.

(3) For the selection schedule, please refer to “4.1 Call Period and Selection Schedule.” Details and changes in the plan will be posted on the program's Call for R&D Proposals website.
（https://www.jst.go.jp/ristex/proposal/proposal_2023.html）

(4) In addition to the above, please make sure that your e-mail address and phone number registered in the e-Rad are available for receiving and replying.

4.7.2 Selection System and Management of Conflicts of Interest

A Program Supervisor will make selection with the cooperation of the Assistant Program Supervisor and Program Advisor. Based on the results, JST will select Principal Investigator and projects to implement. In addition, JST may obtain the cooperation of outside reviewers as needed.

The following conflicts of interest will be managed according to JST’s regulations, from the perspectives of fair and transparent evaluations and allocation of research funding.

(1) Management of conflicts of interest of persons involved in selection

To ensure fair and transparent evaluations, the following persons or parties who have conflicts of interest may be excluded from the selection process. If the Proposer has any concern about conflicts of interest between the Proposer and persons and parties involved in the selection process of the research proposal, the Proposer should describe it specifically in the application form 10.

a. Persons, who are relatives of Proposers

b. Persons or parties who are affiliated with the same faculty or department at a research institution, such as university or national research and development agency, or with the same company as the Proposers.

c. Persons, who are conducting a close collaboration in a research work with Proposers. (Persons who are recognized as those practically affiliated with a research group with which

Proposers are affiliated, such as those who are conducting a joint research project or have co-authored a paper with Proposers, a researcher pursuing the same research objectives as Proposers, or a researcher in the Proposer's project.)

d. Persons in a close teacher-student relationship, or in a direct employer-employee relationship
e. Persons in relationships of direct competition with Proposers
f. Persons in other relationships judged by JST to represent conflicts of interest with Proposers.

(2) Management of conflicts of interest of Principal Investigator

A conflict of interest could arise with Principal Investigator when a Principal Investigator appoints Lead Joint Researchers from an institution that is related to the Principal Investigator and allocate research funds of JST to these institutes. Therefore, management for conflicts of interest between Principal Investigator and his/her related institution will be conducted in the light of necessity, rationality, and reasonableness of the relationship, in order to avoid any doubt of any third party.

"An organization that is related to the Principal Investigator" refers to any of the organizations that fall under the following categories. Items "a" and "b" are applicable not only to the Principal Investigators but also to the spouse and the relatives in the first degree of the Principal Investigator (hereinafter referred to collectively as "the Principal Investigator etc.").

a. An organization established based on the R&D achievement of the Principal Investigator etc. (Including the case in which the Principal Investigator etc. is not directly involved in the business management but is merely given a title such as technical consultant and the case in which the Principal Investigator etc. owns the organization's stock.)
b. An organization in which the Principal Investigator etc. is a director (including a CTO but excluding a technical consultant).
c. An organization in which the Principal Investigator owns its stock.
d. An organization in which the Principal Investigator is rewarded for implementation.

For a research proposal in which a researcher who belongs to the related organization of the Principal Investigator, is assigned as a Lead Joint Researcher, it will be strictly judged from the viewpoint of necessity, rationality, and relevance.

Therefore, if a researcher from an institution related to the Principal Investigator is to be a Lead

Joint Researcher, please describe it specifically in the section of the application form 10.

Furthermore, in conducting management of conflicts of interest of Principal Investigator, it may be requested to submit other materials separately.

（3）Management of conflicts of interest of JST

Adopting a company that JST has invested in (hereinafter “invested company”) for this program and allocating research funds may be considered a conflict of interest with JST (conflict of interest as an organization). Therefore, to avoid any doubt of any third party, JST implements management of conflicts of interest between JST and the invested companies.

With respect to the proposals that assigns an invested company of JST as a research institution, JST will assess the necessity, rationality, and adequacy of the applicable invested company.

For that purpose, if the institution is an invested company of JST, the application must complete the Notice section of the application form 1 to declare that an invested company is included in research institutions.

Furthermore, this management is implemented to guarantee the fairness and transparency of the process on the side of JST. It is not disadvantageous to have accepted funds from JST in the process of the adoption in this program. Proposers are asked to be cooperative in JST's management of conflicts of interest.

*Refer to the following website for invested companies of JST. Furthermore, companies for which investment has been completed are not subject to management of conflicts of interests; thus, reporting is not required.

https://www.jst.go.jp/entre/en/result.html

*The declaration base date is the date the Call for R&D Proposals of this program begins. Please declare companies that have disclosed an investment from JST as of this date. There is no need to report companies for which an investment has not been disclosed even if an unofficial decision has been made because it is a confidential matter internally for JST.

Please refer to the following website for JST’s disclosure of investments.

https://www.jst.go.jp/entre/news.html

4.8 Notes on Selection

The selection process will decide which proposals to adopt after a comprehensive review, emphasizing the following points. Please refer to “Chapter 2. Concept of Program Supervisor in Solicitation and Selection” and “Chapter 3. Overview of R&D Program” when preparing the proposal document.

a. Conformity with program objectives and contribution to program goals

The proposed content (issues, goals, R&D plan, etc.) is consistent with the purpose of this program and is expected to contribute to the achievement of the goals of this program.

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b. Significances and Visions

- The specific problems related to trust formation and maintenance need to be solved, and their social background and causes are presented appropriately.
- The sites where issues should be identified are clearly and appropriately presented.

  (a) For Problem-solving projects, outputs such as social implementation methods and effectiveness measurement methods for the field, as well as outcomes for the field and society, are clearly and appropriately presented.

  (b) For Problem-identification projects, outputs such as scenarios and models for the realization of measures that reflect the voices of the field, as well as outcomes for the field and society, are clearly and appropriately presented.
- The newness and originality of the proposed research and development is specifically described, and it is challenging in light of the movement of the related R&D and engagements in Japan and abroad.

c. Adequacy of Plan

- The goals to be achieved are appropriately set, including outcomes.
- The plan (budget scale, period, milestone setting, PDCA, and other processes) is appropriate for achieving the goal.
- Bottlenecks such as challenges, barriers, and difficulties in achieving project goals, including the implementation of PoC, are envisioned, and specific measures to address them are discussed.

- The R&D plan is appropriate to respond to social trends.
- The plan is to receive feedback from a variety of stakeholders. In addition, at each milestone of the research and development, the plan is to make public announcements about collecting reasonable opinions from outside and about correcting points that need to be improved.

d. Adequacy of implementation system

- The proposed researcher has sufficient experience in project implementation and the necessary clues to realize the concept.
- Sufficient collaboration systems have been established among researchers in the natural sciences, humanities, and social sciences, as well as various stakeholders in society, which are necessary to contribute to solving social issues by integrating the knowledge of outstanding individual research and field measures.
- A sustainable structure in terms of human and financial resources is being considered, with a view to development after the completion of implementation period.
- The project management is expected to be flexibly handled and effective.

e. Impact of R&D results and their potential for deployment

- The impact of the proposed R&D results (creating academic and public value, contribution to current and future social and industrial needs, influence and development to other fields and regions in Japan and abroad, etc.) are expected.

In the selection and adoption of projects, consideration will be given to the following points in addition to the type of social isolation and loneliness, and field of the project.

- From an international perspective, the proposed project is expected to produce and disseminate results that are meaningful on a global scale, positioning itself within the context of domestic and international research trends.

- Young and/or female researchers are expected to actively participate in the project as part of human resource development.

4.9 Other Considerations

Proposal documents with defects may not be reviewed by JST.

Whether the R&D budget corresponds to unreasonable duplication and excessive concentration is an element of the selection. For details, please refer to “6.2 Measures against Unreasonable Duplication and Excessive Concentration.”

4.10 Inquiries and Other Matters

（1）Posting of Application Guidelines and where to submit the proposal

Application Guidelines and latest information	Website for Call for R&D Proposals https://www.jst.go.jp/ristex/proposal/proposal_2023.html
Application Guidelines and submission of proposals	Cross-ministerial R&D Management System (e-Rad) website https://www.e-rad.go.jp/en/

（2）Inquiries

Questions concerning the Call Programs, and procedures for preparation of application documents and submission, etc.	Research Institute of Science and Technology for Society (RISTEX), Japan Science and Technology Agency (JST) (For applications) e-mail：boshu-digist@jst.go.jp (For general inquiries) e-mail：boshu@jst.go.jp Please contact us by e-mail.
Questions concerning the Cross-ministerial R&D Management System (e-Rad) Registration of research institution or researcher, or how to operate e-Rad, etc.	e-Rad helpdesk Tel: 0570-057-060 (navi dial) (9:00-18:00/Except on Saturdays, Sundays, holidays, and the year-end and new year period)

*JST will not answer any questions regarding the status of review or acceptance.

*JST and the e-Rad helpdesk will be extremely busy before the application submission deadline (proposal deadline). Be sure to make inquiries with adequate time until submission.

Chapter5. Promotion of R&D after Adoption

5.1 Implementation Plan

a. Once a proposal has been selected, the Principal Investigator must prepare an overall R&D plan covering the entire period of the R&D project. The Principal Investigator must also prepare annual R&D plans for each year of the project. R&D plans should contain both budgets and the composition of R&D teams. Proposed R&D budgets are examined during the selection process. Actual R&D budgets will be confirmed by the Program Supervisor when R&D plans are formulated before going through an approval process.

b. R&D plans (overall R&D plans and yearly R&D plans) will be confirmed by the Program Supervisor before going through an approval process. Based upon advice from the Assistant Program Supervisor and Program Advisor, the Program Supervisor is to exchange opinions with the Principal Investigator, monitor the day-to-day progress of the project, perform site visits, provide advice and coordination for the R&D plan, and provide guidance to the Principal Investigator as required.

c. The Program Supervisor may, as necessary to achieve the overall aims of this program, make adjustments between separate projects when determining project plans.

d. The period of the project may be shortened, and the R&D budget may be reduced or canceled at the discretion of the Program Supervisor.

* R&D team compositions and budgets set forth in R&D plans may be revised during the research project period in response to the overall R&D program budget conditions and management actions taken by the Program Supervisor.

5.2 Implementation Team Composition

a. The Principal Investigator will lead R&D activities. In order to realize research initiatives, the Principal Investigator may have individuals engaged in problem resolution participate as project members (from several to around 20 individuals) in order to construct an ideal organization (group) for the project's implementation. The project members may also consist of individuals from institutions other than the Principal Investigator's affiliated institution.

b. When constructing implementation teams, it is required to clarify each group's roles and the

content of the R&D to be conducted before start of the project.

c. JST will enter into a Collaborative Research Agreement with the institution that the executor of the budget (Principal Investigator or Lead Joint Researcher) is affiliated with.

d. If necessary as R&D progress, new project members (or other assistants, etc.) may be employed to participate in the project within the scope of the R&D budget.

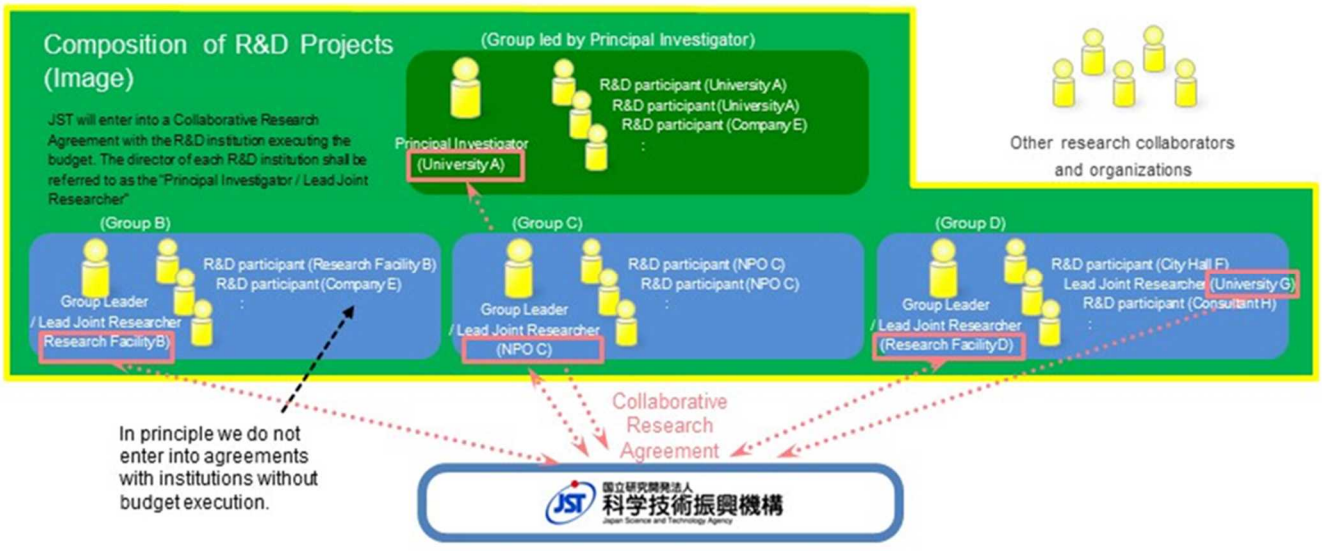


Figure: Composition of R&D Projects

5.3 Place of Implementation

In principle, the R&D will be implemented at the research institutions that the R&D participants are affiliated with.

5.4 Collaborative Research Agreement

a. After adoption, JST will enter into a Collaborative Research Agreement with the R&D institutions that those leading the research (Principal Investigator and Lead Joint Researcher) are affiliated with.

b. If it is not possible to enter into a Collaborative Research Agreement with the research institution or create the management and audit systems required in connection with the use of public funds, or if the institution is conspicuously financially unstable, it may not be possible to pursue R&D at the research institution in question. For more details, please refer to “5.9 Responsibilities of Research Institutions.”

c. In principle, patents and other intellectual property rights resulting from research shall, in

accordance with the terms of the Collaborative Research Agreement, reside with the affiliated research institution under the condition that the institution abides by the items provided in Article 17 (Japanese version of the Bayh-Dole Act) of the Industrial Technology Enhancement Act. However, this rule does not apply to foreign research institutions.

d. A Collaborative Research Agreement will be signed with foreign research institutions. Intellectual property rights will be shared equally with JST, on the condition that the expenses for purposes such as application and maintenance are also shared equally. (If an institution does not agree to this condition, all rights will belong to JST.) Inventions, etc. that could be subject to intellectual property rights need to be reported promptly (within 10 business days) to JST. For details such as other responsibilities, refer to “5.10 When a Person Belonging to an Overseas Institution Participates as the Lead Joint Researcher”.

(Supplement) Differences Between Commissioned Projects and Subsidized Projects

This program is implemented as commissioned projects by concluding Collaborative Research Agreements between JST and the institutions. In “commissioned projects,” the Japanese government (in this case, JST) entrusts projects which should be originally conducted by themselves to other third-party including universities and private firms by concluding Collaborative Research Agreements with them, when it is assumed to produce more beneficial results rather than by being conducted by themselves. In this situation, the institution consigned to do the project has an obligation to appropriately perform all consigned duties in line with the Collaborative Research Agreement and administrative manuals, and those who consigned will confirm this.

By comparison, “subsidized projects” refers to having the government, etc., cover a portion of expenses incurred by the projects being performed by universities, private firms, or another third party, that are recognized to have some benefits to the public at large. In this situation, the party that received the subsidy implements the project independently.

5.5 R&D Budget

As per the Collaborative Research Agreement, JST will pay the institution implementing the project for all R&D budget (direct costs) and indirect costs (in principle, 30% of direct costs). This will be paid as consigned research funds.

5.5.1 R&D Budget (Direct Costs)

The R&D budget (direct costs) directly relates to R&D required to implement the project and can be used for the following items.

a. Commodities: Cost of purchasing new facilities (*1), equipment, consumable supplies, etc.

b. Travel Expenses: Expenses for travel by the Principal Investigator, Lead Joint Researcher and other R&D participants listed on the research plan created after adoption. Expenses covered include all direct costs for travel, as well as all invitations for travel, etc. directly related to pursuing the R&D in question.

c. Personnel Expenses: Salaries (*2) and honorariums for all researchers, technicians, research assistants, etc. (excluding Lead Joint Researchers), directly required to implement the research in question, as well as honorariums for speakers at lectures, etc.

d. Other Expenses: Costs for presenting research results (research paper submission fees, etc.), costs for leasing and transferring equipment, etc. (*2)

Note: The following are examples of items not handled as research costs (direct costs).

- Costs for items not consistent with the research objectives
- Costs that are considered to be more appropriately treated as overhead costs (indirect costs)
- Costs that JST determines are not appropriate when settling consigned research funds. (*3)

(*1) The purchase of new research equipment and apparatuses shall proceed according to “Research Equipment and Apparatus Sharing Systems for Research Organization Units” (hereinafter referred to as “apparatus sharing systems”), which are indicated to be operated in “Introduction of New Research Equipment and Apparatuses Operating Integrally with Research Organization Management” (Advanced Research Fundamentals Working Group, Scholarship Commission, November 2015). Please refer to “6.12 Promotion on Effective Use of Research Facilities and Equipment.”

(*2) In principle, at universities and other institutions, JST enables to pay for personnel expenses of the Principal Investigator (hereinafter referred to as “PI”) of projects funded by JST competitive research funding programs and for costs related to others to execute non-research operations on behalf of the PI (Buyout Expenses) only when specific requirements are met.

For more details, refer to the JST official administrative manuals at the URL below.

“Review to Enable Payment of Expenses for Others to Execute Non-research Operations from Direct Costs (Buyout System Introduction) and Payment of the Personnel Expenses of the Principal Investigator (PI) from Direct Costs (Contact)” (September 17, 2020)
https://www.jst.go.jp/osirase/2020/pdf/20200917.pdf

Please refer to the following URL for the policy on the scope of eligibility, expenditure ceiling, etc. for the RISTEX R&D Programs.
https://www.jst.go.jp/ristex/funding/funding_outline/for_researcher.html

(*3) JST has established rules and guidelines specific to this program for some items, based on the Collaborative Research Agreement, administrative manuals, and the cross-ministerial expenses handling table, etc. Handling may differ between universities, etc. (universities, public R&D institutions, public interest corporations, etc. approved by JST) and companies, etc. (mainly R&D institutions other than universities, etc., such as private enterprises). For more details, refer to the JST official administrative manuals at the URL below.

JST Collaborative Research Agreement Administrative Manuals
https://www.jst.go.jp/contract/index2.html
Handling Table for Cross-Ministerial Expenses (JST RISTEX R&D Programs)
https://www.jst.go.jp/contract/download/2023/2023_ristex_betten9.pdf

5.5.2 Overhead (Indirect) Costs

Overhead (indirect) costs are costs required for the management, etc. of research institutions pursuing R&D; they are, in principle, capped at 30% of direct costs. According to “Common Guidance for the Execution of Indirect Expenses of the Competitive Fund” (agreed upon by the coordination committees of relevant ministries and agencies on April 20, 2001, and amended on October 1, 2021), a research institution shall create a policy on use, etc. and shall systematically and properly execute the policy to ensure that use of indirect costs is transparent.

5.5.3 Multiple-year Contracts and Carryover

JST allows for multiple-year contracts, as well as for consigned research funds and procurement contracts to be carried over into subsequent fiscal years. This is from the perspective of ensuring research expenses are used effectively and efficiently to maximize research results and to prevent unauthorized use. However, different conditions apply for universities and businesses when performing carryovers (there may be cases where concluding a multi-year contract and carrying over research expenses are impossible at some institutions due to incompatible administration systems).

5.6 Reports

The fiscal year and final reports form the basis of the reports to be made in writing. However, we may ask for separate reports as necessary. In addition, please note that the annual report also affects approval of the plan in the next fiscal year.

Moreover, depending on the progress of the project, if, for example it becomes difficult to continue R&D or if it becomes possible to execute the business plan at an earlier stage than the initial R&D plan, so that support from JST is no longer necessary, we may ask you to revise your R&D plan or to change your R&D period (including the discontinuation of R&D) through management by the Program Supervisor, Assistant Program Supervisor and Program Advisor.

We also place importance on reports and public relations in a form that is widely open to diverse stakeholders in addition to those for the Program Supervisor, Assistant Program Supervisor, Program Advisor and the Secretariat in regard to project progress reports. Please consider building a structure in which it is possible to disseminate information in a timely manner using booklets and social networking sites.

5.7 Evaluation

(1) Evaluation of the Program

This program will be evaluated after a certain period has passed (interim, post).

(2) Evaluation of Projects, etc.

- A Program Supervisor will select proposals with the cooperation of the Assistant Program Supervisor and Program Advisor.
- For all projects, a post-evaluation will be conducted by the Program Supervisor in cooperation with the Assistant Program Supervisor and Program Advisor and others when the research and

development have been completed.

・If further improvement in the potential for establishing and deploying R&D outputs is expected, the R&D period can be extended up to two years after evaluation.

・A follow-up survey will be conducted after a certain period following the completion of the research and development.

5.8 Responsibilities of Principal Investigator and Lead Joint Researchers

(1) The Principal Investigator and Lead Joint Researchers are obliged to conduct their research, honestly and effectively, fully understanding that their research is funded by tax revenues collected from citizens.

(2) After their projects are approved, Principal Investigator and Lead Joint Researchers must agree to fulfill the following duties presented to them at JST briefings, etc., and submit a written agreement to JST.

a. Comply with requirements for application guidelines and regulations of affiliated institutions.

b. Understand that JST R&D budgets are funded by tax revenues. For this reason, they must avoid any research misconduct, including fabrication, falsification, and plagiarism, and/or the improper use of R&D funds.

c. Ensure that all implementers and other individuals participating in the R&D project are fully informed of the JST designated Educational Program on Research Integrity (eAPRIN (previously CITI Japan) e-learning program) and have enrolled in and completed the program. For details, refer to “6.1 Enrolling in and Completing the Educational Program on Research Integrity.”

Note that failure to complete the Educational Program on Research Integrity in c. will result in the suspension of the R&D budget until it has been completed, and this has been confirmed by JST.

(3) The Principal Investigator and other R&D participants must complete the JST designated Educational Program on Research Integrity (eAPRIN (previously CITI Japan) e-learning program).

(4) Project promotion and management

These individuals are also entirely responsible for project progress and management. After clarifying the roles and responsibilities within the project, the Principal Investigator and Lead Joint Researchers will play a leading role in steadily promoting the project and coordinating unified

results. These individuals will need to submit required plans and reports, etc. to JST (including the Program Supervisor), conduct project strategy meetings or site visits to confirm the strategy and progress of the project, and respond to evaluations, etc. The Principal Investigator and Lead Joint Researchers will also need to submit reports on the progress of the R&D when requested by the Program Supervisor.

(5) R&D budget management

The Principal Investigator is responsible for managing R&D costs for the entirety of the project (spending plans and progress, etc.) together with the research institution implementing the project. In the same manner, the Lead Joint Researchers are also responsible for managing the R&D budget for their groups along with the institution implementing the project.

(6) Considerations regarding R&D participants hired as part of the project

Please ensure that necessary consideration is given to the working conditions for implementers recruited to participate in the project, especially those employed using the R&D budget. Factors should include the R&D environment, working environment, and conditions of work.

(7) Participation in program activities

Active involvement in JST-organized program activities designed to meet the goals of the program (events including on-site lodging and symposiums) and cross-project initiatives is required.

(8) Outreach activities for R&D results

Since R&D activities are funded by the government, active disclosure of R&D results is expected both within Japan and overseas, taking into account the acquisition of intellectual property rights. If the results obtained are to be published in newspapers or magazines, or in a thesis, etc., details about the implementation of the project, as well as a statement stating that they are the results of the RISTEX R&D Programs must be provided. Participation in and presentations of findings at workshops and symposiums hosted or backed by JST in Japan and around the world is also required.

Participation in RISTEX's ‘Human Network for Collaboration Between Researchers and Collaborators to Solve Social Problems’ is required, along with cooperation relating to disseminating and sharing information, as well as planning and holding workshops and symposiums, etc.

(9) All matters related to the project must be performed in-line with the contract between JST and

the research institution, along with JST's rules and regulations.

(10) Cooperation with project evaluations, JST accounting audits, and national audits is also required.

(11) Information must be provided, and interviews conducted that allow for the assessment of programs (both interim and post-evaluation) and follow-up investigations conducted after a certain period of time has elapsed since the completion of the project.

5.9 Responsibilities of Research Institutions

Research institutions must fully recognize that consigned research funds are paid using public money. They must ensure compliance with related laws and make efforts to implement research effectively. Research institutions that cannot perform their responsibilities, as described below, will not be permitted to conduct R&D. Researchers are therefore requested to obtain consent from all research institutions where their R&D is going to be implemented before applying.

a. Research institutions are obliged to enter into a Collaborative Research Agreement with content provided by JST. They are also required to properly implement their R&D in accordance with the Collaborative Research Agreement, administrative manuals, and R&D plan. The research institution shall not be permitted to perform R&D if it cannot enter into a Collaborative Research Agreement with JST, or it is determined that it cannot suitably perform the R&D in question.

※ A model of the Collaborative Research Agreement can be found at the following URL: https://www.jst.go.jp/contract/index2.html

b. Research institutions are responsible for creating a framework to manage and audit public research funds. They are also obligated to properly execute their consigned research funds in accordance with the “Guidelines for the Management and Audit of Public Research Funds in Research Institutions (Practice Standards)” (decided by the Minister of Education, Culture, Sports, Science and Technology on February 15, 2007; revised on February 1, 2021). In addition to reporting the status of their management and audit system for public research budgets to the Ministry of Education, Culture, Sports, Science and Technology, research institutions are also obliged to cooperate with any investigations into the implementation of their system. (See: 6.26 (1) Implementation of Management and Audit Systems Based on the “Guidelines for the Management and Audit of Public Research Funds in R&D Institutions

(Practice Standards)".

https://www.mext.go.jp/a_menu/kansa/houkoku/1343904_21.htm

c. In accordance with the "Guidelines for Responding to Misconduct in Research" (adopted by the Minister of Education, Culture, Sports, Science and Technology on August 26, 2014), research institutions are responsible for implementing regulations and systems required to prevent misconduct. Research institutions are also responsible for cooperating with any investigations relating to these systems based on these guidelines. (See: 6.27 (1) Administrative System based on the "Guidelines for Responding to Misconduct in Research")

https://www.mext.go.jp/b_menu/houdou/26/08/1351568.htm

d. Research institutions are responsible for ensuring that those participating in R&D are aware of the content of the guidelines described in b. and c. and are provided with training based upon educational materials related to research integrity provided by JST.

e. Research institutions shall manage spending/management of R&D budgets properly in accordance with the regulations of the research institution while still maintaining reasonable flexibility. Institutions must also follow any special expenditure rules for the project defined in administrative manuals, etc., provided by JST. (Research institutions receiving Grants-in-Aid for Scientific Research may deal with consigned research funds for which there are no definitions in the administrative manuals, based upon the Grants-in-Aid guidelines for the institution in question.)

f. Research institutions must enter into contracts with researchers who will be implementing R&D and will be inventors of intellectual property relating to the R&D. This is to ensure the properties are transferred from these researchers to the institutions. In particular, appropriate action must be taken when an individual who is not subject to the Research institution's regulations regarding inventions (such as a student who is not an employee of the institution) participates in the R&D. This could include entering into a contract with the student in advance to ensure that intellectual property rights pertaining to inventions (including their conception) produced by the student during the R&D belong to the research institution (except in cases where it is clear that the student cannot become the inventor). Conditions of compensation for the transfer of intellectual property rights should not be unfavorable to the student who made the invention.

In principle, the prior approval of JST is required to transfer or provide exclusive licenses to use intellectual property to other persons or parties, etc. A prior report to JST is also needed

when applying for, registering, implementing, or renouncing property rights.

JST must be notified of intellectual property produced by research institutions through the contract for R&D with JST. Any required applications must also be made, as per Article 17 of the Industrial Technology Enhancement Act. This applies even after the contracted R&D period ends.

g. Research institutions are responsible for cooperating with accounting investigations performed by JST and with government accounting audits.

h. Research institutions are obliged to obey measures pertaining to changes to methods of payment of consigned research funds as well as decreases to R&D budgets decided by JST, based on JST's investigations of their administrative management systems, financial conditions, etc.

In addition, if project evaluations performed at the end of the JST's mid- to long-term target period requires that JST be dissolved or reduced in size, or if changes to the government's budgetary measures are made, as per the special terms in the Collaborative Research Agreement, the contract may be canceled, or reductions in consigned research funds may be made. Based on the results of the mid-term evaluations of the project, measures such as increases or decreases to consigned research fund payments, changes to the contract period, cancellation of research, etc., may be made. If JST judges that the continuation of research is not appropriate, JST may take measures such as canceling the contract, regardless of any remaining time left in the contract itself. Research institutions are required to follow these measures.

i. If the research entering into the Collaborative Research Agreement is a national or municipal organization, the institution itself is responsible for ensuring that necessary budgetary measures are put in place prior to the start of the Collaborative Research Agreement period. (If it becomes clear that these required procedures were not performed after the agreement is entered into, the Collaborative Research Agreement may be canceled, with any consigned research funds to be repaid.)

j. As a part of efforts to prevent misconduct in R&D activities, JST requires researchers who will take part in newly approved research projects and are affiliated with the research institution, to enroll in and complete an educational program on research integrity (procedures required for enrollment will be handled by JST.) Research institutions are responsible for ensuring that

relevant individuals enroll in and complete the program.

If these individuals fail to complete the program as stipulated despite repeated reminders by JST, JST instructs to the research institution to halt, partially or entirely, the payment of consigned research funds. The institution is to stop all use of the R&D budget and must not recommence using them until further notice from JST is given.

k. Necessary measures are to be put in place regarding intellectual property, confidentiality, etc., such as joint research agreements, with research institutions participating in the project, to the extent that these do not infringe on the Collaborative Research Agreement with JST. This is to prevent impediments to the appropriate implementation of R&D and the utilization of R&D results.

l. As consigned research funds are government resources, proper processes should be put in place to ensure they are used economically, efficiently, effectively, legitimately, and accurately, in a way that allows for accountability regarding this usage. Funds should be used in a planned manner. Procurement for the purpose of using any remaining budget at the end of the R&D period or at the end of the fiscal year is to be avoided.

5.10 When a Person Belonging to an Overseas Institution Participates as the Lead Joint Researcher

Individuals belonging to overseas research institutions can participate in the project while being based at the overseas institution (however, the Principal Investigator is required to belong to a domestic research institution. Please refer to “4.5 Requirements for Application” for more details). Research institutions that cannot perform their required responsibilities will not be permitted to conduct R&D. Researchers are therefore requested to obtain consent from the institutions where their R&D is going to be implemented before applying.

a. If the individual is deemed to be crucial for the Principal Investigator’s research initiative and it will be difficult (not possible) to implement the project without the overseas institution’s participation.

b. Research institutions are obliged to enter into a Collaborative Research Agreement with the Collaborative Research Agreement form provided by JST. (We may adjust the agreement terms for matters for which it is considered that there are reasonable grounds to do so in consideration of the characteristics of the research content.) Indirect costs paid will be a

maximum of 30% of direct costs. They are also obliged to properly implement their R&D, in accordance with the Collaborative Research Agreement and R&D plan. The research institution shall not be permitted to perform research if it cannot enter into a Collaborative Research Agreement with JST, or it is determined that it cannot suitably perform the R&D in question.

c. In cases where either the Collaborative Research Agreement and JST specify separate guidelines, etc., the research institution will be responsible for managing expenditure and research expenses in an appropriate manner based on these guidelines. The institution is also required to prepare and submit a detailed statement of expenses (equivalent to an income and expenditure book for domestic institutions) in English that provides details of research expenses. The research institution must, even during the period of the agreement, cooperate with all investigations into expenses, etc., by JST, as requested.

d. For other details on conditions, see the latest Collaborative Research Agreement form.

*Due to Security Export Controls, JST may not enter into Collaborative Research Agreements with institutions published on the “Foreign User List[6]” by the Japanese Ministry of Economy, Trade and Industry (METI).

5.11 Other Considerations

5.11.1 Systems for Childbirth, Childcare, Care Giving

As part of its efforts to promote equal participation from men and women, JST has implemented support systems for childbirth, childcare, and caregiving. This system provides a “Gender Equality Promotion Fund” (maximum amount: 300,000 yen per month x number of months of support) for R&D projects, etc., with the aim of enabling full-time researchers who are employed through projects being funded by JST (excluding indirect costs) to continue their research in the midst of life events (childbirth, childcare, nursing care), or to continue their careers from the time they return to research if they have to suspend their research.

Please see the following websites for details:

https://www.jst.go.jp/diversity/about/research/child-care.html

*6 METI has issued the “Foreign User List” with the aim of strengthening the effectiveness of a catch-all control on goods related to weapons of mass destruction. The list provides information on foreign organizations that have sparked unallayable concern that they may be developing or otherwise handling weapons of mass destruction, etc. https://www.meti.go.jp/policy/anpo/law05.html#user-list

5.11.2 Using the JREC-IN Porta

The database of researchers and research staff (JREC-IN Portal https://jrecin.jst.go.jp/) is the largest website for recruiting researchers in Japan. The service contains information on human resources, including researchers, supporting staff, as well as engineers involved in research. The database is completely free to browse.

The database currently holds more than 20,000 pieces of information on human resources from universities, public research organizations, and private business firms, and has more than 140,000 registered users. In addition, it is possible to simplify the management of the application documents by using the Web application function of the JREC-IN Portal. At the same time, this can also reduce the burden on job applicants. We hope you'll make use of the JREC-IN Portal to search for human resources (postdoctoral, researchers, and so on) with high levels of knowledge when recruiting for research projects.

JREC-IN Portal is linked with researchmap, and its resume and achievement list creation function enable you to easily create resumes using the information registered in researchmap.

Chapter6. Key Points in Submitting Proposals

6.1 Enrolling in and Completing the Educational Program on Research Integrity

The R&D project applicant (= the Principal Investigator) must complete the Educational Program on Research Integrity as a prerequisite for application. Note that if completion of the program cannot be confirmed, the application will be disqualified for failing to meet the requirements (Enrollment in and completion of the research integrity educational program by the time of application is not a prerequisite for those other than the Principal Investigator.)

To enroll in the Educational Program on Research Integrity and to submit a declaration of completion, follow either procedure (1) or (2) below. For application instructions using e-Rad, refer to “Chapter 7 Submission via the Cross-ministerial R&D Management System (e-Rad).”

（1）For applicants who have completed an equivalent program at their institution

Applicants, who have already completed an e-learning program or educational seminar on various aspects of research integrity (including eAPRIN (ex-CITI Japan) e-learning program and JSPS e-Learning Course on Research Ethics) at your institution by the time of their application, are requested to make the declaration of it on the e-Rad application information input screen.

（2）For applicants who have not completed an equivalent program at their institution (including applicants at institutions who do not have such a program)

a. Applicants who have in the past completed eAPRIN (ex-CITI Japan) e-learning program in a JST program: Applicants who have in the past completed eAPRIN (ex-CITI Japan) e-learning program in a JST program by the time of their application are requested to make the declaration of it on the e-Rad application information input screen.

b. For other applicants for whom a. above does not apply: Applicants who find it difficult to enroll in the educational program for research integrity because their institution does not offer such a program or for other reasons may enroll in and take a digest version of eAPRIN (ex-CITI Japan) e-learning program offered through JST. Please attend from the URL below.

https://edu2.aprin.or.jp/ard/

No cost is needed for completing the program, which will take one to two hours to complete. After enrolling and completing the digest version promptly, applicants are expected to declare completion in the e-Rad application information input screen.

■Contact for consultation on the Educational Program on Research Integrity
Research Integrity Division, Department of Legal Affairs and Compliance,
Japan Science and Technology Agency (JST)
E-mail： rcr-kousyu@jst.go.jp

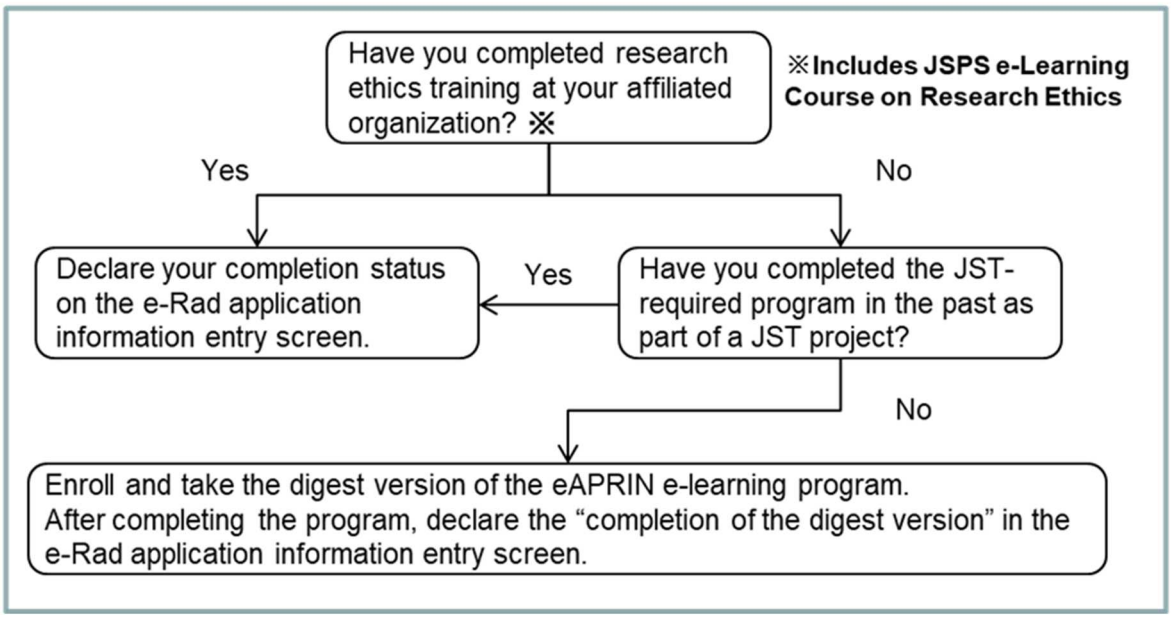
■Contact for consultation on the call for application
Research Institute of Science and Technology for Society (RISTEX),
Japan Science and Technology Agency (JST)
E-mail：

(For applications)boshu-digist@jst.go.jp

(For general inquiries)boshu@jst.go.jp

* Include the program name, e-Rad's proposal ID, research applicant name and project name in the body of email.

<Flow chart for Reporting Completion of Research Ethics Education Programs>



JST requires researchers of the projects to enroll in and complete designated units of the eAPRIN (ex-CITI Japan) e-learning program. All researchers of an accepted proposal are required to complete the designated units of the eAPRIN (ex-CITI Japan) e-learning program (excluding those who have already completed the designated modules at their institution or in another JST program).

6.2 Measures against Unreasonable Duplication and Excessive Concentration

○Measures against "Unreasonable Duplication"

If a given R&D project by a given researcher (i.e. the name and content of the R&D project are the same, and the R&D project is receiving competitive research funding) is unnecessarily receiving multiple competitive research funds or other research funds (all current research funds for individual research subjects, such as subsidies, grants, joint research funds, contract research funds, etc., including those from overseas (*)), and any of the following applies, the R&D projects may be rejected, canceled or reduced (hereinafter referred to as "rejection of R&D projects") depending on the degree in this program.

• In the case that a duplicate application is made for multiple competitive research funds or other research funds at the same time for an R&D project that is essentially the same (including cases where they overlap to a considerable extent; the same as hereinafter), and they are selected more than once.

• In the case that there are applications for multiple competitive research funds and other research funds at the same time for an R&D project that are substantially the same, and they are adopted more than once.

• In the case that there are multiple applications for the R&D projects that are substantially the same as the competitive research funds or other research funds that have already been selected and funded.

• In the case that there is an overlap in intended application of research funding between multiple R&D projects.

• Other cases equivalent to the above.

At the application stage for this program, there are no limitations regarding the submission of proposals to other competitive research funding programs or other research funds. If an R&D project is selected by another competitive research funding program or other research funds, report this promptly to JST at the contact address (boshu-koritsu@jst.go.jp). If there is any omission in this report, there is a possibility that the R&D project will be rejected in this program.

* Excludes basic expenses or internal funds that are allocated within the institution to which the company belongs, commercial activities stipulated by the Commercial Code, and financing through direct or indirect financing.

○**Measures against “Excessive Concentration”**

Even if the content of the research proposed for this program differs from the content of another research being carried out under another competitive research funding program or other research funds, in the case that the overall research funding allocated to the same researcher or research group (hereinafter referred to as “researchers”) in relevant fiscal year exceeds an amount that can be utilized effectively and efficiently and can be used within the research period, in this program, the R&D projects may be rejected in accordance with the degree of the following cases.

- In the case that an excessive amount of research funding is being received in light of the capabilities of the researchers and the research methods being used, etc.
- In the case that an excessive amount of research funding is being received, compared with the amount of effort (percentage of the researchers' overall working time* that is required for carrying out the said research project) allocated to the R&D project.
- In the case that highly expensive research equipment is purchased unnecessarily.
- Other cases equivalent to the above.

For this reason, after submitting your application to this program, if you submit proposals to other competitive research funding programs or other research funds, and the R&D project is selected by them, or if any information provided in your application changes, please report this promptly to JST at the contact address (boshu-koritsu@jst.go.jp). If reporting is omitted, the approval decision for the R&D project may be revoked.

*The total work time of a researcher includes the time not only for research activities but also for teaching activities, management assignments, and other activities substantially equivalent to work.

○**How to Eliminate Unreasonable Duplication and Excessive Concentration**

To eliminate unreasonable duplication and excessive concentration of competitive research funds, ensure transparency in research activities, and ensure appropriate efforts, applicants shall provide the following information at the time of application.

(i) Providing information on the current application / acceptance status of other competitive research funds including those of other ministries and other research funds, and all current affiliated institutions / positions.

At the time of application, regarding the Principal Investigator / Lead Joint Researchers, the current application / acceptance status of other competitive research funds including those of other ministries and other research funds (program name, R&D subject, implementation period, budget amount, effort, etc.) (Hereinafter referred to as "information on research funds") and information on all current affiliated institutions / positions (including side jobs, participation in foreign recruitment programs, honorary professors without employment contracts, etc.) (hereinafter referred to as "information

about your institution / position") are required to be provided in the application documents and the Cross-ministerial R&D Management System (hereinafter referred to as "e-Rad"). If the application documents or e-Rad contain false statements, the R&D project may be rejected.

Of the information on research expenses, information on joint research with which confidentiality agreements have been signed will be handled as follows in consideration of individual circumstances so that activities such as industry-academia collaboration will not be shrunk.

・Only the information necessary to confirm whether the submitted R&D project does not result in unreasonable duplication or excessive concentration of research funds and can appropriately secure the effort related to the execution of the R&D project (in principle, information of the joint research such as only the name of the partner institution, the amount of research funds accepted, and information related to effort) will be requested.
・However, if it is difficult to submit the name of the partner institution and the amount of research expenses accepted due to unavoidable restrictions such as the confidentiality agreement that has already been concluded, it is possible to submit the application without the information. Even in that case, JST may make inquiries to the institution to which you belong if necessary.
・In addition to the affiliated institution, information may be shared between distribution institutions and related ministries and agencies, but even in that case, it will be shared only by those who have a duty of confidentiality.

When concluding a non-disclosure agreement, etc. in the future, please consider assuming that you may submit only the necessary information when applying for competitive research funds. However, if both contracting parties agree on the scope of information to be kept confidential and its legitimate reason (such as when it is considered to be extremely important in corporate strategy and highly confidential), it is possible to make a contract that does not assume the confidential information will be submitted.

(ii) Provision of other information necessary to ensure transparency in all research activities in which one is involved.

To ensure transparency in all research activities in which you are involved, JST requests a pledge

that we are properly reporting the necessary information on research expenses, affiliated institutions and job titles, and support for facilities and equipment other than donations and funds (*) to the institution to which you belong based on the relevant regulations. If it is found that an appropriate report has not been made in violation of the pledge, the R&D project may be rejected.

Information on the acceptance status of facilities / equipment, etc. that are not used for the R&D project of the application but are used for the research that is separately engaged does not relate to unreasonable duplication or excessive concentration. However, from the viewpoint of confirming whether an R&D project can be sufficiently carried out or not, in addition to the pledge, JST may ask the affiliated institution to submit the status of grasping and managing the information.

* Includes cases where articles such as research facilities, machines, and equipment are supplied, and services are provided even in the manner of free of charge.

○**Provision of Information on Proposal Contents to Eliminate Unreasonable Duplications and Excessive Concentration**

In order to eliminate unreasonable duplication and excessive concentration, to the extent necessary, the information of some proposals (or selected projects/programs) may in some cases be provided through the Cross-ministerial R&D Management System (e-Rad) to other departments in charge of competitive research funds, including those of other government ministries.

6.3 Ensuring Research Integrity against New Risks Associated with Internationalization and Openness of Research Activities

In order to promote the creation of science, technology and innovation in Japan, it is necessary to continue to strongly promote international joint research with various partners, with open science as the main principle. At the same time, in recent years, it is pointed out that there are new risks associated with the internationalization and openness of research activities which may impair the values that form the basis of the research environment, such as openness and transparency, and there are dangers that researchers unintentionally fall into conflicts of interest and responsibilities. Under these circumstances, building an internationally reliable research environment as Japan is indispensable for promoting necessary international cooperation and exchanges while preserving the values that form the basis of the research environment.

Therefore, in accordance with “the policy for ensuring research integrity against new risks

associated with the internationalization and openness of research activities" (decided by the Integrated Innovation Strategy Promotion Council on April 27, 2021), it is essential to establish rules and management systems related to conflicts of interest and responsibilities, and autonomously ensure the soundness and fairness (research integrity) of research at researchers, universities, research institutes, etc.

From this point of view, we are confirming whether we can appropriately secure efforts while eliminating unreasonable duplication and excessive concentration of competitive research funds and ensuring transparency in research activities. We may make inquiries to the institution to which you belong, as necessary, regarding the status of maintenance of regulations and the status of grasping and managing information.

6.4 Measures against Inappropriate Usage of Research Funds

Inappropriate use and reception (referred to as "inappropriate usage" hereinafter) of research budgets related to the ongoing R&D projects are strictly treated as described below.

○Measures Taken in the Case that Inappropriate Usage of Research Expenses are Found

(ⅰ) Measures to Cancel Contracts

The Collaborative Research Agreement contract is cancelled or altered if issues of inappropriate usage are found, and a request is made for refunding all or part of the entrusted funds. Contracts for the following year and subsequent years may not be concluded.

(ⅱ) Measures to Restrict Application and Participation Eligibility※1

Restriction measures set out in the table below, depending on the levels of inappropriate usage, are taken against the application and participation eligibility of researchers※2 (including researchers who conspired, referred to as ("researchers who conspired to inappropriate usage")) who exercised inappropriate usage of research expenses of this program or those whose involvement in inappropriate usage is not proven but who violated due care of a prudent manager. Or they are otherwise reprimanded.

Furthermore, the outlines of pertinent inappropriate usage (names of researchers who exercised inappropriate usage, project names, affiliations, research issues, amounts of budget, fiscal year of research, contents of inappropriate usage, contents of measures taken, etc.) are provided to

persons in charge of the competitive research funds of other ministries, who may restrict application and participation of the researchers in their competitive research funding programs.

※1 “Application and participation” refers to the proposal, subscription, and application of a new project; participation in R&D as a new Joint Researcher; and participation in an ongoing R&D project as a Principal Investigator or a Joint Researcher.

※2 “Researchers who violate due care” refers to those whose involvement in inappropriate usage is not proven but who violated the duty of due care of prudent manager they should exercise.

<table>
<tr><th>Classification of person who committed or is involved in misconduct in use of research budget</th><th colspan="2">Extent of maliciousness in misconduct</th><th>Period of ineligibility for applying to competitive research fund, deemed to be reasonable*3</th></tr>
<tr><td rowspan="4">A researcher who committed a misconduct or a researcher who was in conspiracy with a person who committed a misconduct *1</td><td colspan="2">1 Use of a research budget to make a private profit</td><td>10 years</td></tr>
<tr><td rowspan="3">2 Other than 1</td><td>①Impact of the misconduct on the society is substantial and maliciousness of the misconduct is judged to be high</td><td>5 years</td></tr>
<tr><td>②Neither ① or ③</td><td>2-4 years</td></tr>
<tr><td>③ The impact of the misconduct on the society is small and the maliciousness of the misconduct is judged to be low.</td><td>1 year</td></tr>
<tr><td>A researcher who used a fabrication and other dishonest means to receive a competitive research fund or etc. and a researcher who was in conspiracy with the person who committed this misconduct</td><td colspan="2"></td><td>5 years</td></tr>
<tr><td>A researcher who did not commit or was not involved in a misconduct, but used a research budget,</td><td colspan="2"></td><td>1 to 2 years (in maximum) in accordance with the degree of failure of fulfilling his/her duty</td></tr>
</table>

inappropriately, failing to fulfill his/her duty of due care of prudent manager *2		of due care of prudent manager

A strict warning is issued under any of the following conditions without restricting application or eligibility for participation.

*1: In case of this, the influence over the society is minor, the malignancy of the act is minor, and the amount of unjustifiable use is small.

*2: In case of this, the influence over the society, as well as the malignancy of the act, is minor.

*3: In principle, the application restriction period will be calculated from the fiscal year following the fiscal year when the unauthorized use is recognized, and the research funds are refunded. Also, ineligible in the fiscal year in which inappropriate usage of research funds are identified.

(iii) About Public Announcement of a Case of Inappropriate Usage

Among those who are involved in an inappropriate usage of the program's research funds or those who failed to fulfil their duty of due care of prudent manager, regarding those researchers whose eligibility of application to or participation in this program is restricted, information of the outline of their misconduct (name of researcher, name of program, name of affiliated institution, fiscal year of research, details of misconduct, details of measures taken) will be disclosed in principle by JST. At the same time, information of outline of their misconduct (name of program, name of affiliated institution, fiscal year of research, details of misconduct, details of measures taken) will be also disclosed in principle by MEXT.

Furthermore, according to the "Guidelines for the Management and Audit of Public Research Funds in R&D institutions (Practice Standards)," once misconduct is determined as the outcome of an investigation of an institute, it will be the responsibility of the R&D institution to announce the results of the investigation; hence, we request that each institution deal with the matter appropriately, following the "Guidelines."

https://www.mext.go.jp/a_menu/kansa/houkoku/1364929.htm

6.5 Measures taken for Researchers whose Application and Participation Eligibilities are Restricted in Another Competitive Research Fund System

Researchers on whom restriction is imposed for the reason of inappropriate usage of research expenses in another competitive research fund system* including those managed by other ministries are not eligible to apply to or participate in this program while their qualifications are restricted for

application in the competitive research fund system.

“Other competitive fund systems” include those systems that newly start a call for proposals in FY2023 and those that finished in FY2022 and before.

* Refer to “R&D proposal funding system” (https://www8.cao.go.jp/cstp/compefund/)

6.6 Majors taken to the Violation of Related Guidelines

Violation of related laws or guidelines, etc., in conducting research may result in penalties and sanctions being applied to persons and organizations that committed the violation, and the suspension or cancellation of research funding.

6.7 Carryover of Research Expenses

Making a carryover of research expenses until the end of next fiscal year for a maximum, may be permitted if the delay of the progress in the project occurs, and it is difficult to conclude within the fiscal year due to unavoidable circumstances such as difficulties to determine in advance the research or study method of the experimental research, restrictions associated with planning and designing, weather-related conditions, limited availability of materials, and others.

6.8 Cross-ministerial Expenses Handing Partitioned Table

The expense items of research costs specific to this program are determined on the basis of “Cross-ministerial Expenses Handing Partitioned Table.” As for research expenditure, refer to the “Cross-ministerial Expenses Handing Partitioned Table” on the website.

Cross-ministerial Expenses Handing Partitioned Table（JST RISTEX R&D Programs）
https://www.jst.go.jp/contract/download/2023/2023_ristex_betten9.pdf

Currently, in response to the “6th Science, Technology and Innovation Basic Plan,” the “Integrated Innovation Strategy 2022” and the “Comprehensive Package for Strengthening Research Capabilities and Supporting Young Researchers,” the system for competitive research funding is being improved. Based on this, this program makes it possible to spend personnel expenses of the research representative of the project (hereinafter referred to as “PI”), expenses related to agency work other than research (buyout expenses) from direct expenses. When spending PI personnel

expenses and expenses (buyout expenses) related to agency work other than research, please refer to the following necessary requirements and paperwork procedure.

○ “Review to Enable Payment of Expenses for Others to Execute Non-research Operations from Direct Costs (Buyout System Introduction) and Payment of the Personnel Expenses of the Principal Investigator (PI) from Direct Costs (Contact)” (September 17, 2020)
https://www.jst.go.jp/osirase/2020/pdf/20200917.pdf

Please refer to the following URL for the policy on the scope of eligibility, expenditure ceiling, etc. for the RISTEX R&D Programs
https://www.jst.go.jp/ristex/funding/funding_outline/for_researcher.html

6.9 Exchange of Direct Costs between Expense Items

Direct costs of different expense items can be exchanged under certain condition. Exchanges are allowed without approval from JST when the amount of direct costs to be exchanged does not exceed 50% of the total direct costs (5 million JPY if the 50% of total direct costs is less than 5 million JPY).

6.10 Securing Research Period until the End of Fiscal Year

In order to enable researchers to continue their research work until the end of a fiscal year, statements below should be followed in every JST competitive research funds.

(1) JST makes inspections on the completion of the project and the achievements of the research.
(2) Submit the accounting report by May 31.
(3) Submit the report on the research achievements by May 31.

Each research institute should make efforts to organize necessary systems at the institute based on the fact that the purpose of those practices is to secure the research period that continues by the end of a fiscal year.

6.11 Storage of Receipts and Report of Actual Usage of Overhead Costs (Indirect Costs)

Institutions who received overhead costs are required to manage the costs appropriately and store

the receipts as evidence for the appropriate use of overhead costs for five years counted from the fiscal year following the fiscal year when project ended.

Institutions which received overhead costs are required to report each fiscal year the actual use of overhead costs via e-Rad before June 30 of the next fiscal year. (If a research institute has acquired two or more competitive research funds, report all indirect costs accompanied by such competitive research funds.)

The user's manual for e-Rad is provided on the website.

(https://www.e-rad.go.jp/manual/for_organ.html).

FAQs are also provided on the website (https://qa.e-rad.go.jp/).

6.12 Promotion on Effective Use of Research Facilities and Equipment

According to "Reform on Competitive Research Funds for Sustainable Creation of Research Achievements (Midterm Summary)" (Examination Meeting on the Reform of Competitive Funds, June 24, 2015), it is considered appropriate that facilities/equipment which are comparatively large in scale and have high general applicability should in principle be shared, under the assumption that the original research objectives are sufficiently accomplished.

In addition, the "6th Science, Technology and Innovation Basic Plan" (approved by the Cabinet on March 26, 2021) and the "Integrated Innovation Strategy 2022" (approved by the Cabinet on June 3, 2022) call for measures such as promoting the maintenance and sharing of research equipment and facilities, establishing an institutional system for introducing, updating, and utilizing research equipment (core facility), and formulating and publishing a sharing policy.

In March 2022, MEXT established the "Guidelines for the Sharing and Promotion of Research Equipment and Apparatuses" for purposes such as promotion of strategic establishment, operation and sharing of research equipment and apparatuses by institutes such as universities.

Based on the above, for research facilities/equipment which are purchased by this program, and particularly for large scale, general purpose items, positive efforts for sharing should be made, including sharing which does not hinder the progress of the project, use of research facilities and equipment purchased with other research funds, and purchase and sharing by combining multiple research funds, within the scope of the management conditions of other research funds and in accordance with the equipment sharing system in the affiliated institution or organization. In such cases, it is important to be aware that sharing is also possible during the project period and consider

further sharing. Among other reasons, this will strengthen research capabilities by facilitating the use of the latest research equipment and apparatuses.

Please note that it is necessary to strike a balance between management as shared equipment/facilities and accomplishment of the research purpose of the project.

Moreover, participants are asked to promote the sharing of research facilities and equipment beyond the framework of individual research organizations and institutes by positively cooperating with the “Inter-University Network for Common Utilization of Research Equipment,” which was implemented for the purpose of the mutual use of facilities in the National Institutes of Natural Sciences, and the sharing system constructed thanks to the “New Shared System Introduction Support Program” and the “Core Facility Construction Support Program” in each university.

○ “Reform on the Competitive Research Funds for Sustainable Creation of Research Achievements (Midterm Summary)” (Examination Meeting on the Reform of Competitive Funds, June 24, 2015), in Japanese.

https://www.mext.go.jp/b_menu/shingi/chousa/shinkou/039/gaiyou/1359306.htm

○ “6th Science, Technology and Innovation Basic Plan” (approved by the Cabinet on March 26, 2021) in Japanese.

https://www8.cao.go.jp/cstp/kihonkeikaku/6honbun.pdf

○ “Integrated Innovation Strategy 2022” (approved by the Cabinet on June 3, 2022) in Japanese.

https://www8.cao.go.jp/cstp/tougosenryaku/togo2022_honbun.pdf

○ Unification of usage rule of competitive research funds (March 5, 2021), in Japanese.

https://www8.cao.go.jp/cstp/compefund/toitsu_rule_r30305.pdf

○ “The Purchase of Shared Facilities Using Multiple Research Fund Systems (Use of Combined Total)” (September 10, 2020, Agreement between the institutions allocating funds and the relevant supervising government bodies)

https://www.mext.go.jp/content/20200910-mxt_sinkou02-100001873.pdf

○ “Guidelines for the Sharing and Promotion of Research Equipment and Apparatuses” (established March 2022)

https://www.mext.go.jp/content/20220329-mxt_kibanken01-000021605_2.pdf

(Reference: Summary on YouTube) https://youtu.be/x29hH7_uNQo

○ Inter-University Network for Common Utilization of Research Equipment, in Japanese.

https://chem-eqnet.ims.ac.jp/

○ New Shared System Introduction Support Program, Core Facility Construction Support Program, in Japanese

https://www.jst.go.jp/shincho/program/pdf/sinkyoyo_brochure2021.pdf

6.13 Improving the Treatment of (latter-stage) Doctoral Students

The “6th Science, Technology and Innovation Basic Plan” (approved by the Cabinet on March 26, 2021) set a numerical target to triple the number of doctoral students who receive the amount equivalent to living expenses (equivalent to about 30% of students enrolled in the doctoral program receiving the amount equivalent to living expenses), improving financial support for graduate students, especially doctoral students (second semester), in order to attract excellent students and working people from inside and outside of Japan. In addition, the Basic Plan states that in order to promote the payment of salaries to doctoral students (second semester) at an appropriate level for research assistants (RA) from competitive research funds and joint research funds, the government will formulate rules for the payment of RA expenses relating to employment and remuneration for RAs at each business and university, and implement them sequentially from FY2021, urging the expansion of the employment of doctoral students as RAs and their improved treatments at universities and research and development agencies.

Moreover, in relation to doctoral students (second semester), the “Guidelines for the Employment and Training of Postdoctoral Researchers” (December 3, 2020, Committee on Human Resources, Council for Science and Technology) note that “while they are students, they also possess aspects of researchers, and it is a key obligation of universities that train researchers to guarantee their treatment and maintain an environment in which they can carry out research activities;” “it is particularly important to treat them based on appropriate evaluations of their contributions, including paying them according to the hours they have worked under appropriate work management by determining compensation commensurate with the nature and content of their duties;” and “in your application for competitive research funds, there is a need to include the expenses required as direct costs if you are employing an RA in a university, and you should review the university’s rules to ensure that you can pay your RA(s) an appropriate level of compensation.”

Based on the above, in this program, please actively employ doctoral students who are necessary for the execution of your research as RAs, etc., and pay them according to the hours they have worked under appropriate work management by setting a unit price commensurate with the nature and content of their duties, while aiming for the salary level to be equivalent to the cost of living. In addition, when applying for this program, please apply with a financial plan that also takes into account the costs of the above-mentioned doctoral students.

(Notes)

- Under the 6th Science, Technology, and Innovation Basic Plan, the amount equivalent to living expenses of doctoral students is set as a minimum of 1.8 million yen per year. In addition, in order for excellent doctoral students to focus on their research without financial concerns, it also states a significant expansion of the number of beneficiaries receiving about 2.4 million yen per year that is equivalent to the stipend paid through the JSPS Research Fellowship for Young Researchers (Doctoral Course Students (DC)) program.
- With regard to the treatment of doctoral students who have been hired to carry out a research project, the “Guidelines for the Employment and Training of Postdoctoral Researchers” state that “the standard pays for a specially-appointed assistant professor employed with competitive research fund is considered to be around 2,000 yen to 2,500 yen per hour*, taking average amounts of pay into account.”

- (*) The standard pays for a specially-appointed assistant professor employed with competitive research funds, etc. are considered to be around 2,000 yen to 2,500 yen per hour in the case of a doctoral student, taking average amounts of pay into account. (Calculated based on the median monthly salary (between 400,000 and 450,000 yen) of specially-appointed assistant professors according to the Survey on Instructor Employment at Research Universities (Preliminary Report) published August 2020 divided by the number of working hours per day (between 7 hours 45 minutes and 8 hours) for actual days worked (between 19 and 20 days), excepting weekends and holidays, and multiplying by 0.8 in light of their status as doctoral students.)

- The specific amount and period of payment will be determined by the research institution.

There is no restriction on the amount of payment above or below the level mentioned above.

- When employing students as RAs, etc., please pay attention so that they do not work excessive hours, and consider the balance between work time and the doctoral students' own research and study time.

6.14 Securing an Independent and Stable Research Environment for Young Researchers

The "Guidelines for the Employment and Training of Postdoctoral Researchers" (December 3, 2020, Committee on Human Resources, Council for Science and Technology) note that "while many postdoctoral students are employed for less than three years, their employment term must enable them to focus on the same research activities for a reasonable period of time, as an overly short term of employment could impede them from building a career," and "an employment term of three to five years at each post is ideal in light of the fact that postdoctoral students should ideally proceed to the next step in the period of three to seven years between the time they have gained postdoctoral experience in one or two locations and their late 30s."

Concerning National University Corporations and Inter-University Research Institute Corporations, "Guidelines for Personnel Salary Management Reform for National University Corporations, etc.: Toward the Establishment of Attractive Personnel Salary Management that Contributes to the Improvement of Educational and Research Capabilities" (Ministry of Education, Culture, Sports, Science and Technology (MEXT), February 25, 2019) states that "to achieve the two goals of fostering young faculty members and stabilizing employment, a system should be implemented which incorporates the perspective of developing researchers while maintaining flexibility, such as securing employment terms of a certain length — 5 to 10 years — by using expenses with a high degree of freedom of use, such as indirect expenses and endowments, even if the researchers have a fixed term of employment."

Based on these considerations, when hiring young researchers such as specially appointed faculty members and postdoctoral fellows for this program, applicants are advised to check with the staff in charge of the human resources and accounting of your department in ensuring that the length of the researchers' employment term is the same as that of their R&D periods. It is also advised to secure the particular length of their employment term by utilizing indirect expenses of other external funding awards, essential expenses, endowment, etc. as far as possible so that their employment term will not be too short.

6.15 Self-motivated Research Activities by Young Researchers Employed to Carry Out Projects

With regard to young researchers employed in this program, based on the “Implementation Guidelines for Self-motivated Research Activities by Young Researchers Employed with Competitive Research Funds” (Revised on December 18, 2020, Agreement of the Liaison Meeting of Related Government bodies on Competitive Research Funds), if the Principal Investigator, etc. judges that it will not hinder the progress of a project but help it, and permission is obtained from the research institution with which they are affiliated, researchers may use some of their efforts working on this program for self-motivated research activities and/or activities that will improve their research and management capabilities, while using program funds for personnel expenses. Please see the following for more information.

○ “Self-motivated Research Activities by Young Researchers Employed to Carry Out Projects (contact)” (April 10, 2020)
https://www.jst.go.jp/osirase/2020/pdf/20200414.pdf

Please refer to the following URL for the policy on the scope of eligibility, etc. for the RISTEX R&D Programs
https://www.jst.go.jp/ristex/funding/files/senjukanwa_houshin.pdf

6.16 Support for Diverse Career Paths for Young Researchers with Doctoral Qualifications

The “6th Science, Technology and Innovation Basic Plan” (approved by the Cabinet on March 26, 2021) also sets targets regarding “environments that provide excellent young researchers with prospects for activities in various fields, including academia, industry and government”. Furthermore, the “Guideline for the Employment and Training of Postdoctoral” (December 3, 2020, the Committee on Human Resources, Council for Science and Technology Policy) states that “it is essential that doctorate human resources with high level specialization and advanced research skills should help drive innovation by contributing in a wide range of positions, including at venture companies and global corporations, and accordingly, initiatives are needed for the diversification of career paths after the completion of the postdoctoral period.” Based on this, when a project is selected in this call

for R&D applications and young researchers such as specially appointed researchers and postdoctoral researchers are to be employed with public research funds (competitive research funds or other project research funds, or public invitation-type education research funds for universities), the institution concerned should make active efforts to support those researchers in securing diverse career paths. Institutions should also consider using indirect funds in these efforts.

6.17 Securing management personnel of URA, etc.

In the “6th Science, Technology, and Innovation Basic Plan” (approved by the Cabinet on March 26, 2021), the importance of efforts to ensure professional quality and improve treatment has been pointed out for making URA and other management personnel to be attractive positions. In addition, the need of establishing career paths for management personnel, URA and engineers, etc., is indicated in the “Comprehensive Package to Strengthen Research Capacity and Support Young Researchers” (Council for Science, Technology, and Innovation on January 23, 2020).

Based on the above, when management personnel employed by the research institution, or newly hired URA, etc., is engaged in the management of this research program, the research institutes should secure a term of office for a certain period as much as possible by utilizing indirect expenses, basic expenses, donations, etc., of other external funds, not limited to this program, so that their employment term will not be too short.

At the same time, as support for securing career paths of the management personnel, please take positive efforts for providing opportunities to participate in URA training, etc. Please consider utilizing indirect costs for such efforts.

6.18 Security Export Control (Measures against Leakage of Technology Internationally)

Many advanced technologies are studied at research institutions. Particularly at universities, there is a heightened risk of leakage of advanced technologies and research-related materials/equipment or misuse in development/manufacture of weapons of mass destruction owing to the increased number of international students and foreign researchers due to internationalization. For this reason, an organizational response by the research institution is required when a research institution conducts research activities, including the relevant contract research, so that research results with potential military applications are not passed to groups or individuals considering activities of concern, such as terrorist groups and developers of weapons of mass destruction.

In Japan, for the purpose of maintaining international peace and security, export controls (* 1) are imposed based on the Foreign Exchange and Foreign Trade Act (Act No. 228 of 1949; hereinafter, “Foreign Exchange Act”). Accordingly, when attempting to export (provide) goods or technologies controlled under the Foreign Exchange Act, in principle, a license from the Minister of Economy, Trade and Industry (METI) is necessary. All those participating in this program must comply with the Foreign Exchange Act and all other laws, ordinances, guidelines, notifications, etc. of the national government. In addition to legal action and penalties, distribution of research funds may be stopped and the decision to allocate research funds may be cancelled if research is conducted in violation of the relevant laws, ordinances, guidelines, etc.

* 1 Currently, based on international agreements, etc., Japan’s security export control mainly consists of two systems below.
(1) a system (list regulation) that requires a permission from the Minister of Economy, Trade and Industry in case of attempting to export (provision) of cargo (technology) with specifications and functions above a certain level among the items listed in the Appended Table 1 of the Export Control Order and Foreign Exchange Order,
(2) a system (catch-all regulation) that requires a permission from the Minister of Economy, Trade and Industry in case of attempting to export (provision) of cargo (technology) that do not fall under the listed regulations and there is a risk of military diversion (use requirement and consumer requirement, or inform requirement).

Not only the export of cargo but also the provision of technology is subject to the regulation of the Foreign Exchange Law. When providing list regulation technology to non-residents (including residents who fall under a specific type (* 2) after May 1, 2022), or when providing it in a foreign country, permission is required prior to the provision. Provision of technology includes not only providing technical information, such as design drawings, specifications, manuals, samples and prototypes in storage media, such as paper, e-mail, CD, DVD, or USB memory, but also providing work knowledge through technical guidance, training or technical assistance in seminars. Acceptance of foreign students from abroad and activities such as joint research may include many exchanges of technologies that may be subject to the regulations of the Foreign Exchange Law. Please note that the technology acquired through this program may also be subject to regulation

when it is intended to be exported (provided).

* 2 Refers to the types of residents who are strongly influenced by non-residents, which are specified in 1.(3)サ①～③ of “transactions or acts providing technology that requires permission based on the regulations of Foreign Exchange and Foreign Trade Law, Article 25, Paragraph 1, and the Foreign Exchange Order, Article 17, Paragraph 2.”

In addition, based on the Foreign Exchange Law, it is necessary to establish a security trade management system when exporting list-regulated cargo or providing list-regulated technology to foreign countries (* 3). Therefore, by the time the contract is concluded, it will be confirmed whether or not the project plans to export cargo and technology that are subject to the export restrictions of the Foreign Exchange Law, and if there is an intention to export, it will be confirmed whether or not there is a management system. If you are willing to export and do not have a management system, we request that you establish a system by the time of export or the end of the project, whichever comes first. The confirmation status may be reported to the Ministry of Economy, Trade and Industry at the request of the Ministry of Economy, Trade and Industry. In addition, if it is found that the technology acquired through this program violates the regulations related to the Foreign Exchange Law, the contract may be canceled in whole or in part.

* 3 Exporters, etc. are obliged to comply with the “Exporter Compliance Standards” stipulated in Article 55-10, Paragraph 1 of the Foreign Exchange Law. In addition, the security trade management system here is based on the management system in the “Exporter Compliance Standards,” and refers to the internal control system of an organization to prevent illegal exports by appropriately exporting list-regulated cargo or providing list-regulated technology to foreign countries.

Details of security trade management are available on the websites of the Ministry of Economy, Trade and Industry, etc. See below for details.

- Ministry of Economy, Trade and Industry: Security Trade Management (general)

https://www.meti.go.jp/policy/anpo/

- Ministry of Economy, Trade and Industry: Deemed export control (related to * 2 above)

https://www.meti.go.jp/policy/anpo/anpo07.html

・ Ministry of Economy, Trade and Industry: Guidance on sensitive technology management related to security trade (for universities and research institutes)

https://www.meti.go.jp/policy/anpo/law_document/tutatu/t07sonota/t07sonota_jishukanri03.pdf

・ Ministry of Economy, Trade and Industry: Model Security Trade Management Regulations Manual for Universities and Research Institutes

https://www.meti.go.jp/policy/anpo/daigaku/manual.pdf

・ Center for Information on Security Trade Control

https://www.cistec.or.jp/export/jisyukanri/modelcp/modelcp.html

・ Ministry of Economy, Trade and Industry: Security Trade Guidance (Introduction)

https://www.meti.go.jp/policy/anpo/guidance.html

6.19 Strict Adherence to United Nations Security Council Resolution No. 2321

In response to the nuclear test and repeated launching of ballistic missiles by North Korea in September 2016, The United Nations Security Council (hereinafter referred to as “Security Council”), adopted Security Council Resolution No. 2321 on November 30, 2016, that substantially increased and strengthened sanctions against North Korea. Accordingly, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) issued the Request for Strict Adherence to United Nations Security Council Resolution No. 2321 (2016 MEXT document No. 98) on February 17, 2017.

“Scientific and technical cooperation” in the section 11 in the main text of the Resolution is not limited to technologies regulated under the Foreign Exchange and Foreign Trade Act, but includes all cooperation with the exception of medical exchange. Accordingly, it is important to remember that the research institution must adhere to this Resolution in all research activities, including the relevant commissioned research.

See the following link for more information on Security Council Resolution No. 2321.

○ Ministry of Foreign Affairs of Japan: United Nations Security Council Resolution No. 2321, Japanese translation (Ministry of Foreign Affairs Notice No. 463 (issued on December 9, 2016))

https://www.mofa.go.jp/mofaj/files/000211409.pdf

6.20 Dialogue and Collaboration with Public Stakeholders

“Promotion of Science and Technology Dialogue with the People (Basic Initiative Policy)” (decided by the Minister of State for Science and Technology Policy and a member of the Diet on June 19, 2010) states that, in order to constantly achieve the excellent results of science and technology and create and further develop Japan's science and technology, it is essential to return the results of science and technology to the people, gain the understanding and support of the people, and promote science and technology together. If your project is selected for this open call, we request that you actively engage in “scientific and technical dialogue with the people” such as public lectures on research results, symposiums, continuous distribution of research results on the Internet, and round table conferences that involve various stakeholders.

○ Promotion of “Science and Technology Dialogue with the People” (Basic Initiative Policy)
https://www8.cao.go.jp/cstp/stsonota/taiwa/taiwa_honbun.pdf

In addition, the “6th Science, Technology, and Innovation Basic Plan” (approved by the Cabinet on March 26, 2021) calls for the co-creation of knowledge and the enhancement of science and technology communications through the participation of diverse entities, including citizen participation. JST provides the following examples of “opportunities for interactive dialogue and collaboration among diverse entities.”

○ Science Agora
https://www.jst.go.jp/sis/scienceagora/
○ Miraikan – The National Museum of Emerging Science and Innovation
https://www.miraikan.jst.go.jp/en/

6.21 Open Access and Research Data Management

In April 2017, JST announced the basic policy regarding the handling of research results for the promotion of open science. This was amended in April 2022. This policy stipulates the basic concept of making research results papers open access and storing, managing, and disclosing research data in the research activities of this program.

As a general rule, researchers participating in this program are requested to publish their research papers through institutional repositories and open-access publications. In particular, a peer reviewed

research paper should in principle be published within 12 months. In addition, based on the data policy of the research institution, researchers create a data management plan that describes the policy and plan regarding the storage / management, disclosure / non-disclosure of research data generated as a result of research activities, submit it to JST and carry out the research activities after storing, managing, and disclosing the research data based on this plan. This plan can be changed during the course of conducting research. Refer to the following for more details.

○ JST's basic policy regarding the handling of research results for the open science promotion
https://www.jst.go.jp/all/about/houshin.html#houshin04 (Japanese version only)

○ JST's basic policy operational guidelines regarding the handling of research results for the open science promotion
https://www.jst.go.jp/pr/intro/openscience/guideline_openscience_r4.pdf (Japanese version only)

In addition, JST analyzes statistical data such as the number of data modules, data types, disclosure types, storage locations, etc. for the purpose of grasping the contents of the description, supporting researchers, and reflecting (revising) in the basic policy. JST assumes that the analyzed statistical data will be disclosed, but will not disclose individual personal data or data whose names are known.

* For life science data, please refer to "6.22 Data Disclosure from NBDC."

6.22 Data Disclosure from NBDC

The National Bioscience Database Center (NBDC) (https://biosciencedbc.jp/) in the Japan Science and Technology Agency (JST, a National Research and Development Agency) has carried out a project for the integrated promotion of life sciences by promoting the integrated use of databases in the life sciences field created by various R&D institutions and others.

In "Progress and Future Direction of the Integration of Life Science Database Project" (January 17, 2013), the object projects that receive provision of data and databases are to be expanded, centering on the project promotion division of the NBDC (originally the NBDC as a whole).

Based on these points, program participants are asked to cooperate in disclosure of the following types of data and databases related to the life sciences field that are obtained from this program.

No	Type of Data	Place of Disclosure	URL
1.	Overview of databases constructed for disclosure	Integbio Database Catalog	https://integbio.jp/dbcatalog/?lang=en
2.	Data in the databases constructed for disclosure	Life Science Database Archive	https://dbarchive.biosciencedbc.jp/index-e.html
3.	Of items in 2, data related to human beings	NDBC Human Database	https://humandbs.biosciencedbc.jp/en/

6.23 Description of Systematic Numbers in the Acknowledgments of the Papers, etc.

When submitting the research results obtained in this program, please indicate that you have received the grant from this program. In the Acknowledgment of the paper, please include “JST RISTEX Grant Number 10 digit systematic number.” The systematic number of the project consists of JPMJRS + alphanumeric 4 digits. The systematic number will be announced at the time of adoption.

The following is an example of the Acknowledgment in the paper.

[English] ：This work was supported by JST RISTEX Japan Grant Number JPMJRSxxxx.

[Japanese] ：本研究は、JST、RISTEX、JPMJRSxxxx の支援を受けたものです。

* If there are two or more programs related to the paper, please list the program names and systematic numbers.

6.24 Research Support Service Partnership Certification System (A-PRAS)

This is a notice about our research support service. “Development of Science and Technology Innovation Policy for Knowledge-Intensive Value Creation-Toward a World-Leading Country by Realizing Society 5.0-Final Summary” (March 26, 2020, Science and Technology Council Comprehensive Policy Special) In the committee) states that “Based on the fact that startups that have strong feelings and passion for research support and return of research results to society, which has been carried out by the government as a public business, are beginning to appear, it is necessary to form a new public-private partnership system.”

Under such circumstances, the Ministry of Education, Culture, Sports, Science and Technology established the “Research Support Service Partnership Certification System (A-PRAS)” in FY2019 to improve the research environment for researchers, accelerate the promotion of science and technology and the creation of innovation in Japan, and support the development of various efforts related to research support services. The system accredits research support services provided by

private businesses that meet certain requirements as “research support service partnerships” by the Minister of Education, Culture, Sports, Science and Technology. Nine services were certified by FY2020.

Details of each certified service can be found on the following Ministry of Education, Culture, Sports, Science and Technology web page. Please use all means.

https://www.mext.go.jp/a_menu/kagaku/kihon/1422215_00001.htm

○ “Development of Science and Technology Innovation Policy for Knowledge-Intensive Value Creation-Toward a World-Leading Country by Realizing Society 5.0-Final Summary” (March 26, 2nd year of Reiwa Science and Technology Council Comprehensive Policy Special Committee)
https://www.mext.go.jp/b_menu/shingi/gijyutu/gijyutu22/houkoku/1422095_00001.htm

6.25 Reformation of Competitive Research Funds

At the present time, based on “The 6th Science, Technology and Innovation Basic Plan,” “Integrated Innovation Strategy 2022,” and “Comprehensive Package to Strengthen Research Capacity and Support Young Researchers,” the government is holding discussions about improving systems related to competitive research funds so as to enable the more efficient and effective use of research funds. If, within the period of this call for submissions, policies common to all competitive research fund programs are announced regarding the improvement of funding systems and the use of funds, you will be notified about these policies when they apply to submissions for this program and the use of program funds.

6.26 Consideration on “Guidelines for the Management and Audit of Public Research Funds in R&D Institutions (Practice Standards)”

(1) Implementation of Management and Audit Systems Based on the “Guidelines for the Management and Audit of Public Research Funds in R&D Institutions (Practice Standards)”

In applying to this funding program and conducting research activities, R&D institutions must stringently observe the “Guidelines for the Management and Audit of Public Research Funds in R&D Institutions (Practice Standards)” (revised on February 1, 2021) (*1).

There is a need for R&D institutions, having implemented a system for managing and auditing

public research funds, to take responsibility for making every effort to properly disburse the contract research funds in line with the aforementioned guidelines. If the Ministry of Education, Culture, Sports, Science and Technology (MEXT) decides that the system of a R&D institution for managing and auditing is insufficient, based on an investigation according to the said guidelines, measures such as reduction of overhead costs of all the competitive funds distributed by the MEXT and the independent administrative agency under its jurisdiction could be taken on the said institution.

(*1) Please refer to the following URL for the details of the “Guidelines for the Management and Audit of Public Research Funds in R&D Institutions (Practice Standards).”
https://www.mext.go.jp/a_menu/kansa/houkoku/1343904_21.htm

(2) Submission of the “Self-evaluation Checklist for Implementation of Proper Systems” based on the “Guidelines for the Management and Audit of Public Research Funds in Research Institutions (Practice Standards)”

In concluding a contract for this project, the research organization must prepare for a management and auditing system for research expenses based on the said guidelines and submit a “Self-evaluation Checklist for Implementation of Proper Systems” (“checklist,” hereinafter), which is a report on the situation (research undertaking is not approved unless the checklist is submitted).

Accordingly, starting on April 1, 2023, you must review the content of the following website, download the FY2023 version of the checklist from the Cross-ministerial Research and Development Management System (e-Rad), fill it out, and submit it (upload it) via e-RAD to the Competitive Research Fund Coordination Office, Research Environment Division, Science and Technology Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology (MEXT).

Please note that contracts for research institutions that have submitted the FY2022 version of the checklist will be approved irrespective of the above, but you must also submit the FY2023 version of the checklist by December 1, 2023.

On the other hand, institutions that are not receiving competitive funds from the MEXT or administrative agencies under its jurisdiction do not have to submit a checklist.

See the website of the MEXT below for details of the method for checklist submission.

https://www.mext.go.jp/a_menu/kansa/houkoku/1324571.htm

Note: A perfect environment for using e-Rad is necessary for checklist submission. Also be aware that registering a research institution with e-Rad normally takes about two weeks. See the URL below in addition to the URL given above for details of the procedures related to the use of e-Rad.

https://www.e-rad.go.jp/organ/index.html

Since the said guidelines encourage the “promotion of issuing and sharing information,” please proactively publish and disseminate information regarding their misconduct prevention initiatives via their websites.

6.27 Consideration on “Guidelines for Responding to Misconduct in Research”

(1) Administrative System based on the “Guidelines for Responding to Misconduct in Research”

In applying to this funding program and conducting research activities, R&D institutions are required to adhere to the “Guidelines for Responding to Misconduct in Research” (decided by the Minister of Education, Culture, Sports, Science and Technology (MEXT) on August 26, 2014, hereinafter referred to as the “guidelines”)※.

In the case that the Ministry of Education, Culture, Sports, Science and Technology finds defects in the approach of organizations as a result of a survey of the situation, based on the guidelines, the Ministry may take measures for the pertinent organization including reduction of indirect expenses of the whole competitive research funds distributed by the MEXT and independent administrative agencies under its jurisdiction.

※Refer to the following webpage for the guideline (in Japanese).

https://www.mext.go.jp/b_menu/houdou/26/08/1351568.htm

(2) Submission of the “Self-evaluation Checklist” Based on the “Guidelines for Responding to Misconduct in Research”

Each R&D institution needs to submit the checklist on the status of implementation in accordance with “Guidelines for Responding to Misconduct in Research” (hereinafter referred to as the “Research Misconduct Checklist”). (The R&D institution that fails to submit the checklist cannot

conduct R&D activities).

Accordingly, starting on April 1, 2023, you must review the content of the following website, download the FY2023 version of the Research Misconduct Checklist from the Cross-ministerial Research and Development Management System (e-Rad), fill it out, and submit it (upload it) via e-RAD to the Research Integrity Promotion Office, Research Environment Division, Science and Technology Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology (MEXT).

Please note that contracts for research institutions that have submitted the FY2022 version of the Research Misconduct Checklist will be approved irrespective of the above, but you must also submit the FY2023 version of the checklist by September 30, 2023.

Institutions that are not receiving competitive funds from the MEXT or administrative agencies under its jurisdiction do not have to submit a Research Misconduct Checklist.

See the website of the MEXT below for details of the method for Research Misconduct Checklist submission.

https://www.mext.go.jp/a_menu/jinzai/fusei/1420301_00001.html

Note: A perfect environment for using e-Rad is necessary for checklist submission. Note that the registration of an R&D institution for e-Rad requires approximately two weeks. See the URL below in addition to the URL given above for details of the procedure related to the use of e-Rad.

https://www.e-rad.go.jp/organ/index.html

(3) Measures Taken for Misconduct in Research Activities Based on the “Guidelines for Responding to Misconduct in Research”

Misconduct in research activities in this program is treated strictly as described below.

(ⅰ) Measures to Cancel the Contract

In the case that a specific misconduct (fabrication, falsification, and plagiarism) is found in the R&D project of this program, the Collaborative Research Agreement is cancelled or altered and a refund of all or part of the entrusted expenses is requested. Furthermore, there may be cases in which no agreement is concluded in the following years.

(ⅱ) Measures to Restrict Application and Participation Eligibility

Measures given in the table below, depending on the level of inappropriateness and responsibility of specific misconduct, to restrict application to and participation in this program are imposed upon researchers involved in certain misconduct in research papers or reports of this program and those whose involvement has not been established but who are found responsible to an extent for the violation of the duty of due care as a distinct manager of pertinent papers and reports.

Furthermore, in the case that such restriction measures are taken on qualification for application and participation, information is provided to pertinent sections of competitive research fund systems distributed by the Ministry of Education, Culture, Sport, Science and Technology and independent administrative agencies under its jurisdiction (referred to as “competitive research fund system related to the Ministry of Education, Culture, Sport, Science and Technology” hereinafter) and to pertinent sections of competitive research fund systems distributed by other ministries and their independent administrative agencies (referred to as “competitive research fund systems related to other ministries” hereinafter), which may similarly restrict qualification for application and participation in competitive research fund systems related to the Ministry of Education, Culture, Sport, Science and Technology and to other ministries.

<table>
<tr><th colspan="3">Classification of person ineligible to apply to competitive research funds, being involved in specific research misconduct</th><th>Degree of maliciousness in specific research misconduct</th><th>Ineligible period of application※</th></tr>
<tr><td rowspan="5">Person who was involved in a research misconduct</td><td colspan="2">1． Especially malicious person, who, from the beginning of research, had an intention to commit a specific research misconduct</td><td></td><td>10 years</td></tr>
<tr><td rowspan="3">2． The author of a research paper, which is a product of a research where a specific research misconduct was committed</td><td rowspan="2">The authors of the paper, who are responsible for the whole content of it. Namely, they are the supervisor and the representative author of the paper or others who are identified to be equivalently responsible for the paper.</td><td>The misconduct has a substantial impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be high.</td><td>5-7 years</td></tr>
<tr><td>The misconduct has a small impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be low.</td><td>3-5 years</td></tr>
<tr><td>The authors of the paper other than those described above.</td><td></td><td>2-3 years</td></tr>
<tr><td colspan="2">3． Persons who conducted a specific research misconduct other than those of 1 and 2.</td><td></td><td>2-3 years</td></tr>
<tr><td colspan="3" rowspan="2">Person who has not been involved in a specific research misconduct but is a responsible author of a paper relevant to a research where a specific research misconduct was committed, being the supervisor or representative author of the paper, or a person, who is identified to be equivalently responsible for the paper.</td><td>The misconduct has a substantial impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be high.</td><td>2-3 years</td></tr>
<tr><td>The misconduct has a small impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be low.</td><td>1-2 years</td></tr>
</table>

*In principle, the application restriction period will be calculated from the fiscal year following the fiscal year when the specific fraudulent activity is determined. Eligibility for participation is also restricted for the fiscal year in which a specific misconduct is determined as such.

（iii）Measures Taken to Researchers whose Qualification is Restricted for Application to and Participation in the Competitive Research Fund System and Base Expenses

Qualification is restricted for application to and participation in this program for researchers whose qualification is restricted for application to and participation to competitive research fund related to MEXT; management grants to national university corporations, inter-university research institute corporations and independent administrative agencies under MEXT; base expenses including private school subsidies; or competitive research fund systems related to other ministries during the period the restriction is in effect.

（iv）Public Announcement of Misconduct

In principle, JST makes a public announcement with regard to the outline of specific misconduct in research activities of this program (name of researcher, project name, affiliation, research year, contents of misconduct, and measures taken). The Ministry of Education, Culture, Sports, Science and Technology also makes a public announcement concerning the contents of the pertinent misconduct (name of misconduct, kind of misconduct, research field of misconduct, name of expense account of misconduct, outline of misconduct, measures taken by the R&D institution, measures taken by fund distributor, and so on).

The said guidelines state that an R&D institution shall announce the survey result immediately. Each organization is requested to handle the case accordingly.

https://www.mext.go.jp/a_menu/jinzai/fusei/1360483.htm

6.28 Duty to Complete Education on Research Ethics and Compliance

Researchers who participate in the R&D project of this program shall receive training on research ethics education for the prevention of misconduct in research activities as per the “Guidelines for Responding to Misconduct in Research” and on compliance education as per the “Guidelines for the Management and Audit of Public Research Funds in Research Institutions.”

During the process of concluding a Collaborative Research Agreement after the selection of a proposed R&D project, it is necessary for all researchers participating in the R&D project, including the Principal Investigator and Lead Joint Researchers, to receive training on research ethics education and compliance education and submit a document to confirm their understanding of the contents of the training.

6.29 Handling of Information on the e-Rad system

Information of individual projects that have been selected for adoption (name of funding program, name of R&D project, name of affiliated R&D institution, name of Principal Investigator, budget amount, implementation period and the summary of the R&D project overview etc.) shall be deemed to be “information that is scheduled to be made public” as prescribed under Article 5, Paragraph 1, Item (a) of the “Act on Access to Information Held by Independent Administrative Agencies” (Act No. 140 of 2001). The name of the researcher, name of the affiliated R&D institution, name of the R&D project, and the R&D project overview summary are scheduled to be made public.

6.30 Provision of information on the e-Rad system to the Cabinet Office

The “6th Science, Technology and Innovation Basic Plan” (approved by the Cabinet on March 26) states that EBPM for policy making based on objective evidence will be thoroughly implemented in science, technology and innovation administration. The information registered in the Cross-ministerial Research and Development Management System (e-Rad) is used for appropriate evaluation of research and development with national funds, effective and efficient comprehensive strategy, planning of resource allocation policy, etc.

For this purpose, it is required to enter all updates to information regarding research outputs and accounting of the selected project and any use of indirect expenses related to competitive funding awards in e-Rad every year.

The information necessary for macroscopic analysis, including information on research achievements and accounting performance, will be provided to the Cabinet Office.

6.31 Registration of Researcher Information to “researchmap”

“researchmap” (https://researchmap.jp/) is a Japanese researcher information database with over 300,000 entries. Achievement information can be managed and disclosed here. In addition, researchmap works with e-Rad and faculty databases of many universities. The registered information can be used in other systems, so it also leads to efficiency by eliminating the repeated registration of same achievements in various application forms and databases.

The information in researchmap is utilized effectively for surveying national academic or S&T plans, as well as for statistical purposes. Researchers involved in this program are advised to register at researchmap.

6.32 Patent Applications by JST

In case a R&D institution does not acquire rights to an invention, JST may acquire those rights in some cases. Therefore, if a R&D institution does not foresee acquiring rights to an invention, the researcher should notify JST promptly, providing information concerning the said invention, etc. in any appropriate format. (The above “information concerning the said invention” means information necessary for JST to determine whether an application for intellectual property rights is possible or not, for example, a copy of the notification of invention used in the R&D institution.)

JST will conduct a study based on the received notice, and if JST judges, based on the results, that an application for the said invention, etc. is possible, a separate “Patent Rights Transfer Agreement” will be concluded between the R&D institution and JST.

Chapter7. Submission via the Cross-ministerial R&D Management System (e-Rad)

7.1 Cross-ministerial R&D Management System (e-Rad)

The Cross-ministerial R&D Management System (e-Rad)* is a cross-ministerial system that provides a series of on-line processes to manage the publicly funded research programs under the jurisdiction of ministries and agencies (Acceptance of applications → Screening → Selection → Management of selected project → Registration of research results and accounting performance → Report on research achievements).

*“e-Rad” is an abbreviation of the R&D management system common to all ministries, with the acronym for Research and Development (R&D for science and technology) followed by the acronym Electric (Electron).

7.2 e-Rad usage notes

Applicants are requested to make an application using e-Rad (https://www.e-rad.go.jp/en/).

To apply, refer to the e-Rad portal site (hereinafter, “the portal site”) (https://www.e-rad.go.jp/).

*Paper documents are generally not accepted in the various application procedures for use of e-Rad. Please perform the various procedures on the e-Rad portal site.

*Please check the recommended operating environment (https://www.e-rad.go.jp/operating_environment.html) first.

Additionally, pay particular attention to the following points when applying.

(1) Proposers are required to pre-register information on the R&D institution and its researchers.

(2) Proposers are required to register information on research integrity in e-Rad in advance.

(3) Please allow several days (or more) before the application deadline for inputting information into e-Rad: Input of information into e-Rad takes a minimum of around 60 minutes. Furthermore, on the day of the application deadline, there is a risk that the e-Rad system may be congested, and inputting may take a long time. Please allow sufficient time before the application deadline to commence inputting information into e-Rad.

(4) It is possible to “temporarily save” input information.

It is possible to discontinue input of and temporarily save application information part way through.

(5) “Retraction” on e-Rad system is possible.

Up to the application deadline, it is possible for researchers to retract and re-edit their R&D proposals. However, do NOT “retract” R&D proposals on the day of the application deadline. On the day of the application deadline, there is a risk that the e-Rad system may be congested, and re-editing and re-submitting the proposal after retraction may take a very long time. R&D proposals cannot be “retracted” after the application deadline.

For details, please refer to e-Rad operation manual.

(https://www.e-rad.go.jp/en/manual/for_researcher.html).

7.3 Application method using e-Rad

(1) Registration of information on R&D institution, researcher, and research integrity

Researchers without a log-in ID and password must be registered by the administration staff of the R&D institution.

↓

(2) Obtain required application guideline and R&D proposal forms.

Please check the list of Calls for Proposals in the e-Rad portal site and download the application guidelines and the proposal format. Please ensure to choose the proposal format corresponding to the program as each proposal format is different.

↓

(3) Prepare a R&D proposal (Maximum file size: 5 MB)

↓

(4) Enter application information into the e-Rad system.

Enter the necessary information into the e-Rad system. It takes approximately 60 minutes.

↓

(5) Submit your R&D proposal. (Upload file to e-Rad for submission)

Please ensure to submit your proposal to the correct program.

7.4 Others

(1) Where to direct questions on how to use the e-Rad system

Questions about the program itself are answered by the person in charge of the program, as usual. Questions about e-Rad operation methods are answered by the e-Rad Help Desk. Before asking questions, be sure to read both the website outlining the Call for R&D Proposals and the e-Rad Portal site carefully.

JST will not answer any questions regarding the status of review or acceptance.

Questions concerning the Call Programs, and procedures for preparation of application documents and submission, etc.	Research Institute of Science and Technology for Society (RISTEX), Japan Science and Technology Agency (JST) (For applications) e-mail：boshu- digist @jst.go.jp (For general inquiries) e-mail：boshu@jst.go.jp **For questions, please contact us by e-mail.**
Questions concerning The Cross-ministerial R&D Management System (e-Rad) Registration of institution or research, or how to operate e-Rad, etc.	e-Rad helpdesk Tel: 0570-057-060 (navi dial) Office hours: 9:00-18:00 ●Except on Saturdays, Sundays, holidays, and the year-end and the new year period.

- RISTEX “Call for R&D Proposals” website
  (https://www.jst.go.jp/ristex/proposal/proposal_2023.html)
- e-Rad portal website (https://www.e-rad.go.jp/en/)

(2) Availability of e-Rad

Basically, e-Rad operates 24 hours a day, 365 days a year, but may stop the service for system maintenance. This will be announced in advance on the portal site.

7.5 Operating instructions and notes

(1) Pre-registration for use of e-Rad (https://www.e-rad.go.jp/organ/index.html)

R&D institutions and their researchers have to be pre-registered on e-Rad by the time of application. Once registration has been completed, subsequent registrations are not required for systems and projects managed by other ministries, agencies, etc. Additionally, R&D institutions and/or researchers who are already registered in a system or project managed by another ministry, agency, etc. do not need to register for e-Rad.

○Registration of an R&D institution

An R&D institution must assign a representative for e-Rad, and this representative must complete the procedure on the “Apply for registration of an R&D institution” page (https://www.e-rad.go.jp/organ/entry.html). Registration may take several days. Allow at least two weeks for this procedure.

○Registration of department information, administrator information, work information, and researcher information

The representative logs in to e-Rad using the ID and password they obtained in step ①, registers department information, administrator information, work information, and researcher information, and issues IDs and passwords for administrators and researchers. Main researchers other than principal investigators do not need to register in order to apply, but will need to obtain an ID by the time their study is adopted.

For details on how to register, refer to “10. Procedure for R&D institutions”, “11. Procedure for administrators at R&D institutions”, and “12. Procedure for researchers” in the manual for representatives of R&D institutions on the portal site (https://www.e-rad.go.jp/manual/for_organ.html).

(2) Registration of research integrity information

*Be sure to register this information if it has not been input since the amendment of e-Rad (March 15, 2022). If it has already been registered, it does not need to be registered again.

To eliminate unreasonable duplication and excessive concentration of competitive research funds, ensure transparency in research activities, and ensure appropriate efforts, applicants shall provide information on the current application / acceptance status of other competitive research funds including those of other ministries and other research funds (program name, R&D subject, implementation period, budget amount, effort, etc.) and information on all current affiliated institutions / positions (including side jobs, participation in foreign recruitment programs, honorary professors without employment contracts, etc.) according to the amendment of the Guidelines on Competitive Research Funds on December 17, 2021.

(3) Points to note when uploading a proposal to the e-Rad system

・Please check these application guidelines thoroughly when creating a proposal document.
・Please ensure to use the format provided for the Program in the fiscal year of the application. Applications using formats for other programs and/or for other fiscal years will not be accepted.
・The proposal document needs to be converted to PDF before uploading it to e-Rad. This can be done in the menu displayed after logging in to e-Rad.
・Please make sure that the size of the proposal pdf submitted is no more than 5MB.
・Please delete all the track change records.
・Please do not set a password to the pdf file of the proposal.
・Please check that the file converted to pdf has the page numbers inserted
・Please make sure to check the converted pdf file as following errors could occur.

* The use of external characters or special characters may cause corrupted text in the page or file concerned (please refer to “e-Rad operation manual” (can be downloaded from the e-Rad Portal site) regarding the use of characters permitted to use).

For details, please refer to the Call for R&D Proposals in Japanese.

Chapter8. Q&A on Call for R&D Proposals

■ Enrolling in the educational program for research integrity

Content of the Educational Program for Research Integrity

Q. What content must be included in the educational program for research integrity conducted by affiliated institutions?

A. Educational programs for research integrity are the responsibility of each research institution. JST does not specify the specific teaching material to be used in such programs.

(Reference)

According to the “Guidelines for Responding to Misconduct in Research Activities” (August 26, 2014, adopted by the Minister of Education, Culture, Sports, Science and Technology), research institutions are required to implement a structure for preventing misconduct—such as the installation of a “Research Integrity Education Manager”-and conduct education at the institutional level. Further, the allocating institution is also required to confirm researcher enrollment in the institution’s research integrity education program.

Note, however, that the details in the referenced guidelines focus on misconduct related to academic papers and does not cover bioethics and conflicts of interest, which are different topics.

If you have any questions, please contact JST Office of Research Integrity.

Research Integrity Division, Department of Legal Affairs and Compliance,
Japan Science and Technology Agency
E-mail: rcr-kousyu@jst.go.jp

Program Completion Certification

Q. Is it necessary to submit documentation certifying completion of an educational program for research integrity?
research integrity?

A. No, submission is not necessary at proposal.

Deadline for Completing the Program

Q. I cannot complete the educational program for research integrity before the application deadline. Can I complete the program after the deadline?

A. Completion of the educational program for research integrity by Principal Investigator is a prerequisite for applying. Enrollment and completion of this program will not be permitted after the solicitation deadline. For details, please refer to “6.1 Enrolling in and Completing the Educational Program on Research Integrity.”

Q. I have completed the eAPRIN (formerly CITI) digest version in the past for this program (or another JST program) proposal. Do I need to take the course again?

A. You do not need to complete the program again. Please declare the “completion of the digest version” in the e-Rad application information input screen.

Availability of an English version of the eAPRIN (ex-CITI Japan) digest version

Q. Since I have not taken the program offered by my institution, I am planning to enroll in the digest version of eAPRIN (ex-CITI Japan). What options are there if my native language is not Japanese, which makes taking the course in Japanese difficult?

A. Please take the English digest version of eAPRIN (ex-CITI Japan).

Requirements for Proposers

Q. Is there an age limit?

A. There is no specific age limit, but it is necessary that Principal Investigator and Collaborator (Proposers) be able to create a structure that can perform the research at an organization or the like in Japan and carry out the R&D projects throughout the project period.

Multiple Applications

Q. I previously submitted a proposal for a different JST project. Can I also submit a proposal in this program?

A. Yes, you may submit another proposal. However, you may not submit multiple applications for the FY2023 call for the “Science of Science, Technology and Innovation Policy,” “Solution-Driven Co-

creative R&D Program for SDGs (Scenario Creation Phase, Solution Creation Phase),” “Responsible Innovation with Conscience and Agility.”, and the new framework established in 2023 under the SOLVE for SDGs program. In addition, in cases where the Principal Investigator or Research Participants, etc. participate in multiple projects through any competitive research funding system operated by JST, adjustment may be made such as reducing the R&D budget according to the effort of the researchers or requiring researchers to select one project for implementation.

Institutional Approval at the Time of Application

Q. Do I need to obtain approval from my affiliated research institution when I apply?

A. You do not need approval from your institution for applications submitted through e-Rad, but please ensure that you obtain prior consent. After projects are selected, JST will enter into a Collaborative Research Agreement with the researchers’ affiliated research institutions. Please note that, if a Collaborative Research Agreement cannot be entered into, the R&D budget cannot be used, so please carefully read “5.9 Responsibilities of Research Institutions.” There is no need to submit an approval letter.

Implementation by Foreign Institutions

Q. What criteria will be used to determine whether the performance of research would be impractical if not done at a foreign institution?

A. Decision concerning whether research must be performed overseas are assumed as following.

① Required facilities do not exist in Japan and have been installed only in foreign institution.

② There is investigation and research that can be performed only by the research institution.

③ Research materials and data can be obtained only at a foreign research institution or foreign location and cannot be brought to Japan.

Interview Screening

Q. If I am not available on the day of the interview screening, can I change the interview screening date?

A. Please be aware that because the schedule is determined by coordinating the schedules of numerous evaluators, the schedule cannot be re-adjusted.

Entering of R&D Budget

Q. Do the “R&D budget” written on the application include the amount of indirect costs paid to the institution when the Collaborative Research Agreement is concluded?

A. R&D budget refers to direct costs. They do not include indirect costs. Please enter only direct costs.

Direct Costs

Q. After the research and development commences, is it possible to change the detailed use of funds within the budget based on the progress and other factors (for example, using funds initially allocated to expenses for goods to travel expenses) (exchange of direct costs between expense items)?

A. The exchange of direct costs between expense items can be done under certain conditions.

・Conditions for shifting funds without requiring approval from JST:

If the amount of funds to be shifted from each expense items does not exceed 50% of the total direct costs in the relevant fiscal year (if 50% of the total direct costs does not exceed 5 million yen, then 5 million yen)

・Conditions for shifting funds after approval from JST (Program Supervisor) that it is necessary for research implementation

If the amount of funds to be shifted from each expense items exceeds 50% of the total direct costs in the relevant fiscal year and exceeds 5 million yen

Note that you are not allowed to exchange direct cost and overhead (indirect) cost.

Indirect Costs

Q. What types of expenditures can indirect costs be used for?

A. Indirect costs are funds for the research institution to allocate to the expenses required for improving the research environment of the implementers participating in a project selected for this program or for enhancing the overall functionality of the research institution. The “Common Guidance for the Execution of Indirect Expenses of the Competitive Fund” (agreed upon by the coordination committees of relevant ministries and agencies on April 20, 2001 and amended on October 1, 2021) gives the following examples as the main uses of indirect costs.

1) Expenses relating to management divisions

- Expenses for development, maintenance, and operation of management facilities and equipment
- Expenses necessary for management administration

Expenses for purchase of supplies and consumables, equipment lease expenses, miscellaneous expenses, personnel expenses, communications and transportation expenses, honoraria, domestic and overseas travel expenses, conference expenses, printing expenses, etc.

2) Expenses relating to research divisions

- Expenses relating to goods used in common

Expenses for purchase of supplies and consumables, equipment lease expenses, miscellaneous expenses, communications and transportation expenses, honoraria, domestic and overseas travel expenses, conference expenses, printing expenses, newspaper and periodical expenses, utility expenses

- Expenses necessary to promote research activities through applications of the relevant research etc.

Personnel expenses for research and research support staff, Expenses for purchase of supplies and consumables, equipment lease expenses, miscellaneous expenses, communications and transportation expenses, honoraria, domestic and overseas travel expenses, conference expenses, printing expenses, newspaper and periodical expenses, utility expenses

- Patent related expenses
- Research building development, maintenance, and operation expenses
- Experimental animals facility development, maintenance, and operation expenses
- Researcher interaction facility development, maintenance, and operation expenses
- Facility development, maintenance, and operation expenses
- Network development, maintenance, and operation expenses
- Large-scale computing (including supercomputer) development, maintenance, and operation expenses

- Large-scale computing building development, maintenance, and operation expenses
- Library development, maintenance, and operation expenses
- Field development, maintenance, and operation expenses

Etc.

3) Expenses relating to other relevant operation divisions

- Expenses relating to dissemination of research results
- Expenses relating to publicity, etc.

Even in cases other than the above, indirect costs may be used in cases where the head of the research institution makes a determination that the expenses are necessary to improve the R&D environment of researchers who received competitive research funds or to enhance the overall functionality of the research institution. However, this does not include funds that are to be allocated to direct costs.

Research institutions that receive distributions of indirect costs shall properly manage indirect costs and appropriately retain receipts and the like evidencing the proper use of indirect costs for five years from the fiscal year after the fiscal year in which the project is concluded. Furthermore, research institutions that receive distributions of indirect costs shall report the results of annual indirect cost use to JST by June 30 of the following fiscal year via the Cross-ministerial R&D Management System (e-Rad). If the method of making reports via e-Rad is not clear, please refer to the e-Rad user manual (https://www.e-rad.go.jp/manual/for_organ.html) or the FAQs (https://qa.e-rad.go.jp/) .

Other grants

Q. It is required to write about grants received or being applied for “including those from overseas organizations” in form 7. What should I specifically write about research funds received or being applied for from overseas institutions?

A. When applying, the Proposer is required to provide a wide range of research funds received or being applied for. Please be sure to fill in all research funds accepted from foreign institutions, such as competitive research funding, subsidies from private foundations, contract research expenses from companies, and joint research expenses, etc.

Outsourcing

Q. Is it possible to subcontract software preparation and other such work to external companies, etc.?

A. If it is required as a matter of advancing the project, it is possible. However, there is a premise that such subcontracting of work to outside parties is based on “subcontracting agreements” that exclude R&D work. In principle, the subcontracting of R&D work is not permitted.

Personnel Transfers after Proposal Selection

Q. If a Principal Investigator experiences a change in position (promotion, transfer to a different research institution, etc.) while conducting research, will the Principal Investigator be permitted to continue research activities?

A. As long as it is possible to continue research activities unhindered by the change in position, research activities may be continued.

Subcontracting

Q. Do the Collaborative Research Agreements between JST and the R&D participants’ affiliated research institutions take the form of “subcontract” (see note) via the Principal Investigator’s research institution?

Note: “Subcontract” in the Collaborative Research Agreement means that JST concludes a research agreement only with a research institution with which the Principal Investigator is affiliated and the research institution with which the said Principal Investigator is affiliated concludes another research agreement with a research institution with which a Joint Researcher is affiliated.

A. In this program, Collaborative Research Agreements are not subcontracts. JST concludes Collaborative Research Agreement separately with each of research institutions with which the Principal Investigator and Lead Joint Researchers are affiliated.

Definition of Lead Joint Researcher and Group Leader

Q. What is the meaning of Lead Joint Researcher and Group Leader?

A. Lead Joint Researcher:

JST concludes Collaborative Research Agreement separately with each of research institutions with which Principal Investigator and Lead Joint Researchers, who will execute the budget, are affiliated, and allocates R&D funds for them. One “Lead Joint Researcher” will be designated to represent each institution with which the Collaborative Research Agreement is to be concluded. The person in charge of research at the institution other than the Principal Investigator is called the “Lead Joint Researcher.”

Group Leader:

A project can be composed of several research groups, depending on the R&D content and plan. The R&D participant who represents each group is called the “Group Leader.” (In the case of a group consisting of several research institutes, the “Lead Joint Researcher” and the “Group Leader” are not necessarily the same person.

Registration on e-Rad by Lead Joint Researcher/Group Leader

Q. Other than the Principal Investigator, is it necessary to register anyone on e-Rad?

A. Please register the Lead Joint Researcher/Group Leader for “Entries specific to the program.” Other R&D participants do not need to register.

Q. Some Lead Joint Researchers/Group Leaders do not have an e-Rad researcher number, but can they still register on e-Rad?

A. Only the Principal Investigator is required to have an e-Rad researcher number when applying. Lead Joint Researcher/Group Leaders and other participants do not need researcher numbers when applying. After project adoption, you will be asked to obtain e-Rad researcher numbers as required.

Securing a R&D Period (R&D implementation) Until the End of the Fiscal Year

Q. When does a research results report need to be submitted?

A. JST has made the following arrangements so that R&D participants can make the most use of R&D period to conduct research and development.

・The deadline for submitting the report on the research achievements, “Results Report” for the fiscal year is May 31 of the following fiscal year.

・The deadline for submitting the accounting report, “the Collaborative Research Results Report (and Income and Expenditure Settlement Report)” for the fiscal year is May 31 of the following fiscal year.

・However, if the end of the R&D period for the last fiscal year is not the end of March of the relevant fiscal year, please submit the report above by the date designated by JST within 61 days after the end of the contract period.

* Each research institution shall establish the necessary internal structures considering that the objective of the above arrangements is to secure a R&D period (R&D implementation) until the end of the fiscal year.

Adopted proposals and application status

Q. Please let us know the status of proposals and applications for other RISTEX fields and programs in the last fiscal year.

A. Please refer to the following website.

FY2022 Adoption Results Press Release

https://www.jst.go.jp/pr/info/info1580/index.html

- Solution-Driven Co-creative R&D Program for SDGs (Scenario Creation Phase, Solution Creation Phase)
- Solution-Driven Co-creative R&D Program for SDGs (SOLVE for SDGs): Preventing Social Isolation & Loneliness and Creating Diversified Social Networks
- Responsible Innovation with Conscience and Agility
- Science of Science, Technology, and Innovation Policy R&D (R&D) Program

English version of the application guidelines

Q. Is it correct to assume that the content of the English version is the same as the Japanese version?

A. The English version of the application guidelines is a translation of the Japanese version. If there is any discrepancy between the English and Japanese versions, please refer to the Japanese version as the correct one.

Q. Could I prepare my proposal in English?

A. For applications in languages other than Japanese, please contact the program office by e-mail. In principle, program meetings, etc. will be conducted in Japanese, so a certain level of Japanese communication ability is required of the proposer. Please note that the applicant must be able to handle administrative work in Japanese, or must be in an environment where Japanese can be used.

Chapter9. Guide to Completing the Proposal

Please refer to the original Japanese version.

Chapter10. References

(Related websites)

■United Nations Information Centre

2030 Agenda

https://www.unic.or.jp/activities/economic_social_development/sustainable_development/2030agenda/

■Japan Business Federation

https://www.keidanrensdgs.com/

■Sustainable Development Goals (SDGs) Promotion Headquarters

SDG Action Plan 2023

https://www.kantei.go.jp/jp/singi/sdgs/dai13/sdgs_actionplan2023.pdf

■Cabinet Office

"Convergence of Knowledge: Basic Concept and Strategic Promotion Measures — Interim Summary"

https://www8.cao.go.jp/cstp/sogochi/index.html

■Ministry of Education, Culture, Sports, Science and Technology (MEXT)

https://www.mext.go.jp/b_menu/shingi/gijyutu/gijyutu2/092/houkoku/1410641.htm

https://www.mext.go.jp/a_menu/kagaku/kokusai/sdgs/1408737.htm

https://www.mext.go.jp/a_menu/kagaku/kokusai/sdgs/1408738.htm

■JST

Science, Technology and Innovation (STI) for implementing the SDGs

https://www.jst.go.jp/sdgs/actionplan/index.html

“STI for SDGs” Award
https://www.jst.go.jp/sis/co-creation/sdgs-award/

JST/CRDS STRATEGIC PROPOSAL

”New Trust Formation in the Digital Society” CRDS-FY2022-SP-03

https://www.jst.go.jp/crds/pdf/2022/SP/CRDS-FY2022-SP-03.pdf

■Others

Ministry of Internal Affairs and Communications (MIC)

https://www.soumu.go.jp/main_content/000668595.pdf

https://www.soumu.go.jp/menu_news/s-news/01ryutsu02_02000340.html

Countermeasures Forum for Disinformation

https://www.saferinternet.or.jp/wordpress/wp-content/uploads/Disinformation_report.pdf

【Inquiries】

Questions concerning the call for R&D proposal are accepted by e-mail.

boshu-digist@jst.go.jp

The latest information will be posted on the following RISTEX Website.

https://www.jst.go.jp/ristex/proposal/proposal_2023.html

Research Institute of Science and Technology for Society (RISTEX)

Japan Science and Technology Agency (JST)

Address: Science Plaza, 5-3 Yonbancho, Chiyoda-ku, Tokyo 102-8666, Japan

【Questions concerning the Cross-ministerial R&D Management System (e-Rad)】

e-Rad helpdesk: 0570-057-060 (Navi Dial)

Office hours: 9:00～18:00

※Except on Saturdays, Sundays, holidays and the year-end and new-year period