Strategic Basic Research Programs (RISTEX)

Science of Science, Technology, and Innovation Policy
R&D (R&D) Program

FY2021
Call for R&D Proposals

[Application Guideline]

Application Call Period
April 2 (Friday) ~ 22 (Thursday) 12:00

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.

国立研究開発法人
科学技術振興機構
Japan Science and Technology Agency

Research Institute of Science and Technology for Society

April 2021

Strategic Basic Research Programs (RISTEX)
R&D Program "Science of Science, Technology and Innovation Policy"
Overview of the Call for R&D Proposals

The main schedule for call for proposals and selection (FY2021) is as follows. Please note that the submission deadline differs from other programs. Furthermore, 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_2021.html

Applications will be made through the Cross-ministerial R&D Management System (e-Rad) (Please refer to "4.6 Submission 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.

Call begins	April 2 (Fri)
Recruitment Briefing Session	April 8 (Thu) Online Meeting
(Primary) Deadline for submitting application (*)	April 22 (Thu) 12:00 PM
(Primary) Notification of document screening results	Late - May
(Secondary) Deadline for submitting application	Early to Mid - June
(Secondary) Notification of document screening results	Early to Mid - July
Interview Selection	Coevolution Framework: August 2 (Mon) (planned) Regular Framework: August 5 (Thu) (planned)
Interview (explanation of selection requirements)	Mid - August (planned)
Notification and announcement of selection results	Early - October (planned)
Start of Research and Development (R&D)	Early - October (planned)

* The deadline for acceptance in the ministries' and agencies' common R&D management system (e-Rad).

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Chapter 1. Introduction to Call for Research Proposals

1.1 Overview of Strategic Basic Research Programs (RISTEX)

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 implementers who engage in solving social problems, and promoting R&D (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 Strategic Basic Research Programs (RISTEX), RISTEX sets up R&D Focus Areas and Programs (referred to as “Focus Areas and Programs”) it considers important in solving social problems, calls for proposals and promotes those selected as R&D projects (referred to as “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.

○ **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 set by the national government or RISTEX. The Program Supervisor conducts appropriate and flexible operations of the Program so that R&D can be carried out efficiently with the participation of stakeholders from diverse fields. In order to do this, the Program Supervisor develops the necessary networks, selects Projects, approves R&D plans, monitors their progress and provides advice through site visits and other means, and performs Ex-post evaluations. In addition, the Program Supervisor communicates the outcomes of the Program and how these are deployed in the wider society.

○ **Program Advisor**

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

○ **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 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 R&D 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.

HAMAGUCHI Michinari

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.

◯ For SDGs, the endeavors of JST, etc., access the following website.

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

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. Expending the participation of woman researchers in R&D projects is substantially important for advancing R&D, 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 of the Strategic Basic Research Programs.

HAMAGUCHI Michinari

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.

WATANABE Miyoko
Deputy Executive Director and Director of the Office for Diversity and Inclusion
Department of Strategic Planning and Management
Japan Science and Technology Agency (JST)

1.2.3 Toward the Promotion of Fair Research

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1.2.4 Open access and data management plan

JST announced the basic policies for handling research achievements towards the promotion of open science in April 2017. The policies stipulate the basic concepts for allowing one’s access to papers on research achievements and archiving, as well as on managing and disclosing research data.

In principle, researchers participating in this program are mandated to make the produced

documents on research achievements available to the public via the repository organizations or publications for open access. Researchers are also requested to prepare a data management plan. This plan will contain details on policies and plans for archiving, managing, and publishing, or the non-disclosure of research data, which are being developed for achievements. Researchers must also submit the plan, along with the research plan document to JST. It is also mandatory for them to undertake archiving, managing, and publication of research data based on this plan.

Please see the following for details:

◯ JST’s basic policies for handling research achievements toward an open science promotion

https://www.jst.go.jp/all/about/houshin.html#houshin04

◯ JST's Basic Policy Management Guidelines for Handling Research Outcomes for the Promotion of Open Science

https://www.jst.go.jp/pr/intro/openscience/guideline_openscience.pdf

In order to understand the content of information, support researchers and reflect this in basic policy (revisions), JST analyzes statistical data such as the number of data modules, the type of data, the type of publication, and the location of storage. The statistical data analyzed is intended to be made public, but we will not disclose individuals’ personal data or names.

*For life sciences data, please refer to “6.18 Data disclosure from the National Bioscience Database Center.”

Chapter 2. Concept of Program Supervisor in Solicitation and Selection

Program Supervisor: Professor YAMAGATA Zentaro
Graduate School Department of Interdisciplinary Research, University of Yamanashi

2.1 Overview of this program and basic problem recognition

(1) Publicly Solicited R&D Programs under the SciREX Project

The "Science of Science, Technology and Innovation Policy" (hereinafter referred to as R&D (R&D) Program) is a R&D (R&D) program that aims to promote Science and technology innovation development, which began in FY2011 as part of The Ministry of Education, Culture, Sports, Science and Technology's "Science for RE-designing Science, Technology and Innovation Policy" (hereafter referred to as SciREX project). To solve various problems in modern society, it is essential to control issues based on scientific knowledge and to create specific measures for solutions.

The objective of this R&D program is to create systematic knowledge for formulating policies that promote science, and based on the "intellectual and cultural value (evidence)" it is to create systematic knowledge for formulating policies that encourage "the creation of intellectual and cultural value based on new knowledge through scientific discoveries and inventions, and innovations that develop this knowledge and link it to the creation of economic, social and public values." In other words, the objective is to create systematic knowledge for formulating policies that promote science and technology innovation.

(2) Environmental Change and Science and Technology Innovation

Modern society, such as Japan and other developed countries, is faced with complex and multifaceted issues, such as declining and aging populations in rapid urbanization and population explosion in developing countries. Stable supply of resources such as energy, water, and food, global environmental problems and natural disasters, infectious diseases, and terrorism. Furthermore, the rapid development of Information and Communication Technology (ICT) and global networking have greatly enhanced the convenience on how they have improved the society we live in, but they have also created new challenges, such as how to deal with new threats that have emerged and not exist before, such as cyber terrorism.

Science and technology innovation policy is expected to be the government's approach to adjusting society to a desirable state through the creation of new value and the presentation of

solutions based on knowledge created through research and technological development, in response to the complex issues facing modern society, or to sudden and large-scale changes in the social environment, such as large-scale natural disasters or emerging infectious disease epidemics.

(3) Perspectives on “Science for Policy”

In R&D for science and technology innovation policy, there has been a steady accumulation of basic knowledge and technologies, known as seeds. However, it cannot be said that sufficient efforts have been made to design a system that accurately grasps the needs for such knowledge and technology, incentives to utilize the results of development, and a mechanism to mediate and promote such utilization. To steadily realize innovation based on science and technology, it is essential to illuminate issues that already exist in society or complex phenomena that will emerge in the future, from multiple perspectives, while taking into account the importance of understanding and designing such institutional aspects, to lead to policy formation from a comprehensive perspective, rather than relying on experience and precedent as in the past.

Considering the relationship between policy and scientific knowledge as a result of research, it is also important to pay attention to more practical measures to facilitate the bridge between the two. If the objective evidence is pursued too rigorously and is significantly different from the actual situation in policy practice, even if it is important scientific knowledge and objective evidence that has been created, it will not be accepted by policymakers and policy authorities, and it will be difficult to lead to specific policy improvements. Therefore, in promoting R&D, it is necessary to pay attention to the real conditions of policy formation, where actual policy formation is carried out under various constraints such as limited resources, time, and uncertainty. It is necessary to manage the project in a way that takes into account the realistic possibilities of utilization, while accurately capturing the awareness of problems and needs on the part of policymakers and those in charge.

With the start of the third phase of the SciREX project (FY2021-), we will work to further accelerate our efforts to deepen "Science for Policy" based on the above-mentioned knowledge accumulated through the operation of this program. In particular, we have been focusing on ways in which scientific knowledge is generated through R&D for solving problems that can be linked to actual policy formation (i.e., which ways to be accepted by policymakers and authorities), and have been working to systematize the acceptance process of scientific

knowledge of the policy process and the methods for that purpose.

(4) "Question" Posed by the Novel Coronavirus (COVID-19)

The global epidemic of the novel coronavirus (COVID-19) that began in early 2020 posed a major question in terms of the use of scientific knowledge in the policy process, science policy, and science and politics.

Policy formation under crisis management does not take the same form as in normal times, where time is spent on organizing and analyzing information and carefully building consensus, but rather, even under incomplete and uncertain circumstances where information is not necessarily sufficiently consolidated and analyzed, it is necessary to seek out the best possible solution at the time and make decisions promptly. In such a situation, it is not always clear what the cost-benefit ratio is, and there are cases where it is difficult to accurately evaluate risk or where there is no scientific consensus on risk management measures, and where scientific measures are clear, but have not yet reached consensus with stakeholders or gained the understanding of a wider audience. Even under such circumstances, it must be understood that there will be times when political decisions must be made in some form to deal with the situation quickly.

On the other hand, even if the scientific community or a specific stakeholder has reached a consensus on scientific knowledge and views based on that knowledge, actual policy decisions may differ from those views, there may be situations where scientific advice is not fully utilized.

The existence of various factors other than scientific knowledge, such as stakeholder positions or interests, relationships with other policies or projects, values, and responsibilities that are not necessarily ensured by scientific methods alone, means that in actual situations of crisis management, scientific knowledge cannot be promptly applied to solve problems, but rather value judgments from the political side are prioritized in some cases.

As the situation changes from moment to moment, information will be collected and analyzed in real-time not only by the government, but also by the scientific community, private businesses, and citizens. This process has also highlighted the fact that the scientific knowledge provided to the policy-making community can sometimes have different and even conflicting perspectives.

One of the major concerns of this program is to reevaluate the extremely complex and multifaceted relationship between policy, science, and politics. In this sense, we need to further deepen our empirical analysis of the use of scientific knowledge in the policy process, and to consider more desirable ways and systems of providing scientific advice.

(5) Coevolution of Policy and Science

The "New Basic Policy" (refer to pages 112-122 of original Japanese version) for the SciREX project, revised in March 2019, clearly states that the overall direction of the project is to pursue the "Coevolution" of policy and science. In the third phase of the project, which will start in 2021, this vision will become even clearer, and the "Program for Realization of Co-progress" will be launched as a specific initiative to achieve it.

In response to these trends in the SciREX program as a whole, the program has decided to introduce a new framework this year that focuses more on the "Coevolution" of policy and science. More specifically, while promoting R&D proposals based on the free ideas of researchers as in the past as the "Regular Framework," a new category will be established as the "Coevolution Framework," in which specific issues are recognized as "Policy Issues" within administrative organizations will be presented, and a new framework will be introduced to promote R&D aimed at solving these issues, or in other words, needs-oriented R&D. The projects adopted under the "Coevolution Framework" are required to promote R&D in close collaboration with the current administrative organization (at the level of the Department in Charge) with authority over the issue in concern.

Thus, in this program, we will approach "Science for Policy" anew from two approaches: a seed-oriented approach and a needs-oriented approach.

2.2 Basic Concept

The goal of this program is to contribute to the development of science and technology innovation policies on objective evidence, and we will adopt proposals that aim to create specific results that may lead to the future to the formation and improvement of policies for solving social problems and maintaining the formation of social order.

(1) General Information

The following evaluation indices have been compiled as requirements for R&D projects that aim to implement policymaking in the future, based on the knowledge acquired through the operation of this program over the past 10 years.

The need for a basic understanding of "policy" and policy practice.

The need for a basic approach to building relationships with policymakers.

Recognition of the effectiveness of R&D results by policymakers.

Creation of academically high-quality research results and strategic response.

The necessity of mediation by intermediate personnel and organizations.

Recognition that evidence, as considered by researchers, is different from evidence for government officials.

These indicators should be required in common for any project that is oriented toward the implementation of future results into policy. In proposing a project, an important evaluation indicator is the degree to which 1-6 is specifically included in the concept.

In particular, it should be possible to envision a specific story of "What and to Whom" the outcomes of the R&D projects will benefit in the future, which means that the outcomes of the project will contribute to the improvement of specific policies and through what approaches and means. Furthermore, projects are required to promote R&D that is closely related to the field of policy practice through coordination as well as collaboration with policymakers and other stakeholders involved in the formulation and implementation of the targeted policies.

(2) Regular Framework

In this year's call for proposals, we will continue to seek proposals for R&D under the "Regular Framework" that aims to accurately identify unprecedented social changes that modern society has never experienced before, such as a declining and aging population and tight public finances, and to adapt to the changing environment through the introduction and utilization of advanced technologies as well as the socialization and institutionalization of existing technologies. R&D aimed at discovering and identifying the various contradictions that are arising with the downsizing of society, or the unaddressed issues that are expected to arise in the future, as well as encouraging the control of issues and adaptation to change through the improvement and rationalization of existing means, including Information and Communication Technology (ICT), are particularly welcome.

Also, the proposal for this "Regular Frame" will cover the control of social issues arising from the spread of novel coronavirus (COVID-19) and the social transformation related to its control. We will actively seek to adopt R&D that focuses on the function of scientific advice in the decision-making process regarding countermeasures against novel coronavirus (COVID-19), as well as proposals

that aim to evaluate policy measures that are being implemented, identify problems that are expected to be resolved but have not yet been specifically resolved, and propose measures for specific improvements.

However, in this type of R&D, it is easy for a situation to arise where researchers set issues that are different from the needs that policymakers recognize in practice, or where policymakers recognize a potential need but are unable to relate it to a specific policy or project. Therefore, in the "Regular Framework" R&D, where there are no clear "wants" on the part of policymakers, is indispensable for researchers to specifically envision the process of attracting and promoting their R&D results (seeds) and gaining recognition for their usefulness in the R&D plan.

On the other hand, addressing social issues that have not yet been categorized as policy issues and mid-to-long-term themes that look at changes in the social environment as research issues are also very important approaches in Science of Science, Technology and Innovation Policy. This type of R&D is significant for discovering potential policy issues that have not yet become apparent beyond the immediate practical policy concerns and specific issues, as well as for promoting responses to social issues that require a mid-to-long-term response.

This category includes projects that have already achieved a certain level of research results at the project proposal stage and will be implemented into the current policymaking process to improve specific policies in the future.

(3) Coevolution Framework

The goal of this program, which is to create results that can be linked to the future practice of policymaking based on objective evidence, is a more challenging goal than that of other R&D programs and areas. As mentioned earlier, even if promotional activities based on R&D results are actively developed, whether and in what form the research results are referred to in the policy formation process will have to be left to the judgment of policy authorities and policymakers. In other words, the implementation of the results into policy can include many factors that can not be controlled by the research implementer. If the objective of R&D is to develop into the practice of policymaking based on objective evidence. It is strongly required that the R&D itself be linked to actual policies to some extent and be responsive to the needs of the policy authorities who are actually in charge of the policies. To achieve this goal, "A Needs-Oriented Approach" is considered to be an effective way to set R&D themes based on the specific issues that policymakers or policy

authorities are facing.

Specifically, this is the type of R&D in which the policy authority has identified a specific policy issue and is seeking to generate and provide specific knowledge, including scientific knowledge, to find a solution or improve existing policies. In addition to the fact that a certain level of relationship with policy authorities and policymakers is expected from the start of the R&D. This type of research has the main feature is that policymakers can be expected to accept the outcomes to some extent in the future. Also, since it is based on actual policy needs, it is likely to focus on themes that are expected to solve problems in a relatively short period. This year, this type of R&D will be newly adopted as the "Coevolution Framework" in this program.

On the other hand, unlike commissioned research contracts or commissioned research, this type of research is based on the premise that the researcher and government officials promote the research in a co-creative manner, and it is essential for the researcher to communicate proactively and carefully with the policy authorities and policy officials who will serve as counterparts. At the same time, it will be difficult to achieve the project's objectives without strong commitments to the project's activities by policymakers. Also, there are some specific conditions and restrictions that must be overcome for cross-organizational collaboration to function effectively, such as the extent to which materials, information, and networks that are held only by the government organizations can be disclosed and provided to researchers in specific collaboration at the R&D level.

In this new framework, the themes of this year's project will be the state of governance for implementing fair and responsible research activities, the development of methods for evaluating the social impact of science and technology innovation policies, as well as the analysis and extraction of success factors for organizational initiatives for industry-university and regional cooperation at regional universities.

(4) Collaboration with SciREX-Related Organizations

Given that this R&D program is implemented as part of the SciREX project, it is expected that the Center for Science for RE-designing Science, Technology, and Innovation Policy (SciREX Center) which is the core center of the program, as well as the Center for Fundamental Research and Human Resource Development (see Chapter 10), will work to bridge the gap between the promotion of research activities and the actual policy formation related to science and technology innovation. Also, the proposal for the "Coevolution Framework" requires that the R&D project be managed in close

collaboration with the relevant divisions and sections of the Ministry of Education, Culture, Sports, Science, and Technology regarding policy issues.

2.3 Themes Expected to be Proposed for Solicitation and Selection

In consideration of its position as a "Publicly Solicited R&D Program" in the SciREX project, this program seeks proposals that are in line with the objectives of the **"Basic Policy for the 'Science for Policy' Promotion Project in Science and Technology Innovation Policy (SciREX Project)"** and the **"Roles and Collaboration Measures for Each Center and Related Organization in the 'Science for Policy' Promotion Project in Science and Technology Innovation Policy 2021**.

In particular, for this year's call for proposals, six themes will be selected as "Regular Framework" and three themes will be selected as "Coevolution Framework" for **R&D aiming at "Coevolution" of policy and science**.

◆Regular Flamework

(1) Proposal for Communication and Acceptance of R&D Results in the Policy Formation Process

To design and implement policies more rationally and effectively based on scientific knowledge, it is necessary to communicate evidence in a way that is accepted in the policy formation process. On the other hand, the recipients of evidence have various constraints and discretion regarding its acceptance. Therefore, in this program, we expect proposals to empirically clarify the **conditions and processes of the acceptance of "evidence"** in the policy formation process.

In this R&D program, based on the fundamental concern of the need for policy formation based on objective evidence, we have adopted proposals that focus on the development of methods for creating objective evidence to be referred to in the policy process and its implementation in the policy. One thing that has become clear through the efforts of the projects we have adopted is that scientific knowledge with established academic evaluation is not always accepted in the policymaking process.

For example, it is relatively easy to accept as "evidence" information that contributes to the rationale for budget demands or to ensure accountability for policies, while it is relatively difficult to accept proposals that differ significantly from existing policies, findings, or proposals that indicate a different direction, or views that negatively evaluate existing initiatives.

Thus, biases exist in the selection of "evidence" in the policy process, whether the policymakers (professional administrators and political appointees) are aware of them or not, and this is a major

issue in the process of communication and acceptance of R&D results. In this sense, it is important to elucidate how "evidence" is accepted or not in the policy process in a more realistic manner.

For example, it is important to understand (1) the constraints under which policymakers are required to make decisions daily, (2) how much time and physical resources they can realistically devote to individual policy decisions, and (3) the level of objective evidence that is inherently required for the decisions and judgments they are required to make. At the same time, the method itself must be explored as a science to promote R&D and compile the results while keeping in mind the behavioral patterns, To design and implement policies more rationally and effectively based on scientific knowledge, it is necessary to communicate evidence in a way that it is accepted in the policy formation process. On the other hand, the recipients of evidence have various constraints and discretion regarding its acceptance. Therefore, in this program, we expect proposals to empirically clarify the conditions and processes of the acceptance of evidence in the policy formation process. capacity limits, and organizational limits of such policymakers. In other words, the conditions and processes by which R&D results are accepted by policymakers and authorities must also be clarified.

From this perspective, this R&D Program is expecting proposals that seek to develop methods for designing data and evidence in a form that can be used in policy practice, organize issues in their use, and promote efforts to overcome them to build more rational and effective ways of making policy proposals and providing scientific advice.

On the contrary, there have been cases of excessive reliance on objective evidence or even abuse of it, such as the arbitrary or selective use of certain information as "evidence" for certain purposes. To promote the formation of policies based on objective evidence, it is necessary to reexamine the **legitimacy of the selection of scientific knowledge in the decision-making process** itself, including how policymakers should handle objective evidence and how they should exercise their discretion, while being aware of the risks and costs of adopting "evidence" Also, proposals that illuminate the negative aspects of policy formation based on objective evidence, including the provision of political interventions as well as incentives lurking in the decision-making process, as well as measures to address these issues, will be required.

(Example 1) Research on reference bias of scientific evidence in the policy formation process (including political process)

(Example 2) Examination of the function of scientific advice in the policy formation process

regarding countermeasures against the novel coronavirus (COVID-19)

(2) Identifying Issues and Proposing Solutions for Strategic Downsizing

We seek proposals that identify new issues that are expected to arise as a result of unprecedented social changes, explore ways to suppress the expansion of these issues through the use of scientific knowledge, and **attempt to build methods for consensus building and behavioral change to socially accept and adapt to these changes**.

The social contraction caused by the long-term decrease in the population is expected to result in the rise of a series of challenges that our country has never experienced before. For example, decreasing tax revenues and increasing public burdens will threaten the sustainability of existing public services, including social security. Also, the shortage of labor due to the decrease in the working-age population will lead to a significant decrease in productivity in the social economy as a whole.

It is needless to say that it is important to improve the quality and nature of existing services as well as to develop innovative technologies and methods that will enable efficiency and rationalization. However, in the face of unprecedented social changes of social contraction, it is important to assume that we will face challenges that cannot always be solved by such incrementalistic approaches alone.

In such a situation, it is important to find ways to control the difficulties and adjust the way society works by mobilizing all the ingenuity based on scientific perspectives. For example, when considering a bold change in the way resources are allocated and burdens are placed on existing public services as well as infrastructure, people will likely be confused by the difference from the existing system, environment, and quality of services, thus making it difficult to gain their understanding and support. Under such circumstances, for people to accept the change of downsizing of society or to change their perception of it, the major challenge is to be able to construct a method for designing systems and an environment for changing systems based on deep insight and knowledge of the way people perceive and act.

From this perspective, this R&D program welcomes proposals that identify new issues that are expected to arise as a result of unprecedented social changes and explore ways to suppress the expansion of these issues through the use of scientific knowledge or attempt to build methods for consensus building and behavioral change to socially accept and adapt to these changes.

(Example 1) Development of a method for identifying social issues arising from downsizing using

the foresight/forecasting method

(Example 2) Elucidating public awareness of social downsizing and devising consensus-building methods for dealing with the decline in quality of services, the increase in the burdens, the restructuring, and integration of communities

(3) Proposals for the Promotion and Acceptance of Socialization/Institutionalization of Existing Technologies

To socialize and institutionalize existing technologies, proposals are sought that aim to develop methods for evaluating and communicating costs, benefits, and utility in a form that is perceivable to consumers.

In recent years, there has been a remarkable rise in the development of technologies and new services that use tertiary artificial intelligence (AI) as a core technology, such as AI-based automated driving technology, diagnostic support services for doctors, and support for the search for technological seeds. Moreover, the advent of AI has the potential to change technologies, services, and society in a variety of areas, including the ability to significantly reduce costs.

On the other hand, as typified by information and communication technology (ICT), there are many technologies (seeds) that have not yet been socialized or institutionalized, even though they are technically mature to some extent. There are several reasons behind the lack of socialization and institutionalization of these technologies.

For example, (1) a pattern in which society or the specific users do not always accept the system well due to the lack of continuity with existing systems and institutions. (2) A pattern in which the benefits, utility, or convenience that can be obtained by using the technology or the technology is not clearly defined, resulting in the user only being able to recognize the cost and not being able to connect it to the actual use. (3) A pattern in which society as a whole is unable to reach a sufficient consensus on the use of technology because of the large disparity in benefits between those who can use the technology and those who cannot. (4) Patterns in which the technology has not been sufficiently marketed and there is no incentive to use it. (5) There may be a pattern in which breakthroughs have eliminated existing technologies, although socialization and institutionalization have been initiated.

Of the above, (1), (2), and (3) in particular, there was a lack of sufficient consideration for the development of the environment for the acceptance of technology, the coordination of benefits/disadvantages among users, and the incentives for users.

Therefore, this R&D program seeks proposals that aim to develop methods to evaluate costs and other adjustment costs, as well as benefits and utility, in a form that is perceivable to users, intending to socialize and institutionalize technology, in particular for (1), (2) and (3). Also, based on the empirical observation that socialization or institutionalization does not necessarily proceed only with the clarification of such actual costs and benefits, proposals that aim to develop methods that promote perception and empirical understanding on the part of users/receivers, or methods that promote changes in behavior itself without active perception or understanding by users/receivers, are most welcome.

(Example 1) Cognitive science research to elucidate the factors that hinder social acceptance of the number system and to promote behavioral change

(Example 2) Research on the impact of visualizing the benefits and risks of information (big data, real-world data, quality data, etc.) utilization or technology introduction to acceptance behavior

(4) Proposals for the Design, Management, and Evaluation of R&D Programs

Proposals that focus on the design, management, and evaluation of programs themselves are welcome, intending to develop more effective methods for designing and managing R&D programs.

In promoting science and technology innovation policies steadily, it is essential to implement R&D effectively and efficiently. To achieve this, it is vital that policy-making bodies, fund-allocating organizations, and R&D implementing organizations design and manage R&D programs more effectively.

In particular, the institutional design of R&D programs that target discontinuous innovation, such as the development of innovative technologies and products, is still in its infancy. Recent years have seen the emergence of R&D programs that promote high-risk, high-impact research that is different from conventional programs, programs that develop elemental technologies while simultaneously seeking to implement technologies in society, and programs that simultaneously address the (ethical, legal, and social issues 'ELSI') posed by the emergence of new technologies. In addition to the development of elemental technologies, there are also R&D programs that seek to implement technologies into society or promote large-scale projects that are oriented toward fusion research.

One of the challenges that many of these programs face is how to evaluate the impact in the future, which is difficult to predict and determine the appropriateness of R&D investment, or how to evaluate

and manage the risks associated with R&D and the portfolio of the program. There are issues of institutionalization of program design and management such as "review" and "improvement", how to integrate R&D contents of different characters.

At the same time, as the relationship between science, technology and society has become more complex, there is a growing need for a greater emphasis on the idea that science and technology can contribute to solving various problems that exist in human life and society. With the participation of a wide range of stakeholders from the design stage of the R&D program, it is expected that the adoption and implementation of R&D themes that better meet the needs of the people and the creation of results that meet the demands of society becomes possible. Although many programs are already working to expand the number of people involved in R&D, there are still many issues that need to be addressed to ensure that stakeholders are not only involved in R&D but that such involvement leads to the creation of new values and the facilitation of R&D translation.

From this perspective, this program welcomes proposals that focus on the program design process and management measures themselves, or that address the development of evaluation methods for the relationship between stakeholder participation and R&D performance, intending to develop more effective methods for designing and managing R&D programs, especially for high-risk, high-impact R&D and R&D for large-scale projects.

Proposals should also take into account the results and achievements of previous studies and surveys of the same type.

(Example 1) R&D of effective program design and management methods for designing R&D (R&D) Program related to high-risk/high-impact research and fusion research (funding projects implemented by the public sector, such as the Japan Science and Technology Agency and the Japan Agency for Medical R&D)

(Example 2) Research on the diversity of the management team in the design and operation of the R&D (R&D) Program (same as above) and the productivity of research results from projects

(5) Evaluation of Social Management in Response to the Novel coronavirus (COVID-19)

Empirical research on the effectiveness of Japan's unique social management system, which was discovered in response to the spread of the Novel Coronavirus Disease (COVID-19), is expected.

In April 2020, in response to the spread of a new Novel coronavirus (COVID-19), a state of an emergency was declared based on the Act on Special Measures against a New Type of Influenza. Unlike measures taken in other countries, which impose penalties on violators, this emergency declaration was limited to a request for cooperation, but the declaration was widely accepted by the public, and in fact, led to a large-scale voluntary restraint. As a result, the declaration had a certain effect in preventing the spread of the disease, and it is said that the spread of the first wave of infection was contained until the declaration was lifted nationwide. In February 2021, amendments to the Act on Special Measures, etc., were passed and enacted. Although the amendments included the imposition of administrative penalties on businesses that do not respond to requests to shorten business hours, the fact that the basic measures are based on requests was

retained.

Therefore, it is an extremely important issue to clarify the social and cultural background of why the declaration of a state of emergency on a request basis, without any restrictions on private rights, was effective to a certain extent.

It has been pointed out that the actual decision of people's behavior was not only the result of the government policy measures such as self-restraint requests and public relations campaigns but rather the information dissemination through mass media and social media had a great impact. Thus, this program seeks proposals that aim to empirically examine how the various requests and information provided by the current government and local governments for countermeasures against new Coronavirus infections have (or have not) affected people's behavior. A proposal for empirical verification from a more multidisciplinary perspective, including what kind of information was disseminated by mass media, social media, and other media regarding the spread of infection and epidemic control, and how people gathered and selected information from such information to determine their behavior is expected.

(Example 1) A comparative analysis of the effects of restraining behavior with restrictions on private rights and requests without restrictions on private rights as a policy tool

(Example 2) Examining the effectiveness of government provision of information on the determinants of people's behavior in Japanese society and developing research on more effective means of providing information

(6) Development of an Integrated Evaluation Method for Risk Minimization and Economic Loss Minimization under Crisis Management

Proposals that aim to develop an integrated evaluation method for minimizing risk/damage and minimizing economic loss under crisis management are welcome.

A variety of scientific knowledge was used in the planning and decision-making process for countermeasures against the spread of the Novel coronavirus (COVID-19) and its control. As the infection situation changed dramatically in real-time, agile decision-making was required despite various constraints, such as insufficient and incomplete information, limited organizational resources, and time limits.

Despite these limitations, actual policymaking, especially in the process of considering and deciding on the declaration of a state of emergency and voluntary restraint, requires not only approaches to risk assessment and risk management in the field of epidemiology and public health, including mathematical models, but also the use of a wide range of other methods. Two completely different approaches were observed: an approach that assesses various economic impacts and economic losses, including refraining from going out and reducing business hours. On the other hand, these two approaches are used independently in many cases because they serve different purposes, namely, controlling the spread of infection among infected people and minimizing economic damage, and this has highlighted the challenge of **balancing risk minimization and economic activities worldwide**.

Therefore, this R&D program seeks proposals that aim to develop new knowledge and methods for crisis management policies that can simultaneously consider and evaluate two different approaches to risk minimization and the maintenance of economic activities under crisis management, such as infectious disease outbreaks and large-scale natural disasters.

(Example 1) Development of an integrated simulation model for risk assessment and economic loss assessment to achieve more effective risk management

(Example 2) Investigation of theoretical factors and resolution methods for conflicts between risk assessment and economic impact assessment

◆Coevolution Framework

(1) Proposals on the State of Governance for Implementing Fair and Responsible Research Activities

Proposals on the State of Governance for Implementing Fair and Responsible Research Activities Proposals on how to promote fair and responsible research activities by researchers, and how to improve the productivity and efficiency of research governance are welcome.

Partner institutions: Ministry of Education, Culture, Sports, Science and Technology/Human Resources Policy Division, Human Resources Policy Department, Science and Technology Policy Bureau

The issues of research fairness and governance are common to all countries and regions that seek to promote science, technology, and academia and realize innovation through R&D. While researchers produce new scientific knowledge through their research activities, they are also challenged about how to conduct their research activities fairly and responsibly, as seen in the concept of "Responsible Research and Innovation" (RRI). In Japan, knowledge, and understanding of research ethics is becoming more widespread as a result of the establishment of systems to ensure research fairness, such as the mandatory research ethics education at universities and research institutions based on the Guidelines for Responding to Misconduct in Research Activities.

On the other hand, fraud and inappropriate behavior such as fabrication, falsification, plagiarism, inappropriate authorship, and double submissions still occur not only in the natural sciences but also in the humanities and social sciences. To deter fraudulent activities, the government has been imposing stricter penalties for fraudulent activities in competitive funds, etc., and as a result, some people are saying that this is causing a contraction in the research field.

Under these circumstances, it is important to return to the fundamentals of science and society whether researchers can engage in their research with peace of mind, or whether they are striving to create research results that can contribute to humanity and the social economy.

From this perspective, the value that has been realized through various efforts and institutionalization to date should be confirmed, and issues that have yet to be resolved, as well as the harmful effects of institutionalization and concerns about the future, should be sorted out, while it is necessary to examine specific solutions to each of these issues in a way that suits the current

situation in the research field and to reexamine the environment surrounding research and the state of governance surrounding research.

For example, the outcomes expected from research ethics education are often not clear, or the course itself and the acquisition of the course certificate become the purpose, and the course seems to have become a formality away from the original purpose of acquiring knowledge and skills for fair and responsible research and its practice. In the current field of research, the problem of the gaps between the acquisition of knowledge about research fairness and its practice in research activities emerges. For this reason, it is important not only to acquire knowledge and skills and raise literacy, but also to identify the essential causes of fraud, especially structural factors, and then to take approaches to solve the causes of such problems or how to deter them from occurring. For example, in research activities, it is important to understand how supervisors and research leaders in laboratories and research groups can accurately provide training and support to young researchers, what research methods and rules they should learn, and how to share their awareness and understanding within the laboratory or research group. The development of practical and effective management methods that are in line with the actual conditions of the research field is one of the issues that has not been sufficiently addressed so far.

In this program, the current status of a series of initiatives on research fairness will be assessed, and the essential factors and challenges facing the operation of the current system will be clarified. Then, proposals will be sought that not only resolve these issues but also envision new measures to improve research productivity and efficiency. In making such proposals, the participants are expected to pay due attention to the results and outcomes of past research and surveys on research fairness, as well as advanced efforts in Japan and abroad. Also, we hope that new ideas that match the characteristics of the research field and the current situation of the research site will be proposed. New ideas that match the characteristics of the research field and the reality of the research field will be raised.

(Example 1) Research on the establishment of governance to realize fair and responsible research activities

(Example 2) Research on setting goals for training on research fairness and developing methods for training supervisors and research leaders, as well as on how to introduce and establish such training in research institutions

Note: For this proposal theme, collaboration, cooperation, and interaction with other research and study activities related to research fairness may be requested.

(2) Proposal for Social Impact Assessment of Science and Technology Innovation Policies

Proposals that attempt to establish a new evaluation method for social impact that goes beyond the perspective of academic contribution and economic efficiency are welcome.

Partner institutions: Ministry of Education, Culture, Sports, Science, and Technology Ministry of Education, Culture, Sports, Science, and Technology

In science and technology innovation policy, a lot of public funds are invested in each phase from basic research to applied research and industrialization, not to mention that they play a very important role as a driving force for innovation.

On the other hand, a clear methodology for evaluating the appropriateness and effectiveness of such R&D investment as a policy has not necessarily been established, partly because of the wide range of values required for science and technology innovation itself. Therefore, the evaluation of R&D investment is often based on two perspectives: academic contribution, such as the development of new technologies that drive innovation and the creation of knowledge, and economic efficiency, such as how much new economic value can be brought to the market. However, the significance of R&D investment is not limited to academic contributions and economic efficiency. For example, when considering the achievement of the Sustainable Development Goals (SDGs) set forth by the United Nations, it is necessary to consider the social impact, such as responding to social needs and solving social issues, which can not necessarily be explained by economics alone. In recent years, many R＆D programs have been required to implement "social implementation" of their results, and a major issue is what criteria and methods should be used to evaluate them.

With the emergence of several concepts surrounding social impacts, such as SROI (Social Return on Investment), SIB (Social Impact Bond), and ESG investment, attempts are being made to develop evaluation methods, but they have yet to be formulated into a mature method.

Therefore, this R&D program welcomes proposals that attempt to develop a new evaluation method based on objective evidence of the social impact of R&D investment.

(Example 1) Development of a new evaluation method for the social impact of R&D investments (various public projects conducted by the national and local governments, funding agencies, etc.)

(Example 2) Development of an evaluation method and proposal of an incentive mechanism for the social impact of R&D by private companies and universities

(3) Analysis and Extraction of Success Factors for Systematic Efforts for Industry-Academia Collaboration and Regional Collaboration at Regional Universities

The project will focus on industry-university and regional cooperation initiatives at regional universities and will take up domestic and international cases that have successfully led to unique cooperation while effectively utilizing the limited organizational resources of universities.

Partner institutions: Regional Support Division for Industrial Collaboration, Science and Technology Policy Bureau, Ministry of Education, Culture, Sports, Science, and Technology

Today, the relationship between universities and companies is becoming closer as the industry-university collaboration function is being strengthened, especially at research universities. Although many issues remain, such as strengthening the functions of industry-academia collaboration headquarters in universities, calculating the costs required for joint research, advanced strategies in intellectual property management and licensing, risk management in collaboration, and the mobility of human resources between universities and companies, the "Strengthening Joint Research through Industry-Academia-Government Collaboration However, as seen in the "Guidelines for Strengthening Collaborative Research through Industry-Academia-Government Collaboration" formulated in November 2016 and the "Guidelines for Strengthening Collaborative Research through Industry-Academia-Government Collaboration [Supplementary Edition]" formulated in June 2020, not only industry and government but also universities must clarify their roles and responsibilities to achieve the goal of promoting innovation.

Not only from the perspective of encouraging such joint research between industry and academia but also from the perspective of commercializing the intellectual resources of universities, the fact that the establishment of university-launched ventures remains weak is also known to be a major issue. The Ministry of Education, Culture, Sports, Science and Technology's EDGE Program for the Development of Global Entrepreneurs (EDGE Program) and its successor, the EDGE-NEXT Program for the Development of Next-Generation Entrepreneurs (EDGE-NEXT), as well as the

Japan Science and Technology Agency's (JST) SCORE Program for Accelerated Social Return (SCORE) and the Program for the Creation of New Industries from Universities (START), have all been active in fostering entrepreneurs and supporting entrepreneurship. (SCORE) of the Japan Science and Technology Agency, and the University-Based New Industry Creation Program (START). Although there is a desire to strengthen efforts to provide seamless support from entrepreneurship development to business model building and commercialization, the fostering of entrepreneurship is still immature in Japanese society as a whole, and there seems to be a lack of support personnel, expertise, and funds for entrepreneurship.

The fact is that there is not only a shortage of human resources to support such projects at universities, etc., but also a shortage of organizational resources to accumulate and pass on expertise within the institutions and to make such organizational initiatives possible. It seems that there is still a lack of effort on how to develop human resources who are willing to start a venture business with growth potential and provide support for the business establishment.

Strengthening the functions of industry-university cooperation and supporting venture businesses are not necessarily limited to research universities. In some instances, local universities have been observed to have extremely unique industry-academia collaborations and venture support involving the local community, and there are also cases where local universities are trying to internalize and institutionalize their initiatives and systematically develop industry-academia and regional collaborations while utilizing the knowledge of research universities that have taken the initiative.

In this program, the focus will be on industry-academia and regional cooperation, including venture creation, at regional universities. In particular, we would like to see proposals that aim to extract and visualize the factors for success through clarifying cases in which organizational efforts and institutionalization as a university are the factors for success. At the same time, it is expected that knowledge will be compiled on what indicators should be used to evaluate systematic efforts by universities for industry-academia and regional collaboration in the systematic evaluation of universities as a whole.

2.4 Additional Information/Notes

(1) Participation from a Variety of Fields/Careers, and Bold Challenges

Ten years have already passed since the start of the SciREX project, but the research field of "Science of Science, Technology and Innovation Policy" in Japan is still in its infancy, and the number of researchers and practitioners involved is not sufficiently large. One of the main goals of this R&D

program is to identify new research personnel involved in the "Science of Science, Technology and Innovation Policy" through open recruitment and to expand the human resource network.

Thus, proposals in this program are strongly encouraged to come from a variety of fields, regardless of whether they are in the humanities, social sciences, or natural sciences, and to identify policy issues and envision methods to solve them from multiple perspectives under a cross-sectional and interdisciplinary framework. Also, projects that aim to not only generate academic knowledge but also to promote R&D that captures policy needs and create new knowledge that can be applied to policy practice are welcome, through the participation of practitioners and other stakeholders involved in policy formation. In the selection process, the diversity of such fields and careers will be taken into account. Participation from a variety of research fields and career approaches based on novel ideas and bold challenges by young researchers are all expected.

In particular, our policy is to actively evaluate challenging and budding proposals by young researchers and female researchers.

(2) Efforts to Implement Policy Formation by Intermediate Human Resources

In this R&D program, it is strongly recommended that researchers not only promote R&D activities but also actively engage in promotional activities to link the results that have been created or are being created through R&D to actual policy formation. Simply promoting R&D and generating scientific knowledge, no matter how scientifically superior and objective the evidence may be, is unlikely to be utilized in concrete policy processes.

Therefore, "research managers" (e.g., research administrators and coordinators) and other intermediary personnel who have deep insight into the R&D content of the project, a wide network of policymakers and officials who will receive the results, and deep insight into the needs of stakeholders and the actual policy environment are positioned as key roles in the R&D implementation system (including R&D implementers). Intermediate human resources such as "research managers" (e.g., research administrators and coordinators) who have deep insight into the R&D content of the project, a wide network of policymakers and officials who will be the recipients of the results, and deep insights into the needs of stakeholders and the actual policy environment are positioned as key roles in the R&D implementation system (including the R&D implementers). Furthermore, it is critical to have a system that incorporates intermediate human resources such as "research managers" (research administrators, coordinators, etc.) as key roles in the R & D implementation system (including R & D implementers), who are responsible for quality control of R

& D results, consulting, reaching consensus with stakeholders, and promoting results for future policy formulation. Such candidates could include fellows, research officers, and researchers in the planning and strategy departments of research institutes and funding agencies established as external bureaus of government agencies, as well as members of private/non-profit think tanks with experience in handling projects and research commissioned by government ministries.

Proposals in which these intermediate personnel act as representatives and lead R&D projects are also strongly recommended. Proposals from people who understand the characteristics of both seeds and needs, and who are in a position to link R&D results to actual policies, such as researchers who are involved in the actual policy formation process through councils, university teachers, and researchers who are seconded to government ministries as research officers or fellows are welcome.

(3) Collaborative Creation in R&D Promotion

In the management of the program, the program director and program advisor monitor the progress and results of the R&D and work together with the principal investigators to achieve the program goals.

As part of the SciREX project, this R&D (R&D) Program will be carried out in close collaboration with the implementing organizations of the SciREX project and other related parties. Also, the program will engage in dialogues and collaborations with policymakers and stakeholders at appropriate stages, depending on the progress and status of the project, as well as cross-sectional and overarching discussions and dissemination of project results in collaboration with related organizations. Also, this program may encourage the sharing of knowledge and collaboration with projects that have been completed in the past or projects that have been adopted in other areas or programs in RISTEX.

All selected projects will be asked to participate in these "Co-Creation" efforts. In this respect, this R&D program differs from grants under the general grant system, and therefore applications should be made with this understanding. It is not intended to place a heavy burden on individual R&D activities. The flexible management of the program will facilitate and improve the efficiency of R&D, and provide opportunities that are not available in general individual R&D projects, such as opportunities for exchange and collaboration that promote interaction among adopted projects and network formation.

Chapter 3. Summary of the R&D Program and Framework for Proposal

3.1 Goal of the Program

Under the policy of "Science for Policy in Science and Technology Innovation Policy" (SciREX Project) and "Roles of Centers and Related Organizations in the 'Science for Policy in Science and Technology Innovation Policy' Promotion Project and Measures for Collaboration 2021", JST RISTEX will promote the "Science for Policy in Science and Technology Innovation R&D Program". RISTEX will promote the "Science of Science, Technology and Innovation Policy R&D Program". To contribute to the formation of science and technology innovation policies based on objective evidence, JST RISTEX will promote R&D (R&D) aimed at producing results that can lead to future practices related to policy formation, execution, and evaluation, while taking into account policy needs.

In implementing the program, we aim to discover new research personnel involved in the "Science of Science, Technology and Innovation Policy" through open recruitment and to contribute to the expansion of the human resource network. In promoting R&D, the program will be carried out in close collaboration with the SciREX community as a whole, centered on the SciREX Center.

3.2 R&D Targeted FY2021

R&D (R&D) Program proposals are invited in the following framework.

(Chapter 2, "Concept of Program Supervisor in Solicitation and Selection" (pages 12-33))

(Also see "4.8 Main Perspectives for Selection " on pages 49-50.)

【Common to both Regular Framework and Coevolutionary Framework】

(1) R&D activities that can lead to the formation of science and technology innovation policies based on objective evidence in the future are eligible, although they can be related to the policy formation process of the national or local governments, or the policy formation efforts of a wide range of entities such as universities, think tanks, companies, NPOs, and citizens. Proposals with originality, such as the development of indicators and methods based on new ideas as science for policy, and proposals for methodologies that contribute to the design of systems, while taking into account actual policy needs, are particularly encouraged.

(2) Proposals that are designed to create results that can make a specific contribution to policy, or that will co-evolve between government officials and researchers, are encouraged. On the other hand, proposals that address solutions to specific cases or issues and do not address policy needs, or proposals that do not envision generalization as results that contribute to the formation of science and technology innovation policies, are not recommended for this call.

(3) Proposals that clearly state the position of the proposed R&D project and the research question in terms of "Deepening Science of Science, Technology and Innovation Policy" and "Evolution of the policy formation process based on objective evidence" are recommended.

(4) Proposals that concretely envision "**What and to Whom**" the results to be created through the R&D project will benefit in the future (i.e., how they can contribute) are requested.

(The activities of the R&D project do not have to be integrated into policy implementation.)

(5) Proposals that specifically meet the six requirements for R&D projects that are oriented toward the practical application of policy formation as defined by this program (see page 15-16) are strongly recommended.

【Coevolution Framework Only】

(6) Proposals for R&D based on policy issues presented by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), and initiatives that aim to clarify policy issues and create specific solution methods through R&D in collaboration with MEXT are eligible.

3.3 Themes Expected to be Proposed for Recruitment and Selection

For more details, please refer to "2.3 Themes Expected to be Proposed for Solicitation and Selection" (pages 19-31).

Regular Framework:

(1) Proposals for the communication and acceptance of R&D results in the policy formation process

(2) Identifying issues for strategic downsizing and proposing countermeasures

(3) Proposals for the promotion and acceptance of the socialization and institutionalization of existing technologies

(4) Proposals for the design, management, and evaluation of R&D programs

(5) Evaluation of social management of the spread of the novel coronavirus (COVID-19)

(6) Development of an integrated evaluation method for risk minimization and economic loss minimization under crisis management

Coevolution Framework:

(1) Proposals on the state of governance for implementing fair and responsible research activities

(2) Proposals for evaluating the social impact of science and technology innovation policies

(3) Analysis and extraction of success factors for systematic efforts for industry-academia and regional cooperation at regional universities

3.4 R&D Period and Structure

◇ R&D Period

Up to 3 years and 6 months (October 2021 to March 2025)

The period will be adjusted according to the content and plan of the R&D proposal and the adoption policy.

◇ R&D Budget (Direct Costs)

[Regular framework] Approximately 4-6 million yen per project per year (2-3 million yen per 6 months in the first year)

[Coevolution Framework] Approximately 6-8 million yen per project per year (approximately 3-4 million yen per 6 months in the first year)

R&D costs will be optimized as appropriate according to the progress of the project.

◇ Number of Projects to be Selected

[Regular framework] About 5 projects

[Coevolution Framework] About several projects

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

3.5 Points to be Considered in Making Proposals and Conducting R&D

In this R&D program, the program director and program advisor will monitor the progress and results of the R&D, and work together with the principal investigators to achieve the program goals through hands-on management. The program is also a part of the SciREX project and will be promoted in collaboration with related organizations. Please submit your proposal after

understanding the promotion method of this program and "Chapter 5: Promotion of R&D in Social Technology R&D" described below.

3.5.1 Management of R&D Programs

RISTEX will operate this R&D program under the following structure and methods.

(1) The program director will be appointed as the person in charge of the program operation and will be responsible for overall management.

(2) A program advisor will be appointed to provide expert advice to the program director.

(3) The program director, program advisor, and program staff will work together to solicit and select R&D projects and hold meetings and other activities necessary for effective program management (e.g., providing advice on R&D, conducting site visits).

(4) The general manager will review the program as necessary, including adjustment of R&D expenditures and restructuring, consolidation, or elimination of R&D projects.

(5) In managing the program, we will flexibly respond to the social situation and international trends, while paying attention to the project policy and progress of SciREX, including emphasis and changes in the public adoption policy.

(6) In the management of the program, we will be particularly active in planning various activities to promote exchange, collaboration, and interaction among the adopted R&D projects, and in setting up opportunities for discussion (such as the Program Salon) with parties inside and outside the organization to cross-cut and overlook R&D projects. We will also conduct outreach activities (e.g., result in briefings and information dissemination via the web).

In the management of the above, information on the progress and achievements of the Program will be shared to ensure effective collaboration with other initiatives within the SciREX project and RISTEX, taking into account the role and positioning of the Program within the SciREX project and RISTEX.

3.5.2 Evaluation of R&D

RISTEX will conduct evaluations of R&D programs and projects.

(1) Evaluation of the R&D program

・RISTEX will conduct an evaluation of the R&D program in conjunction with the evaluation of the entire project, which will be conducted at an appropriate time in the future based on the basic policy

of the SciREX project.

(2) Evaluation of R&D Projects

・Proposals will be selected by the program director with the cooperation of program advisors. Based on the selection results, RISTEX will select the R&D projects to be implemented (preliminary evaluation).

・There may be some differences in evaluation items, etc. between the regular and Coevolutionary quotas.

・After the completion of all R&D projects, a post-evaluation will be conducted by the project leader with the cooperation of program advisors.

・A follow-up investigation will be conducted for all R&D projects after a certain period from the completion of R&D.

3.5.3 Others

(1) In the SciREX project, which aims to actively utilize the R&D results obtained in the current policy-making process, it is important to reflect the needs of society and government in the design and operation of the project in a timely and accurate manner, and to work closely with policy authorities and other related parties in promoting R&D based on the basic policy. Also, in promoting R&D based on basic policy, it is important to work closely with policy authorities and other related parties. In this program, as well, in collaboration with other programs of the SciREX project and related organizations, it is required to collaborate with policymakers and others at an appropriate stage according to the progress and status of each adopted R&D project, and to participate in the efforts to consolidate, structure, and disseminate the results of the entire program.

(2) The research field related to Science of Science, Technology and Innovation Policy in Japan does not have a sufficiently thick layer of researchers compared to other countries. It is important to expand the layer of researchers in the related interdisciplinary research system through public solicitation of R&D projects and efforts to build networks. To this end, efforts will be actively made to promote young researchers and to expand the number of new entrants, such as those challenging new fields.

(3) The results of R&D (R&D) are expected to be used as a shared asset of society by a variety of

entities, including government agencies, local governments, educational and research institutions, and the media. For this reason, especially when data is produced in the process of R&D, it is expected that such data will be consolidated in the "Data and Information Infrastructure" of the SciREX project during or after the R&D implementation period.

(4) In the SciREX project's basic policy, established by the Ministry of Education, Culture, Sports, Science, and Technology, between each base and SciREX project-related organizations that it is important to encourage R&D must be promoted in order to improve collaboration between the two levels and to formulate policies effectively. However, based on the basic policy of this R&D program, which helps people to discover and expand their human resource networks and those who participate directly in implementing the research project are not qualified to be recruited and selected (Coevolution project).

(5) After the adoption of the co-creation framework, the project team is required to hold regular exchanges of opinions and meetings with each department of Ministry of Education, Culture, Sports, Science and Technology, the partner institutions. The specific frequency will vary from project to project and from partner institution to partner institution. However, it is mandatory to exchange opinions and hold meetings two to three times a year.

Reference: Composition of SciRex Project and Implementing Organization

Chapter 4. Call for Proposals and Selection

4.1 Call Period and Selection Schedule

Applications will be made through the Cross-ministerial R&D Management System (e-Rad) (Please refer to “4.5 Submission 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

Call begins	April 2 (Fri)
Recruitment Briefing Session	April 8 (Thu) Online Meeting
(Primary) Deadline for submitting application (*)	April 22 (Thu) 12:00 PM
(Primary) Notification of document screening results	Late - May
(Secondary) Deadline for submitting application	Early to Mid - June
(Secondary) Notification of document screening results	Early to Mid - July
Interview Selection	Coevolution Framework: August 2 (Mon) (planned) Regular Framework: August 5 (Thu) (planned)
Interview (explanation of selection requirements)	Mid - August (planned)
Notification and announcement of selection results	Early - October (planned)
Start of Research and Development (R&D)	Early - October (planned)

* The deadline for acceptance in the ministries' and agencies' common R&D management system (e-Rad).

4.2 R&D Period

For a maximum of 3 years and 6 months (October 2021 to March 2025)

The period will be adjusted according to the content and plan of the R&D proposal and the adoption policy.

4.3 R&D Budget (Direct Costs)

[Regular framework] Approximately 4-6 million yen per project per year (2-3 million yen per 6 months in the first year)

[Coevolution Framework] Approximately 6-8 million yen per project per year (approximately 3-4 million yen per 6 months in the first year)

Based on the contract research agreement, JST will pay the R&D expenses (direct expenses) plus indirect expenses (in principle, 30% of the direct expenses) to the implementing organization as contract research expenses.

The R&D expenses will be assessed through the selection process. Appropriate adjustments will be made according to the progress of the R&D project. Please refer to "5.5 R&D Expenses" for details.

4.4 Number of Projects to be Adopted

[Regular framework] About 5 projects

[Coevolution Framework] About several projects.

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

4.5 Submission Requirements

4.5.1 Application Requirements

Applicants must have completed the educational program on research integrity at the time of proposal submission!

Note that if completion of the program cannot be confirmed, the application will be disqualified for failing to meet the requirements. Completion by the Principle Investigator is sufficient at the time of application. For details, please refer to “6.1 Enrolling in and Completing the Educational Program on Research Integrity” and “Chapter 8. Q&A”

R&D project applicants, who will serve as Principal Investigator, will submit the proposal themselves. Proposal submission requirements are presented below. Please ensure you understand these requirements for your submission.

*In principle, if the determination is made that a submission does not meet the requirements by the time of selection, the R&D proposal will either not be accepted or not be selected.

*If a submission is selected, the R&D project must maintain its qualified status as per the submission requirements for the entire duration of the period of research. If the R&D project fails to meet the requirements during the research period, the R&D 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.”

4.5.2 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 applicants.

(See 6.1 Enrolling in and Completing the Educational Program on Research Integrity) or (Chapter 8 Q&A)

4.5.3 Duplicate Applications

(1) One person can only submit one proposal as a principal investigator for both the regular and co-sponsored categories.

(2) Duplicate applications to the Co-creative R&D Program for Achieving the SDGs, R&D Program

“Responsible Innovation with Conscience and Agility” and the Strategic Research Promotion Program (Social Technology R&D) to be launched in FY2021 (tentative) are not allowed. Duplicate applications are also not allowed in the "Science R&D Program for Science and Technology Innovation Policy" in the "Regular" and "Coevolutionary" categories.

(3) Currently, the principal investigator of social technology R&D is not eligible to apply (unless the period of the relevant R&D will be completed within FY2021).

* Applicants may apply for other Strategic Research Promotion Projects (CREST, PRESTO, ACT-X)

* Those who are directly involved in the implementation of research projects (Coevolutionary Projects) based on the basic policy may not be eligible for the application and selection process.

4.5.4 Applicant Requirements

a. The applicant must be able to head up the research team (several to around 10 members) and exhibit leadership in implementing the project in order to realize the concept.

b. The applicant who will serve as Principal Investigator must belong to a domestic Japanese research institute and be able to organize and implement R&D at that institution. Furthermore, persons who correspond to the following can also apply as applicants.

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

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

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

*Domestic Japanese R&D 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 details, please refer to “5.8 Responsibilities of Institutions.”

*This also covers those affiliated with private sector companies and other non-university R&D 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 R&D project. For details, please refer to “5.7 Responsibilities of Principal Investigator and Lead Joint Researchers.” For example, during the R&D 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 R&D institution or will complete the JST-designated educational program by the application deadline. For details, please refer to “6.1 Enrolling in and Completing the Educational Program on Research Integrity.”

e. The applicant must make the following four pledges upon submission 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 R&D institutions (Implementation standards)” (revised February 18, 2014).

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

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

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

4.5.5 Institution Requirements

Institutions must fully understand that the research funds are public funding, ensure compliance with related laws, and make efforts to implement the R&D effectively. The Institution that cannot accomplish the tasks described in “5.8 Responsibilities of Institutions” will not be enjoined to implement R&D; thus, when applying, prior consent of the Institution at which the implementation of R&D is planned must definitively be obtained.

Implementation of R&D is limited to domestic institutions (those which can concluded the Collaborative Research Agreement with JST) in this Program, but the type of institution is not restricted and thus includes private companies, various organizations including NPOs, universities and research institutes. Please refer also to “5.9. Participation as a Lead Joint Researcher by persons belonging to overseas R&D institutions.”

4.6 Submission Method

Proposals will be submitted using the Cross-ministerial R&D Management System (e-Rad). Submissions using paper media (postal email, express parcel delivery, hand delivery, etc.) or made by email will not be accepted.

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

（1）Registration of institution and Principal Investigator

The applicant must obtain an e-Rad log-in ID and password (Principal Investigator only). When newly obtaining an e-Rad log-in ID and password, the institution the applicant is affiliated with must carry out the following registration in advance.

If unregistered, the institution must first register as a “R&D institution”

The applicant must be registered in “Researcher Information”

Furthermore, if the applicant is not affiliated with a specific domestic Japanese R&D institution at the time of submission, the applicant him/herself must register under ② above only (however, it is assumed the person plans to be affiliated with a domestic Japanese R&D institution post selection). For details about registration method, please refer to the e-Rad portal site.

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

Furthermore, once registration is complete, the applicant 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 applicant does not need to register again. Institutions and applicants who have never submitted a proposal for competitive 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 of proposal

Download the proposal document format from the e-Rad portal site (https://www.e-rad.go.jp/) or the RISTEX “Call for R&D Proposals” website (https://www.jst.go.jp/ristex/proposal/). After carefully reading this Application Guideline, complete the proposal document based on the explanation found in “Chapter 9. Guide to Completing the Proposal.”

（3）Submission of proposal

Applications for the Strategic Basic Research Programs (RISTEX) must be submitted directly from the applicant. Please complete the required fields and upload the proposal to e-Rad.

4.7 Selection Method

4.7.1 Selection Process

The selection process consists of document screening based on the proposals and interviews with the successful applicants, who will be judged comprehensively based on "4.8 Main Perspectives for Selection" (pages 49-50).

(1) Preliminary Selection: Concept proposals (outline version) in the designated format (see "Chapter 9: Guide to Completing the Proposal " of original Japanese version) will be accepted, and the evaluators will conduct a document screening. As a result, the proposers selected for the second round of document screening will be notified in writing and will be informed of the proposal format (detailed version), for the second round of selection. At the time of notification, comments from the evaluators on the contents of the first-round proposals will be provided as feedback.

(2) Secondary Selection: Proposers who are selected for interview after the document screening based on the proposal for the secondary selection will be notified in a document and will be informed of the procedure, schedule, and additional materials to be submitted for the interview. At the time of notification, comments from the evaluators on the proposals in the second round will be fed back.

(3) Interview selection: In the interview selection, the proposer (PI) will be asked to explain the concept of the R&D project.

(4) The results of the document screening and interview screening will be notified to the proposer (PI) regardless of whether the proposal is accepted or not.

(5) For the selection schedule, please refer to "4.1 Call Period and Selection Schedule" (pages 39-40). Details and changes to the schedule will be posted on the RISTEX Call for Proposals website.

(6) In addition to the above, JST may contact you. Please make sure that your e-mail address and phone number registered on the e-Rad are available for receiving and sending calls.

4.7.2 Selection System and Management of Conflicts of Interest

Selection will involve Program Supervisor with the cooperation of the 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 during 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 you have any concern about conflicts of interest between you and persons and parties involved in the selection process of your R&D proposal, please describe it specifically in the Notice section of the application forms.

a. Persons, who are relatives of R&D project applicants:

b. Persons or parties who are affiliated with the same department or specialty at an institution, such as university or national research R&D corporation, or a company with which applicants are affiliated.

c. Persons, who are conducting a close collaboration in a research work with applicants. (Examples are persons, who are conducting a joint R&D project or have co-authored a paper with applicants, a researcher pursuing the same research objectives as applicants, or others being recognized as those practically affiliated with a research group with which applicants are affiliated.)

d. Persons in a close teacher-student relationship, or in a direct employer-employee relationship

e. Persons in relationships of direct competition with applicants

f. Persons in other relationships judged by JST to represent conflicts of interest with R&D project applicants.

(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 Investigator 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 R&D 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 requirement, rationality, and relevance.

In this case, the applicant must declare that a researcher who belongs to the related organization of the Principal Investigator, is included as a Lead Joint Researcher in the special remark's column of the proposal.

Additional documents may be requested in order to judge conflicts of interest with the Principal Investigator.

(3) Management of conflicts of interest related to 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 clarifies it to avoid the conflict of interests between JST and the invested companies.

With respect to the proposals made by a researcher who belongs to an invested company of JST, 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 special remark's column of the proposal to declare that an invested company is included in institution.

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. Applicants 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/result.html#M01).

*The declaration base date is the date the call for 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 Main Perspectives for Selection

In the selection process, the following perspectives will be emphasized ("Chapter 2: Concept of Program Supervisor in Solicitation and Selection (pages 12-33)" and "Chapter 3: Summary of the R&D Program and Framework for Proposals" (pages 34-39)), and decisions will be made after comprehensive consideration, including the impact on the realization of the policy formation process based on objective evidence, the necessity to achieve the goals of this R&D Program, and the balance among the themes.

<R&D Plan>

(1) The proposal has novelty and originality as a R&D concept that contributes to the formation of science and technology innovation policies based on objective evidence.

(2) The proposal is original in that it describes the significance of the R&D (R&D) project after reviewing the trends of similar initiatives, such as related domestic and overseas R&D and R&D in the SciREX project.

(3) It has a concrete concept of how to link the scientific findings of the research project to policymaking practices so that policymakers can understand the effectiveness of the findings.

<Achievements to be created>

(4) The relationship with the "themes expected to be proposed" in this program is clarified.

(5) The position of the proposed R&D project and the research question are clarified from the perspective of "Deepening Science of Science, Technology and Innovation Policy" and the evolution of the policy formation process based on objective evidence.

(6) The results to be produced through the proposed R&D project are envisioned as to "What and to Whom" (how they can contribute).

<Program>

(7) The methodology and research system necessary for the creation of results have been

considered, and the R&D plan is appropriate for achieving the goals.

(8) The schedule (as milestones, PDCA process) is set appropriately to achieve the goals of the R&D project.

(9) Specific efforts to build relationships with policymakers are envisioned.

<Appropriateness of R&D Expenses and R&D Implementation System>

(10) The budget size, period, and R&D implementation system are appropriate for the proposed R&D project concept.

(11) In addition to those who specifically promote R&D, intermediate personnel who play a role in bridging research and policy are positioned as key members of the R&D implementation system.

<**Proposer (Research Representative)>**

(12) The proposer (Principal Investigator) will be able to carry out R&D with enthusiasm and responsibility in promoting the plan.

<Basic Knowledge of Policy and Evidence>

(13) The student has a basic understanding of "policy" and a sufficient understanding of the reality of policy practice.

(14) Concerning "evidence" in actual policy formation situations, the student understands that there may be situations where the scientific evidence considered by researchers does not necessarily match the "evidence" considered by administrators and other policymakers.

* Also, the following points will be evaluated as additional factors.

(15) From an international perspective, the proposed R&D project should be positioned in the context of domestic and international research trends, and it should be expected to produce internationally meaningful results.

(16) Expansion of the community such as new entrants and human resource development (participation and activities of young researchers and female researchers, etc.) can be expected.

* If there are any deficiencies in the proposal form, the proposal may not be considered.

* The selection process often involves whether or not R&D is an "unreasonable duplication" and "excessive concentration."

Please see "6.2 Measures Against Unreasonable Duplication/Excessive Concentration" for more information.

4.9 Inquiries and Other Matters

（1）Application guideline and where to submit the proposal

Application guideline and latest information	JST Research Institute of Science and Technology for Society “Call for R&D Proposals” website https://www.jst.go.jp/ristex/proposal/current/proposal_2021.html
Application guideline and submission of proposals	Cross-ministerial R&D Management System (e-Rad) website https://www.e-rad.go.jp/

(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)** E-mail：boshu@jst.go.jp
Questions concerning the Cross-ministerial R&D Management System (e-Rad) Registration of institution or researcher, or how to operate e-Rad.	**e-Rad helpdesk** Tel: 0570-066-877 (navi dial) Office hours: 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 on the application submission deadline (proposal deadline). Be sure to make inquiries with adequate time until submission.

Chapter 5. Promotion of R&D in Science and Technology for Society

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 Program Advisor, the Program Supervisor is to exchange opinions with the Principal Investigator, maintain an

awareness of 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.

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

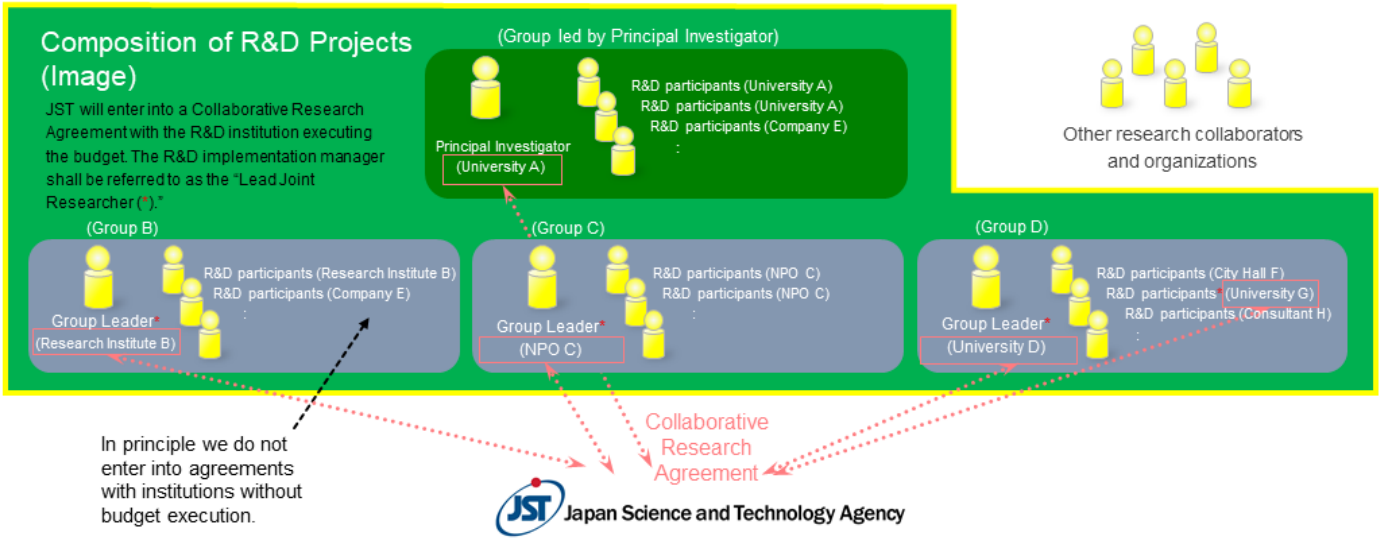
5.2 Implementation Team Composition

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 (maximum of 10 individuals) in order to construct an ideal organization (group) for the project's implementation. The team may also consist of individuals from institutions other than the Principal Investigator's affiliated institution.

b. When constructing implementation teams, clarity is to be provided regarding each group's roles and the content of the R&D to be performed before commencing with the project.

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

d. As required for 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.



5.3 Place of Implementation

In principle, the R&D will be implemented at the institution that the implementers are affiliated with.

5.4 Collaborative Research Agreement

a. After approval, JST will enter into a Collaborative Research Agreement with the R& institution 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 R&A 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 institution in question. For more details, please refer to "5.8 Responsibilities of 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 R&A 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 R&D institutions.

(Supplement) Differences Between Collaboration and Subsidization

This project is a collaboration between JST and the institutions it has entered into Collaborative Research Agreements with. A collaboration involves entering into an agreement with a university, private firm, or other third-party to perform research that would initially have been conducted by the Japanese government, etc. (in this case JST) but has been contracted to this third-party due to the belief that it will lead to more beneficial results. 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 the consignee will confirm this.

By comparison, subsidization refers to having the government, etc., cover a portion of expenses incurred by 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 is issued the subsidy implements the project independently.

5.5 R&D Budget

As per the Collaborative Research Agreement, JST will pay the R&D institution implementing the project for all research costs (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) relates to R&D directly required to implement the project.

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

b. Travel Expenses: Expenses for travel by the Principal Investigator, Lead Joint Researcher and

other implementers listed on the research plan created after approval. 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 and honorariums for all researchers, technicians, research assistants, etc. (excluding the Principal Investigator and 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.

*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 shall operate on the premise of “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”.

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. (*2)

(*2) JST has established rules and guidelines specific to this project 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. accepted 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

Ministry of Education, Culture, Sports, Science and Technology

: Handling Table for Cross-Ministerial Expenses

https://www.mext.go.jp/a_menu/shinkou/hojyo/1311601.htm

5.5.2 Overhead (Indirect) Costs

Overhead (indirect) costs are costs required for the management, etc. of the 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 May 29, 2015), a policy on use, etc. shall be created and shall be systematically and properly executed 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 R&D 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 R&D expenses are impossible at some institutions due to incompatible administration systems)

5.6 Evaluations

(1) Evaluations for R&D Program

・ This R&D program will be evaluated after a certain period of time has passed (interim, or post).

(2) Evaluation of R&D Projects

・ Proposals will be selected by the Program Supervisor based upon cooperation from the Program Advisor, etc.

・ All R&D Projects will undergo the ex-post evaluation at the end of R&D implementation by the Program Supervisor who is assisted by the Program Advisors.

・ If a Project is expected to produce further improvements in the potential of the research outcomes to take root and expand, the R&D period can be extended for up to two years, subject to the mid-term evaluation.

・ Follow-up investigations will be conducted when certain period of time has passed after the end of R&D implementation.

5.7 Responsibilities of Principal Investigator and Lead Joint Researcher

(1) The Principal Investigator and Lead Joint Researcher 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, these individuals must agree to fulfill the following duties presented to them at JST briefings, etc., and submit a written agreement to JST.

a. Comply with application guideline and other requirements.

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 implementers must complete the JST designated Educational Program on Research Integrity (eAPRIN (previously CITI Japan) e-learning program).

(4) Project progress and management: These individuals are also entirely responsible for project progress and management. These responsibilities include providing necessary progress management, as well as the results of the project. After clarifying the roles and responsibilities within the project, the Principal Investigator and Lead Joint Researcher 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 meetings to confirm the strategy and progress of the project (under the assumption these will be held during site visits), and respond to evaluations, etc. The Principal Investigator and Lead Joint Researcher 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 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 implementers 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-sponsored program activities designed to meet the goals of the program (events including training camps 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 Strategic Basic Research Programs (RISTEX) 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 R&A 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 R&D program (both interim and post-evaluation) and follow-up investigations conducted after a certain period of time has elapsed since the completion of the project.

5.8 Responsibilities of Institutions

R&D 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 R&D effectively. R&D 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 the institutions where their R&D is going to be implemented before applying.

a. R&D 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 R&D 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. R&D 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 R&D Institutions (Practice Standards)" (decided by the Minister of Education, Culture, Sports, Science and Technology on February 15, 2007; revised on February 18, 2014). 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, R&D institutions are also obliged to cooperate with any investigations into the implementation of their system. (See: 6.21 Consideration on “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.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), R&D institutions are responsible for implementing regulations and systems required to prevent misconduct. Institutions are also responsible for cooperating with any investigations relating to these systems based on these guidelines. (See: 6.22 “Guidelines for Responding to Misconduct in Research”)

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

d. R&D institutions are responsible for ensuring that R&D participants 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. R&D institutions shall manage spending/management of R&D budgets properly in accordance with the regulations of the institutions while still maintaining reasonable flexibility. Institutions must also follow any special expenditure rules for the project defined in administrative manuals, etc., provided by JST. (R&D 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. R&D 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 R&D 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 R&D 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 R&D 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. R&D institutions are responsible for cooperating with accounting investigations performed by JST and with government accounting audits.

h. R&D 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 R&D 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. R&D institutions are required to follow these measures.

i. If the R&D institution 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 R&D projects and are affiliated with the R&D institution, to enroll in and complete an educational program on research integrity (procedures required for enrollment will be handled by JST). R&D 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 will 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 R&D 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.

5.9 Participation as a Lead Joint Researcher by persons belonging to overseas R&D Institutions

Individuals belonging to overseas R&D institutions can participate in the project while being based at the overseas institution (however, the Principal Investigator is required to belong to a domestic R&D institution. Please refer to "4.4 Submission Requirements." for more details) R&D 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. In principle, R&D institutions are obliged to enter into a Collaborative Research Agreement with content provided by JST. (Taking into consideration the characteristics of R&D implementation, contract clauses may be subject to change if it is agreed that there is a rational reason to do so.) 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 R&D 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 R&D 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 R&D institution must, even during the period of the agreement, cooperate with all investigations into expenses, etc., by JST, as requested.

d. The R&D institution must transfer intellectual property rights arising from the implementation of R&D to JST without compensation (however, Article 17 of the Industrial Technology Enhancement Act (Japanese version of the Bayh-Dole Act) does not apply to overseas institutions). As a result, any invention that may become intellectual property must be reported to JST immediately (within ten business days).

* Due to Security Export Controls, JST may not enter into Collaborative Research Agreements with institutions published on the "The End User List" (*2) by the Japanese Ministry of Economy, Trade and Industry (METI).

(*2) METI has issued the "The End User List" with the aim of strengthening the effectiveness of a catch-all control on goods related to weapons of mass destruction.

https://www.meti.go.jp/policy/anpo/law05.html#user-list

5.10 Other Considerations

5.10.1 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 (direct costs only) 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.

See the website below for more details.

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

5.10.2 Using the JREC-IN Portal

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 19,000 pieces of information on human resources from universities, public research organizations, and private business firms, and has more than 130,000 registered users. It is advisable that the JREC-IN Portal is utilized to search for human resources (postdoctoral researchers, researchers, etc) with high levels of knowledge when recruiting for R&D projects.

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

Chapter 6. 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 applicants.

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. Once enrolled, applicants are expected to complete the program without delay and then to declare the completion of the program and to also enter the number of the completion confirmation sheet (7 figures number + ARD) in the e-Rad application information input screen.

■Contact for consultation on the Educational Program on Research Integrity

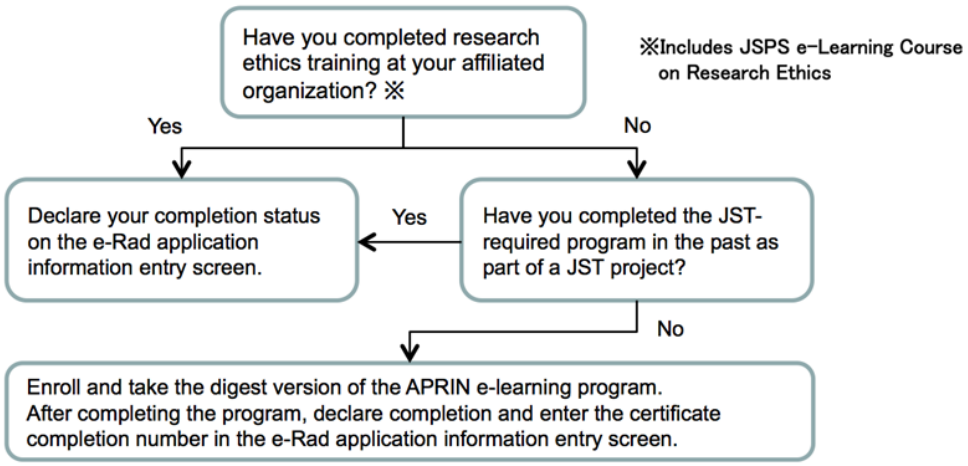
Japan Science and Technology Agency
Department of Audit and Legal Affairs, Research Integrity Division
E-mail： rcr-kousyu@jst.go.jp

■Contact for consultation on the call for application

JST RISTEX　E-mail： 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>



1.

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 Concetration

○Measures against “ Unreasonable Duplication”

If a researcher is unnecessarily receiving competitive funds from multiple sources for the same R&D project (same project name or content receiving competitive funding or proposal-based research funding (hereinafter referred to as "competitive funds") being undertaken by the same researcher, and any of the following applies, the researcher shall be made ineligible to apply for this program, or selection of their R&D project withdrawn, or their budget reduced (hereinafter referred to as “withdrawal of R&D project selection.”)

・In the case that simultaneous proposals have been submitted for multiple competitive research funds and duplicate approval granted for essentially the same R&D project (including cases in which there is a considerable degree of research content duplication; hereinafter the same shall apply).

・In the case that a duplicate application is made for funding of a R&D project that is essentially the same as another R&D project that has already been selected and has already received competitive research funding.

・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 funding programs, etc. If a R&D project is selected by another competitive funding program, report this promptly to JST at the contact address (boshu@jst.go.jp). If reporting is omitted, the approval decision for the R&D project may be revoked.

○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 funding program, if 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, and any of the following applies, selection of the R&D project under this program may be withdrawn.

・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 R&D project) allocated to the R&D project.

・In the case that highly expensive research equipment is purchased unnecessarily

・Other cases equivalent to the above

*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.

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

How "effort" should be understood

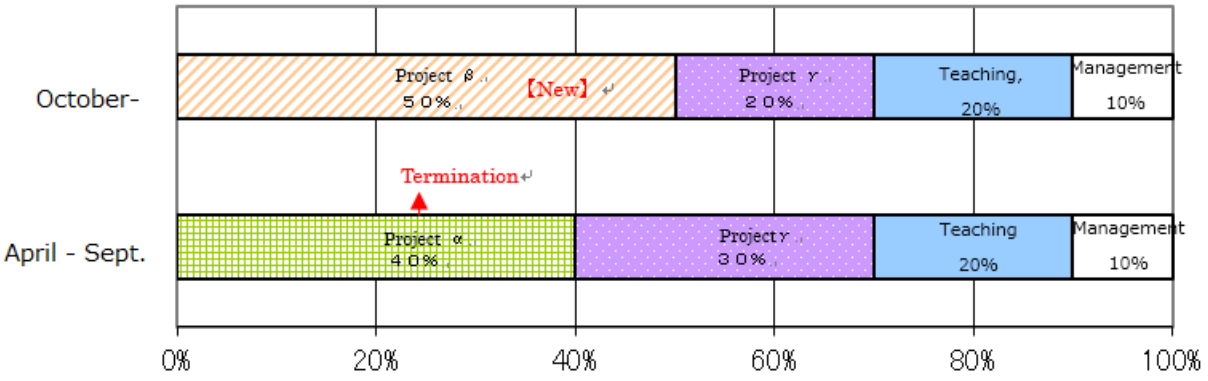
Definition of "effort"

○According to the Third Science and Technology Basic Plan, "effort" is defined as "the distribution of time during which an individual engaging in a research copes with a research, education, and management."

○When a researcher makes a proposal for a R&D project, he/she needs to describe the percentage of his or her time required to implement the research relative to the time that is taken for his/her total work."*

○Note that the total work time includes not only the time for research activities but also the time taken for teaching and management activities.
○Accordingly, the amount of "effort" may vary depending on a review or an assessment of a research.

Ex. Project α is canceled halfway in the fiscal year and Project β is adopted. The state of the percentage of the total work time is as shown here. (Project γ continues for one year.)



○ In this example, Project α is canceled at the end of September (40% effort distributed) and Project β is started as a new one from October (50% effort distributed). The "effort" in Project γ varies from 30% to 20%.

*"Guideline for Proper Implementation of Competitive Funds" (an agreement at the liaison committee of relevant governmental bodies concerning competitive funds, revised on June 22, 2017)

○Information on Proposal Contents Provided 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 funds, including other government ministries. Furthermore, when it is required that checks be made for duplicate project applications under other funding programs, the information may be provided in a manner alike.

6.3 The State of Acceptance of Applications for Other Competitive Funds Including Other Governmental Bodies

If you are receiving Grants-in-Aid for Scientific Research or other competitive research funding operated by the national government or independent administrative agencies (including national R&D agencies), or other research grants (including funding for which applications have been submitted), please provide information of this funding in the R&D proposal in the prescribed format

(Form 6 Other funding awards/grants).

Based on information on the content of the R&D proposal and effort (research time allocation rate), if either unreasonable duplication or excessive concentration of competitive funding has formed, the R&D proposal may not be selected, or selection may be withdrawn, or research funding may be reduced. Furthermore, the R&D proposal may also not be selected, or selection may be withdrawn, or research funding may also be reduced in the case that the information provided in the R&D proposal is found to be false.

In order to eliminate an unreasonable duplication or an excessive concentration of competitive funding if a researcher is receiving other competitive funding operated by the national government or independent administrative agencies (including national R&D agencies), or other research grants, or if researcher has been selected for such funding, the researcher may not submit proposals to this program for research with the same project name or content.

6.4 Measures against Inappropriate Usage of Research Funds

Inappropriate use and reception (referred to as “inappropriate usage” hereinafter) of research budgets related to implemented issues 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 project 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 of other ministries and their independent corporations in charge of competitive funds, who may restrict application and participation of the researchers in other systems for competitive funds of the prefectures.

※1 “Application and participation” refer to the proposal, subscription, and application of a new project; participation in research 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” refer to those whose involvement in inappropriate usage is not proven but who violated the duty of due care of product 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>③The 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 researched 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, inappropriately, failing to fulfill his/her duty of due care of prudent manager *2</td><td colspan="2"></td><td>1 to 2 years (in maximum) in accordance with the degree of failure of fulfilling his/her duty of due care of prudent manager</td></tr>
</table>

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

*1: In case of item 1, 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 item 3, the influence over the society, as well as the malignancy of the act, is minor.

*3: 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 will be disclosed in principle by MEXT.

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

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".

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

Researchers on whom restriction is imposed for the reason of inappropriate usage of research expenses in another competitive fund system* under the central government or independent administrative agencies are not eligible to apply to or participate in this program while their qualifications are restricted for application in the competitive fund system.

" Other competitive fund systems" include those systems that newly start a call for proposals in public 2021 fiscal year and those that finished before the 2021 fiscal year.

* 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 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 an evidence for the appropriate use of overhead costs for five years counted from the next fiscal year from which the project ended.

Institutions which received overhead costs are required to report 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 funds, report all indirect costs accompanied by such competitive funds.) How to use e-Rad system is described on e-Rad operation manual (https://www.e-rad.go.jp/en/manual/for_researcher.html). FAQs are also provided on the website (https://qa.e-rad.go.jp/).

6.8 Carryover of Research Expenses

Making a carryover of research expenses until the end of next fiscal year for a maximum, may be permitted according to the delay of the progress in the project occurs and is difficult to conclude within the fiscal year due to unavoidable conditions difficult to determine in advance the research or study method of the experimental research, such as weather-related conditions, obtaining rare materials and others etc.

6.9 Cross-ministerial Expenses Handing Partitioned Table

The expense items of research costs specific to the Strategic Basic Research Programs 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 (https://www.mext.go.jp/a_menu/shinkou/hojyo/1311601.htm).

6.10 Exchange of Direct Costs between Expense Items

Direct costs of different expense items can be exchanged under certain condition. Exchange 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).

6.11 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 funds.

（1）The research institutes and researchers must submit the notification of the completion as a work product of the project in a prompt manner when a project is finished. 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 at the end of a fiscal year.

6.12 Promotion on Effective Use of 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, “Introduction of a New Research Facility/Equipment Sharing System Integrated with the Management of Research Institutes” (Advanced Research Platform Group, Council for Science and Technology, November 2015) requires the operation of a “system to share research facilities/ equipment in research organization units” (hereinafter, “equipment sharing system”) in universities, National R& D Agencies and similar institutions.

Also, promoting the deployment and sharing of research equipment and facilities is also called for in the “Research Ability Improvement Reform 2019” (Ministry of Education, Culture, Sports, Science and Technology (MEXT), April 23, 2019) and the “Comprehensive Package to Strengthen Research Capacity and Support Young Researchers” (General Science, Technology and Innovation Conference, January 23, 2020).

Based on the above, for research facilities/equipment which are purchased by the Program, and particularly for large scale, general purpose items, positive efforts for sharing should be made, including sharing within the scope that does not hinder the progress of the applicable 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. Please note that it is necessary to strike a balance between management as shared

equipment/facilities and accomplishment of the research purpose of the applicable Project.

Besides the above equipment joint use system, the R&D institutions are requested to collaborate actively with the “University Collaborative Research Facility Network Project” and with a university-wide joint use system to promote the joint use of research facilities and equipment beyond the framework of research organizations or institutions (The “University Collaborative Research Facility Network Project” is operated by the Institute for Molecular Science, National Institutes of Natural Sciences, and Inter-University Research Institute Corporation to promote joint use of nation-wide facilities. The joint use system has been established at each university as part of the maintenance project of the equipment support center and the “New Shared System Installation Support Program”).

○ “About introduction of a joint use system for new research facilities and equipment integrated with research organization management” (Advanced Research Base Subcommittee, Council for Science, Technology, November 25, 2015)

https://www.mext.go.jp/component/b_menu/shingi/toushin/__icsFiles/afieldfile/2016/01/21/1366216_01_1.pdf

○ “About reforming competitive research expenses toward sustainable creation of research achievements (mid-term summary)” (Committee for reforming competitive research expenses, June 24, 2015)

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

○ “About unifying the rules for the use of competitive funds” (Agreed upon by the coordination committees of relevant ministries and agencies on competitive funds, revised on April 20, 2017)

https://www8.cao.go.jp/cstp/compefund/shishin3_siyouruuru.pdf

○ ”On the Purchase of Shared Equipment by Multiple Research Funding Systems (combined use)” (revised on July 20, 2017)

https://www.mext.go.jp/a_menu/shinkou/torikumi/1337578.htm

○ “University Collaborative Research Facility Network Project”

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

○ “New Shared System Installation Support Program”

https://www.jst.go.jp/shincho/program/pdf/sinkyoyo_brochure2019.pdf

6.13 Improving the treatment of (latter-stage) doctoral students

In order to attract outstanding students and working people from home and abroad, the 5th

Science and Technology Basic Plan has set up a numerical goal of providing about 20% of the (latter-stage) doctoral students with grants equivalent to their living costs as part of an enhanced financial support for graduate students, especially for the (latter-stage) doctoral students, and there is also a need to expand the employment of (latter-stage) doctoral students as teaching assistants (TA) and research assistants (RA) at universities and R&D corporations, and to improve the treatment of these students. In addition, the “Comprehensive Package to Strengthen Research Capacity and Support Young Researchers” (Council for Science, Technology and Innovation, January 23, 2020) aims to “ensure that latter stage doctoral students who wish to can receive a reasonable amount of living expenses in the future,” and sets forth “promoting to ensure an appropriate level of salary for RAs etc. in competitive funds and joint research grants” as one of the specific measures to do so.

In addition, “The Ideal State of Graduate School Education with an Eye to 2040: Measures to Improve Entire Character for the Development of the Personnel to Lead Society” (Summary of Deliberations) (Central Education Council University Subcommittee, January 22, 2019) and the “Development of Science, and Technology and Innovation Policy for Knowledge-Intensive Value Creation: Becoming a World-Leading Country through the achievement of in Society 5.0 — Interim Summary” (Special Committee on General Policy of the Council for Science and Technology, October 24, 2019) also state the need for support using various financial resources, including competitive funds and joint research with companies. They also call for the reduction of teachers’ teaching burdens through the active deployment of TAs as an initiative to actively employ (latter-stage) doctoral students as RAs, improve their treatment, enhance TA provision, and secure research time.

Moreover, if a (latter-stage) doctoral student provides assistance as an RA, they should be paid a fair amount of compensation for their assistance work.

Based on these considerations, in this program, it is encouraged to proactive employ (latter-stage) doctoral students who are necessary for the execution of R&D as RAs and TAs, and in so doing, it is required to set rates commensurate with the nature and content of their work, aiming for a salary level equivalent to the cost of living, and pay them the salary based on the time they engage in their work under appropriate work management. In addition, when applying for this program, please make sure that the application is based on a budget plan that also takes into account the amount of salary for (latter-stage) doctoral student mentioned above.

6.14 Securing an independent and stable research environment for young researchers

In the “2019 Research Improvement Reform” (Ministry of Education, Culture, Sports, Science and Technology (MEXT), April 23, 2019) and the "Development of Science and Technology Innovation Policy for Knowledge-Intensive Value Creation: Becoming a World-Leading Country through the achievement of Society 5.0 — Interim Summary” (Special Committee on General Policy of the Council for Science and Technology, October 24, 2019), the importance of ensuring employment periods of five years or more has been pointed out with regard to fixed-term positions such as specially appointed faculty members and postdoctoral fellows, as short-term appointments can be a hindrance to career development.

With respect to 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 “in order to achieve the two goals of fostering young faculty members and stabilizing employment, it is preferable that a system is 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 research periods. It is also advised to secure certain length of their employment terms (appproximately five years or more) by utilizing indirect expenses of other external funding awards, basic expenses and endowment, as far as possible.

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

With regard to young researchers employed in these programs, based on the "Implementation Guidelines for Self-motivated Research Activities by Young Researchers Employed with Competitive Research Funds" (February 12, 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 these programs 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

○ Measures for Strategic Basic Research Programs (CREST, PRESTO, ACCEL, ACT-X) related to the "Implementation Guidelines for Self-motivated Research Activities by Young Researchers Employed with Competitive Research Funds" (April 14, 2020)
https://www.jst.go.jp/kisoken/crest/manual/senjukanwa_houshin.pdf

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

The “Basic Policy of the Ministry of Education, Culture, Sports, Science and Technology for Supporting Diverse Career Paths for Young Researchers with Doctoral Qualifications Employed with Public Research Funds” (December 20, 2011, Council for Science and Technology, Committee on Human Resources) calls for “active efforts to support public R&D institutions and Principal Investigators that employ young researchers with doctoral qualification with public research funds, with the aim of securing diverse career paths in Japan and other countries for young researchers with doctoral qualifications. 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 Security Export Control (Measures against Leakage of Technology internationally)

Many advanced technologies are studied at R&D 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 R&D institution is required when a R&D 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, export controls (*) 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.

(*) Based on international agreements, etc., Japan’s security export control system currently consists mainly of two systems: (1) List control, under which a license from the Minister of METI is necessary in principle in order to export (provide) good (technologies) that have specifications or functions of a certain level or higher (for example, carbon fiber or numerically-controlled machine tools) and (2) catch-all control, under which a license from the Minister of METI is necessary in order to export (provide) goods (technologies) that do not fall under list control, but do satisfy certain other conditions (application conditions, end-user conditions, and notification conditions).

In addition to the export of goods, technology provision is also subject to control under the Foreign Exchange Law. When a technology which is subject to list control is to be provided to a non-resident of Japan or a foreign country, advance approval for provision of that technology is necessary. “Technology provision” includes provision of technical information such as design drawings, specifications, manuals, samples, prototypes, etc. in paper form, by email, and by CDs, DVDs, USB memory devices and other memory media, and also includes the provision of operational knowledge through technical guidance and technical training, technical support through seminars, etc. Receiving international students from other countries and conducting joint research activities, etc., may also include numerous exchanges of technology that could be subject to control under the

Foreign Exchange Act.

Detailed information on security export control has been published at the website of the Ministry of Economy, Trade and Industry (METI), etc. For details, please see the following.

・Ministry of Economy, Trade and Industry (METI)： Security export control (general)
https://www.meti.go.jp/policy/anpo/englishpage.html

・Ministry of Economy, Trade and Industry (METI)： Security Export Handbook (in Japanese)
https://www.meti.go.jp/policy/anpo/seminer/shiryo/handbook.pdf

・Center for Information on Security Trade Control:
https://www.cistec.or.jp/index.html

・Guidance on machine technology control in relation to security export control
(for universities/R&D institutions, in Japanese):
https://www.meti.go.jp/policy/anpo/law_document/tutatu/t07sonota/t07sonota_jishukanri03.pdf

6.18 Dialogue and Collaboration with Public Stakeholders

According to “Promotion of Dialogue on Science and Technology with the Public (a Basic Approach Policy)” (June 19, 2010, decision of the Minister of State for Science and Technology Policy and expert committee), if a proposal is selected in this call and receives an allocation of public research funds (competitive funds or project research funds) in an amount of 30 million yen per year or more for one project, it is considered essential to have an attitude in which excellent achievements in science and technology are constantly produced, and achievements in science and technology are returned to the public in order to further develop science and technology in Japan, and science and technology are advanced jointly with the understanding and support of the public through “Dialogue on Science and Technology with the Public.” In addition, the 5th Science and Technology Basic Plan (Cabinet decision of January 22, 2016) calls for deepening the conventional relationship, in which science and technology and society are opposed, into a relationship of dialogue and cooperation by various stakeholders, i.e., researchers, citizens, the media, industry, and policymakers, in other words, a relationship that promotes “co-creation.” From these viewpoints, efforts to explain the content and results of research activities to society and the public in easily-understood terms, and efforts to promote dialogue and cooperation among various stakeholders are demanded. Based on this, we ask that program participants make active efforts in connection with these activities, including holding public lectures and symposiums on research achievements, continuously posting information on research achievements on the internet, and holding roundtable meetings with various

stakeholders.

(Reference) “Promotion of Dialogue on Science and Technology with the Public, (A Basic Approach Policy)”

https://www8.cao.go.jp/cstp/stsonota/taiwa/taiwa_honbun.pdf

(Reference) “The 5th Science and Technology Basic Plan”

https://www8.cao.go.jp/cstp/kihonkeikaku/5honbun.pdf

6.19 Data disclosure from The National Bioscience Database Center

According to “Promotion of Dialogue on Science and Technology with the Public (a Basic Approach Policy)” (June 19, 2010, decision of the Minister of State for Science and Technology Policy and expert committee), if a proposal is selected in this call and receives an allocation of public research funds (competitive funds or project research funds) in an amount of 30 million yen per year or more for one project, it is considered essential to have an attitude in which excellent achievements in science and technology are constantly produced, and achievements in science and technology are returned to the public in order to further develop science and technology in Japan, and science and technology are advanced jointly with the understanding and support of the public through “Dialogue on Science and Technology with the Public.” In addition, the 5th Science and Technology Basic Plan (Cabinet decision of January 22, 2016) calls for deepening the conventional relationship, in which science and technology and society are opposed, into a relationship of dialogue and cooperation by various stakeholders, i.e., researchers, citizens, the media, industry, and policymakers, in other words, a relationship that promotes “co-creation.” From these viewpoints, efforts to explain the content and results of research activities to society and the public in easily-understood terms, and efforts to promote dialogue and cooperation among various stakeholders are demanded. Based on this, we ask that program participants make active efforts in connection with these activities, including holding public lectures and symposiums on research achievements, continuously posting information on research achievements on the internet, and holding roundtable meetings with various stakeholders.

(Reference) “Promotion of Dialogue on Science and Technology with the Public, (A Basic Approach Policy)”

https://www8.cao.go.jp/cstp/stsonota/taiwa/taiwa_honbun.pdf

(Reference) “The 5th Science and Technology Basic Plan”

https://www8.cao.go.jp/cstp/kihonkeikaku/5honbun.pdf

6.20 Measures for Protecting Civil Rights and Complying with Laws and Regulations

In the case that, in implementing a research initiative, the initiative involves a research requiring the consent/cooperation of other parties, research requiring particular care in handling personal information, research requiring bioethical or safety measures to be taken, and other researches requiring procedures subjected to laws and regulations, be sure to carry out the necessary procedures, such as obtaining the approval of an external and internal ethics committee of a R&D institution. If research activities are conducted overseas or collaborative research activities with institutions overseas are conducted, please confirm the regulations and laws in advance, and adhere to them.

With regard to life science-related research in particular, there are cases in which the main law prescribed by each ministry are being revised, and there are also cases in which different laws are being applied, depending on the content of experiments. Please confirm the latest laws and ordinances related to your research. Note that undertaking research that violates the related law, ordinances, and/or guidelines prescribed by the government and ministries, may result in the suspension of research funding or the cancellation of funding.

For MEXT activities on bioethics and bio-hazard protection, visit the following website (in Japanese): https://www.lifescience.mext.go.jp/bioethics/index.html

In the case that the research plan includes research or surveys that require consent/cooperation of other parties and/or social consensus, be sure to take appropriate measures for protecting civil rights and interests prior to applying to this program.

6.21 Regarding the reformations of competitive funding systems

Following the “Integrated Innovation Strategy 2019” and “Integrated Package for Strengthening of Research Capabilities and Support for Young Researchers,” discussions concerning the reform of competitive funding system is taking place at present at the government in order to further improve the effectiveness and efficiency of research funding it provides. Thus, if amendments are made to these systems or policies applicable to other competitive funding systems are presented, and such alterations affect the solicitation and management of this Strategic Basic Research Programs, it will be announced accordingly.

6.22 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 implementing the program, R&D institutions must stringently observe the "Guidelines for the Management and Audit of Public Research Funds in R&D Institutions (Practice Standards)" (decided by the Minister of Education, Culture, Sports, Science and Technology on February 15, 2007; revised on February 18, 2014) (*). 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 competitive funding could be taken on the said institution. "Competitive funding" includes all financing distributed by the MEXT and the independent administrative agency under the jurisdiction of the MEXT.

(*) 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.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 R&D Institutions (Practice Standards)"

In concluding a contract for this project, each R&D institution 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).

It is necessary for the R&D institution to use the R&D management system (e-Rad) common to ministries in order to submit the checklist in the form given on the website below to the Competitive Fund Coordination Office, Promotion Planning Section, Promotion Bureau, Ministry of Education, Culture, Sport, Science and Technology by the date of the conclusion of the Collaborative Research Agreement. However, submission of a new checklist is not necessary if it has been submitted on another occasion after April 2021. Further, you do not need to submit the application if your organization is not engaged in research activities, or in the case where yours is engaged in such

activities, if it does not accept budgets or funds from the Ministry of Education, Culture, Sports, Science and Technology (MEXT) or an incorporated administrative agency under its jurisdiction.

See the website of the Ministry of Education, Culture, Sports, Science and Technology below for details of the method for checklist submission.

https://www.mext.go.jp/a_menu/kansa/houkoku/1301688.htm

Note: A perfect environment for using e-Rad is necessary for checklist submission. Note that the registration of an R&D institution to 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

Since the said guideline encourages the "promotion of issuing and sharing of information," please use the checklist provided widely such as in the websites of R&D institutions to proactively utilize the information.

6.23 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 including reduction of indirect expenses of the whole competitive fund for the pertinent organization. The "whole competitive fund" includes all financing distributed by the MEXT and independent administrative agencies under the jurisdiction of the MEXT.

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

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

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

When concluding a contract for this program, each R&D institution must submit "a checklist related to the approach, based on 'Guidelines for responding to misconduct in research" (hereinafter, "checklist of inappropriate research conduct"). (Research undertaking is not approved unless a checklist of inappropriate research conduct is submitted).

It is necessary for the R&D institutions to use the R&D management system (e-Rad) common to ministries in order to submit the checklist in the form given on the website below to the Office of Equitable Research Promotion, Human Resources Section, Academic Policy Bureau, Ministry of Education, Culture, Sports, Science and Technology by the date of the conclusion of the Collaborative Research Agreement. However, there is no need to submit a checklist of inappropriate research conduct, if it has already been submitted on a different occasion after April 2021. Further, you do not need to submit the application if your organization is not engaged in research activities, or in the case where yours is engaged in such activities, if it does not accept budgets or funds from the Ministry of Education, Culture, Sports, Science and Technology (MEXT) or an incorporated administrative agency under its jurisdiction.

See the website of the Ministry of Education, Culture, Sport, Science and Technology for details of the method for submitting a checklist of inappropriate research conduct.

https://www.mext.go.jp/a_menu/jinzai/fusei/1374697.htm

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 of specific misconduct (fabrication, falsification, and plagiarism) is identified of research of the 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 project are imposed upon researchers involved in certain misconduct in research papers or reports of this project 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 fund systems (referred to as “competitive fund system related to the Ministry of Education, Culture, Sport, Science and Technology” hereinafter) distributed by the Ministry of Education, Culture, Sport, Science and Technology and independent administrative agencies of the ministry and to pertinent sections of competitive fund systems (referred to as “competitive fund systems related to other ministries” hereinafter) distributed by other ministries and their independent administrative agencies, which may similarly restrict qualification for application and participation in competitive 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">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>
</table>

	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	1-2 years

※ The peri d starts from the beginning of next fiscal year after the time when misconduct is identified. Also ineligible in the fiscal year which misconduct is identified.

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

Qualification is restricted for application to and participation in this project for researchers whose qualification is restricted for application to and participation to competitive 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 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 project (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 announces the survey result immediately. Each organization is requested to handle the case accordingly.

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

6.24 Duty to Complete Education on Research Ethics and Compliance

Researchers who participate in the project of this research 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 research project, it is necessary for all researchers participating in the research project, including the Research Director and Individual 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.

6.25 Handling of Information Provided in R&D Proposals, etc.

Information in the documents submitted for the application will be used for the review during the selection process. Furthermore, information in the proposal which is necessary for statistics or trend analysis of R&D will be utilized by JST as an anonymized data. To protect the interests of applicants, and from the viewpoint of the “Act on the Protection of Personal Information Held by Independent Administrative Agencies” and other related laws, the confidentiality of R&D proposals submitted by applicants shall be strictly maintained. For details, please refer to the following website.

https://elaws.e-gov.go.jp/search/elawsSearch/elaws_search/lsg0500/detail?lawId=415AC0000000059

JST may use information in selected R&D proposals to advance research.

6.26 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.

6.27 Provision of the e-Rad system to the Cabinet Office

The 5th Science and Technology Basic Plan attempts to complete the registration of funds for public solicitation for science and technology innovation policies based on objective evidences in a research to perform evaluation and analysis. Information registered in e-Rad is utilized for properly evaluating R&D using the nation’s funds and for planning effective, efficient, and comprehensive strategies. To this end, CSTI and relevant ministries have decided to complete registration of achievements and accounting, such as papers and patents, in e-Rad in order to connect output and outcome related information to inputs to the publicly solicited research fund system.

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.

6.28 Registration of researcher information to "researchmap"

"researchmap" (https://researchmap.jp/?lang=en) is the largest Japanese database of researcher information to provide a partial view of Japanese researchers nationwide. A public organization operates the services in a stable and sustainable manner, so as to make information on registered profiles and achievements available to the public via the internet. Moreover, researchmap collaborates with e-Rad and numerous databases of college professors to enable registered information to be accessed through other systems; there is no need for researchers to repeatedly register the same achievement in various applications 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.

6.29 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.

Chapter 7. 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).

* "e-Rad" is an abbreviation of the R&D management system common to all ministries, with the acronym for R&D (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). Please be aware of the following points when submitting your application:

(1) Pre-registration of R&D institution and researcher information is required. Please refer to “7.5 (1).”

(2) Please allow several days (or more) after 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.

(3) It is possible to “temporarily save” input information: It is possible to discontinue input of and temporarily save application information part way through. For details, please refer to e-Rad operation manual (https://www.e-rad.go.jp/en/manual/for_researcher.html).

(4) “Retraction” on e-Rad system is possible: Up to and including the day prior 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 crowded and re-editing the proposal after retraction may take a very long time. 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) Register R&D institution and researcher information.

The R&D institution must register its researcher information and be issued a log-in ID and password. For detail, please refer to “7.5 (1).”

↓

(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 Guideline 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 mimutes.

↓

(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 Inquiries and Service Availability

(1) How to operate e-Rad

For how to operate e-Rad, visit the portal site (https://www.e-rad.go.jp/en/) or download the manual from the site. Be sure to agree to the terms of use before making an application.

(2) 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 Proposals and the e-Rad Portal site carefully.

Questions concerning the Call Programs, and procedures for preparation of application documents and submission, etc	**Society Research Institute of Science and Technology for Society (RISTEX),** **Japan Science and Technology Agency (JST)** E-mail：boshu@jst.go.jp
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: 0570-066-877 (navi dial) Office hours: 9:00-18:00 ●Except on Saturdays, Sundays, holidays, and the year-end and new year period.

- RISTEX ”Call for R&D Proposals” website (https://www.jst.go.jp/ristex/proposal/)

- e-Rad portal website (https://www.e-rad.go.jp/en/)

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

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

(3) 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 Notes

(1) Pre-registration of R&D institution and researcher information

R&D institutions have to be registered on e-Rad by the time of application. One R&D institution must assign a representative for e-Rad, download the R&D institution registration form from the e-Rad portal website, and apply for registration. However, if the proposer belongs to an overseas R&D institution, the R&D institution will be registered at JST after adoption. Please proceed to the application screen with no affiliation registered for the researcher ID (cross-ministerial R&D Management System (e-Rad)), click the “Basic Information” tab and enter the affiliated institution. In that case, it is necessary for the proposer him/herself to obtain the e-Rad login ID and password.

The acquisition procedure is as follows. Please register prior to two weeks or more. Please refer to the e-Rad portal website for details (https://www.e-rad.go.jp/en/).

1) Researchers belonging to domestic R&D institutions

- Worker: R&D institution clerk

- Registration Contents: R&D Institution and Researcher Information

2) Researchers who belong to a foreign R&D institution or researchers who do not belong to a R&D Institution

- Worker: Proposer yourself
- Registration Details: Researcher Information

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

・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 documents need to be converted to pdf before uploading to the e-Rad. It can be performed from the menu after logging into the 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).

Chapter 8. Q&A

Enrolling in the educational program for research integrity

✓ Content of the educational program for research integrity

Q1. 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 R&D 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), which were effective as of April 2015, R&D 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 the JST Office of Research Integrity.

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

✓ Program completion certification

Q2. Is it necessary to submit documentation certifying completion of an educational program for research integrity?

A. No, submission is not necessary at proposal.

✓ Deadline for completing the program

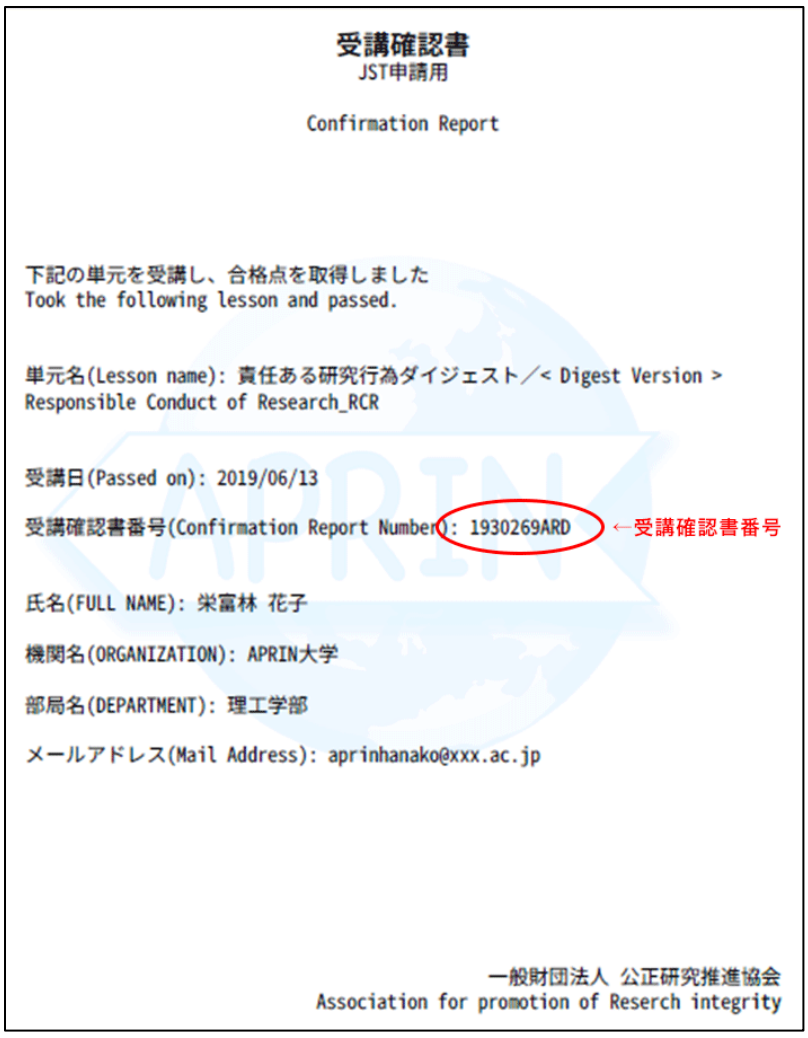
Q3. I cannot complete the educational program for research integrity before the application deadline. Can I complete the program after the deadline?

A. Completion of the educational program for research integrity 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”.

✓ Declaring completion with the Confirmation Report Number

Q4. I have completed the digest version of eAPRIN (ex-CITI Japan), but where/how do I view the Confirmation Report Number?

A. After passing the quiz, Confirmation Report can be issued. The Confirmation Report Number (7 digits + ARD) is writtenson the Confirmation Report.



受講確認書
JST申請用

Confirmation Report

下記の単元を受講し、合格点を取得しました
Took the following lesson and passed.

単元名(Lesson name): 責任ある研究行為ダイジェスト／< Digest Version >
Responsible Conduct of Research_RCR

受講日(Passed on): 2019/06/13

受講確認書番号(Confirmation Report Number): 1930269ARD ←受講確認書番号

氏名(FULL NAME): 栄富林 花子

機関名(ORGANIZATION): APRIN大学

部局名(DEPARTMENT): 理工学部

メールアドレス(Mail Address): aprinhanako@xxx.ac.jp

一般財団法人 公正研究推進協会
Association for promotion of Reserch integrity

Q5. I completed the digest version of eAPRIN (ex-CITI Japan) when submitting a proposal for this project (or other JST projects) last fiscal year (or this fiscal year); do I need to enroll in and complete the program again?

A. You do not need to complete the program again. Please input your Confirmation Report Number issued when you completed the program on the Individual Items tab of e-Rad.

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

Q6. 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).
*eAPRIN is an e-learning program operated by the Association for the Promotion of Research Integrity (APRIN). The name was changed from CITIJapan to eAPRIN effective on October 1, 2018.

■Proposal/Application

✓ Proposer Requirements

Q7. Is there an age limit?

A. There is no specific age limit, but it is necessary that 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 research period.

✓ Multiple applications

Q8. I previously submitted a proposal for a different JST project. Can I also submit a proposal in this area/program?

A. Yes, you may submit another proposal. However, in cases where the Principal Investigator, etc. or R&D Participants, etc. participate in multiple projects (topics) through any competitive fund system operated by JST, adjustment may be made such as reducing the R&D expenses according to the effort of the researchers or requiring researchers to select one project for implementation.

✓ Institutional Approval at the Time of Application

Q9. Do I need to obtain approval from my affiliated R&D institution when I submit an application?

A. You are requiresd to obtain prior approval. After projects are selected, JST will enter into a Collaborative Research Agreement with the researchers' affiliated R&D institutions. Please note that, if a Collaborative Research Agreement cannot be entered into, the R&D expenses cannot be used, so please carefully read "5.8 Responsibilities of R&D institutions." There is no need to submit an official approval letter.

✓ Implementation by Foreign Institutions

Q10. 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 at a foreign institution.

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

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

✓ Interview Selection

Q11. If I am not available on the day of the interview selection, can I change the interview selection date?

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

✓ Basis for cumulated R&D Budget

Q12. Is it necessary to indicate in the proposal the basis for the cumulated R&D budget?

A. No, it is not necessary. Applicants who are selected for interview selection will be required to prepare supplementary explanatory materials including details of the R&D budget for each institution.

✓ Direct Costs

Q13. After the R&D 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. If certain requirements are met, funds may be flexibly shifted to different expense items.

・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 the amount does not exceed 5 million yen, then 5 million yen)

・Conditions for shifting funds with approval from JST (Program Supervisor):

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, prior approval from JST (Program Supervisor) is required.

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

✓ Indirect Costs

Q14. What types of expenditures can indirect costs be used for?

A. Indirect costs are funds for the R&D 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 R&D 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 May 29, 2014) 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

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 R&D institution makes a determination that the expenses are necessary to improve the R&D environment of researchers who received competitive funds or to enhance the overall functionality of the R&D institution. However, this does not include funds that are to be allocated to direct costs. R&D 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, R&D 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 operation manual (https://www.e-rad.go.jp/en/manual/for_researcher.html) or the FAQs (https://qa.e-rad.go.jp/).

✓ Outsourcing

Q15. 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

Q16. If a Principal Investigator experiences a change in position (promotion, transfer to a different R&D 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

Q17. Do the Collaborative Research Agreements between JST and the joint reseachers’ affiliated R&D institutions take the form of “subcontract” (see note) via the Principal Investigator’s R&D institution?
Note: “Subcontract” in the Collaborative Research Agreement means that JST concludes a research agreement only with a R&D institution with which the Principal Investigator is affiliated and the R&D institution with which the said Principal Investigator is affiliated concludes another research agreement with a R&D institution with which a joint researcher is affiliated.

A. In this program, Collaborative Research Agreements are not subcontracts. JST will conclude, on an individual basis, a Collaborative Research Agreement with the institution to which the researcher in charge of budget implementation belongs.

✓ Definitions of and differences between “Lead Joint Researcher” and “Group Leader”

Q18. What is the definition of Lead Joint Researcher? What is the difference from the Group Leader?

A. The difference between “Lead Joint Researcher” and “Group Leader” is as follows.

Lead Joint Researcher:

JST will conclude a Collaborative Research Agreement with the institution to which the researcher in charge of budget implementation belongs on an individual basis, disbursing R&D expenses accordingly. One R&D implementation manager is appointed to represent each institution with which JST has concluded a Collaborative Research Agreement. R&D implementation managers other than the Principal Investigator are called “Lead Joint Researchers.”

Group Leader:

An R&D project is composed of multiple groups, depending on the content and plan of the R&D. The researcher who represents each group is referred to as the “Group Leader.” Each group should have one “Group Leader”.

✓ (Lead Joint Researcher/Group leader) Registration on e-Rad

Q19. Other than the Principal Investigator, is it necessary to register anyone on e-Rad?

A. Please register the Lead Joint Researcher (Group Leader). It is not necessary to register other R&D participants.

✓ (Lead Joint Researcher/Group Leader) Researcher number on e-Rad

Q20. The Lead Joint Researcher (Group Leader) does not have a researcher number. Will this be a problem?

A. The Lead Joint Researcher (Group Leader) does not need a researcher number when a proposal is made.

✓ Securing a R&D period (R&D implementation) until the end of the fiscal year

Q21. When does a R&D results report need to be submitted?

A. JST has made the following arrangements so that R&D participants can conduct R&D until

the end of the fiscal year.

- 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.

* Each R&D 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.
* Due to the increasing impact of the novel coronavirus disease, the submission deadlines for reports and other documents based on Collaborative Research Agreements, Implementation Agreements, etc., may be set separately.

Q22. What were the research topics selected and applications submitted last fiscal year in RISTEX’s other area/programs?

A. Refer to following Websites:

Science of Science, Technology and Innovation Policy R&D Program
https://www.jst.go.jp/pr/info/info1395/index.html

Solution-Driven Co-creative R&D Program for SDGs
https://www.jst.go.jp/pr/info/info1404/index.html

RISTEX “Call for R&D Proposals” website
https://www.jst.go.jp/ristex/proposal/

■ Content of the Program’s Call for Proposals

Q23. Are there any restrictions on the S&T eligible for ELSI research under this program?

A. All areas of S&T are eligible, but evaluation and selection will be based on impact (academic and public value, contribution to current and future social and industrial needs, transmission and expansion to other fields and regions in Japan and abroad, etc.). In addition, ELSI directly related to medical R&D, such as vaccine development and the treatment of emerging infectious diseases, will be excluded from eligibility for FY2020.

Chapter 9. Guide to Completing the Proposal

Please refer to the original Japanese version.

Chapter 10. References

Please refer to the original Japanese version.

[Inquiries]

Questions concerning the call for R&D proposal
E-mail：boshu@jst.go.jp

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

RISTEX "Call for R&D Proposals" website:
https://www.jst.go.jp/ristex/proposal/current/proposal_2020.html

Questions concerning the Cross-ministerial R&D Management System (e-Rad)
e-Rad helpdesk Tel: 0570-066-877 (navi dial)
Office hours: 9:00-18:00 (Japan Time)
(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 on the application submission deadline (proposal deadline). Be sure to make inquiries with adequate time until submission.