FY2020

STRATEGIC BASIC RESEARCH PROGRAMS (RISTEX)

R&D Program
“Responsible Innovation with Conscience and Agility”

Call for R&D Proposals
[Application Guideline]

Application Call Period

Friday May 1st ~ 12:00 (noon, Japan time) on Tuesday, June 23th

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.

Japan Science and Technology Agency

Research Institute of Science and Technology for Society (RISTEX)

Japan Science and Technology Agency (JST)

May 2020

Strategic Basic Research Programs (RISTEX)
R&D Program "Responsible Innovation with Conscience and Agility"
Overview of the Call for R&D Proposals

The main schedule for call for proposals and selection (FY2020) 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/current/proposal_2020.html

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	May 1, 2020 (Fri.)
Deadline for submitting application*	Noon (12:00 p.m.) on June 23, 2020 (Tue.) (the deadline is strictly observed)
Document screening period	Late-June to Mid-July (planned)
Notification of document screening results	Notice will be provided at least one week prior to interview selection (planned)
Interview selection	July 30, 2020 (Thu.) and July 31, 2020 (Fri.)
Interview (explanation of selection requirements)	Early to mid-August（planned）
Notification and announcement of selection results	Early-September（planned）
Start of R&D	Early-September（planned）

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

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Chapter 1. Introduction to the Call for R&D 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 research and development (R&D) that makes use of knowledge in natural sciences, humanities and social sciences (HSS) under a competitive environment, we aim to obtain outcomes that will lead to practical solutions to problems in the actual society and to promote utilization of obtained outcomes in wider society.

In the JST 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 research and development of a problem-solving type to meet the requests from the society. SDGs are one of the worldwide objectives that can itemize all JST missions. We, in the course of the JST programs, want to collaborate with industries, academia, government agencies, and private enterprises and cooperate with researchers to realize a sustainable society.

Michinari HAMAGUCHI

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 research and development, as they are a party of various researchers supporting science and technology innovations. JST is expecting that woman researchers would take this opportunity, positively and will apply to our Strategic Basic Research Programs, actively. JST is undertaking the improvement of our “Childbirth, Child-raising, Nursing Care Support System”, to constantly, based on the voice of the system users, creating environments enabling a researcher on leave to return his/her research, for example.

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

Michinari HAMAGUCHI
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.

Miyoko WATANABE
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

Toward the Promotion of Fair Research

Recent incidents involving misconduct and dishonesty in research activities have resulted in an alarming situation that threatens the relationship of trust between science and society, and hinders the healthy development of scientific technologies. To prevent misconduct in research activities, there must be a function of autonomous self-purification in the scientific community. Each researcher must strictly adhere to strict discipline and work to create new knowledge and inventions that are useful for society, based on high moral standards that meet the expectations of society.

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

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

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

Michinari HAMAGUCHI
President, Japan Science and Technology Agency (JST)

1.2.4 Use of Knowledge Related to Science and Technology in All Fields Including HSS

Use of Knowledge Related to Science and Technology in All Fields Including Humanities and Social Sciences (HSS)

Since its foundation, RISTEX has sought solutions to specific social problems by conducting R&D with an emphasis on utilization of knowledge in HSS. The Act on Activation of the Creation of Science, Technology and Innovation (revised in 2018) provides that the government shall investigate “methods of activation of science and technology including science and technology of which sole concern is the humanities and activation of the creation of innovation.” In addition, during investigation of amendments to the “Science and Technology Basic Law” (Cabinet decision made in March 2020), it was indicated that collaboration between and co-creation by humanities/social sciences and natural sciences would be necessary to solve social issues through innovation in order to achieve an enriching and sustainable society. There has also been discussions on the importance of the proactive roles of HSS that deal with the fundamental nature of humanity and society, in recognizing social issues, setting the framework for and indicating the issues to be resolved, as well as creating new values, not only to secure social acceptance at the end of research and development activities, but also to engage in ethical, legal and social implications/issues (ELSI).

Against this backdrop, RISTEX requested a new budget to carry out R&D in ELSI which should be founded upon the appropriate use of knowledge in HSS, and subsequently received budgetary measures under the framework of ELSI led by HSS as its budget for the 2020 fiscal year, with which this program was established.

In order to respond proactively to the unknown risks and benefits of emerging technologies and to deal with challenges common to all of humankind such as the novel corona virus disease, which is becoming increasingly serious on a global scale, the collaboration of humanities/social sciences and natural sciences is required in application of every knowledge about science and technology to produce research outcomes, which are then implemented by practitioners, thereby achieving to produce problem solution collectively. Proactively promoting such attempts of co-creation, I believe, should be the role of science and technology for society.

Akira MORITA, Director-General
Research Institute of Science and Technology for Society (RISTEX)
Japan Science and Technology Agency (JST)

1.2.5 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. Philosophy of Program Supervision in Solicitation and Selection

Program Supervisor KARASAWA Kaori

Professor, Department of Social Psychology,

Graduate School of Humanities and Sociology, The University of Tokyo

■ Background

While the significance of the deepening relationships and interactions between science and technology (S&T) and society has been recognized for some time, these are now becoming increasingly important due to the rapid advancement of emerging technologies. Such technologies, namely, information technology, robotics and biotechnologies, which progress with increasing speed are distinctive for the rapid transition from R&D to social implementation, and for uncertainty and ambiguity of their effects on people and society, while their impact is overwhelming. These technologies expand the very relationships between S&T, society and humanity, provide new knowledge and benefits, and enable us to improve people's lives and societies. On the other hand, they also hold the potential to cause irreversible destruction in human history.

Looking back at the history of discussions regarding the relationship between S&T and society, it cannot be denied that such considerations were initiated by growing awareness of the negative impacts of S&T on people, society and the environment, including the social responsibility of scientists in research during World War II; global environmental problems such as industrial pollutions, some of which have caused severe regional damages, as well as atmospheric pollution and climate change; and accidents at nuclear power stations. Following such discussions, research on ethical, legal and social implications/issues (ELSI) was established formally for the first time in the budget allocated for the Human Genome Project launched in 1990 in the US. This is a research area which anticipates and considers the ethical, legal and social implications of R&D outcomes, which has later expanded its focus on genome research to other areas such as biotechnology, information technology, nanotechnology and brain science.

Meanwhile, the response to global-scale problems faced by humanity (grand challenges) as exemplified by the Sustainable Development Goals (SDGs) has become identified as an important mission in industrial circles. With the rapid expansion of environmental, social and governance (ESG) investment in the global marketplace, ideas and mechanisms for reconciling values emphasizing

economic rationality with values such as the sustainability of natural environment and consideration of gender and equity are also becoming more pervasive. Transcendence and integration of various disciplines and collaboration with diverse stakeholders are considered important in resolving such issues with S&T. Moreover, such efforts are expected to go beyond provision of problem solutions; engagement of researchers across disciplines and various stakeholders in society from the early stages of R&D is considered necessary, and founded upon such the creation of innovation which truly contributes to the greater good for the society is achievable. This is known as the responsible research and innovation (RRI), a concept that has its origin in ELSI in the US, as well as S&T governance and public engagement mainly developed in the Europe.

Against this background, the Japanese government has proposed the notion of “co-creative science, technology and innovation” in the 5th Science and Technology Basic Plan. It states that it is important to promote “co-creation” in order to take the first steps toward creation of future industries and social transformation by science, technology and innovation (STI) while attending to economic and social issues. The promotion of dialogues and collaboration among stakeholders, scientific advice for policymaking and engagement in ethical, legal and social issues have been cited as necessary in order to deepen and substantiate such efforts.

However, it seems that these concepts and ideas may not have been as successful in promoting and establishing activities which can be integrated in R&D and innovation in such a way as to produce synergetic effect. As the situation currently stands, R&D tends to take place first, which is then followed by the consideration of issues related to social implementation such as ethics, legal issues, responsibility and human wellbeing. Perhaps there has not been enough consideration given to how ethics, responsibility and “co-creation” by various stakeholders are understood and disseminated in Japanese society.

■Focus on Humans: Consideration from the Perspectives of Human Nature and Interaction between People and Society

Development of S&T related to human subjects is more prominent than ever and has the potential to change various aspects of people and society, including one’s self-understanding and decision-making, human autonomy, interpersonal relations and group relations. Advances in S&T are expected to contribute to improvement of people’s lives and societies, but in order for this to be realized, a harmonious relationship should be maintained between S&T and individuals/communities that make decisions according to various needs and desire and act based on those decisions, as

well as the societies in which they exist. Although S&T has the ability to make life more pleasant and convenient, if it relieves one's desire too naively, this may destabilize sustainability of society. In addition, S&T has the power to control human behavior (regardless of its intention). As excessive control could cause, for example, ethical problem of justification and legal problem of fairness, it may even jeopardize people's very wellbeing by threatening individuals' autonomy or resulting in backlash or despair. Furthermore, emerging technologies in particular are characteristic not only for their distinctively rapid pace of progress and immense impacts on people and societies, but also for norms and ethics associated with them being not necessarily given and change dynamically, and thus attention should be paid to such aspects.

When pursuing R&D and social implementation of S&T, careful consideration of ethical, legal and associated social issues that become apparent in trying to achieve a harmonious relationship with humans and societies is an essential part of responsible research and innovation. For such a pursuit to have an effect, focusing on "humans/individuals" who make up the society, and considering issues based on the understanding of their characteristics in cognitions and social behavior would be one key aspect. Far from being a mere gathering of people, our society comprises of various elements such as organizations, norms, laws and economic/industrial systems, exhibiting multiple functions. In such a society, for us to envisage the future, it is essential to contemplate what meaning we should assign to S&T, how it could be accepted and used, and how it should be positioned now and in the future. Answering these questions requires not only macro-level perspectives such as the vision of society expected to be achieved by the advancement of S&T, as well as institutional, normative and ethical dimensions, but also micro-level considerations such as the current states of literacy and understanding of S&T; value systems; anticipated impacts of S&T on society including costs and risks/benefits; trust in S&T itself and organizations and groups that promote S&T; and cognition, behavior and psychological reactions of particular communities and individuals with regard to S&T. It is important to grasp the characteristics of decisions and behavior comprehensively by incorporating the notion that people do not always make rational decisions, and by elucidating distortions due to bias or incentives.

■ Creation of Value Relevant to the Japanese Context

When considering the relationships between S&T and humans/societies, we need to examine and envisage how S&T should be with/for the present and future society in which we live. In other words, each subject that engages in such a discussion needs to start the examination from the society s/he

or it belongs to while also being aware of the uniqueness of the society as well as universal characteristics of the society. In that sense, how to perceive the significance of Japan as a given setting is one crucial perspective in such an examination.

This is because S&T which in itself possesses a certain degree of universality, is implemented in a specific society (community) when it is seen as being utilized (or applied). In addition, the actual manifestation of values and ethics relevant to particular S&T depends on the society's unique history, institutions and customs. Accordingly, rather than merely borrowing/applying theories and case studies from overseas, notably Europe and the US, we need to engage with the fundamental question of what kind of value we are trying to realize by continuous discussions and articulation from various perspectives while pragmatically confronting the challenges facing Japanese society.

In doing so, it is important for us to adopt a perspective conscious of Japan's social, cultural and historical attributes. We can look at the issues either by adopting a global perspective on Japan, or by a Japanese local perspective on the world, but here I suggest that we scrutinize the generality and uniqueness of cases and social contexts in Japan, as such an attempt may enable us to conceive universal value that meets a global standard, and to discover optimal strategies for adaptation of S&T to humans/societies, as well as benefits S&T brings. This, in turn, could lead to the creation of new value and services that stem from Japanese people, society, culture and history, which may result in rulemaking adaptable to the international community.

■ The Challenge of Co-creative Science, Technology and Innovation

One point to note is that we should not regard these efforts to reconciling S&T with humans and societies as brakes on R&D, but rather as navigators for the creation of innovation and the future society, thereby serving as the impetus for us to presciently and actively create many options for the future. In order to ensure the effectiveness of such efforts, we must engage in the "issues occurring at this very moment" at the sites of R&D. With consideration for the complex and multilayered elements as well as diverse perspectives of people/societies, we need to contemplate how S&T really should be, search for theories and implement the design of R&D or of technology to industries/economies while constantly question its agreement with humans/societies. On-site engagement in such a pursuit repeatedly and interactively, I would suggest, is what is truly required of future R&D.

In terms of emerging technologies, first, there would be post-R&D (ex-post) cases, of which ethical,

legal and social issues are already apparent and need to be attended to immediately. For example, legal restrictions relating to the safety of autonomous driving, artificial intelligence of which application in assistance of decision-making is anticipated to be immensely wide, individuals' product liability in 3D printing and the applications of genome-editing technology to plants and food fall into this category. In these cases, many issues are already identified at the site of R&D. Therefore, with the objective of responding and seeking solutions to these issues, for stakeholders and researchers in humanities/social sciences (HSS) to collaborate and to consider how to reflect feedback to R&D would be a key point.

There also would be cases which are anticipatory (ex-ante) in nature with regard to R&D, of which specific issues have not yet become apparent due to uncertainty/ambiguity associated with the topics or areas of S&T. In such cases, it is required to promptly anticipate possible impacts, both positive and negative, and risks of R&D, as well as to seek the possibility of reconciliation with humans/societies, so that appropriate measures can be taken. Examples of this kind include synthetic biology and materials informatics which hold the potential to bring innovation to various areas; human augmentation which enhances the human capabilities by technology; and geoengineering which may radically transform measures to mitigate climate change. These are exploratory areas of S&T that may or may not actually bear fruit. Thus, discussing these only from the perspective of how people and societies would accept them and adapt/adjust to them is not sufficient. There is greater need for examination based on the vision of how humans and societies should be. Given there is uncertainty, scenarios of what such a vision should be, and how it could be realized or threatened need to be explored and assessed with researchers in HSS and various stakeholders, in order to deliberate its significance and philosophy behind it. Such an approach seems to be important for these cases.

Besides emerging technologies, there are also existing areas of S&T of which social applications have already been realized, or for which policies have been implemented, that require innovation through interactions with humans/societies, in the services resulting from them and the associated ethics, along with the derivation of value which is to be realized. Examples include the use of biometric technologies such as automatic facial recognition and their implications for privacy, the ethics and designing of governance in the application of block-chain technology, the ethics of applying the concept of nudge in behavioral economics to public policy, perceptions of the safety of vaccines against infections, and the issues of "dual use" in bacterial/viral research and drone

technology. These are technologies that lead directly to changes in social institutions and human behavior, and as such, are areas where examination of the ethical implications and social problems that may arise is an urgent task.

■ Science and Technology Communication for the Future

Co-creative science, technology and innovation is the very embodiment of collaborative efforts among a true diversity of stakeholders including researchers in S&T and HSS and various members of society. To move beyond joint research as a mere formality, unidirectional public understanding activities and subservient risk management and compliance, science and technology communication that enables co-creation is important.

However, there are also cases in which science and technology communication that is supposed to facilitate co-creation, or risk literacy of media, science and statistics, causes social problems. As in the novel coronavirus pandemic that has become a grave issue on a global scale, this very issue can be seen in the scientific advice on and governance of urgent and impactful problem, risk communication via media and behavioral patterns and psychological reactions of the public.

In addition, with on-going advancement in communication-related information technology and cognitive science, it should be possible to improve methodologies for “dialogue” and “deliberation” so that such efforts are more efficient and sophisticated. The communication that occurs amid experimentation in co-creative science, technology and innovation is likely to contain many uniquely Japanese contexts, and here, too, important components of R&D can be found.

■ Learning from Experience and History

Building upon past experience is crucial in addressing the aforementioned perspectives as part of R&D. With regard to the deepening relationships between S&T and humans/societies, so-called trans-science issues (questions that can be asked of, but cannot be answered by science alone) have existed since before the emergence of ELSI and RRI, and been earnestly addressed also in Japan. Typical examples include pollution, chemical terrorism, BSE crisis, the accident at the Fukushima nuclear power stations, and the novel coronavirus pandemic that we are facing at this very moment. These are likely to serve as historically significant turning points for the relationships between S&T, humans and societies.

In addressing ethical, legal and social implications/issues related to emerging technologies and co-creative science, technology and innovation now and in future, R&D must take a stance of

learning from past achievements and problems while also keeping in the mind that the future may far exceed those experiences and predictions.

Emphasizing the abovementioned points, the Program regards issues unique to Japanese society that arise from the interactions between S&T and humans/societies, or specific emerging technologies as the base of R&D, and promotes practical and comprehensive R&D on ELSI which brings together the knowledge of researchers and stakeholders.

In addition to working toward sharing the knowledge gained from specific case studies of experimental nature and the proactive dissemination of information both within Japan and around the world, the Program also places importance to the training of skilled personnel in order to contribute to the creation of sustainable functions and mechanisms that continues to work even after the Program’s end.

Chapter 3. Summary of R&D Program

3.1 Goal of the Program

The Program aims to realize a society in which science and technology (S&T) in a harmonious relationship with humans and societies can create new value in a sustainable manner, by promoting the development of practical collaborative models to carry out responsible research and innovation while identifying and anticipating ethical, legal and social implications/issues.

3.2 R&D Focus

The Program supports R&D of ELSI, which aims to create practical collaborative models that contribute to the dissemination and establishment of responsible research and innovation. Specifically, it promotes R&D that engages in “exploration and forecasting” of the society S&T should seek to achieve, and of the new values and changes it brings to people and society, “analysis and evaluation” of the risks/benefits and impacts that arise from this, “design and governance” of R&D from a human, social and ethical perspective, and “advancement of science and technology communication” that contributes to the promotion of responsible research and innovation.

The Program regards the issues facing Japanese society or specific emerging technologies as the base of R&D, but the emphasis should be placed on addressing them from a global perspective with international deployment and outreach in mind. It seeks to go beyond importing overseas research and case studies or theories.

We envisage that the Projects will produce outputs such as the following. These outputs can be produced individually or in combination, and there would be plenty of proposals for outputs not listed here.

a. Creation of tangible measures that take into account the nature of S&T and related ELSI

- The development of tangible solutions that take into account the nature of S&T and related ELSI
  - Analysis and evaluation of risks/benefits and impacts from the perspective of ELSI
  - Implementation of business design that offers new value, and proposals for strategies for intellectual property and standardization

- Recommendations for the rule-making, including regulations such as laws and ordinances, standards such as certification and regularization and economic measures such as insurance and compensation
- Proposals for design guidelines, boundary conditions and codes of conduct (CoC) for R&D under various social and environmental conditions
- Proposals for evaluation indicators and principles for risk governance, and guidelines which can serves as a shared understanding

b. Development of co-creative mechanisms and methodologies that take into account the nature of S&T and related ELSI

- Development of mechanisms and methodologies for dynamic/organic feedback to the sites of research regarding the impact of S&T on people and society, as well as ethical and legal issues, from the upstream stage of R&D
  - Exploration/forecast/analysis of the vision of society that S&T should aim, the structure of problems, issues to be dealt with and stakeholders involved
  - Designing of dialogue and coordination methods for co-creative science, technology and innovation
  - Methods of upstream engagement of stakeholders including the connection to decision-making and governance, and the function of technology assessment
- Empirical verification and development for the advancement of function and design in science and technology communication
  - Methodology of translation of knowledge regarding S&T and associated risks among stakeholders in various positions
  - Methodology of dialogue and coordination for establishing constructive discussions and convergence, while taking into account the presence of diverse perspectives
- Development of systems, tools, evaluation methods and indicators that contribute to the advancement of science and technology communication, with the application of new S&T, such as information and communication technology

c. Case analysis of trans-science issues and recommendations based on archive for the future society

- Extracting and archiving science and technology communication issues relating to typical trans-science issues faced by Japanese society in the past and the present, analyzing problems arising from predicting the future and constructing countermeasures based solely on past experience, making recommendations for the future based on these analyses and communicating them to the rest of the world.

  * Even if they do not stem from S&T itself, the Program covers issues considered important in terms of the relationship between S&T and humans/societies, especially issues with significant social impacts, such as those relating to human life (e.g, vaccine-preventable diseases (VPD) and vaccines or the accident at the Fukushima nuclear power stations resulting from the Great East Japan Earthquake).

Engagement in ELSI are not limited to responses and adaptations to S&T issues in the here and now. In addition to examining influences that transcend generations and space, they inevitably encompass “fundamental questions” (e.g., governance, risk and safety/security, the relationships between public and personal/government and private/group and individual, autonomy, trust and responsibility, competition and harmony, efficiency and equity, social justice, intergenerational differences and fairness, material and spiritual, perspective on nature, dignity/independence of human rights/identity, etc.) relating to the universally recognized values and improvement of life, people and society.

In the Program, all projects must include exploration and consideration of these kinds of “fundamental questions,” while presenting a vision of society that looks ahead to the future of R&D. We expect that through R&D, consideration will be given to the universally recognized values, while also taking the characteristics of Japanese society into account.

3.3 Notes on the R&D Implementation Structure and Approach

- Domestic universities, research institutes, public interest corporations, private companies, NPOs, NGOs, administrative agencies and other entities that can be entrusted with research by JST as an organization will collaborate to conduct R&D.

- In conducting R&D, the basic principle is to work in specific cooperation and collaboration with the sites of R&D, stakeholders and communities that share the issues/awareness of problems. Stakeholders may include researchers in humanities and social science (HSS) and S&T, companies, NPOs and NGOs, media, URAs, communicators, legal community, administrative organs and local communities. In the past, pioneering R&D and initiatives related to ELSI and RRI have been conducted mainly in the HSS. We expect that the proposals not only take the application of this expertise and the uses of those personnel as a basis, but also attempt to cooperate and connect with the sites of R&D in natural sciences and industry.
- The program is not about supporting the R&D of individual technologies themselves, but for research that supports putting them into practice in responsible ways. Accordingly, we welcome proposals that include cooperation and connection with other existing R&D projects and programs currently underway.
- We will consider gender and other diversity perspectives in all aspects of R&D, including research subjects, research methods, prerequisites and design in technological development.
- Through the “promotion of R&D”, the “orientation toward business creation” and the “flexibility to continue grasping the changes and needs of people and society.” we emphasize quickly disseminating research outcomes and returning them to society.
- When planning and implementing R&D, we place great importance on RRI perspectives. In other words, it is important to incorporate an approach that is anticipatory, reflective, deliberative, inclusive and responsive.
- The Program aims to produce a diverse group of personnel from industry, academia, government, and the private sector, who have acquired ELSI/RRI skills and behaviors through their R&D practice. For this reason, we welcome the participation and employment of young personnel in their 20s to 40s to the Projects. When hiring research personnel for a Project, the Principal Investigator will be asked to propose a plan for their development (e.g., consideration about what skills and abilities are considered essential, activities devised for them to gain such experience and opportunities where the skills acquired through the Program can be used continuously).

Initiatives for emerging infectious diseases, such as the novel coronavirus disease (COVID-19)

The coronavirus “pandemic” is having an effect on all aspects of life and economic activities, including employment, labor, industry, education, distribution and consumption. Every country in the world is facing a situation that they have never experienced before. The risk of unknown viruses and infectious diseases, rapid changes in the environment and an uncertain future, and the circulation of vast amounts of information, including that whose authenticity is unclear, has led to chaotic situations arising everywhere, including anxiety and fear, criticism and discrimination, fragmentation and disparity and extreme consumer behavior. In order to address these unprecedented challenges, we believe that the role of S&T for society is to aim at solving the problems by applying knowledge of S&T, including the HSS.

The issues surrounding the coronavirus infection are not ELSI arising from S&T itself, but at the bottom of them lies the issue of the relationship between humans/societies and S&T. In light of the fact that similar problems have been repeated in the past, with the outbreak and spread of emerging infectious diseases such as SARS, MERS and avian influenza, and that similar emerging infectious diseases are likely to occur in the future, it seems necessary to take a fundamental approach now and connect it to the future.

Therefore, in the Program’s call for proposals for FY2020, we are looking for proposals for R&D on emerging infectious diseases, such as the novel coronavirus disease.

In order to understand the various social events caused by the novel coronavirus disease that we are currently facing, we first envision conducting basic research and archival research to the extent possible in the short term. This could include the production of evidence for the recommendations for social decision-making including policy making, studies of people's behavioral changes and setting out of issues surrounding the utilization and protection of information relating to such changes, and comparative investigations with previous other emerging infectious diseases and similar social events which may contribute to the improvement of risk literacy.

We plan to select several R&D proposals on this subject, which will be evaluated from the perspectives of urgency, necessity, significance and feasibility, regardless of the descriptions and examples given in “3.2 R&D Focus” and “3.3 Notes on the R&D Implementation Structure and Approach” above.

3.4 Management of the Program

JST RISTEX will operate the Program using the following structures and methods.

- A Program Supervisor is put in charge of operating the Program and provides overall management.
- Program Advisors are appointed to give specialist advice to the Program Supervisor.
- In addition, program implementation committee members and evaluation committee members are appointed to seek opinions from external experts in specialized areas necessary for the implementation and evaluation of the R&D.
- Together, the Program Supervisor, Program Advisors, program implementation committee members and the secretariat conduct the call for projects and its selections, taking the necessary actions for effective program management (e.g., running program meetings, advising on R&D, conducting site visits, etc.).
- The Program Supervisor will conduct reviews as necessary, including the adjustment of R&D budgets and the restructuring and consolidation of Projects.
- In running the Program, we will respond flexibly, considering the social situation and international trends, which includes changes of emphasis and amendments to the call and selection policy.
- We will actively conduct various activities to promote exchange, cooperation and interaction among the Projects selected and set up opportunities for discussion with internal and external parties with cross-sectional and holistic perspectives of the Projects (e.g., program-wide meetings). We will also conduct outreach activities about R&D outcomes (such as meetings for reporting outcomes and disseminating information on the Web.).

In addition, the Program plans to implement the following activities.

■ Networking activities for team building

The Program envisages the implementation of Projects by teams based on the participation of researchers in S&T and HSS, as well as diverse stakeholders from society. However, we know that it is not always easy for people from different sectors and areas of expertise to come together on a daily basis to form a team for an R&D project.

As such, the Program will conduct the program activities which provide opportunities for

“networking activities for team building” and support individuals and groups who are considering proposing or participating in R&D.

Specifically, if individuals or organizations such as researchers in S&T and HSS, companies and NPOs/NGOs wish to submit proposals on their own or under the insufficient implementation structure, they can participate in the networking events planned and organized by the Program to recruit joint researchers and groups.

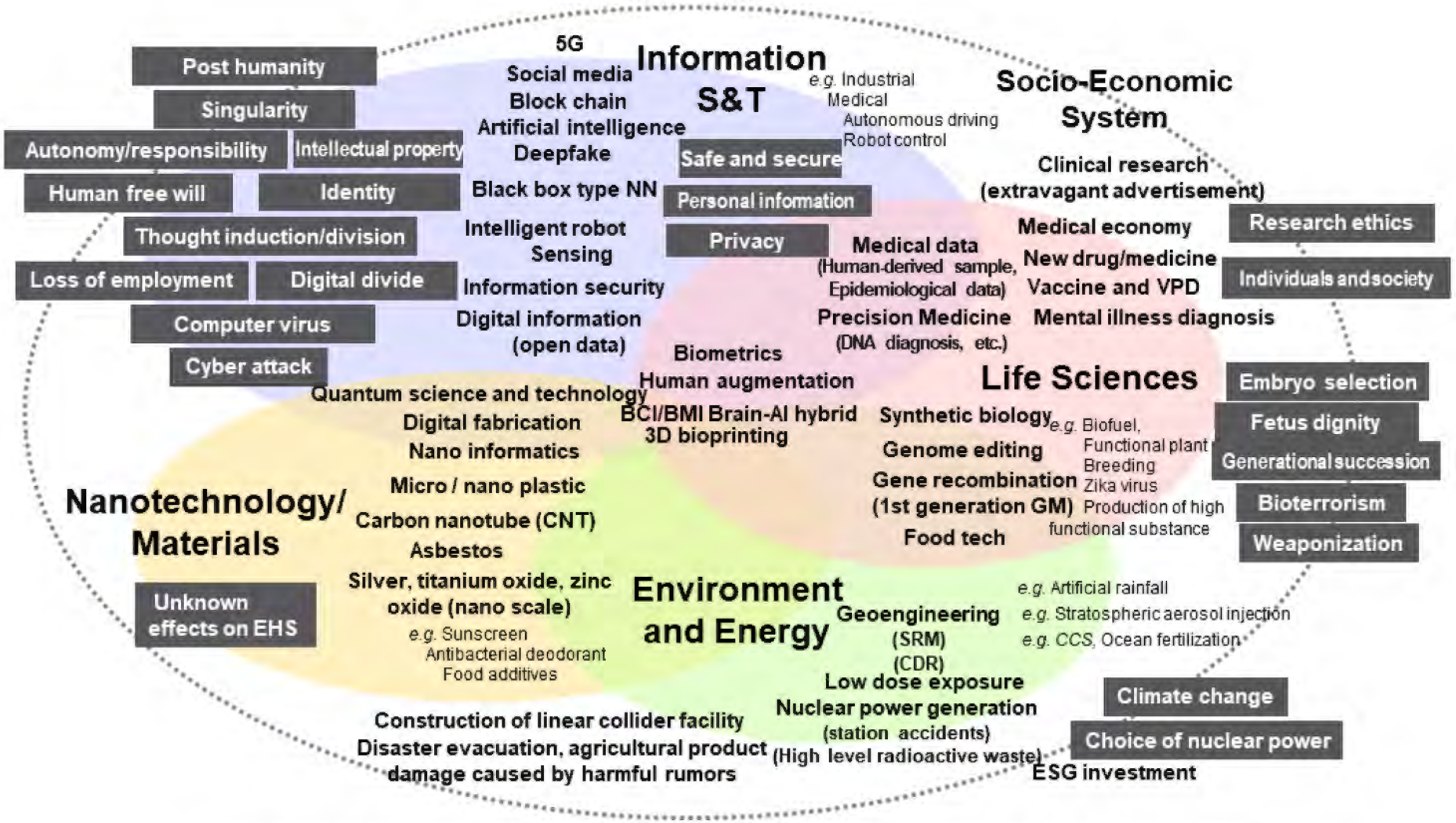
Throughout the year, with the cooperation of institutions inside and outside JST, the Program will conduct activities to identify potential candidates and participants from a wide range of sectors and fields, and continue to plan and develop networking events such as open forums for meeting others and workshops for supporting optimal team building.

In addition, if the intervention by the Program or JST can contribute to the increasing possibility of cooperation and collaboration with researchers and stakeholders inside and outside the Program and the strengthening of the team structure, we will conduct active networking and its support.

■ Engaging in discourse on the question regarding the fundamental values of life, people and society

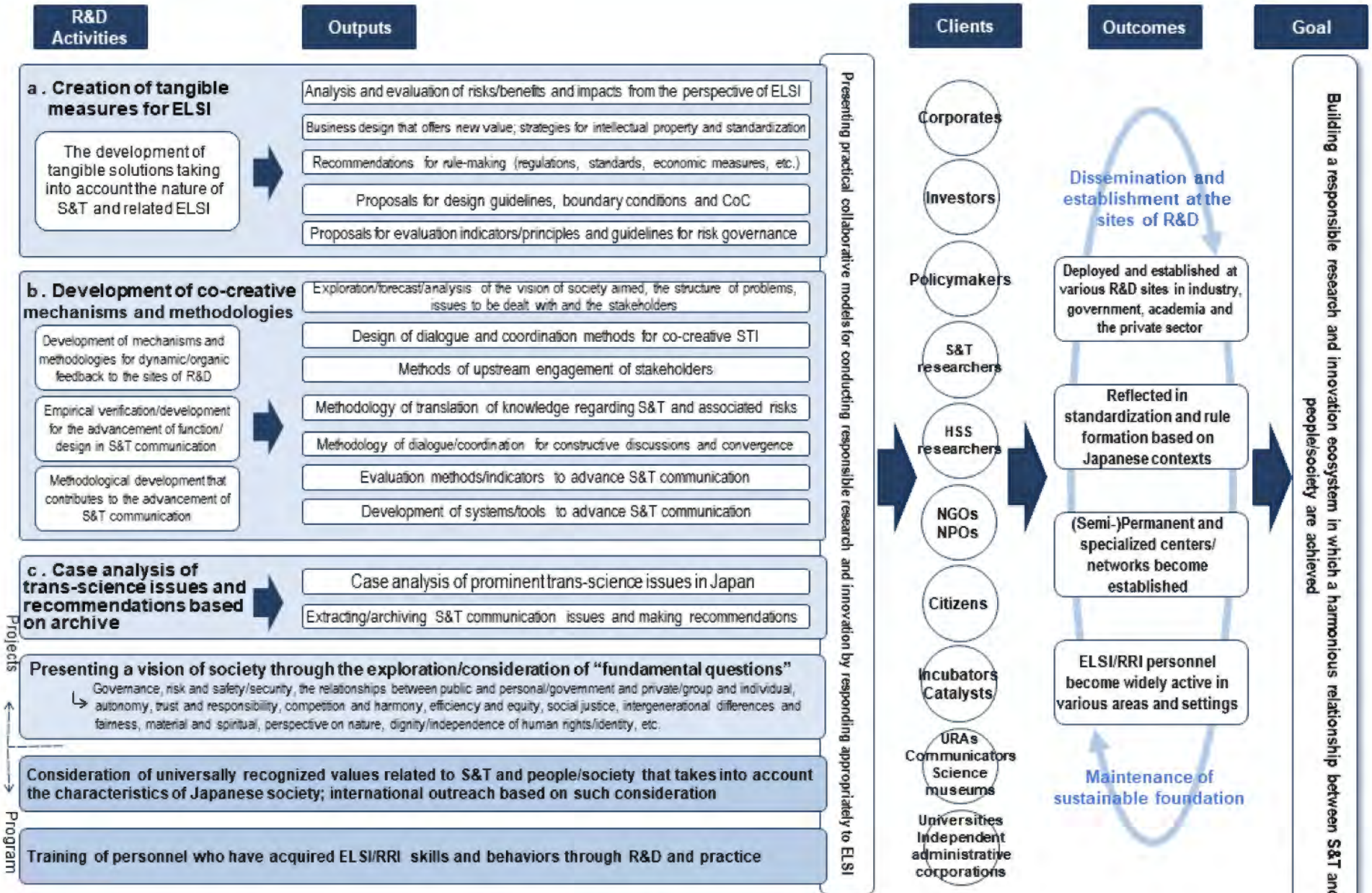
In promoting R&D, we ask that the team members, including researchers in S&T and HSS , and stakeholders from the society , to agree to explore “common issues that question the fundamental values of life, people and society” (the points at issue), holding continuous discussion and trying to construct discourse on questions relating to fundamental values.

In addition, efforts to address these issues will be shared and discussed across Projects, and we will support the Projects by setting up the necessary activities and opportunities, establishing a structure for providing specialist advice, and also we will actively engage as the Program’s own activities by communicating them within Japan and overseas.



(Prepared based on CRDS-FY2019-RR-04 "Toward deeper relations with society in Science, Technology and Innovation", etc.)

Overview of characteristic new technologies in each field and keywords regarding ethical, legal and social implications/issues (example)



Logic model of R&D program (May 2020)

Chapter 4. Call for Proposals and Selection

4.1 Call Period and Selection Schedule

The main schedule for call for proposals and selection 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:
(https://www.jst.go.jp/ristex/proposal/current/proposal_2020.html)

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	May 1, 2020 (Fri.)
Deadline for submitting application*	Noon (12:00 p.m.) on June 23, 2020 (Tue.) (the deadline is strictly observed)
Document screening period	Late-June to Mid-July (planned)
Notification of document screening results	Notice will be provided at least one week prior to interview selection (planned)

Interview selection	July 30, 2020 (Thu.) and July 31, 2020 (Fri.)
Interview (explanation of selection requirements)	Early to mid-August（planned）
Notification and announcement of selection results	Early-September（planned）
Start of R&D	Early-September（planned）

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

Details concerning the call for proposals will be updated from time to time on the following website, so please be sure to check it.

https://www.jst.go.jp/ristex/proposal/current/proposal_2020.html

4.2 R&D Period and R&D Budget

In this program, R&D budgets and periods will be flexibly set according to the particulars of proposals from the perspective of flexible and dynamic funding according to the characteristics of R&D topics, social needs and other factors.

In order to achieve this, in addition to the usual R&D Projects, Feasibility Studies* framework is also established to undertake, for example, (1) enhancement of R&D plans by intensively studying the details of ELSI to be addressed and clarifying the issues, and (2) building comprehensive R&D implementation structures by searching for and collaborating with the necessary research fields and stakeholders.

■ R&D Projects

- R&D Period: 1–3 years*

  *If it 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 evaluation.
- R&D Budget: Maximum of approximately 15 million yen/year (direct costs)

■ Feasibility Studies*

- Feasibility Studies period: Approximately 6 months (in one fiscal year)
- Feasibility Studies budget: Approximately 3 million to 5 million yen/6 months (direct costs)

*Feasibility Studies is not independent investigation activities and the like, but it is expected to lead to the proposal and implementation of R&D projects under the Program in the future. The framework has been planned to address R&D design and serve as a complement to structures

necessary to achieve this. Accordingly, in principle, submitting a proposal to the next call for proposals of the Program is a condition. In such a case, the application is handled in the same way as other proposals; no priority is given.

4.3 No. of projects to be selected

R&D Projects: Approximately 5 projects

Feasibility Studies: Approximately 8 to 10 projects

* Of these projects, several will be selected for topics relating to emerging infectious diseases such as the novel coronavirus disease (COVID-19).

4.4 Submission 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.”

4.4.1 Multiple Applications

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

(2) Multiple applications will not be permitted for those applying to/selected for the “Solution-Driven Co-creative R&D Program for SDGs” and “Science of Science, Technology and Innovation Policy R&D Program.”

(3) Currently, Principal Investigator of Strategic Basic Research Programs (RISTEX) cannot submit proposals (excluding cases where the R&D implementation period ends during fiscal year 2020).

*Multiple Applications are permitted regarding other Strategic Basic Research Programs (CREST, PRESTO, and ACT-X).

4.4.2 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.

4.4.3 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.”

4.5 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.

① If unregistered, the institution must first register as a “R&D institution”

② 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.

4.6 Selection Method

4.6.1 Selection Process

Selection will be determined comprehensively based upon “4.7 Main Perspectives for Selection” following a review of proposal documents and interview of applicants that passed the document selection process.

（1）Applicants eligible for the interview after the results of document selection will be notified in writing and informed regarding the guidelines for the interview, date and time, and additional documents to be submitted. During interview, the applicant (Principal Investigator) will be asked to explain the concept of his/her research and development project.

（2）The applicant will be notified of the results of document evaluation and interview will be notified to the applicant (Principal Investigator) regardless of if they are accepted or not.

（3）For the selection schedule, please refer to “4.1 Call Period and Selection Schedule.” Schedule details and changes will be made available as necessary on the RISTEX “Call for R&D Proposals” website.

（4）In addition to the above, JST may contact applicants, so applicants are asked to make sure they can receive correspondence from JST at their email address and/or telephone number registered in e-Rad.

4.6.2 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).

4.7 Main Perspectives for Selection

When submitting a proposal, the proposal may be submitted as an R&D project or a feasibility study.

Proposals submitted as R&D projects, but that are determined to require further development of the R&D concept by the Program Supervisor may be screened as proposals for feasibility studies.

When selecting proposals, decisions are made following comprehensive investigations with an emphasis on the following points and the accepted proposals are selected. When submitting a proposal, be sure to refer to “Chapter 2. Philosophy on Program Supervision in Solicitation and Selection” and “Chapter 3. Summary of R&D Program.”

< R&D Projects >

① The objectives of the proposed R&D project are in agreement with the objectives of the Program and specific issue or area of S&T has been set as the subject of R&D.

② The significance of the proposed R&D is logically expressed and there is a clear vision for contributing to the dissemination and establishment of responsible research and innovation which is to be achieved after the R&D.

③ The originality of the proposed R&D (the focus of the R&D or the setting of the issue, the implementation structure, innovations in R&D management, etc.) is clearly expressed and is challenging in light of trends in relevant R&D and initiatives in Japan and overseas.

④ The results of the proposed R&D are expected to have an impact (creation of academic /public value, contribution to current or future social or industrial needs, transmission and expansion to other disciplines/areas in Japan and overseas, etc.).

⑤ Issues, hurdles and difficulties relating to conducting and implementing the proposed R&D are anticipated and specific countermeasures have been investigated.

⑥ Through realistic collaboration/cooperation with the sites of R&D and stakeholders that share an understanding of the problems and issues, the structures necessary for implementation of the R&D have already been established or there are specific concepts and plans for implementation structures to be established (including participation in “networking activities for teambuilding”).

⑦ The plans for the proposed R&D (size of budget, period, milestone setting, etc.) is appropriate.

< Feasibility Studies >

① The objectives of the R&D planned to be implemented after the proposed feasibility study are in agreement with the objectives of the Program.

② The significance of the R&D planned to be implemented after the proposed feasibility study is logically expressed.

③ The originality of the R&D idea planned to be implemented after the proposed feasibility study is expressed in detail and is challenging in light of trends in relevant R&D and initiatives in Japan and overseas.

④ The issues to be addressed during the period of feasibility study (necessary issues clarifications, specification of R&D plan and future concepts, clarification of anticipated impacts, identification of expected issues and hurdles and investigation of their countermeasures, establishment of necessary implementation structures, etc.) are clear.

⑤ The plan for the proposed feasibility study (size of budget, period, etc.) is appropriate.

In addition, the following points are subject to assessment as additional elements.

- The potential for practical and challenging collaboration with the sites of R&D in S&T and stakeholders (proposals that include collaboration and links with other R&D projects or programs that are currently underway are welcomed).
- Specificity of the path to the design and implementation of the outputs to be produced.
- The potential for creating universally recognized value that meets a global standard and the possibility of international deployment, by incorporating the significance and characteristics of Japan as the base of R&D.
- Practical setting of skills and abilities believed to be necessary for the personnel that the proposed R&D project seeks to develop and produce and specificity of innovations for such development and production and concepts after completion of the project.

* Proposal documents with defects in the formats may not be reviewed by JST.

* Whether the R&D budget corresponds to “unreasonable duplication” and “excessive concentration” will be considered. For details, please refer to “6.2 Measures against Unreasonable Duplication and Excessive Concentration.”

4.8 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_2020.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 research and development 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.

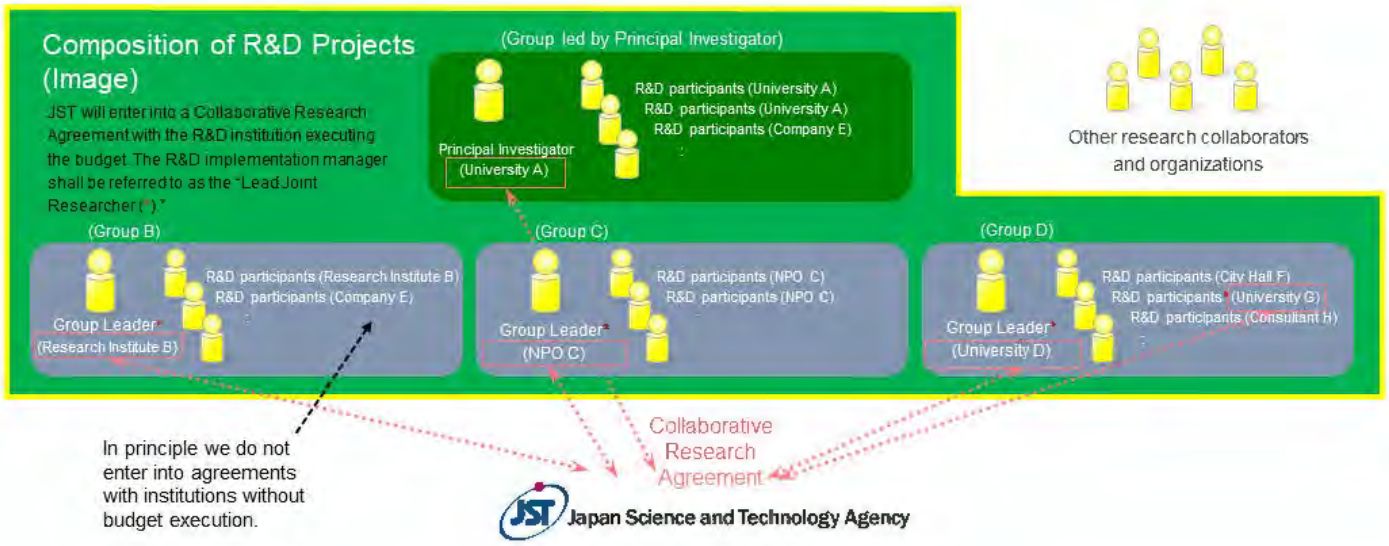
5.2 Implementation Team Composition

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

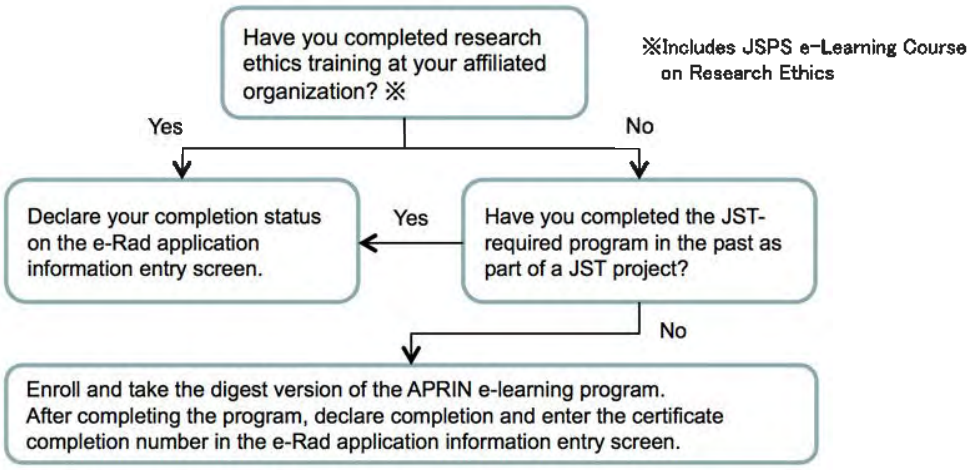
Japan Science and Technology Agency
Department of Audit and Legal Affairs, Research Integrity Division
E-mail： rcr-kousyu@jst.go.jp

■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>



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

6.2 Measures against Unreasonable Duplication and Excessive Concentration

○Measures against “Unreasonable Duplication”

If a 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"

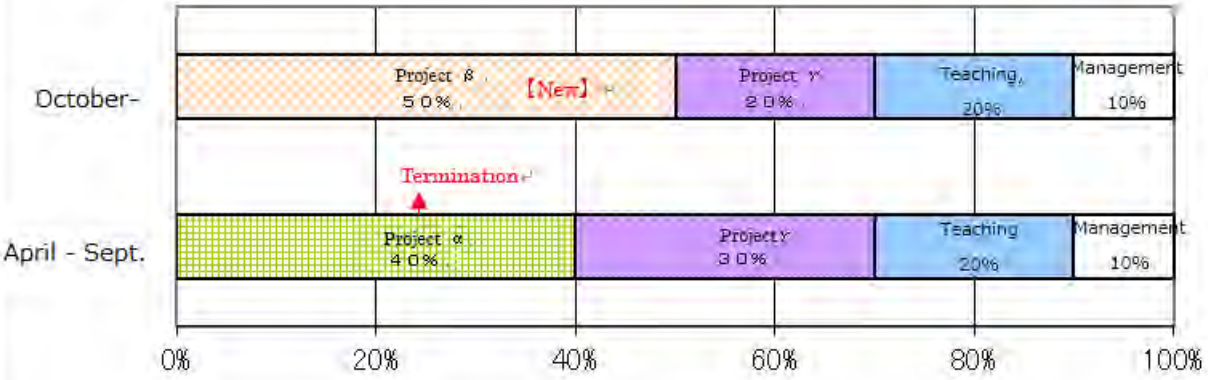
○According to the Third Science and Technology Basic Plan, "effort" is defined as "the distribution of time during which an individual engaging in a research copes with a research, education, and management."

○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 research and development 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 research and development 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 2020 fiscal year and those that finished before the 2019 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 Research Facilities and Equipment

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

In addition, “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 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.

6.16 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

6.17 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

6.18 Data disclosure from The National Bioscience Database Center

The National Bioscience Database Center (NBDC) (https://biosciencedbc.jp/) was established in the Japan Science and Technology Agency (JST, a National Research and Development Agency) in April 2011 to promote the integrated use of databases in the life sciences field created by various R&D institutions and others. In “Progress and Future Direction of the Integration of Life Science

Database Project" (January 17, 2013), the object projects that receive provision of data and databases are to be expanded, centering on the NBDC. Based on these points, program participants are asked to cooperate in disclosure by the NBDC of the following types of data and databases obtained from this program.

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

< Contact >

National Bioscience Database Center of Japan Science and Technology Agency

TEL: +81-3-5214-8491 e-mail: nbdc-kikaku@jst.go.jp

6.19 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.

6.20 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.

6.21 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 research and development 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 2020. 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.

6.22 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 research and development 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 2020. 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><td colspan="3">Classification of person ineligible to apply to competitive research funds, being involved in specific research misconduct</td><td>Degree of maliciousness in specific research misconduct</td><td>Ineligible period of application※</td></tr>
<tr><td rowspan="5">Person who was involved in a research misconduct</td><td colspan="2">1. Especially malicious person, who, from the beginning of research, had an intention to commit a specific research misconduct</td><td></td><td>10 years</td></tr>
<tr><td rowspan="3">2. The author of a research paper, which is a product of a research where a specific research misconduct was committed</td><td rowspan="2">The authors of the paper, who are responsible for the whole content of it. Namely, they are the supervisor and the representative author of the paper or others who are identified to be equivalently responsible for the paper.</td><td>The misconduct has a substantial impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be high.</td><td>5-7 years</td></tr>
<tr><td>The misconduct has a small impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be low</td><td>3-5 years</td></tr>
<tr><td>The authors of the paper other than those described above.</td><td></td><td>2-3 years</td></tr>
<tr><td colspan="2">3. Persons who conducted a specific research misconduct other than those of 1 and 2.</td><td></td><td>2-3 years</td></tr>
<tr><td colspan="3" rowspan="2">Person who has not been involved in a specific research misconduct but is a responsible author of a paper relevant to a research where a specific research misconduct was committed, being the supervisor or representative author of the paper, or a person, who is identified to be equivalently responsible for the paper.</td><td>The misconduct has a substantial impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be high.</td><td>2-3 years</td></tr>
<tr><td>The misconduct has a small impact on the development of relevant research fields and on the society, or the maliciousness of the deed is judged to be low</td><td>1-2 years</td></tr>
</table>

※ 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

6.23 Duty to Complete Education on Research Ethics and Compliance

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

During the process of concluding a Collaborative Research Agreement after the selection of a proposed R&D project, the Principle Investigator is required to submit a document to confirm that all researchers participating in the R&D project have received and comprehend the contents of training on research ethics education and compliance education.

6.24 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.

6.25 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.

6.26 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 research and development 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.

6.27 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.

6.28 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 Research and Development (R&D for science and technology) followed by the acronym Electric (Electron).

7.2 e-Rad usage notes

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

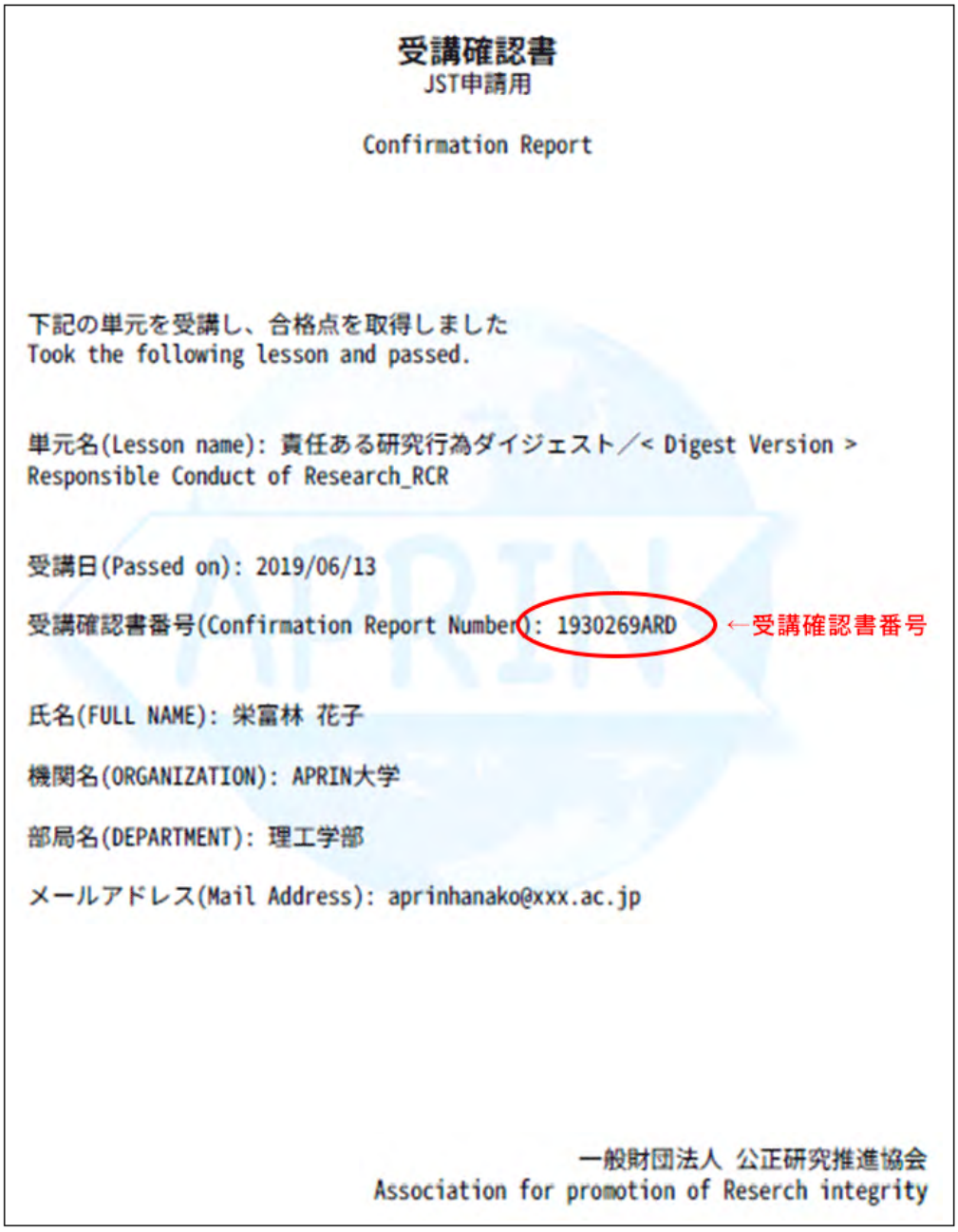
A. Completion of the educational program for research integrity is a prerequisite for applying. Enrollment and completion of this program will not be permitted after the solicitation deadline.

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 written on 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 required 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 research and development work. In principle, the subcontracting of research and development 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 entry guidelines and make your proposal. Please ensure to use the format provided for the R&D Program ”Responsible Innovation with Conscience and Agility.”

The full set of documents, including the Application Guideline and the proposal format, and the most recent information can be found in the following website.

https://www.jst.go.jp/ristex/proposal/current/proposal_2020.html

A list of the forms to be submitted is shown below.

Form	“R&D Project”	“Feasibility Study”
Cover	R&D project proposal	Feasibility study proposal
Form 1	R&D vision	Feasibility study vision
Form 2	R&D plan	Feasibility study plan
Form 3	R&D implementation structure	Feasibility study implementation structure
Form 4	R&D budget	Feasibility study budget
Form 5	List of relevant achievement and initiatives	List of relevant achievement and initiatives
Form 6	Other funding awards/grants	Other funding awards/grants
Form 7	Measures for protecting civil rights and complying with laws and regulations	Measures for protecting civil rights and complying with laws and regulations
Form 8	Management of conflicts of interest	Management of conflicts of interest

※If you submit materials other than the specified forms, your application will not be considered for screening.

※Please refer to the entry guidelines and fill in all the necessary information without omission. If there are problems with the information entered, the application might not be considered for screening.

※Proposals must be submitted after reading carefully and understanding “Chapter 6. Key Points in Submitting Proposals” of the Application Guideline.

※Please check the Program Supervisor policies described in “Chapter 2. Philosophy of Program Supervision in Solicitation and Selection” and “Chapter 3. Summary of R&D Program” of the Application Guideline, as well as “Section 4.7. Main Perspectives for Selection.”

※See “Chapter 7. Submission via the Cross-ministerial R&D Management System (e-Rad)” for how to submit R&D proposals.

※As a rule, please do not change the format and style settings of the proposal form. Please make sure to use a font no smaller than 10.5pt for the body text.

※You must convert the documents to pdf before uploading to e-Rad. You can perform the pdf conversion from the menu after logging into e-Rad. The use of external characters or special characters may cause corrupted text in the page or file concerned. Please make sure to check the converted pdf.

※Please make sure that the size of the proposal pdf submitted is no more than 5MB.

※Please delete the entry guidelines in blue or orange text on the proposal (cover and forms 1-8) before submitting.

Strategic Basic Research Program (RISTEX)
R&D Project Proposal

Program title	**Responsible Innovation with Conscience and Agility**
R&D project title ** Approximately 30 characters in Japanese* ** No sub-title*	**Japanese title** *English title*
R&D period	September 2020 to *Month Year* (Duration of: years and months) ** Between one and three years (up to September 2023 at the longest)*
R&D budget	_____ thousand yen (total amount; direct cost only) **Approximately 15 million yen/year; maximum of 45 million yen in total*
Category ** Please tick the relevant boxes. Multiple selections are permitted.*	☐Creation of tangible measures that take into account the nature of science and technology and related ELSI ☐Development of co-creative mechanisms and methodologies that take into account the nature of S&T and related ELSI ☐Case analysis of trans-science issues and recommendations based on archive for the future society ☐Other
Keywords	** Please include three to five keywords that concisely express the R&D content of your proposal. Please make sure that these are the same keywords that you enter in e-Rad.*

Name of Principal Investigator		Age ____ years old (As of April 1, 2020)
Affiliated institution, section and post of Principal Investigator		
Effort of this proposal	FY2020:_____%	
Researcher number of Principal Investigator	** Please enter the 8-digit researcher number provided by the Cross-Ministerial Research and Development Management System (e-Rad).*	
Information on Principal Investigator	URL: Author ID: ** If possible, please include the URLs of web pages that list the Principle Investigator's information (researchmap or lab website), ID of ORCID, researcher ID of Web of Science, author ID of Scopus or similar.*	

・・・ Cover up to this point (be sure not to exceed one page) ・・・

[Form 1] R&D vision

** Please check the Program Supervisor policies described in "Chapter 2. Philosophy of Program Supervision in Solicitation and Selection" and "Chapter 3. Summary of R&D Program" of the Application Guideline, as well as "Section 4.7. Main Perspectives for Selection".*

** Details such as R&D activities, plan and implementation structure should be written in Forms 2-4. Here, please describe in a clear and simple manner the overall picture of the R&D vision as well as its key points.*

** Please use diagrams and tables (color document is acceptable) as appropriate to make it easy for the evaluators to understand.*

1-1. Project overview

** In 300 to 500 characters, please briefly summarize the goal(s) of this proposal and the summary of activities.*
** Please copy the contents of this box into the "research outline" in e-Rad, so that these entries match.*

** Please write within this box.*

1-2. Overall vision of the project

(1) Project goal(s)

** Please briefly describe the goal(s) that this project will achieve during the research implementation period.*

(2) Subject(s)/topic(s) of the R&D, its/their significance and background

** Please briefly describe the following items.*

- *What is/are the specific subject(s) of the R&D (what kind of S&T research or topic(s) will it focus on, and what kind of ELSI topic(s) will it address?)*
- *What are the expected outputs of this proposal?*
- *How will this proposal be positioned in this R&D Program (i.e., how does it contribute to "the creation of practical collaborative models that contribute to the dissemination and establishment of responsible research and innovation, in which a harmonious relationship between S&T and people/societies is achieved/maintained?")*
- *The significance, necessity and background of this proposal (it is preferable to demonstrate this with an objective evidence if possible)*

(3) Fundamental questions considered in the project

** To the extent possible, please briefly describe your current assumptions and hypotheses regarding the "fundamental questions"* that you plan to address through this project. Feel free to describe just the ideas you hold at this point in time.*

** "Fundamental questions" are:*
Questions relating to the universally recognized values and improvement of life, people and society (e.g., governance, risk and safety/security, the relationships between public and personal/government and private/group and individual, autonomy, trust and responsibility, competition and harmony, efficiency and equity, social justice, intergenerational differences and fairness, material and spiritual, perspective on nature, dignity/independence of human rights/identity, etc.)

1-3. Future prospects beyond the project

** Please briefly describe your vision in terms of how the project outcomes will develop after it ends, and what vision of society you seek in the future of research and innovation.*

** To the extent possible, please include the following. Feel free to describe just the ideas you hold at this point in time.*

- *"How" and "by whom" do you think the outcomes of the project will be used?*
- *What do you think will (or should) be realized in terms of the dissemination and establishment of responsible research and innovation, in which a harmonious relationship between S&T and people/societies is achieved/maintained?*

1-4. Anticipated issues and obstacles, and measures to deal with them

** If there are any issues, obstacles or difficulties you anticipate in conducting the project or in implementing the R&D outcomes, please describe them briefly along with the measures you envisage for addressing them.*

1-5. Originality, challenge and other special items of note

** From the following perspectives, please briefly describe any key points of appeal regarding the originality and challenge of this proposal, if any.*

- *Originality and challenge of the R&D focus and the problem targeted*
- *Originality and challenge of the R&D method and approach*
- *The novelty of R&D implementation structure and plans for management*
- *Comparative advantage with domestic and international trends in relevant R&D and initiatives*
- *The magnitude of the impact of the expected R&D outcomes (creation of academic/public value, contribution to current or future social or industrial needs, transmission and expansion to other disciplines/areas in Japan and overseas, etc.)*
- *Ideas for creating universally recognized value that meets a global standard and the possibility of international deployment, by incorporating the significance and characteristics of Japan as the base of R&D*

・・・ Form 1 up to this point, three pages or less (be sure not to exceed this length) ・・・

[Form 2] R&D plan

** Regarding the activities and plans for the R&D, please describe in detail the activities and methods of the R&D for each of the main implementation items.*
** Please keep in mind the consistency between "2-1. R&D implementation items and activities" and "2-2. R&D implementation schedule" in this form.*

2-1. R&D implementation items and activities

** Please set and edit headings in this field as appropriate.*
** Please use diagrams and tables (color document is acceptable) as appropriate to make it easy for the evaluators to understand.*

■Item 1 : ○○○○○○○○○

○○

(1) ○○○○○○○○○

(2) ○○○○○○○○○

■Item 2 : ○○○○○○○○○

■Item 3 : ○○○○○○○○○

2-2. R&D implementation schedule

** Using the following example as a reference, describe the main schedule and the names of the groups responsible (G), keeping in mind consistency between "2-1. R&D implementation items and activities" above and "3-2. R&D implementation structure (by group).*

** Please edit the implementation period, number of items, arrow position/length/thickness, etc. as appropriate.*

<Example>

Research execution items	FY2020 (7 months)	FY2021 (● months)	FY2022 (● months)	FY2023 (● months)
1. Structural overview of ELSI in ○○ technology				
・Search for ○○ (○○G)	←	———	→	
・Survey and investigation for ○○ (○○ G)	←	———	———	→
2. Development and verification of ○○ model				
・Design of ○○ model (○○G/○○G)	←	———	———	——— →
・○○ survey and data collection (○○G/○○G)		← ———	———	——— →
・Analysis of similar cases for ○○ model (○○G)	←	——— →		
・ Investigation, assessment and verification of evaluation methods for ○○ (○○G)			← ———	——— →
3. Examination of legal issues relating to ○○				
・Collection and comparative study of ○○-related data (○○G)	←	———	→	
・Consideration of proposals for ○○ (○○G)		← ———	———	——— →
4. Building a mechanism for and pursuit of implementation and deployment of ○○				
・Design and construction of opportunity for ○○ (○○G/○○G)		← ———	———	——— →
・Pursuit and feedback of ○○ (○○G/○○G)			← ———	——— →
・Consolidation of ○○ and dissemination of ○○ (○○G)		↔	↔	↔

2-3. Project management policies and plans

** Please describe any special items of note in terms of implementation policy and plans for project management by the Principal Investigator, if any.*
For example, consider the following:

- *Plans for organic cooperation and collaboration between multiple groups, and for integrating outputs*
- *Plans for challenges and management relating to cooperation and collaboration between ELSI research and the sites of R&D*
- *Policies for networking with stakeholders inside and outside the project, and for the deployment of outcomes*
- *Creation of universally recognized values that can be applied globally and ideas for international expansion, while taking into account the significance and characteristics of Japan as the base of R&D*
- *Implementation policy for intellectual property management*

** Personnel development is covered in detail in Form 3, "3-3. Plan for the development of research personnel hired for the project," so it does not need to be described here.*

・・・ Form 2 up to this point, six pages or less (be sure not to exceed this length) ・・・

[Form 3] R&D implementation structure

3-1. R&D implementation structure (overall project)

(1) Implementation structure diagram

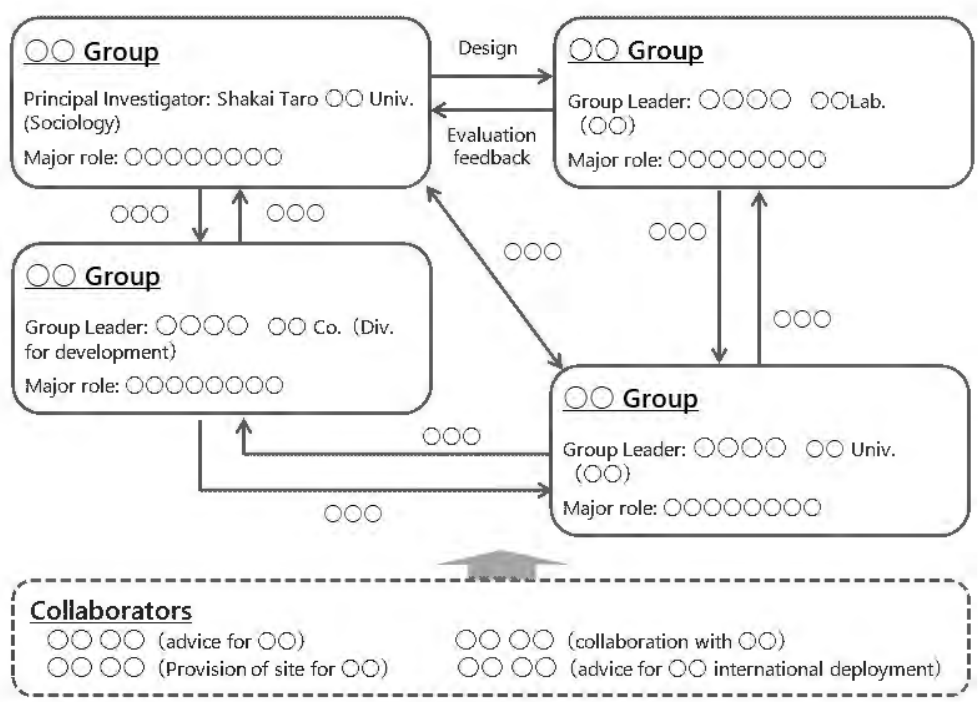
** Please illustrate the R&D implementation structure (the example shown below is for reference, you are free to use any format).*

** When settings up groups, please do so appropriately in accordance with the activities and plan of the proposed project (these need not be defined by the institutions that has concluded the Collaborative Research Agreement with JST)*

** When putting together groups, please include the "name, affiliation and post (specialty)" of the group leaders, "the main role" of each group and also indicate the relationships between the groups.*

** If there are collaborators other than R&D participants, please describe the relationships with these collaborators.*

<Example>



(2) Status of preparations for building a practical structure for cooperation/ collaboration

** Taking into account the goals and activities of the proposed R&D, please describe the status of preparations for building a practical structure for cooperation/collaboration between ELSI research and the site(s) of R&D in S&T or other stakeholders.*
For example, consider the following:

1) The status of preparation of the necessary structure for cooperation/collaboration already started to be built for this project
2) The possibilities for cooperation/connection with other R&D projects or programs currently underway

3) Specific partner(s) for cooperation/connection envisaged but not building a structure for cooperation/collaboration yet
4) R&D areas and experts that will be required to be complemented in the future, although specific cooperation/connections have not yet been determined

** This includes participation in "networking activities for team building" planned in this program to support complementing project implementation structure. Please indicate if you wish to participate or have any specific requests.*

3-2. R&D implementation structure (by group)

** Please fill in the members of each group, based on "2-1. R&D implementation items and activities" in Form 2 and "3-1. R&D implementation structure (overall project)" above.*

(1) ●●● Group

** Please write the group led by the Principal Investigator in (1).*

Name of Principal Investigator	Affiliated institution, section and post (status)	Budget allocation [1] (= conclusion of the Collaborative Research Agreement with JST)		Employment [2]
○○ ○○	Associate Professor, Faculty of ○○, ○○ University	Y	Researcher number: 12345678 R&D institution code: 1234567890 Effort: 20%	
Names of R&D participants [3] [4]	**Affiliated institutions, sections and posts (status)**	**Budget allocation [1]**		**Employment [2]**
○○ ○○	Professor, Graduate School of ○○, ○○ University	N	-	-
○○ ○○	Head of ○○, ○○ Department, ○○ Co., Ltd.	N	-	-
Researcher (planned)	Specially-appointed Researcher, Faculty of ○○, ○○ University	N	-	○
○○ ○○	General Incorporated Association ○○	N	-	-

1) Please state whether or not the budget is allocated (if yes, they will conclude the Collaborative Research Agreement between the affiliated R&D institution and JST as the "Lead Joint Researcher"). If "Yes," please write the following three items.
- *The 8-digit researcher number provided when registered in the Cross-Ministerial Research and Development Management System (e-Rad).*
- *The 10-digit research institute code*
- *Effort (proportion of time required to conduct this research (%), taking the researcher's total annual work hours as 100% (including not only research activities but also educational and medical activities))*

2) Circle those persons who will be hired with personnel expenses from the project's R&D costs.
3) Add lines for R&D participants as necessary. You can add members from more than one organization to a group. Please fully consider the role that each member making up the group will play.
4) If the names of researchers have not been confirmed at the time of the proposal, such as those you are planning to hire after the project is selected, you can write "Researcher (planned)."

<Position of this Group within the Project>

** Please briefly describe how this group is positioned within the project as a whole, as well as the role it plays.*

(2) ●●● Group

** If you are setting up more than one group, write this for each group below. There is no limit to the number of groups, but you should put in place the necessary and sufficient number of groups to best carry out the Principal Investigator's R&D vision.*
** Please copy and add this item in accordance with the number of groups.*

Name of group leader	Affiliated institution, section and post (status)	Budget allocation [1] (= conclusion of the Collaborative Research Agreement with JST)		Employment [2]
○○ ○○	Senior researcher, ○○ Department, ○○ Research Institution	Y	Researcher number: 12345678 R&D institution code: 1234567890 Effort: 15%	
Names of R&D participants [3] [4]	**Affiliated institutions, sections and posts (status)**	**Budget allocation [1]**		**Employment [2]**
○○ ○○	Head of ○○, ○○ Department, ○○ Co., Ltd.	N	-	-
○○ ○○	Professor, Graduate School of ○○, ○○ University	Y	Researcher number: 12345678 R&D institution code: 1234567890 Effort: 15%	
○○ ○○	Specially-appointed Assistant Professor, Graduate School of ○○, ○○ University	N	-	○
Researcher (planned)	Specially-appointed Researcher, Graduate School of ○○, ○○ University	N	-	○

1) – 4) See the preceding paragraph.

<Position of this Group within the Project>

** Please briefly describe how this group is positioned within the project as a whole, as well as the role it plays.*

(3) Other R&D collaborators and organizations

** If there are any persons or organizations that are not directly involved in the project, but are going to cooperate/collaborate in some way with the project or a group's activities (persons or organizations that have already agreed or are in the process of negotiating), please indicate them here.*

Names of collaborating persons/ organizations	Details of collaboration	Previous collaboration
Professor ○○ ○○, Faculty of ○○, ○○ University	Collaboration in performing ○○	Y
○○ Department, ○○○○ Co., Ltd.	Provision of ○○ data, coordination of collaboration with work site	Y
○○ Section, ○○ Department, ○○ City	Advice regarding ○○	N
Director ○○○○, ○○ NPO	Advice and cooperation regarding ○○	Y

(4) Special items of note regarding implementation structure (special duties of the Principal Investigator, change of affiliated R&D institution and participation of overseas institutions)

** Please indicate if the Principal Investigator requires work hours (effort) for special duties (e.g., administrative positions such as the Dean of the Graduate School or the President of a Society).*

** Please indicate if the R&D institution at which the Principal Investigator or Lead Joint Researcher will conduct research after the proposal selected (September 2020) differs from their currently affiliated R&D institution.*

** When adding an overseas R&D institution to the research team, please refer to "5.9. Participation as a Lead Joint Researcher by persons belonging to overseas R&D institutions" in the Application Guideline and explain here why it is essential for a researcher affiliated to an overseas R&D institution to participate as a Lead Joint Researcher.*

3-3. Plan for the development of research personnel hired for the project

** This program aims to produce a diverse group of personnel from industry, academia, government, and the private sector, who have acquired ELSI/RRI skills and behaviors through their R&D practice. For this reason, we welcome the participation and employment of young personnel in their 20s to 40s to the projects.*

** If hiring research personnel for the project, please describe the Principle Investigator's thoughts in relation to personnel development. (e.g., the skills and abilities that will be essential in the future society at the end of the project, activities for gaining that experience, and where those acquired skills can be put to use continuously)*

** If not applicable, leave the field in place and fill in "Not applicable" accordingly.*

[Form 4] R&D budget

** Please describe the projected R&D budget for each fiscal year, by category and by research group.*
** You will be asked to submit a more detailed plan if you are selected for an interview.*
** The budget plan may be reviewed at the time of selection or in the middle of the R&D period, depending on the overall budget status of the program, management by the Program Supervisor, and evaluation of the project.*

4-1. R&D budget plan for each expense (overall project)

(Unit: thousand yen)

Expense			FY2020 (7 months)	FY2021 (● months)	FY2022 (● months)	FY2023 (● months)	Total (thousand yen)
Direct costs	Expenses for goods	Expenses for equipment					
		Expenses for consumables					
	Travel expenses						
	Personnel expenses and honoraria (Number of researchers, etc.)		( )	( )	( )	( )	
	Other						
	Total of direct costs						
Indirect costs (30% or lower of the above costs)							
Total							

** The categories for R&D budget and their purposes of use are as follows (please also refer to "5.5. R&D Budget" in the Application Guideline).*

- *Expenses for goods/expenses for equipment: expenses for the purchase of equipment and supplies*
- *Expenses for goods/expenses for consumables: expenses for the purchase of materials and consumables*
- *Travel expenses: travel expenses for the Principal Investigator and R&D Participants, invitation expenses directly required to carry out the R&D, etc.*
- *Personnel expenses and honoraria: personnel expenses and honoraria for researchers, technical staff, assistants, RAs, etc.*
- *(Number of researchers, etc.): number of researchers, etc. scheduled to use personnel expenses from R&D budget*
- *Other: expenses other than those listed above (expenses for presenting research outcomes, conference expenses, equipment lease expenses, transportation expenses, etc.)*

<Special items of note regarding R&D budget>

** Please consider the optimal budget amount and proportion for each category.*
** If a particular category exceeds 50% of the total R&D budget, such as large personnel and travel expenses, please state the reason for this.*
** If not applicable, leave the field in place and fill in "Not applicable" accordingly.*

4-2. R&D budget plan for each R&D institution

** Please list all affiliated institutions marked as "Budget allocation: Yes" (institutions that have the potential to conclude the Collaborative Research Agreements with JST and to execute the budget) in Form 3 "3-2. R&D implementation structure (by group)."*
(Please refer to "5.8. Responsibilities of Institutions" in the Application Guideline for the responsibilities of the R&D institutions, etc.)

(Unit: thousand yen)

R&D institutions (Names of responsible persons)	FY2020 (7 months)	FY2021 (● months)	FY2022 (● months)	FY2023 (● months)	Total (thousand yen)
○○ University (Name of Principal Investigator)					
○○ Research Institution (Name of researcher)					
○○ Corporation (Name of researcher)					
Total of direct costs					
Indirect costs (30% or lower of the above costs)					
Total					

<Main equipment to be purchased> (5 million yen or more per expenditure; equipment name, approximate price)

<Example>

○○○ Group

△△△△△△△△△△ 15 million yen (Purchase year:)
△△△△△△△△△△ 5 million yen (Purchase year:)
△△△△△△△△△△ 10 million yen (Purchase year:)

[Form 5] List of relevant achievement and initiatives

** Please describe previous R&D and initiatives relevant to this proposal.*

(1) Principal Investigator (Name, affiliation and post)

(Major achievement)

** Please select up to 10 items related to the proposal, including books, academic papers, academic presentations, lectures, journals and newspaper publications and the hosting of conferences and events, and list them in order of year or publication/presentation with the most recent first.*
** Please put a sequential number at the beginning of each line.*
** For books, papers, presentations, etc., please list all the authors/presenters and underline the individual concerned.*

<Example>

1) English book: Author/editor name 1, Author/editor name 2, (publication year), Title of book, Place of publication, Publisher
2) English paper: Author name 1, Author name 2, (publication year), Title of paper, Title of journal, volume, page, DOI:
3) Japanese book: Author/editor name 1, Author/editor name 2 (publication year), “Title of book”, Publisher
4) Japanese paper: Author name 1, Author name 2, (publication year), “Title of paper”, “Title of journal”, volume, page, DOI:
5) Publication disclosed only on the website: Author name 1, Author name 2 (date of publication) “Title of publication” (Title of series as necessary) DOI: <Or posted URL>
6) Newspaper article: Name of reporter (date of publication), “Title of article”, Title of newspaper, page
7) Website article: Name of reporter (date of publication), “Title of article”, Title of newspaper, <URL>
8) Oral presentation: Name of presenter 1, Name of presenter 2 (presentation year), “Title”, “Title of academic conference or other events”, Venue
9) Conference or event: Name of organizer, (date of event), “Title of conference or event” (Title of series as necessary), Venue

<Experience of participation in R&D at RISTEX>

** If you have participated in R&D at the Research Institute of Science and Technology for Society (RISTEX) in the past, please list the title of Focus Area/Program , the title of Project, the name of the Principal Investigator at the time and briefly describe what kind of role you undertook.*

(2) Group Leader (Name, affiliation and post)

(Major achievement)

<Experience of participation in R&D at RISTEX>

** Please copy items as appropriate and fill in below.*

[Form 6] Other funding awards/grants

** For national competitive funding awards or other research grants (including those by private foundations and overseas organizations) that the Principal Investigator and/or Lead Joint Researchers (those marked as "Budget allocation: Yes" in Form 3 "3-2. R&D implementation structure (by group)") are currently receiving, applying for or plan to apply for, please list the title of research project, research period, role, research budget received, effort, etc. per funding award/grant.*
(Please also refer to the Application Guideline "6.2. Measures against Unreasonable Duplication and Excessive Concentration.")
** If any information entered here is untrue, selection may be canceled at a later date even if initially granted.*
** You will be asked to report and submit the most recent information on funding awards/grants from other institutions if you are selected for an interview.*

(1) Principal Investigator (Name, affiliation and post)

Titles of funding awards/grants	Current status	Titles of projects (Names of Principal Investigators)	Research periods	Role (Representative/ Sharer)	(1) (2) (3) (4) Research Fund to be received (Overall period total) (FY2021 planned) (FY2020 planned) (FY2019 actual)	Effort (%)
Science and Technology for Society Project (ELSI program) *This proposal	Applied		2020.09 ～ 2023.09	Representative	(1) 27 million yen (2) 9 million yen (3) 9 million yen (4) —	20
Grants-in-Aid for Scientific Research (B)	Received	Development of ◇◇ by ×× (○○○○)	2018.04 — 2021.03	Representative	(1) 15 million yen (2) — (3) 3.5 million yen (4) 8 million yen	20
Grant-in-aid by ○○ Foundation	Received	Analysis of ◇◇ by ×× (○○○○)	2019.4 — 2020.3	Representative	(1) 1 million yen (2) — (3) — (4) 1 million yen	5
JST Strategic Basic Research Program (CREST)	Applied	Creation of ◇◇ by ×× (○○○○)	2020.10 — 2026.03	Sharer	(1) 30 million yen (2) 8 million yen (3) 5 million yen (4) —	20
					(1) (2) (3) (4)	
					(1) (2) (3) (4)	

** Please copy items as appropriate and fill in below.*

(2) Lead Joint Researcher (Name, affiliation and post)

Titles of funding awards/grants	Current status	Names of projects (Names of Principal Investigators)	Research periods	Role (Representative/ Sharer)	(1) Research Fund to be received (2) (Overall period total) (3) (FY2021 planned) (4) (FY2019 actual)	Effort (%)
Science and Technology for Society Project (ELSI program) *This proposal	Applied		2020.09 ～ 2023.09	Sharer	(1) 18 million yen (2) 6 million yen (3) 6 million yen (4) —	15
					(1) (2) (3) (4)	
					(1) (2) (3) (4)	

[Form 7] Measures for protecting civil rights and complying with laws and regulations

** Please describe what kind of measures you will take, in the case that, in implementing the research plan, the initiative involves a research requiring the consent/cooperation of other parties, research requiring particular care in handling personal information, research requiring security export control measures and bioethical or safety measures to be taken and other researches requiring procedures subjected to laws and regulations.*
This includes surveys, research and experiments that require approval by ethics committees inside and/or outside the R&D institution, such as questionnaire and interview surveys involving personal information, use of donated samples, human genetic analysis research, genetic modification experiments and animal experiments.

** If the team includes a collaborating research group from overseas, please be sure to describe the status of the regulations relating to security export control in the Principal Investigator's group and domestic collaborating research groups.*

** Please check the box below to affirm that you have drawn up this proposal after reading "Chapter 6. Key Points in Submitting Proposals" in the Application Guideline and understanding the laws, regulations and guidelines, etc. that must be followed in relation to your proposed project.*

I affirm that this R&D proposal has been drawn up based on an understanding of the laws, regulations and guidelines that must be complied with. In addition, I affirm that the implementation of the plan will also be conducted in compliance with the relevant laws, regulations and guidelines.

(Examples of laws, regulations and guidelines to comply with)

- "Guidelines for Responding to Misconduct in Research" (decided by the Minister of Education, Culture, Sports, Science and Technology on August 26, 2014. Including following revisions.)
- "Guidelines on Management and Audit of the Public Research Expenses in R&D institutions (Implementation standards) enforced February 15, 2007/revised February 18, 2014, decided by the Minister of Education, Culture, Sports, Science and Technology. Including following revisions.)"
- With regard to security export control (measures for dealing with the leaks of technology to foreign countries): the Foreign Exchange and Foreign Trade Act and all other laws, regulations, ministerial ordinances and directives specified by government ministries and agencies to ensure that the results of cutting-edge research are not passed on to developers of weapons of mass destruction, terrorist groups and others who may engage in re-purposing for military use.
- When conducting on-site research activities overseas (including the removal of biological resources) or joint research with overseas R&D institutions: the laws of the relevant countries, etc.
- With regard to life sciences research: laws, regulations, ministerial ordinances, ethical guidelines, etc. established by government ministries and agencies concerning bioethics and ensuring safety.

☐ I have confirmed the laws, regulations and guidelines to be complied with.

・・・ Form 7 up to this point, two pages or less (be sure not to exceed this length) ・・・

[Form 8] Management of conflicts of interest

** Please declare any conflicts of interest with the evaluators (Program Supervisor and Program Advisors) or any participation of institutions connected to the Principal Investigator by using the following checklists. If applicable, please give specific details.*

** For more information on conflict of interest management and definitions of conflicts of interest, please refer to "4.6.2. Selection System and Management of Conflicts of Interest" in the Application Guideline.*

** Please see the following website for the full list of Program Supervisors and Program Advisors. https://www.jst.go.jp/ristex/examin/active/elsi-pg/elsi-pg.html*

(1) Conflicts of interest between the Principal Investigator and a Program Supervisor

Conflict of interest with a Program Supervisor: ☐Yes / ☐No

Reasons for the conflict of interest and details:

<Example> Although it is not currently underway, I have conducted joint research with the Program Supervisor in the past as part of Project ○○ (Principle Investigator ○○, 20XX–20XX), which may constitute a conflict of interest.

(2) Conflicts of interest between the Principal Investigator and a Program Advisor

Conflict of interest with a Program Advisor: ☐Yes / ☐No

Name of the Advisor with whom there is a conflict of interest: ○○○○

Reasons for the conflict of interest and details:

<Example> We are currently affiliated to the same organization, constituting a conflict of interest.

Application Guideline "4.6.2. Selection System and Management of Conflicts of Interest"
(1) Management of conflicts of interest during selection: **Requirements of persons or parties who have conflicts of interest** (summary)

a. Persons, who are relatives of research project applicants:

b. Persons or parties who are affiliated with the same department or specialty at an institution, such as university or national research and development 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 research 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 research project applicants.

(3) Participation of institutions connected to the Principal Investigator

Participation as the main R&A institution by an institution connected to the Principal Investigator: ☐Yes / ☐No

Name of the institution in question (researcher name): ○○○○ Co., Ltd. (○○ ○○)

Reasons and details:

<Example> This institution was established based on the Principal Investigator's R&D outcomes, and although s/he is currently a technical advisor and not directly involved in management, s/he may be appointed as a board member from July 2020.

Application Guideline "4.6.2. Selection System and Management of Conflicts of Interest"
(2) Management of conflicts of interest of Principle Investigator: **Requirements of an organization that is related to the Principle Investigator** (summary)

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

a. An organization established based on the R&D achievement of the Principle Investigator etc. (Including the case in which the Principle 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 Principle Investigator etc. owns the organization's stock.)

b. An organization in which the Principle Investigator etc. is a director (including a CTO but excluding a technical consultant).

c. An organization in which the Principle Investigator owns its stock.

d. An organization in which the Principle Investigator is rewarded for implementation.

Strategic Basic Research Program (RISTEX)
Feasibility Study Proposal

Program title	**Responsible Innovation with Conscience and Agility**
Feasibility study title ** Approximately 30 characters in Japanese* ** No sub-title*	**Japanese title** *English title*
Feasibility study period	September 2020 to March 2021 (7 months) ** Single fiscal year*
Feasibility study budget	_____ thousand yen (total amount; direct cost only) ** Approximately 3 to 5 million yen in total*
Category ** Please tick the relevant boxes. Multiple selections are permitted.*	☐Creation of tangible measures that take into account the nature of S&T and related ELSI ☐Development of co-creative mechanisms and methodologies that take into account the nature of S&T and related ELSI ☐Case analysis of trans-science issues and recommendations based on archive for the future society ☐Other
Keywords	** Please include three to five keywords that concisely express the content of your proposal. Please make sure that these are the same keywords that you enter in e-Rad.*

Name of Principle Investigator		Age ____ years old (As of April 1, 2020)
Affiliated institution, section and post of Principle Investigator		
Effort of this proposal	FY2020:_____%	
Researcher number of Principle Investigator	** Please enter the 8-digit researcher number provided by the Cross-Ministerial Research and Development Management System (e-Rad).*	
Information on Principle Investigator	URL: Author ID: ** If possible, please include the URLs of web pages that list the Principle Investigator's information (researchmap or lab website), ID of ORCID, researcher ID of Web of Science, author ID of Scopus or similar.*	

・・・ Cover up to this point (be sure not to exceed one page) ・・・

[Form 1] Feasibility study vision

** Please check the Program Supervisor policies described in "Chapter 2. Philosophy of Program Supervision in Solicitation and Selection" and "Chapter 3. Summary of R&D Program" of the Application Guideline, as well as "Section 4.7. Main Perspectives for Selection."*

** Details such as activities in the feasibility study, plan and implementation structure should be written in Forms 2-4. Here, please describe in a clear and simple manner the overall vision as well as its key points.*

** Please use diagrams and tables (color document is acceptable) as appropriate to make it easy for the evaluators to understand.*

1-1. Feasibility study overview

** In 300 to 500 characters, please briefly summarize the goal(s) of this proposal and the summary of activities.*
** Please copy the contents of this box into the "common items" of "research outline" in e-Rad, so that these entries match.*

** Please write within this box.*

1-2. Overall vision of the feasibility study

(1) Feasibility study goal(s)

** Please briefly describe the goal(s) that this feasibility study will achieve during the implementation period.*
** Feasibility studies are not independent investigation activities as such, but these are expected to lead to the proposals and implementation of R&D projects under this program in the future. It is a framework planned for working on R&D design and complementing the implementation structure necessary to achieve this. Accordingly, in principle, an R&D project proposal should be submitted to the next call for proposals of this program. Please set your goal(s) with this in mind.*

(2) Subject(s)/topic(s) of the feasibility study and subsequent R&D scheduled for implementation, their significance and background

Please briefly describe the following items.

- *What is/are the specific subject(s) of the R&D (what kind of S&T research or topic(s) will it focus on, and what kind of ELSI topic(s) will it address?)*
- *The significance, necessity and background of this proposal (it is preferable to demonstrate this with an objective evidence if possible)*

(3) Fundamental questions considered in the feasibility study and the subsequent R&D project scheduled for implementation

** To the extent possible, please briefly describe your current assumptions and hypotheses regarding the "fundamental questions"* that you plan to address in the feasibility study and the subsequent R&D project scheduled for implementation. Feel free to describe just the ideas you hold at this point in time.*

** "Fundamental questions" are:*
Questions relating to the universally recognized values and improvement of life, people and society (e.g., governance, risk and safety/security, the relationships between public and personal/government and private/group and individual, autonomy, trust and responsibility, competition and harmony, efficiency and equity, social justice, intergenerational differences and fairness, material and spiritual, perspective on nature, dignity/independence of human rights/identity, etc.)

1-3. Originality, challenge and other special items of note

** From the following perspectives, please briefly describe any key points of appeal regarding the originality and challenge of this proposal, if any.*

- *Originality and challenge of focus and the problem targeted*
- *Originality and challenge of the method and approach*
- *The novelty of implementation structure and plans for management*
- *Comparative advantage with domestic and international trends in relevant R&D and initiatives*
- *The magnitude of the impact of the expected R&D outcomes in the R&D project scheduled for implementation after feasibility study (creation of academic/public value, contribution to current or future social or industrial needs, transmission and expansion to other disciplines/areas in Japan and overseas, etc.)*
- *Ideas for creating universally recognized value that meets a global standard and the possibility of international deployment, by incorporating the significance and characteristics of Japan as the base of R&D*

・・・ Form 1 up to this point, two pages or less (be sure not to exceed this length) ・・・

[Form 2] Feasibility study plan

** Regarding the activities and plans for the feasibility study, please describe in detail the activities and methods of the feasibility study for each of the main implementation items.*
** Please keep in mind the consistency between "2-1. Implementation items and activities" in this form and Form 3 "Feasibility study implementation structure."*

2-1. Implementation items and activities

** Please set and edit headings in this field as appropriate.*
** Please use diagrams and tables (color document is acceptable) as appropriate to make it easy for the evaluators to understand.*

■Item 1： ○○○○○○○○○

○○

(1) ○○○○○○○○○

(2) ○○○○○○○○○

■Item 2： ○○○○○○○○○

■Item 3： ○○○○○○○○○

・・・ Form 2 up to this point, two pages or less (be sure not to exceed this length)・・・

[Form 3] Feasibility study implementation structure

3-1. Feasibility study implementation structure (overall)

(1) Feasibility study implementation structure (overall)

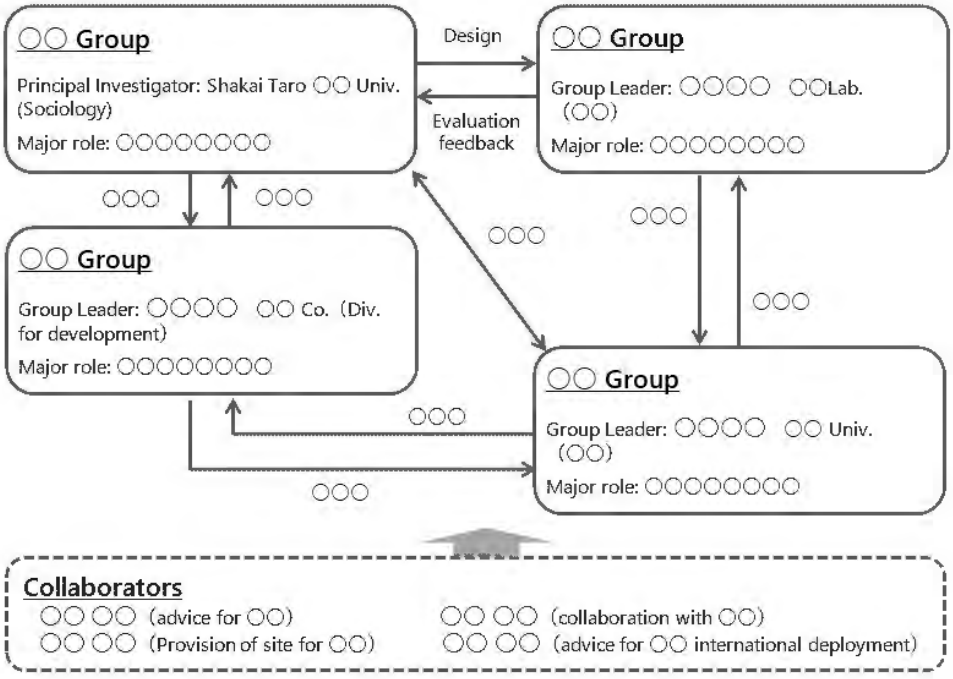
** Please illustrate the feasibility study implementation structure (the example shown below is for reference, you are free to use any format).*

** Please draw this up appropriately in accordance with the activities and plan of the proposed feasibility study. There is no need to set up multiple groups for feasibility studies.*

** When setting up groups, please include the "name, affiliation and post (specialty)" of the group leaders, "the main role" of each group and also indicate the relationships between the groups.*

** If there are collaborators other than R&D participants, please describe the relationships with these collaborators.*

<Example>



(2) Status of preparations for building practical structure for cooperation/ collaboration

** Taking into account the goals and activities of the proposed feasibility study, please describe the status of preparations for building a practical structure for cooperation/collaboration between ELSI research and the site(s) of R&D in S&T or other stakeholders.*
For example, consider the following:

1) *The status of preparation of the necessary structure for cooperation/collaboration already started to be built for this study*
2) *The possibilities for cooperation/connection with other R&D projects or programs currently underway*
3) *Specific partner(s) for cooperation/connections envisaged but not building a structure for cooperation/collaboration yet*

4) R&D areas and experts that will be required to be complemented in the future, although specific cooperation/connections have not yet been determined

** This includes participation in "networking activities for team building" planned in this program to support establishing and complementing R&D implementation structure. Please indicate if you wish to participate or have any specific requests.*

3-2. Feasibility study implementation structure (by group)

** Please fill in the members of each group, based on "2-1. Implementation items and activities" in Form 2 and "3-1. Feasibility study implementation structure (overall)" above.*

(1) ●●● Group

** Please write the group led by the Principle Investigator in (1).*

Name of Principle Investigator	Affiliated institution, section and post (status)	Budget allocation 1) (= conclusion of the Collaborative Research Agreement with JST)		Employment 2)
○○ ○○	Associate Professor, Faculty of ○○, ○○ University	Y	Researcher number: 12345678 R&D institution code: 1234567890 Effort: 20%	
Names of R&D participants 3) 4)	**Affiliated institutions, sections and posts (status)**	**Budget allocation 1)**		**Employment 2)**
○○ ○○	Professor, Graduate School of ○○, ○○ University	N	-	-
○○ ○○	Head of ○○, ○○ Department, ○○ Co., Ltd.	N	-	-
Researcher (planned)	Specially-appointed Researcher, Faculty of ○○, ○○ University	N	-	○
○○ ○○	General Incorporated Association ○○	N	-	-

1) Please state whether or not the budget is allocated (if yes, they will conclude the Collaborative Research Agreement between the affiliated R&D institution and JST as the "Lead Joint Researcher"). If "Yes," please write the following three items.
- *The 8-digit researcher number provided when registered in the Cross-Ministerial Research and Development Management System (e-Rad).*
- *The 10-digit research institute code*
- *Effort (proportion of time required to conduct this research (%), taking the researcher's total annual work hours as 100% (including not only research activities but also educational and medical activities))*

2) Circle those persons who will be hired with personnel expenses from the feasibility study costs.

3) Add lines for R&D participants as necessary. You can add members from more than one organization to a group. Please fully consider the role that each member making up the group will play.

4) If the names of researchers have not been confirmed at the time of the proposal, such as those you are planning to hire after the feasibility study is selected, you can write "Researcher (planned)."

<Position of this Group within the feasibility study>

** Please briefly describe how this group is positioned within the feasibility study as a whole, as well as the role it plays.*

(2) ●●● Group

** If you are setting up more than one group, write this for each group below. (There is no need to set up multiple groups for feasibility studies.) There is no limit to the number of groups, but you should put in place the necessary and sufficient number of groups to best carry out the Principle Investigator's feasibility study vision.*

** Please copy and add this item in accordance with the number of groups.*

Name of Group Leader	Affiliated institution, section and post (status)	Budget allocation [1] (= conclusion of the Collaborative Research Agreement with JST)		Employment [2]
○○ ○○	Senior researcher, ○○ Department, ○○ Research Institution	Y	Researcher number: 12345678 R&D institution code: 1234567890 Effort: 15%	
Names of R&D participants [3] [4]	**Affiliated institutions, sections and posts (status)**	**Budget allocation [1]**		**Employment [2]**
○○ ○○	Head of ○○, ○○ Department, ○○ Co., Ltd.	N	-	-
○○ ○○	Professor, Graduate School of ○○, ○○ University	Y	Researcher number: 12345678 R&D institution code: 1234567890 Effort: 15%	
○○ ○○	Specially-appointed Assistant Professor, Graduate School of ○○, ○○ University	N	-	○
Researcher (planned)	Specially-appointed Researcher, Graduate School of ○○, ○○ University	N	-	○

1) – 4) See the preceding paragraph.

<Position of this Group within the feasibility study>

** Please briefly describe how this group is positioned within the feasibility study as a whole, as well as the role it plays.*

(3) Other collaborators and organizations

** If there are any persons or organizations that are not directly involved in the feasibility study, but are going to cooperate/collaborate in some way with the feasibility study or a group's activities (persons or organizations that have already agreed or are in the process of negotiating), please indicate them here.*

Names of collaborating persons/ organizations	Details of collaboration	Previous collaboration
Prof. ○○ ○○, Faculty of ○○, ○○ University	Collaboration in performing ○○	Y
○○ Department, ○○○○ Co., Ltd.	Provision of ○○ data, coordinating cooperation with work site	Y
○○ Section, ○○ Department, ○○ City	Advice regarding ○○	N
Director ○○○○, ○○ NPO	Advice and cooperation regarding ○○	Y

(4) Special items of note regarding implementation structure (special duties of the Principal Investigator, change of affiliated R&D institution, participation of overseas institutions)

** Please indicate if the Principle Investigator requires work hours (effort) for special duties (e.g., administrative positions such as the Dean of the Graduate School or the President of a Society).*

** Please indicate if the R&D institution at which the Principle Investigator or Lead Joint Researcher will conduct a feasibility study after the proposal selected (September 2020) differs from their currently affiliated R&D institution.*

** When adding an overseas R&D institution to the team, please refer to "5.9. Participation as a Lead Joint Researcher by persons belonging to overseas R&D institutions" in the Application Guideline, and explain here why it is essential for a researcher affiliated to an overseas R&D institution to participate as a Lead Joint Researcher.*

[Form 4] Feasibility study budget

** Please describe the projected feasibility study budget by category and by group.*
** You will be asked to submit a more detailed plan if you are selected for an interview.*
** The budget plan may be reviewed at the time of selection, depending on the overall budget status of the program, management by the Program Supervisor and evaluation of the study.*

4-1. Feasibility study budget plan for each expense (overall)

(Unit: thousand yen)

Expense			FY2020 (7 months)
Direct costs	Expenses for goods	Expenses for equipment	
		Expenses for consumables	
	Travel expenses		
	Personnel expenses and honoraria (Number of researchers, etc.)		( )
	Other		
	Total of direct costs		
Indirect costs (30% or lower of the above costs)			
Total			

** The categories for the feasibility study budget and their purposes of use are as follows (please also refer to "5.5. R&D Budget" in the Application Guideline).*

- *Expenses for goods/expenses for equipment: expenses for the purchase of equipment and supplies*
- *Expenses for goods/expenses for consumables: expenses for the purchase of materials and consumables*
- *Travel expenses: travel expenses for the Principle Investigator and R&D Participants, invitation expenses directly required to carry out the feasibility study, etc.*
- *Personnel expenses and honoraria: personnel expenses and honoraria for researchers, technical staff, assistants, RAs, etc.*
- *(Number of researchers, etc.): Number of researchers, etc. scheduled to use personnel expenses from R&D budget*
- *Other: expenses other than those listed above (expenses for presenting research outcomes, conference expenses, equipment lease expenses, transportation expenses, etc.)*

<Special items of note regarding feasibility study budget>

** Please consider the optimal budget amount and proportion for each category.*
** If a particular category exceeds 50% of the total feasibility study budget, such as large personnel and travel expenses, please state the reason for this.*
** If not applicable, leave the field in place and fill in "Not applicable" accordingly.*

4-2. Feasibility study budget plan for each R&D institution

** Please list all affiliated institutions marked as "Budget allocation: Yes" (institutions that have the potential to conclude the Collaborative Research Agreements with JST and to execute the budget) in Form 3 "3-2. Feasibility study implementation structure (by group)."*
(Please refer to "5.8. Responsibilities of Institutions" in the Application Guideline for the responsibilities of the R&D institutions, etc.)

(Unit: thousand yen)

R&D institutions (Names of responsible persons)	FY2020 (7 months)
○○ University (Name of Principal Investigator)	
○○ Research Institution (Name of researcher)	
○○ Corporation (Name of researcher)	
Total of direct costs	
Indirect costs (30% or lower of the above costs)	
Total	

[Form 5] List of relevant achievement and initiatives

** Please describe previous R&D and initiatives relevant to this proposal.*

(1) Principle Investigator of the feasibility study (Name, affiliation and post)

(Major achievement)

** Please select up to 10 items related to the proposal, including books, academic papers, academic presentations, lectures, journals and newspaper publications, and the hosting of conferences and events, and list them in order of year or publication/presentation with the most recent first.*
** Please put a sequential number at the beginning of each line.*
** For books, papers, presentations, etc., please list all the authors/presenters and underline the individual concerned.*

<Example>

1) English book: Author/editor name 1, Author/editor name 2, (publication year), Title of book, Place of publication, Publisher
2) English paper: Author name 1, Author name 2, (publication year), Title of paper, Title of journal, volume, page, DOI:
3) Japanese book: Author/editor name 1, Author/editor name 2 (publication year), “Title of book”, Publisher
4) Japanese paper: Author name 1, Author name 2, (publication year), “Title of paper”, “Title of journal”, volume, page, DOI:
5) Publication disclosed only on the website: Author name 1, Author name 2 (date of publication) “Title of publication” (Title of series as necessary) DOI: <Or posted URL>
6) Newspaper article: Name of reporter (date of publication), “Title of article”, Title of newspaper, page
7) Website article: Name of reporter (date of publication), “Title of article”, Title of newspaper, <URL>
8) Oral presentation: Name of presenter 1, Name of presenter 2 (presentation year), “Title”, “Title of academic conference or other events”, Venue
9) Conference or event: Name of organizer, (date of event), “Title of conference or event” (Title of series as necessary), Venue

<Experience of participation in R&D at RISTEX>

** If you have participated in R&D at the Research Institute of Science and Technology for Society (RISTEX) in the past, please list the title of Focus Area/Program, the title of Project, the name of the Principal Investigator at the time and briefly describe what kind of role you undertook.*

(2) Group Leader (Name, affiliation and post)

(Major achievement)

<Experience of participation in R&D at RISTEX>

** Please copy items as appropriate and fill in below.*

[Form 6] Other Funding Awards/Grants

** For national competitive funding awards or other research grants (including those by private foundations and overseas organizations) that the Principle Investigator and/or Lead Joint Researchers (those marked as "Budget allocation: Yes" in Form 3 "3-2. Feasibility study implementation structure (by group)") are currently receiving, applying for or plan to apply for, please list the title of research project, research period, role, research budget received, effort, etc. per funding award/grant.*
(Please also refer to the Application Guideline "6.2. Measures against Unreasonable Duplication and Excessive Concentration.")
** If any information entered here is untrue, selection may be canceled at a later date even if initially granted.*
** You will be asked to report and submit the most recent information on funding awards/grants from other institutions if you are selected for an interview.*

(1) Principle Investigator of the feasibility study (Name, affiliation and post)

Titles of funding awards/ grants	Current status	Names of projects (Names of Principal Investigators)	Research periods	Role (Representative/ Sharer)	(1) (2) (3) (4) Research Fund to be received (Overall period total) (FY2021 planned) (FY2020 planned) (FY2019 actual)		Effort (%)
Science and Technology for Society Project (ELSI program) *This proposal	Applied		2020.09 ～ 2021.03	Representative	(1) (2) (3) (4)	3 million yen — 3 million yen —	20
Grants-in-Aid for Scientific Research (B)	Received	Development of ◇◇ by ×× (○○○○)	2018.04 — 2021.03	Representative	(1) (2) (3) (4)	15 million yen — 3.5 million yen 8 million yen	20
Grant-in-aid by ○○ Foundation	Received	Analysis of ◇◇ by ×× (○○○○)	2019.4 — 2020.3	Representative	(1) (2) (3) (4)	1 million yen — — 1 million yen	5
					(1) (2) (3) (4)		

(2) Lead Joint Researcher (Name, affiliation and post)

Titles of funding awards/ grants	Current status	Names of projects (Names of Principal Investigators)	Research periods	Role (Representative/ Sharer)	(1) (2) (3) (4) Research Fund to be received (Overall period total) (FY2021 planned) (FY2020 planned) (FY2019 actual)		Effort (%)
Science and Technology for Society Project (ELSI program) *This proposal	Applied		2020.09 ～ 2021.03	Sharer	(1) (2) (3) (4)	2 million yen — 2 million yen —	15
					(1) (2) (3) (4)		

[Form 7] Measures for protecting civil rights and complying with laws and regulations

** Please describe what kind of measures you will take, in the case that, in implementing a research plan, the initiative involves a research requiring the consent/cooperation of other parties, research requiring particular care in handling personal information, research requiring security export control measures and bioethical or safety measures to be taken and other researches requiring procedures subjected to laws and regulations.*
This includes surveys, research and experiments that require approval by ethics committees inside and/or outside the R&D institution, such as questionnaire and interview surveys involving personal information, use of donated samples, human genetic analysis research, genetic modification experiments, and animal experiments.

** If the team includes a collaborating research group from overseas, please be sure to describe the status of the regulations relating to security export control in the Principle Investigator's group and domestic collaborating research groups.*

** Please check the box below to affirm that you have drawn up this proposal after reading "Chapter 6. Key Points in Submitting Proposals" in the Application Guideline and understanding the laws, regulations, and guidelines, etc. that must be followed in relation to your proposed feasibility study.*

I affirm that this feasibility study proposal has been drawn up based on an understanding of the laws, regulations and guidelines that must be complied with. In addition, I affirm that the implementation of the plan will also be conducted in compliance with the relevant laws, regulations and guidelines.

(Examples of laws, regulations and guidelines to comply with)

- "Guidelines for Responding to Misconduct in Research" (decided by the Minister of Education, Culture, Sports, Science and Technology on August 26, 2014. Including following revisions.)
- "Guidelines on Management and Audit of the Public Research Expenses in R&D institutions (Implementation standards) enforced February 15, 2007/revised February 18, 2014, decided by the Minister of Education, Culture, Sports, Science and Technology. Including following revisions.)"
- With regard to security export control (measures for dealing with the leaks of technology to foreign countries): the Foreign Exchange and Foreign Trade Act and all other laws, regulations, ministerial ordinances and directives specified by government ministries and agencies to ensure that the results of cutting-edge research are not passed on to developers of weapons of mass destruction, terrorist groups and others who may engage in re-purposing for military use.
- When conducting on-site research activities overseas (including the removal of biological resources) or joint research with overseas R&D institutions: the laws of the relevant countries, etc.
- With regard to life sciences research: laws, regulations, ministerial ordinances, ethical guidelines, etc. established by government ministries and agencies concerning bioethics and ensuring safety.

☐ I have confirmed the laws, regulations and guidelines to be complied with.

・・・ Form 7 up to this point, one page or less (be sure not to exceed this length) ・・・

[Form 8] Management of conflicts of interest

** Please declare any conflicts of interest with the evaluators (Program Supervisor and Program Advisors) or any participation of institutions connected to the Principle Investigator of the feasibility study by using the following checklists. If applicable, please give specific details.*

** For more information on conflict of interest management and definitions of conflicts of interest, please refer to "4.6.2. Selection System and Management of Conflicts of Interest" in the Application Guideline.*

** Please see the following website for the full list of Program Supervisors and Program Advisors. https://www.jst.go.jp/ristex/examin/active/elsi-pg/elsi-pg.html*

(1) Conflicts of interest between the Principle Investigator of the feasibility study and a Program Supervisor

Conflict of interest with a Program Supervisor: ☐Yes / ☐No

Reasons for the conflict of interest and details:

<Example> Although it is not currently underway, I have conducted joint research with the Program Supervisor in the past as part of Project ○○ (Principle Investigator ○○, 20XX–20XX), which may constitute a conflict of interest.

(2) Conflicts of interest between the Principle Investigator of the feasibility study and a Program Advisor

Conflict of interest with a Program Advisor: ☐Yes / ☐No

Name of the Advisor with whom there is a conflict of interest: ○○○○

Reasons for the conflict of interest and details:

<Example> We are currently affiliated to the same organization, constituting a conflict of interest.

Application Guideline "4.6.2. Selection System and Management of Conflicts of Interest"
(1) Management of conflicts of interest during selection: Requirements of persons or parties who have conflicts of interest (summary)

a. Persons, who are relatives of research project applicants:

b. Persons or parties who are affiliated with the same department or specialty at an institution, such as university or national research and development 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 research 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 research project applicants.

(3) Participation of institutions connected to the Principle Investigator of the feasibility study

Participation as the main R&D institution by an institution connected to the Principle Investigator of the feasibility study: ☐Yes / ☐No

Name of the institution in question (researcher name): ○○○○ Co., Ltd. (○○ ○○)

Reasons and details:

<Example> This institution was established based on the Principal Investigator's R&D outcomes, and although s/he is currently a technical advisor and not directly involved in management, s/he may be appointed as a board member from July 2020.

Application Guideline "4.6.2. Selection System and Management of Conflicts of Interest"
(2) Management of conflicts of interest of Principle Investigator: **Requirements of an organization that is related to the Principle Investigator** (summary)

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

a. An organization established based on the R&D achievement of the Principle Investigator etc. (Including the case in which the Principle 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 Principle Investigator etc. owns the organization's stock.)

b. An organization in which the Principle Investigator etc. is a director (including a CTO but excluding a technical consultant).

c. An organization in which the Principle Investigator owns its stock.

d. An organization in which the Principle Investigator is rewarded for implementation.

[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.