

FY2024

# Instructions for Preparing a Proposal of Strategic Basic Research Programs : PRESTO “R&D Process Innovation by AI and Robotics: Technical Foundations and Practical Applications”

As for “Overview”, “Research Supervisor’s Policy on Call for Application, Selection, and Management” and “Strategic Objective” of the research area to be applied for, please see the following URL and select the research area.: <https://www.jst.go.jp/kisoken/boshuu/teian/en/top/ryoiki.html>.

For a research applicant, researcher ID for e-Rad must be required in order to submit a proposal. Ensure that you have deleted “Proposal Preparation Checklist” before submitting proposal documents.

(note 1) If there is a defect in a proposal document uploaded to e-Rad that makes it difficult to review the proposal, the proposal will not be accepted. Please be attentive to the preparation of documents. “Defects that make a review difficult” refers to missing documents (especially, form 1: cover of proposal documents), garbled characters that make a review difficult, and the absence of important entry items in a proposal. JST shall not be held responsible for any defects in proposal documents that appear before a deadline for proposal applications, whether or not the proposal is accepted. Therefore, please be aware that JST makes neither an amendment of the proposal upon prior confirmation by the applicant, nor a request for the applicant to correct proposal documents before a deadline of submission. A research applicant cannot withdraw his/her proposal on e-Rad after the deadline.

(note 2) For the items that are included in both e-Rad and a proposal document, if the descriptions are not same, the information in the proposal document takes precedence.

## Research Proposal (Form) Completion Requirements

A list of documentation to submit is shown below. Prepare research proposals by following the research proposal completion requirements on the next page and the following pages. Please use the Research Proposal Form of FY2024. Some research areas require that the original proposal forms be used. Please ensure that you download and use the proposal form of the research area to which you are planning to apply.

When preparing a proposal, you are requested to refer to the “Overview” and “Research Supervisor’s Policy on Call for Application, Selection, and Management” of the research area.

Form No.	Document
Form 1	Cover of research proposal documents (within one page)
Form 2	Research Proposal Overview (within one page)
Form 3-1	Project Description (within six pages)
Form 3-2	Research schedule (within one page)
Form 4	Research Achievements (within three page)
Form 5	Other Supports
Form 6	Other Special Remarks (within two pages)

\* File sizes should not exceed 3MB in total.

\*See application guidelines “Chapter 10 Submission via the Cross-ministerial R&D Management System (e-Rad)” for submission procedures for Research Proposals.

\*Researchers must understand Application Guideline “Chapter 8: Key Points in Submitting Proposals” and “Chapter 9: Limitations on the Multiple Application within the Strategic Basic Research Programs” before making an application.



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## Research Proposal Overview

### Outline

- ※ In Form 2, Provide an overall description of the research proposal within one page of A4-size sheets (no exceptions). Use 10.5 point or larger font size (If these instructions are not followed, the research proposal might not be accepted). Unlike form 3-1 (project description), it is not allowed to cite numbers of papers that are shown in the list of achievements (form 4).
- ※ For the facilitation of comprehension by evaluators, please include figures and tables (color is acceptable) as necessary.
- Form 2 is an important material for documentation-based selection to be evaluated from the perspectives below:
  1. Can the proposal be expected to contribute to fulfilling the purpose of the Research Area? Is it aligned with the goals of the solicited Research Area?  
 \*Mainly, does the proposal correspond to items a. in “(1) Selection Standards (Preliminary Evaluation Standards)” in Section 5.1.3, “Selection Perspective” of Application Guideline?  
 ”a. --- The research proposal contributes to the achievement of a Strategic Objective and the research proposal is Consistent with the Research Area purpose.”
  2. Is it aligned with the goals of the PRESTO Program?  
 \*Mainly, does the proposal correspond to the goal noted in b. in “(1) Selection Standards (Preliminary Evaluation Standards)” in Section 5.1.3, “Selection Perspective” of Application Guideline for “Basic research that is unique, challenging, internationally expected to be developed to an advanced level, and expected to produce groundbreaking results that lead to scientific and technological innovation”?)
- Therefore, in this form, provide a brief description that focuses on the details corresponding to Item 1, “Background and Objectives,” of PRESTO Form 3-1 (Project Description), and provide the minimum explanation (corresponding to Items 2 to 5 of Form 3-1) required to understand your description above. The scientific/technical evaluation of the validity and feasibility of the Project Description will be considered mainly with PRESTO Form 3-1.
- A preliminary selection entailing a documentation-based selection for each Research Area may be held from the perspectives of 1) and 2) above.

## Project Description

- ※ For the facilitation of comprehension by evaluators, please include figures and tables (color is acceptable) as necessary.
- ※ For Form 3-1, do not exceed six pages of A4-size sheets (no exceptions). Use 10.5 point or larger font size (If these instructions are not followed, the research proposal might not be accepted).
- ※ In this form of project description, make effective references to the descriptions of achievements listed in Forms 4 to clarify the relationship between the achievement and the research being proposed by the research project applicant. In making the references, the numbers listed in Forms 4 can be quoted in this form.

### 1. Proposed Research Field

- Please select one of the following fields: AI, Robotics, or Practical R&D. In the case of Practical R&D, further select one of the following: Life Sciences, Materials Science, Chemistry, Physics, Measurement Engineering, Mechanical Engineering, or others (free description).  
For example: Practical R&D - Chemistry.

### 2. Background and Objective

- Please state the purposes of your proposal and provide any background to your conceptions, including connections with your research work to date. Furthermore, specifically explain what kind of technology seeds (findings, inventions).  
\*Describe while considering in d. "The originality of the research project is based on the applicant's own idea." of Section 5.1.3(1), "Selection Standards" of Application Guideline.
- Please provide a detailed explanation of the specific new technological seeds (novel discoveries or inventions) that could potentially be generated as "pioneering achievements contributing to scientific and technological innovation" through this proposed research.
- In addition, describe shortly scientific and technological impacts of the results and expected societal changes as a result of the impacts from the viewpoint of "scientific and technological innovation" while taking into consideration the purpose of the research area to which the proposal is submitted. Explain details in "7. Future Prospect of Research."

### 3. Target of proposed research project

- Describe briefly (within 60 words) the research target at the end of the proposed research project.

### 4. Research Plans and Approach

- Describe specific research items and how to advance them (including problems and solutions for each main research item predicted in achieving the objectives stated in the previous item.) When describing research methods, compare the adopted method with existing ones and discuss the reasons why the technique has been selected.

- When presenting the description, use preliminary findings and data as evidence for advancing research in relation to “Application Guideline 5.1.3(1): selection standards” d.

## 5. Policy on Collaboration with Related Fields

- Furthermore, include in the explanation your ideas concerning “how to attempt mutual stimulation with researchers of the research area to which the proposal is submitted or related research fields (select the fields of AI, Robotics, or Practical R&D) to develop her/his research plan in relation to c of “Application Guideline 5.1.3(1): selection standards.”
- In the proposals of the AI field, please describe the collaboration with the robotics field and the Practical R&D field. Similarly, in the proposals of the robotics field, describe the collaboration with the AI field and the Practical R&D field. And, in the proposals of the Practical R&D field, describe the collaboration with the AI and robotics fields. At the time of application, there is no need to describe a detailed research plan regarding inter-disciplinary collaboration, it is sufficient to just describe an overview.

## 6. Originality and novelty of the proposed research and comparison to current state of similar studies

- Consider the present state and trends of research in related fields in Japan and overseas to clearly show the position in the world, originality, novelty, and superiority of this research plan. Mention specific contents of competing research as required.
- Also explain in what aspect this research plan is challenging from a PRESTO viewpoint as stipulated in “Applications Guideline 5.1.3(1): selection standards” b. Please clearly show the following perspectives from this research area viewpoint.

### 【Proposed research field is in the AI】

- Whether the core of AI technology proposed is at the forefront of the AI field or contributes to the advancement of the AI field.
- Whether the core of AI technology proposed is beneficial for the research and development process innovation.

### 【Proposed research field is in the Robotics】

- Whether the core of robotics technology proposed is at the forefront of the robotics field or contributes to the development of the robotics field.
- Whether the core of robotics technology proposed is beneficial for innovation in the research and development process.

### 【Proposed research field is in the Practical R&D】

- Whether the core of challenge proposed is a challenging issue in each domain, and if the core research and development challenge is resolved, what kind of transformation it would bring to that field.

## 7. Future Prospect of Research

- Concisely describe ideas of the research proposer concerning the scientific and technological

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impacts that results of this research plan may bring about in the future.

- Consider how the purpose of the research area to which an application is submitted is related to this research plan to explain ideas concerning contact points between results of future research and society (for example, creation of new technologies, acquisition and utilization of intellectual property rights, or their spread in and acceptance by the society).

### Research Schedule

- ※ [For Form3-2, describe on one page of A4-size sheet \(no exceptions\).](#) If this instruction is not followed, the research proposal might not be accepted.
- ※ See the example below and enter the schedule of the proposed research project.
- ※ If proposed project consists of several research subthemes, state clearly schedules of each subtheme.
- ※ Length, setting, thickness of an arrow can be changed.

Example

Research Subjects	2024 Fiscal year (6 months)	2025 Fiscal Year	2026 Fiscal Year	2027 Fiscal Year (12months)
<b>1. XX related Gene Expression Analysis</b>				
• Identification of XX related genes				
• Gene Expression Analysis				
<b>2. Development and verification of model animal</b>				
• Development of model animal				
• Verification of model animal				
<b>3. Imaging Analysis</b>				
• Data Collection				
• Development of software				
• Data Analysis				
<b>4. Development of XX Diagnostic Method</b>				
• Elucidation of XX Correlation				
• Development of diagnostic method and verification				



## Research Achievements

**[author notation in English papers by the applicant : (example) Taro Gijyutsu]**

- ※ In performing selection, evaluators (research supervisor, research area advisor) sometimes search through publication databases to check achievements in detail. This requires the entry of the applicant's full name for publication [author notation in English papers by the applicant].
- ※ In Form 4, Provide Research Achievements within three pages of A4-size sheets.
  
- Please provide evidence of your capacity to carry out the proposed research and contribute to the advancement of the research area as well as the continuous development of related fields. This should be demonstrated through your previous research activities and their outcomes.
- Please list any of the following that are relevant to the your research field and proposal content: academic papers, books, proceedings of international conferences, invited lectures at major international conferences, awards, patents, licenses, start-up companies, datasets, software, standardization, representative past research, and any other achievements or accomplishments. Give priority to those items that are most closely related to the content of the proposal and that are the most recent.
- Please provide a concise explanation of the importance of the achievements/results and the role of the individual making the proposal. Please also make your explanation as objective and quantitative as possible based on facts (listing JIF and h-index, etc. is not required).
- In the case of academic papers, provide the name of the paper, the name of the authors (list all authors and underline the individual making the proposal), the journal name, the volume and page numbers, year of publication, and bibliographic information in the case of a book. Please list only those papers or books that have already been published or that are confirmed for publication. Author names may be abbreviated as "J. Smith", etc.
- For patents, please list the application number, inventor, invention name, applicant, and filing date.
- The items to be listed may also be sequentially numbered and the numbers may then be cited in the description of the research concept (Form 3-1).

## Information on Other Supports

### [Notes]

- When Researchers are receiving, apply for, or plan to apply for competitive national funding programs (including CREST / PRESTO / ACT-X, AMED-CREST, PRIME) and other research grants (including private foundations and overseas institutions) (\*), fill in the research project name, research period, role, amount of research expenses received by the individual, and effort. Please refer to "8.1 Measures against Unreasonable Duplication and Excessive Concentration" and "9 Limitations on Multiple Applications within the Strategic Basic Research Programs" of the application guidelines. Due to unavoidable circumstances, e.g. confidentiality agreement, it is possible to submit without filling in the items other than effort. (This research proposal will be provided to outside experts during the screening process.)
- Enter this proposed PRESTO project first, followed by other research projects in a descending order of the amount of research funds (for the whole period, only direct cost) the applicant receives.
- Add rows if needed.

(\*) In consideration of the guidelines stipulated in the "Integrated Innovation Strategy 2020," which mandates "disclosure of information on the status of acceptance of foreign funds is a requirement when applying for research funds.", commencing from the FY 2021 call for proposals, it is explicitly stated that applicants must also provide information on research funding from overseas sources in the section concerning the "Existence of Grants or Assistance from Other Institutions" (or in some cases, "Status of Research Fund Application/Receipt"). In addition to competitive funds, both domestically and internationally, please list all research funds such as grants from private foundations, contract research expenses from companies, and joint research expenses.

### Example

No.	Program (Name of Institution)	Status	Title of Project (Name of Principal investigator)	Research Period	Role (Principal Investigator or co-Principal Investigator)	Research Fund Received (1) Allocated Budget (For entire period) (2) FY 2024 (planned) (3) FY 2023 (actual) (Thousand yen/unit)	2024 FY Effort (%)
-	PRESTO (This application)	Submitted	Enter the effort ratio in the right box →→→→→→→				70
(1)	Grants-in-Aid for Scientific Research, Fundamental research (C) (Japan Society for the Promotion of Science)	Awarded	Creating W by V (***)	2020.4 — 2025.3	Principal Investigator	(1) 1,000 (2) 500 (3) 300	20
(2)	X Foundation/Y Research grant (○○Foundation)	Submitted	Achieving high performance in X by Y (***)	2024.9 — 2026.3	Co-Principal Investigator	(1) 900 (2) 400 (3) -	--
(3)						(1) (2) (3)	

(Describe appropriately based on the actual practice. If you, in particular, are willing to conduct research as an associate researcher at JST, read thoroughly the Application Guideline, Section 3.2.7, "Types of PRESTO participation" and describe the appropriate efforts.)

**【Notes for Description】**

- Due to unavoidable circumstances, e.g. confidentiality agreement, it is possible to submit without filling in the items other than effort. (This research proposal will be provided to outside experts during the screening process.)
- If the information provided is found to be inaccurate, it may result in the rejection of the research proposal.
- Applicants who undergo interview selection may be required to submit application forms, project proposals, etc, to other institutions.
- Please adhere to the instructions provided for each item.

**(1) Status**

Enter one of the following.

Do not enter effort for a theme corresponding to "Submitted" except for the PRESTO proposed theme.

- **Awarded:** It is currently awarded, or decided to be awarded.
- **Submitted:** It is at the state of selection and it is yet to be decided to be awarded. Except for the PRESTO, please refrain from providing the effort in projects categorized as "Submitted."

**(2) Role**

Enter one of the following.

- **Principal Investigator:**  
Research fund is to be received as a representative for the research theme.
- **Co-Principal Investigator:**  
Research fund is to be received as a person in a non-representing position for the research theme

**(3) Research fund received**

Enter the amount of the research fund in thousand yen in a following manner.

(a) Awarded as "Principal Researcher" in the research project

Enter the amount of the research fund of the team supervised by the Principal Researcher, excluding that of joint research teams.

(b) Awarded as "Co-Principal Investigator"

Enter the amount of the research fund of the joint research team represented by the Co-Principal Researcher.

**(4) Effort**

Enter "ratio of time (%) necessary for conducting research relative to 100% for the whole work hours during the PRESTO research period (2024.10-2025.3) in fiscal year 2024 if adopted for PRESTO. Do not enter effort for themes that are already applied and in the process of selection, or that are planned to be applied (those entered as "Submitted").

Take care that the sum of effort for the theme proposed for PRESTO and other themes that are entered as "Awarded" does not exceed 100%.

## Other Special Remarks

- ※ In Form 6, provide an overall description of other special remarks in less than three A4-size sheets (no exceptions). If this instruction is not followed, the research proposal might not be accepted).
- ※ Please refer to “Chapter 5, 5.1.2 (2)” in the application guidelines and state whether or not you have a conflict of interest.
- ※ Until previous years, research applicant who had a conflict of interest with the research supervisor were excluded from selection, however this will be abolished from FY2024. (refer to Ch 5.1.1)

### 1. Conflict of interest between the applicant and evaluators

Follow the description of application guideline “5.1.2 (2) ① Conditions for those with conflict of interest” to describe conflict of interest of the research applicant shared with the research supervisor or research area advisor of the research area to which the proposal is submitted.

#### a. Conflict of interest between the research applicant and the research supervisor:

YES       NO

*Note that Indicate YES or NO according to the conditions. Clearly show to which conditions conflict of interest shall apply, if YES.*

The research applicant conducted joint research with the research supervisor on ??? project (20xx-20xx). It comes under condition (d) for conflict of interest stipulated in 5.1.2(2) ①.

#### b. Conflict of interest between the research applicant and the research area advisor(s):

YES       NO

*Note that Indicate YES or NO according to the conditions. Clearly show to which conditions conflict of interest shall apply, if YES.*

Research area advisor with conflict of interest: (The Advisor’s Name)

The research applicant is conducting joint research with the advisor in \*\* project. It comes under conditions (d) for conflict of interest stipulated for 5.1.2(2)①.

#### 【Notes for Description】

Follow the description of application guideline “5.1.2 (2)① Persons Involved in the Selection Process” to describe conflict of interest of each Co-PI shared with the research supervisor to which the proposal is submitted.

Evaluators who, based on the listed information, are deemed by JST to have a conflict of interest will be excluded from proposal review, will not be allowed to speak at document screening meetings, and will not be allowed to meet face-to-face during the interview screening meetings, so please make sure to clearly list the names of any evaluators who have a conflict of interest. For a list of area advisors, please refer to the Proposed Research Areas homepage. A link to it can be found on the Call for

Proposals homepage.

[**Application** Guideline 5.1.2.(2): Conditions for those with conflict of interest (summary)]

- (a) Persons, who are relatives of applicants.
- (b) Persons, who are affiliated with the same department or specialty at a university to which the applicants are affiliated, who are board members or are considered affiliated members of the same university or managed corporation, or who act as the represent of the university. Here, “same department or specialty” means a one rank above group of the smallest research unit.
- (c) Persons, who are affiliated with the same or group company with which applicants are affiliated.
- (d) 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 a applicants, a participant or a Co-PI of the research project, others, being recognized those practically affiliated with same research group..)
- (e) Persons in a close teacher-student relationship, or in a direct employer-employee relationship.
- (f) Persons in relationships of direct competition with applicants.
- (g) Persons in other relationships judged by JST to representing conflicts of interest with applicants.

## 2. Investment to the affiliated Institution from JST

Current investment by JST: No or Yes (If Yes, please write down the detail.)

**The affiliated Institution is invested from JST:**

YES     NO    *If Yes, please write down the detail.*

The name of Institution: XXXXXX (president: YYYYYY)

### <Notes for Description>

Follow the instructions in Application Guideline, Section 5.1.2, (2), “Conditions for those with conflict of interest” to describe whether the organization to which a researcher belongs is a company in which JST has invested.

- For the companies in which JST has invested, access the following website. The companies in which JST has terminated the investment are not within the scope of our management of the conflict of interest. You do not need to describe such companies.

- <https://www.jst.go.jp/entre/result.html#M01>

- The standard date to determine the applicability of the conditions described above is the date on which we start accepting applications. Describe the companies that are disclosed as a company in which JST has invested as of the standard date. If a company is one of the companies in which JST is going to invest but has not disclosed as such, do not describe such a company in order to ensure that the secrecy of the internal information of JST is maintained.

- For the disclosed information on the investment made by JST, access the following website.

- <https://www.jst.go.jp/entre/news.html>

### 3. (Only for those relevant) Reasons why the applicant desires to conduct research at an overseas research organization

(1) Reasons for conducting research at the overseas research organization.

- Please provide specific explanations for the necessity of conducting research at overseas institutions in order to realize research concepts.
- Only those researchers who are engaged in some other research are permitted to reside at an overseas research institute. From the viewpoint of health and safety management, etc., it is not possible for PRESTO exclusive appointment researcher to conduct research at overseas research institution.

(2) Contact person responsible for research contracts at the overseas research organization

Enter name, affiliation, e-mail address, and telephone number.

(3) Preparatory Considerations

Please verify the following items.

Checklist	items
<p>The overseas research institution to serve as the research implementation site, intends to agree on the following matters (refer to the Collaborative Research Agreement for details)</p> <ul style="list-style-type: none"> <li>• Indirect costs shall not exceed 30% of the direct costs in the expenditure of research funds provided by JST.</li> <li>• A financial report detailing the utilization of research funds shall be submitted in accordance with the prescribed format by JST. Compliance with the expenditure items designated by JST in the financial report is required.</li> </ul>	<input type="checkbox"/>
<p>If the applicant is a postdoctoral researcher affiliated with an overseas research institution, does the supervisor of their affiliated laboratory acknowledge the execution of the proposed research upon its acceptance?</p>	<input type="checkbox"/>

#### <Notes for Description>

• A research contract needs to be concluded between JST and the overseas research organizations “when the research applicant conducts research at an overseas research organization and the research organization executes research expenses including purchases of goods, as stated in [Application Guideline “5.2.7 Responsibilities of Research Institutions” (2) cases in which an organization for conducting research exists in overseas”]. For this reason, check with the person responsible for research contracts at the overseas research organization to find whether a research contract could be concluded using the template for research contracts with overseas research organizations.

[https://www.jst.go.jp/kisoken/boshuu/teian/koubo/agreement\\_presto.pdf](https://www.jst.go.jp/kisoken/boshuu/teian/koubo/agreement_presto.pdf)

• JST may directly check whether a contract could be concluded with the overseas research organization with a person at its department responsible for research contracts through the research applicant after the

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deadline for proposals. For this purpose, [enter the contact \(name, affiliation, e-mail address, telephone number\)](#) of a person responsible for research contracts at the overseas research organization

Before the interview selection process, submit a form (required for only the applicant who is to be interviewed after selection by documents) for entering whether the person responsible for research contracts at the research organization approves requirements for the research contract presented by JST(\*). Also refer to the Application Guideline 3.2.6(3) "Requirements for Performing Research Work at an Overseas Research Institution" and Q&A "Requirements for Performing Research Work at an Overseas Research Institution".

(\*)JST's Requirements for research contract (Principal Requirements)

For details, See "template for research contracts to be used by overseas research organizations":

<https://www.jst.go.jp/kisoken/boshuu/teian/en/top/ryoiki.html>

- (1) Payment for indirect expenses does not exceed 30% of direct expenses (research expenses)
- (2) Intellectual property rights for results of the proposed research must be equally retained by JST and a overseas research institute (The overseas research institute has a legal obligation to inform any fees and information within 10 working days).
- (3) The overseas organization must prepare and provide JST with detailed documents describing pertinent expenses in English.

#### **4. (Only for those who desire to be hired by JST to pursue PRESTO research)**

##### **Plan of engagement in PRESTO research with exclusive appointment**

- See instructions for Application Guideline "3.2.7 Types of PRESTO participation." Those who desire to be engaged in PRESTO research hired by JST, should enter (1)-(3) below. We will check the details at interviews for selection.
- The submission of the document titled 'Assignment of Full-time Researchers to Other Institutions' is required separately.

- (1) Reasons why the applicant must retire from the present position before starting the research
- (2) Job Hunting Situation
- (3) Planned participation in CREST or ERATO as JST-hired researcher
- (4) Planned another work for the research Grant-in-Aid from JSPS (called KAKENHI) , *etc.*

#### **5. (Only for those relevant) special notes for efforts by an applicant**

Enter the situation and reasons when an applicant needs work hours (effort) for special duties (work of the academic committee or private company job, etc.).

**6. The other special remarks:**

- ※ If you are submitting multiple applications for the same research area, please describe the differences from the previous proposal.
- ※ If you have any plans for a change, please let us know.
- ※ Please feel free to use any other information such as describing your enthusiasm for this research proposal.