

FY 2021 Application CREST Research Proposal

Research Area	<p>Select one research area from the following:</p> <ul style="list-style-type: none"> • Nanomechanics: Elucidation of macroscale mechanical properties based on understanding nanoscale dynamics for innovative mechanical materials • Mathematical Information Platform: Creating information utilization platform by integrating mathematical and information sciences, and development to society • Trusted quality AI systems: Core technologies for trusted quality AI systems
Title of proposed research project	<p><i>When the title is in English, describe the title also in Japanese (about 20 characters) along with the English title.</i></p>

Japanese Side

Name of Research Director	
Affiliated Institution, Section, Title	<p><i>Describe the affiliation and title accurately without any omission. (i.e., describe Graduate school, Department, Majors, XX laboratory, and project/tenure/associate/assistant professor).</i></p>
Academic Background (After graduation of University)	<p><i>(Entry example)</i></p> <p><i>Graduated from Faculty of xxxx, xxxx University, in 20XX</i></p> <p><i>Graduated from Engineering xxxx major, Graduate School xxxx of xxxx University in 20XX</i> <i>(Instructor: Professor xxxx) 【Instructor Name Required】</i></p> <p><i>Completed Ph.D. in Graduate School of xxxx University in 20XX</i> <i>(Instructor: Professor xxxx) 【Instructor Name Required】</i></p> <p><i>Doctoral Acquisition (xxxx) (xxxx university) in 20XX</i></p>
Professional Appointments and Awards (Research Director)	<p><i>(Entry Example: It is essential to include the director's name of the belonged laboratory.)</i></p> <p><i>Research history:</i></p> <p><i>Assistant Professor, Faculty of xxxx of xxxx University in 20XX to 20XX</i> <i>Research about xxxx in the professor xxxx's laboratory</i></p> <p><i>Researcher of xxxx Research Institute from 20XX to 20XX</i> <i>Engaged in xxxx research in the xxxx laboratory of professor xxxx</i></p> <p><i>Major Awards Received:</i></p> <p><i>xxxx Award Winner in 20XX</i> <i>Reasons for receiving award: Excellent achievements in xxxx study</i></p>
Information of Research Director	<p>URL:</p> <p><i>Please indicate URL if there are any websites where the information of the Research Director is available (such as a website of his/her laboratory or researchmap webpage, etc.).</i></p>
Research Period	[mm. yy] – [mm. yy]

Total Research Budget	<p>Total Budget: thousand yen</p> <p><i>(Do not include decimal point. Pay attention to the unit. (check if the expenses exceed the upper limit set for research expenses stipulated in the “Research Supervisor’s Policy on Call for Application, Selection, and Management”. Do not include indirect cost.))</i></p>
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General note for application

-Guideline and Q and A

Please refer to guideline and Q and A from following websites.

Guideline: <https://www.jst.go.jp/kisoken/boshuu/teian/koubo/2021youkou.pdf>

Q and A: https://www.jst.go.jp/kisoken/boshuu/teian/koubo/faq_en.pdf

Notes for the preparation of Form1

- Proposed Research Area (for Japanese only)

Only one application may be submitted to [Nanomechanics], [Mathematical Information Platform] or [Trusted quality AI systems].

- Researcher ID No. (for Japanese only)

Proposals must be submitted via the e-Rad system. Those who do not have Kakenhi ID or e-Rad login ID should contact their affiliated Research Institution personnel or the e-Rad Helpdesk immediately to obtain the e-Rad ID. See Chapter 10 in guideline.

- Academic Background & Professional Appointments (for Japanese only)

Make sure to list the names of the supervisor / the head of the affiliated research laboratory.

- Research period

The ending time period of research projects can be set to an arbitrary date prior to March 31, 2027 (default).

-Efforts in this fiscal year (for Japanese only)

Describe the relative ratio (%) of time necessary to undertake the research, assuming the total work time (including research-, educational-, and medical-related activities) for the year is 100%, as defined by the General Science and Technology Innovation Conference. Do not include efforts, such as grants, that are being applied or planned. Include only efforts, such as grants that are being received or to be received in case the proposal is adopted for CREST. The sum of the ratios of efforts involved in CREST and the grant presently received must not exceed 100%.

French Side

Name of Research Director	
Affiliated Institution, Section, Title	
Academic Background (After graduation of University)	
Professional Appointments and Awards (Research Director)	
Information of Research Director	URL:
Research Period	[mm. yy] – [mm. yy]

2021 (CREST- Joint call)

Total Research Budget	Total Budget: keuros
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Research Proposal Overview

Outline of Research Project

- *In Form 2-1, Provide an overall description of the research proposal in two or less 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 2-2, Form 6, and Form 7).*
- *Form 2-1 is an important material for documentation-based selection to be evaluated from the perspectives below:*
 1. *Is it aligned with the goals of the Research Area? (Can the proposal be expected to contribute to fulfilling the purpose of the Research Area? Mainly, does the proposal correspond to items a. and b. 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”*
 - “b-The research proposal is Consistent with the Research Area purpose”*
 2. *Is it aligned with the goals of the CREST Program? (Mainly, does the proposal correspond to the goal noted in c. in “(1) Selection Standards (Preliminary Evaluation Standards)” in Section 5.1.3, “Selection Perspective” of Application Guideline for “Basic research that is unique, highly appreciated internationally, and expected to produce outstanding results that contribute greatly 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 CREST Form 3-1 (Project Description), and provide the minimum explanation (corresponding to Items 2 to 6 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 CREST 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.*
- *Insert figures and tables (in color, permitted) appropriately to be undertaken clearly.*

Major Achievements of the Research Director (Japanese Side)

List of principal research papers / invited lectures

- In Form 2-2J, on one page of A4-size sheet (no exceptions), list your principal research papers and invited lectures (If this instruction is not followed, the research proposal might not be accepted).
- Adjustment to font size and line spacing is acceptable.
- Do not include works by Lead Joint Researcher(s).

(1) List of principal research papers (within 10 papers)

- From CREST Form 6, Item 1, select a maximum of 10 principal research papers by the research project applicant (the Research Director) and list them here (Use the same description and format as from CREST Form 6, Item 1)
- Make entries retrospectively from the present to the past years of publication.
- Sequentially number each item with a number at the beginning of each title.
- The following items should be entered for a paper (books follow the same guidelines). The items may be in a freely chosen sequence.

[Items to be entered]

Authors (enter all authors and underline the applicant), title of a paper, journal in which the paper is published, volume, page, and year of publication

(2) List of principal invited lectures (within 10 lectures)

- List a maximum of 10 principal invited lectures by the research project applicant (the Research Director).
- Sequentially number each item with a number at the beginning of each title.
- Make entries retrospectively from the present to the past years of publication.

Major Achievements of the Research Director (French Side)

List of principal research papers / invited lectures

- In Form 2-2F, on one page of A4-size sheet (no exceptions), list your principal research papers and invited lectures (If this instruction is not followed, the research proposal might not be accepted).
- Adjustment to font size and line spacing is acceptable.
- Do not include works by Lead Joint Researcher(s).

(1) List of principal research papers (within 10 papers)

From CREST Form 6, Item 1, select a maximum of 10 principal research papers by the research project applicant (the Research Director) and list them here (Use the same description and format as from CREST Form 6, Item 1)

- Make entries retrospectively from the present to the past years of publication.
- Sequentially number each item with a number at the beginning of each title.
- The following items should be entered for a paper (books follow the same guidelines). The items may be in a freely chosen sequence.

[Items to be entered]

Authors (enter all authors and underline the applicant), title of a paper, journal in which the paper is published, volume, page, and year of publication

(2) List of principal invited lectures (within 10 lectures)

- List a maximum of 10 principal invited lectures by the research project applicant (the Research Director).
- Sequentially number each item with a number at the beginning of each title.
- Make entries retrospectively from the present to the past years of publication.

Project Description

- *Clearly state the work to be undertaken. Figures and tables (in color) may be included if necessary.*
- *For Form 3-1, do not exceed six 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 6 (Research Director) and 7 (Lead Joint Researcher) 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 the forms can be quoted in this form.*

1. Background and Objective

Describe scientific & technological needs, societal, economic or industrial needs, including the trends of the related fields to illustrate the importance and necessity of the proposed research project. According the needs, describe the objectives of the proposed research project.

Moreover, from a viewpoint of "Science Technology & Innovation", describe the impact of the proposed research on science & technology. Future social values resulting from the impact on science & technology are described in the " 6. Future Prospect of Research" in detail.

2. Target of proposed research project

(1) Target to be achieved in the middle of the research period (within 60 words)

Describe briefly (within 60 words) the research target in the middle of the proposed research period (for 5.5 years of entire research period, at the time of 3 years later from the start of the project).

(2) Target to be achieved at the end of the research period (within 60 words)

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

3. Research Plans and Approach

- Describe concrete plan of pursuing the proposed research including the approaches to achieve the target and objectives specified in the previous item of this form, for each research group (research director's group, and each joint research group).*
- Show the outline of the time schedule to demonstrate your vision and plan specifically, how to attain "1. Background and Objective", while indicating milestones of research toward " 1. Background and Objective." The schedule of the project should be shown in the form 3-2 as well. Also, show clearly the relationship of the project plan with the targets to be achieved after 3 years from the start of proposed research. This is one of the evaluation basis.*
- Specify the strategy to acquire and manage intellectual property rights (such as application,*

authorization, licensing). Describe relevant intellectual property rights that the applicants own.

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

-Taking into account the state and trends of research in relevant fields, present originality and novelty of the proposed research project. Describe the advantages of the proposed research over others, specifying the competitive researches overseas.

5. Preparation of fundamental technology

Describe research background and achievements of the Research Director and other participants that are relevant to implement the proposed research project including the following information;

- Relevant projects conducted in the past and achievements of the research director and those of lead joint researchers and other research participants (if necessary).*
- Other preliminary knowledge, data, etc. (if any)*
- Measures taken to the item “d” in “5.1.3 (1) Selection Perspective” from application guideline*

<Excerpt from the item “d” in “5.1.3 (1) Selection Perspective”>

- The research project applicant has produced research results for accomplishing the research objectives.*
- Promising preliminary results have been obtained for pursuing the research project.*
- The research proposals is clearly specifying (i) the background to the research project (its necessity and importance), (ii) the research record of the research project applicant; and (iii) the research initiative and plan., separately.*
- An optimal research organization is proposed. The research project applicant will exercise strong leadership and bear responsibility for the entire research team, and, if there will be Lead Joint Researchers, they are essential for to the pursuit of pursuing the research project, and a collaboration framework sufficient for enabling significant contributions toward the achievement of research objectives is provided*

6. Future Prospect of Research

-Describe expected creation of science, technology & innovation, creation of new industry, acquirement and enforcement of intellectual properties, contribution to society, etc., which are likely realized in the future, by achievement of “1. Background and Objective” in the Project Description. The goal of the research area to be applied for should be also considered.

7. Specific for collaboration

Project Organization and Research Schedule

For Form3-2, describe within two or less A4-size sheets (no exceptions). If this instruction is not followed, the research proposal might not be accepted.

1. Project Organization

Japanese Side

Group Name	Name of Research Director/ Lead Joint Researcher	Affiliation and Title	Title of Research Theme
<i>** Group (* * should be filled with the family name of Research Director)</i>	<i>Name of the Research Director</i>	<i>Affiliation and Title of the Research Director</i>	<i>Title of the proposed project as specified in the form 1.</i>
<i>++ Group (++ should be filled with the family name of Lead Joint Researcher(1))</i>	<i>Name of the Lead Joint Researcher (1)</i>	<i>Affiliation and Title of the Lead Joint Researcher (1)</i>	<i>Name of the research Item of this group in charge *This is also specified in form 4-2.</i>
<i>+++ Group (+++ should be filled with the family name of Lead Joint Researcher(2))</i>	<i>Name of the Lead Joint Researcher (2)</i>	<i>Affiliation and Title of the Lead Joint Researcher (2)</i>	<i>Name of the research Item of this group in charge *This is also specified in form 4-2.</i>

Notes:

JST, in principle, will enter into a contract research agreement with the organization to which the research director belongs or the one to which a lead joint researcher affiliates for each research theme.

French Side

Group Name	Name of Research Director/ Lead Joint Researcher	Affiliation and Title	Title of Research Theme
<i>** Group (* * should be filled with the family name of Research Director)</i>	<i>Name of the Research Director</i>	<i>Affiliation and Title of the Research Director</i>	<i>Title of the proposed project as specified in the form 1.</i>
<i>++ Group (++ should be filled with the family name of Lead Joint Researcher(1))</i>	<i>Name of the Lead Joint Researcher (1)</i>	<i>Affiliation and Title of the Lead Joint Researcher (1)</i>	<i>Name of the research Item of this group in charge *This is also specified in form 4-2.</i>

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<i>name of Lead Joint Researcher(1)</i>			<i>specified in form 4-2.</i>
<i>+++ Group (+++ should be filled with the family name of Lead Joint Researcher(2))</i>	<i>Name of the Lead Joint Researcher (2)</i>	<i>Affiliation and Title of the Lead Joint Researcher (2)</i>	<i>Name of the research Item of this group in charge *This is also specified in form 4-2.</i>

2. Research Schedule

-Enter the schedule of the proposed research project.

-The name of “Research Director’s Group”, “Joint Research Group” is changed by those specified in the previous item of this form respectively.

-If research subject consists of several research subthemes, state clearly schedules of each subtheme and the organizations to pursue the subtheme.

-Length, position and thickness of an arrows can be changed.

Research Subjects	2021 Fiscal year (6 months)	2022 Fiscal Year	2023 Fiscal Year	2024 Fiscal Year	2025 Fiscal Year	2026 Fiscal Year (12months)
1. XX related Gene Expression Analysis						
• Identification of XX related genes (Research Director’s Group)						
• Gene Expression Analysis (Joint Research Group 1,2)						
2. Development and verification of model animal						
• Development of model animal (Research Director’s Group)						
• Verification of model animal (Joint Research Group 2)						
3. Imaging Analysis						
• Data Collection (Research Director’s Group Joint Research Group 1)						
• Development of software (Joint Research Group 2)						
• Data Analysis (Research Director’s Group)						
4. Development of XX Diagnostic Method						
• Elucidation of XX Correlation (Research Director’s Group)						
• Development of diagnostic method and verification (Joint Research Group 1)						

Research Project Organization 1 (Japanese Side)

(Research Members at Research Director's Group)

For Form4-1J, describe within two or less A4-size sheets (no exceptions). If this instruction is not followed, the research proposal might not be accepted.

Research Director's Group

Research Director	Research Institution, Department	Title	2021FY effort (%)
○○ ○○	Department of ***, Graduate School of ***, ***, University	Professor	40
Research Participants	Affiliation, Department (Omit if the same as above)	Title	
○○ ○○		Professor	
○○ ○○		Associate Professor	
○○ ○○		Lecturer	
×× ××	*** Laboratory, *** Co., Ltd.	Principal Researcher	

- 1) If the proposed research project is selected, but the research organization to pursue the project will be different from the current affiliated organization of research director, provide the name of the institution at which the research will be conducted.
- 2) As for "2021 FY Effort", Enter "ratio of time (%) necessary for conducting research relative to 100% for the whole work hours during the CREST research period (2021.10-2022.3) in fiscal year 2021 if adopted for CREST. The description should be the same as that in e-Rad.
- 3) Provide sufficient consideration to the roles played by the members of the research group.
- 4) Add Additional lines for research participants as necessary. If the research staff has not been finalized at the time of the proposal, a note like "X persons for research staff" will suffice.
- 5) If the same research subjects need to be pursued at multiple research organizations, it is possible to add the members from the other organizations as research participants. This is only approved on the condition that the affiliated organization of research director can manage the research budget processed by the research participant from the other organization. If not, the researcher is to be listed in another joint research group (See also the Q&A.).

○ Research Subjects and Overview

• Title of Research Theme:

Enter the name of the proposed project in form 1 and **research theme** in form 3-2 "1. Project Organization"

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- **Research Subjects in Charge:**

Enter the research subtheme specified in the form 3-2 "2. Research Schedule", of which the research director's group is in charge.

- **Overview of the research:**

Describe briefly an overview of the research subjects that the Research Director's Group will be in charge of.

- **Role in the entire research project:**

Describe the role which the Research Director's group plays in realizing the proposed research project.

Research Project Organization 2 (Japanese Side)

(Research Members at the Joint Research Group)

- If Japanese joint research groups (joint research institutions) other than the Research Director's affiliated institution are required, list them in Form 4-2J (this form) per joint research institution.
- This form should be described within two or less A4-size sheets (no exceptions) for each joint research group. If this instruction is not followed, the research proposal might not be accepted.
- The research expenditures of overseas joint research groups are funded only when the participation of the groups is essential to realize the research concept. Elaborate the necessity in detail in particular. Further, such funds are applicable only when the implementation of the research is difficult unless the overseas joint research groups are involved; therefore, describe the grounds. Even if the necessity of such joint research groups is recognized, the research expenditures of the overseas joint research groups may not be funded if the terms and conditions of the contract are not acceptable. In this case, describe a proposal for cooperation (the second-best option).

Joint Research Group (1)

Lead Joint Researcher	Joint Research Institution, Department	Title	2021FY Effort (%)
Research Participants	Affiliation, Department (Omit if the same as above)	Title	

○ Research Subjects and Overview

• Title of Research Theme of the Joint Research Group:

Enter the name of the research theme of this group specified in form 3-2 "1. Project Organization"

• Research Subjects in Charge:

Enter the research subjects specified in the form 3-2 "2. Research Schedule", of which this joint research group is in charge.

• Overview of the research:

Describe briefly an overview of the research subjects that this Joint Research Group will be in charge of.

• Role in the entire research project and necessity:

Describe the role which this joint research group plays in realizing the proposed research project.

Also, specify the measures taken to the item “d” in “5.1.3 Selection Perspective (1)” from application guideline

<Excerpt from the item “d” in “5.1.3 Selection Perspective (1)”>

- The research project applicant has produced research results for accomplishing the research objectives.*
- An optimal research organization is proposed. The research project applicant will exercise strong leadership and bear responsibility for the entire research team, and, if there will be Lead Joint Researchers, they are essential for to the pursuit of pursuing the research project, and a collaboration framework sufficient for enabling significant contributions toward the achievement of research objectives is provided.*

• Reason of why this group is necessary for this project (applicable only to overseas joint research groups in Japanese side):

- Necessity of the joint research group for achieving the goal of the project**
- Availability of specific facility, equipment, environment, etc.**

*Describe briefly the **reason** for the difficulty in the implementation of the research unless a certain joint research group is involved*

• An alternative proposal for cooperation with the applicable group, in case a contract can not be concluded (applicable only to overseas joint research groups in Japanese side):

Describe a proposal (the second-best option) for cooperation in the case in which JST does not finance the research.

• The state of enforcement of the security trade control (applicable only when an overseas joint research group is involved in Japanese side):

Describe the state of enforcement of the security trade control concerning the research group of research director and the domestic joint research group.

Joint Research Group (2)

Lead Joint Researcher	Joint Research Institution, Department	Title	2021FY Effort (%)
Research Participants	Affiliation, Department (Omit if the same as above)	Title	

○ **Research Subjects and Overview**

• **Title of Research Theme of the Joint Research Group:**

Enter the name of the research theme of this group specified in form 3-2 “1. Project Organization”

• **Research Subjects in Charge:**

Enter the research subjects specified in the form 3-2 “2. Research Schedule”, of which this joint research group is in charge.

• **Overview of the research:**

Describe briefly an overview of the research subjects that this Joint Research Group will be in charge of.

• **Role in the entire research project and necessity:**

Describe the role which this joint research group plays in realizing the proposed research project. Also, specify the measures taken to the item “d” in “5.1.3 Selection Perspective (1)” from application guideline

<Excerpt from the item “d” in “5.1.3 Selection Perspective (1)”>

- *The research project applicant has produced research results for accomplishing the research objectives.*
- *An optimal research organization is proposed. The research project applicant will exercise strong leadership and bear responsibility for the entire research team, and, if there will be Lead Joint Researchers, they are essential for to the pursuit of pursuing the research project, and a collaboration framework sufficient for enabling significant contributions toward the achievement of research objectives is provided.*

• **Reason of why this group is necessary for this projectd (applicable only to overseas joint research groups in Japanese side):**

- **Necessity of the joint research group for achieving the goal of the project**
- **Availability of specific facility, equipment, environment, etc.**
*Describe briefly the **reason** for the difficulty in the implementation of the research unless a certain joint research group is involved*

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- **An alternative proposal for cooperation with the applicable group, in case a contract can not be concluded (applicable only to overseas joint research groups in Japanese side):**

Describe a proposal (the second-best option) for cooperation in the case in which JST does not finance the research.

- **The state of enforcement of the security trade control (applicable only when an overseas joint research group is involved in Japanese side):**

Describe the state of enforcement of the security trade control concerning the research group of research director and the domestic joint research group.

Research Project Organization 1 (French Side)

(Research Members at Research Director’s Group)

For Form4-1F, describe within two or less A4-size sheets (no exceptions). If this instruction is not followed, the research proposal might not be accepted.

Research Director’s Group

Research Director	Research Institution	Title	2021FY effort (%)
Research Participants	Affiliation (Omit if the same as above)	Title	

○ **Research Subjects and Overview**

- **Title of Research Theme:**

- **Research Subjects in Charge:**

- **Overview of the research:**

- **Role in the entire research project:**

Research Project Organization 2 (French Side)

(Research Members at the Joint Research Group)

-If French joint research groups (joint research institutions) other than the Research Director's affiliated institution are required, list them in Form 4-2 (this form) per joint research institution.

- This form should be described within two or less A4-size sheets (no exceptions) for each joint research group. If this instruction is not followed, the research proposal might not be accepted.

Joint Research Group (1)

Lead Joint Researcher	Joint Research Institution	Title	2021FY Effort (%)
Research Participants	Affiliation (Omit if the same as above)	Title	

○ **Research Subjects and Overview**

- **Title of Research Theme of the Joint Research Group:**

- **Research Subjects in Charge:**

- **Overview of the research:**

- **Role in the entire research project and necessity:**

Joint Research Group (2)

Lead Joint Researcher	Joint Research Institution	Title	2021FY Effort (%)
Research Participants	Affiliation (Omit if the same as above)	Title	

○ **Research Subjects and Overview**

- **Title of Research Theme of the Joint Research Group:**

- **Research Subjects in Charge:**

- **Overview of the research:**

- **Role in the entire research project and necessity:**

Research Budget (Japanese side)

- Prepare the budget plan and sort it by items and by groups for each year.
- A more detailed budget plan will be requested when the proposal proceeds to the interview.
- The budget plan, after adopted, may be revised during the research period according to the state of the project, Research Area policy, and project evaluation, etc.
- Organize an optimal research team with necessary and sufficient number of groups. Appropriateness of the budget allocations to the joint research groups, and cost performance will be an important consideration as a part of the selection process.

1. Research Budget Plan in Item (Entire Team on Japanese side)

	1 st Year 2021.10~ 2022.3	2 nd Year 2022.4~ 2023.3	3 rd Year 2023.4~ 2024.3	4 th Year 2024.4~ 2025.3	5 th Year 2025.4~ 2026.3	Final Year 2026.4~ 2027.3	Total (Thousand yen)
Equipment	20,000	40,000	0	0	0	0	60,000
Materials/ Consumables	20,000	40,000	30,000	30,000	20,000	20,000	160,000
Travel	1,000	2,000	2,000	2,000	2,000	1,000	10,000
Personnel and Services (Number of Researchers)	6,000 (2)	12,000 (2)	12,000 (2)	12,000 (2)	12,000 (2)	6,000 (1)	60,000
Other	10,000	0	0	0	0	0	10,000
Total (Thousand yen)	57,000	94,000	44,000	44,000	34,000	27,000	300,000

Budgeted costs are itemized as follows:

Equipment: Cost for tangible properties with relatively expensive

Materials / Consumables: Cost for purchasing materials and consumables

Travel: Travel expenses of the Research Director or participants.

Personnel and Services: Personnel expenses and compensation for postdoctoral researchers, technicians, research assistants (RA), etc.

(Numbers of researchers):

The number of researchers, technicians, and research assistants who are newly employed for the proposed research project

Other: Costs other than the above (e.g., printing, equipment lease, freight costs, etc.)

Note

2. Research Budget plan by group on Japanese side

Propose a most suitable research team that is necessary and adequate for bringing the research idea of the research representative into reality. When a joint research group is organized, the group must be necessary and essential for bringing a research idea into reality and be able to make great contributions to achieving the research targets.

	1 st Year 2021.10~ 2022.3	2 nd Year 2022.4~ 2023.3	3 rd Year 2023.4~ 2024.3	4 th Year 2024.4~ 2025.3	5 th Year 2025.4~ 2026.3	Final Year 2026.4~ 2027.3	Total (Thousand yen)
Research Director's Group ○○○○ (**University)	20,000	40,000	25,000	25,000	20,000	15,000	145,000
Joint Research Group1 ○○○○ (**University)	20,000	30,000	10,000	10,000	5,000	5,000	80,000
Joint Research Group2 ○○○○ (**University)	17,000	24,000	9,000	9,000	9,000	7,000	75,000
Total (Thousand yen)	57,000	94,000	44,000	44,000	34,000	27,000	300,000

List of major equipment costing 10 million yen or more (item, estimated cost)

Example

*** Group

XXXXXX 15,000 Thousand Yen

XXXXXX 5,000 Thousand Yen

XXXXXX 10,000 Thousand Yen

*** Group

XXXXXX 7,000 Thousand Yen

XXXXXX 10,000 Thousand Yen

Research Budget (French side)

1. Research Budget Plan in Item (Entire Team on French side)

	1 st Year (-)	2 nd Year (-)	3 rd Year (-)	4 th Year (-)	5 th Year (-)	Final Year (-)	Requested funding (Thousand Euro)	Full Cost (Thousa nd Euro)
Personnel costs								
Materials/ Consumables								
Building and land costs								
Provision of services								
General costs								
Total (Thousand Euro)								

(Duplicate for each French partner)

Note

List of Achievements/Ex-Post Evaluation Results (Japanese side)
(Research Director : (Example)Taro Gijyutsu)

【author notation in English papers by the research director : (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 research director's name for publication [author notation in English papers by the research director]. When entering author(s) in 1. list of papers mentioned later, abbreviation to, for example, T. Gijyutsu is acceptable.

1. Principal papers, books, and other publications related to this research proposal

-within 20 achievements

- *List a maximum of 20 principal papers, books, and other publications related to this research proposal, starting from the most recent to the past in reverse sequence of year of publication.*
- *Assign a serial number in front of a line. The number may be cited in the Project Description (form 3-1).*
- *Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.*

[items to be included]

Author (Enter all authors and underline the name of Research Director), title of published paper, journal, volume, page, publication year

2. Research papers/publications other than the above -within 20 achievements

- *In addition to 1 above, list a maximum of 20 principal papers, books, and other publications of the Research Director, starting from the most recent to the past in reverse sequence of year of publication.*
- *Assign a serial number in front of each line. However, the numbers should be sequential starting with "1. Principal papers, books, and other publications related to this research proposal" (for example, when 10 papers are cited for 1. "Principal papers, books, and other publications related to this research proposal" papers cited in this item 2. should begin with "11" followed by serial numbers.*
- *Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.*

[items to be included]

Author (Enter all authors and underline the name of Research Director), title of published paper, journal, volume, page, publication year

3. Ex-Post evaluation of research projects that the research applicant represented in other systems of competitive research funds

Enter in the table below a list of themes that the research director represented (restricted to those disclosed in 2016 and thereafter) and for which Ex-post evaluation is disclosed. Delete the table and enter “not applicable” if no relevant theme exists.

Number	Research Program	Research Project (Fiscal Year Implemented)	URL of website with Ex-post evaluation result *if the website contains many projects that are not those of yourself, write page numbers of your own projects to facilitate checking by evaluators.
1			
2			

List of Achievements/Ex-Post Evaluation Results (French Side)
(Research Director : (Example)Taro Gijyutsu)

【author notation in English papers by the research director : (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 research director's name for publication [author notation in English papers by the research director]. When entering author(s) in 1. list of papers mentioned later, abbreviation to, for example, T. Gijyutsu is acceptable.

1. Principal papers, books, and other publications related to this research proposal

-within 20 achievements

- *List a maximum of 20 principal papers, books, and other publications related to this research proposal, starting from the most recent to the past in reverse sequence of year of publication.*
- *Assign a serial number in front of a line. The number may be cited in the Project Description (form 3-1).*
- *Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.*

[items to be included]

Author (Enter all authors and underline the name of Research Director), title of published paper, journal, volume, page, publication year

2. Research papers/publications other than the above -within 20 achievements

- *In addition to 1 above, list a maximum of 20 principal papers, books, and other publications of the Research Director, starting from the most recent to the past in reverse sequence of year of publication.*
- *Assign a serial number in front of each line. However, the numbers should be sequential starting with "1. Principal papers, books, and other publications related to this research proposal" (for example, when 10 papers are cited for 1. "Principal papers, books, and other publications related to this research proposal" papers cited in this item 2. should begin with "11" followed by serial numbers.*
- *Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.*

[items to be included]

Author (Enter all authors and underline the name of Research Director), title of published paper, journal, volume, page, publication year

3. Ex-Post evaluation of research themes that the research applicant represented in other systems of competitive research funds

Enter in the table below a list of themes that the research director represented (restricted to those disclosed in 2016 and thereafter) and for which Ex-post evaluation is disclosed. Delete the table and enter “not applicable” if no relevant theme exists.

Number	Research Program	Research Project (Fiscal Year Implemented)	URL of website with Ex-post evaluation result *if the website contains many projects that are not those of yourself, write page numbers of your own projects to facilitate checking by evaluators.
1			
2			

List of Achievements (Lead Joint Researcher(s)) (Japanese side)

○ Joint Research Group 1

Lead Joint Researcher : (example) Taro Kagaku (○○University)

【author notation in English papers : (example) Taro Kagaku】

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 research director's name for publication [author notation in English papers]. When entering author(s) in 1. list of papers mentioned later, abbreviation to, for example, T. Kagaku is acceptable.

List of Achievements (Lead Joint Researcher 1) *within 10 achievements

- For each lead joint researcher, list a maximum of 10 principal papers, books, and other publications related to this research proposal, starting from the most recent to the past in reverse sequence of year of publication.
- Assign a serial number in front of a line. The number may be cited in the Project Description (form 3-1).
- Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.

[items to be included]

Author (Enter all authors and underline the name of Lead Joint Researcher), title of published paper, journal, volume, page, publication year

○ Joint Research Group 2

Lead Joint Researcher : (example) Hanako Kagaku (○○ University)

【author notation in English papers : (example) Hanako Kagaku】

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 research director's name for publication [author notation in English papers]. When entering author(s) in 1. list of papers mentioned later, abbreviation to, for example, T. Kagaku is acceptable.

List of Achievements (Lead Joint Researcher 2) *within 10 achievements

- For each lead joint researcher, list a maximum of 10 principal papers, books, and other publications related to this research proposal, starting from the most recent to the past in reverse sequence of year of publication.
- Assign a serial number in front of a line. The number may be cited in the Project Description (form 3-1).
- Items to be included for papers are as follows (books follow the same guidelines). The items should be placed freely in any order.

[items to be included]

Author (Enter all authors), title of published paper, journal, volume, page, publication year

List of Patents (Research Director and Lead Joint Researcher(s)) (Japanese Side)

Major Patents

List important patent applications of recent years that are related to this proposal. Do not exceed one page.

Please note; Patent number, Inventor's name, Title of invention, Name of applicant, Date of application, etc.

1. Research Director (Name (Affiliation))

2. Lead Joint Researcher

2.1 Joint Research Group 1 Lead Joint Researcher: Name (Affiliation)

2.2 Joint Research Group 2 Lead Joint Researcher: Name (Affiliation)

List of Patents (Research Director and Lead Joint Researcher(s)) (French Side)

Major Patents

List important patent applications of recent years that are related to this proposal. Do not exceed one page.

Please note; Patent number, Inventor's name, Title of invention, Name of applicant, Date of application, etc.

1. Research Director (Name (Affiliation))

2. Lead Joint Researcher

2.1 Joint Research Group 1 Lead Joint Researcher: Name (Affiliation)

2.2 Joint Research Group 2 Lead Joint Researcher: Name (Affiliation)

Information on Other Supports (Japanese Side)

Enter the research theme, research period, role, amount of research funds received, and effort for each research theme concerning competitive national funding programs (including CREST, PRESTO, ACT-X) or other research aids (including private foundations, overseas organizations) from which the research director or the lead joint researcher is receiving funds or for which an application is being or is planned to be made. Also see application guideline "8.3 Chapter 8 Key Points in Submitting Proposals."

Example

Research Director : Name (Affiliation)

No.	Program	Status	Title of Project (Name of Principal investigator)	Research Period	Role (Principal Investigat or or co- Principal Investigat or)	Research Fund Received (For entire period)		2021 FY Effort (%)
						(1) Allocated Budget (2) FY 2022 (planned) (3) FY 2021 (planned) (4) FY 2020	(Thousand yen/unit)	
-	CREST	Sub- mitted	Title of the proposed research project (Name of the Research Director)	2021.10 — 2027.3	Principal Investig ator	(1) (2) (3) ※ See also form 5- 2 "Research Director's Group"		See also Form 4-1
(1)	Grants-in-Aid for Scientific Research, Fundamental research (S)	Awar ded	Creating W by V (** **)	2019.4 — 2023.3	Principal Investig ator	(1) 100,000 (2) 50,000 (3) 25,000 (4) 5,000		20
(2)	ALCA, JST Strategic Basic Research Programs	Subm itted	Achieving high performance in X by Y (** **)	2020.9 — 2027.3	Co- Principal Investig ator	(1) 90,000 (2) 35,000 (3) 8,000 (4) -		
(3)				—		(1) (2) (3) (4)		-

[Notes]

- A proposal that was once adopted may be revoked if an entry differs from reality.
- We may ask for application and plan documents submitted to other systems when a proposal reaches the interview stage.
- Enter this proposed CREST theme first, followed by other research themes in a descending order of the amount of research funds (for the whole period, direct cost) the applicant receives.
- Add rows if needed.

[Notes for Description]

(1) Status

2021 (CREST- Joint call)

Enter one of the following.

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

(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 Investigator" in the research project

Enter the amount of the research fund of the team supervised by the Principal Investigator, 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 Investigator.

(4) Effort

Enter "ratio of time (%) necessary for conducting research relative to 100% for the whole work hours during the CREST research period (2021.10-2022.3) in fiscal year 2021 if adopted for CREST. 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 CREST and other themes that are entered as "Awarded" does not exceed 100%.

Lead Joint Researcher (1) : Name (Affiliation)

No.	Program	Status	Title of Project (Name of Principal investigator)	Research Period	Role (Principal Investigator or co-Principal Investigator)	Research Fund Received	2021 FY Effort (%)
						(1) Allocated Budget (For entire period) (2) FY 2022 (planned) (3) FY 2021 (planned) (4) FY 2020 (Thousand yen/unit)	
-	CREST	Submitted	<i>Title of the proposed research project (Name of the Research Director)</i>	2021.10 — 2027.3	Co-Principal Researcher	(1) (2) (3) (4) <i>*See also Form 5 " Joint Research Group 1"</i>	See also Form 4-2
(1)	Health and Labor Sciences Research Grants	Awarded	Deployment for Z (** **)	2019.9 — 2023.3	Principal Researcher	(1) 50,000 (2) 20,000 (3) 20,000 (4) 5,000	10
(2)				—		(1) (2) (3) (4)	

2021 (CREST- Joint call)

(3)				—		(1) (2) (3) (4)	
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Lead Joint Researcher (2) : Name (Affiliation)

No.	Program	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 2022 (planned) (3) FY 2021 (planned) (4) FY 2020 (Thousand yen/unit)	2021 FY Effort (%)
-	CREST	Submitted	<i>Title of the proposed research project (Name of the Research Director)</i>	2021.10 — 2027.3	Co-Principal Researcher	(1) (2) (3) (4) <i>*See also Form 5 "</i> <i>Joint Research Group 1</i>	See also Form 4-2
(1)	X Foundation/Y Research grant	Awarded	Challenging research in the field of Y (***)	2019.4 — 2021.3	Principal Investigator	(1) 2,000 (2) 0 (3) 1,000 (4) 1,000	15
(2)				—		(1) (2) (3) (4)	

Protection of Human Rights and Compliance with Laws and Regulations (Japanese Side)

It is confirmed that laws and guidelines to be complied with have been understood and drawn up for this research plan. Furthermore, we confirm that laws and guidelines will be complied with in implementing this plan.

(Examples of laws and guidelines to be followed)

■ “Guidelines for handling dishonest conduct in research activities” (decision by Minister of Education, Culture, Sports, Science and Technology, August 26, 2014, including succeeding revisions)

■ “Guidelines for management and audit of public research fund by research organizations (criteria for implementation), put in effect on February 18, 2007”/revision decided by the Minister of Education, Culture, Sports, Science and Technology, including succeeding revisions”

■ Concerning control for trade security (dealing with technology leaks to overseas parties), foreign exchange and foreign exchange law, laws, ministerial ordinances, and official notices set out by ministries to prevent the results of advanced research from being passed to those who are suspected to conduct activities including applications for military purposes, such as those who develop weapons for mass destruction or terrorist groups

■ Laws of related countries when conducting research overseas (including taking out biological resources) or joint research with an overseas research organization

■ As for research in life science, laws, ministerial ordinances, and ethical guidelines set out by ministries for life ethics and security

(Enter a check mark in the box when confirmed)

Confirmed.

(by Research Director on Japanese side)

Proposal Preparation Checklist (mainly for Japanese side)

※This checklist should be deleted in submission※

○ Deadline for Submission

Immediately before the deadline, e-Rad may suffer high system burden. As a result, the application may take a long time, and troubles, including the failure to complete the application, may occur. Try to complete the application well in advance.

○ Forms

Check the proposal documents for possible omissions before submission. A proposal application may not be accepted if relevant forms have been filled out incorrectly.

	Item	Main Check Point	Check Column
	Input of general information on the applicant to e-Rad	All necessary information is provided. File sizes should not exceed 3MB in total in PDF format.	<input type="checkbox"/>
Form 1	Cover of research proposal documents	All necessary information is provided. Information is matched with e-Rad data. The form 1 is within two pages when converted PDF	<input type="checkbox"/>
Form 2-1	Research Proposal Overview	When converted to PDF format, the form 2-1 is no more than two pages long? 10.5 point or larger font?	<input type="checkbox"/>
Form 2-2	Major Achievements of the Research Director	The form 2-2 is within four pages when converted PDF	<input type="checkbox"/>
Form 3-1	Project Description	The form 3-1 is within six pages when converted PDF.	<input type="checkbox"/>
Form 3-2	Project Organization and Research Schedule	The form 3-2 is within two pages when converted PDF.	<input type="checkbox"/>
Form 4-1	Research Project Organization 1 (within two pages)	All necessary information is given (Particularly, effort is provided). the form 4-1 is within two pages when converted PDF.	<input type="checkbox"/>
Form 4-2	Research Project Organization 2 (within two pages for each group)	All necessary information is given. The form 4-2 is within two pages for each collaborative group when converted PDF.	<input type="checkbox"/>
Form 5	Research Budget	Total Sum is matched with the research budget given in Form 1.	<input type="checkbox"/>
Form 6	List of Achievements (Research Director) / Ex-Post Evaluation Results (Research Director)	The number of principal achievements listed is no more than 20. The number of the other achievements listed is also no more than 20.	<input type="checkbox"/>
Form 7	List of Achievements (Lead Joint Researcher(s))	The number of achievements listed is no more than 10 for each lead joint researcher.	<input type="checkbox"/>
Form 8	List of Patents (Research Director & Lead Joint Researcher)	The Form 8 is around one page.	<input type="checkbox"/>
Form 9	Information on Other Supports	All necessary information is given.	<input type="checkbox"/>
Form 10	Protection of Human Rights and Compliance with Laws and Regulations	The column is already checked.	<input type="checkbox"/>