



# Canada – Japan 3+2 collaborative call for proposals on AI-based solutions for well-being, better living environments, and social connection for aging populations

## 1. Introduction

Working together, the governments of Canada and Japan aim to foster and support collaborative industrial research and development (R&D) projects with a high potential for commercialization. This call for proposals is open to organizations from Canada and Japan who wish to form project consortia for collaborative projects focussed on developing AI-based solutions for well-being, better living environments, and social connection for aging populations.

## 2. Application deadlines

<b>January 10, 2023</b>	Canadian registration deadline
<b>January 23, 2023</b>	Canadian Expression of Interest deadline
<b>April 3, 2023</b>	International Consortium Project Proposal deadline Japanese application deadline (e-Rad)

## 3. Sectors of focus

Projects must be focused on the development of pre-commercial technologies that address an identified need in the area of utilizing **AI-based solutions to improve well-being, living environments, and social connection, in particular in the context of an aging population.**

Preference will be given to technologies which uses **AI-based solutions for healthy aging in a life-course perspective.**

AI based technologies should be a significant component in the development and/or design of the healthy aging solution.

Projects are encouraged to focus on, but are not limited to, the following AI-based technologies themes:

- Supporting integrated decision-making for safe and injury-free living.
- Advanced assistive technologies to enhance social connection and interaction to support activities of daily living and help aging adults to maintain their independence and/or reduce caregiver burden associated with tasks of care. (Including robotics)
- Health and safety monitoring which will lead to predictions of adverse events and should be linked to interventions supporting knowledge/awareness of risk factors and change.
- Frailty detection and prediction linked to interventions supporting knowledge/awareness of risk factors and change
- Reducing computational time for experiments and to reduce the need of human input.
- Identification of risk factors and detection of early-stage dementia, long-COVID and delirium.
- Enabling self-actualization and connection for aging society (i.e. developing a realistic metaverse)



- Older adult's mobility (i.e. last mile solutions, door-to-door transportation) to increase well-being and reduce caregiver burden.

## 4. Eligibility requirements

To be considered for funding, applicants must form a project consortium and develop a collaborative R&D project that meets the following criteria:

### 4.1 Consortium

1. The **project consortium must include** a minimum of five (5) participants (three (3) Canadian and two (2) Japan participants)\*:
  - Canadian participants
    - i. One (1) incorporated Canadian small or medium-sized enterprise (SME), defined as a for-profit company with 500 or fewer full-time equivalent employees
    - ii. One (1) researcher from the National Research Council of Canada who will be undertaking project research activities through the NRC's [Aging in Place Challenge Program](#) or the NRC's [AI for Design Challenge Program](#)
    - iii. One (1) Canadian research institution (e.g., post-secondary institution, research and technology organization)
  - Japanese participants
    - i. One (1) Japan commercial enterprise
    - ii. One (1) Japan research institution

\*The participants listed above must be unrelated parties (i.e. there must be no direct, indirect, beneficial or constructive ownership interest between these parties)
2. The **project partners** that form the consortium must agree on a plan addressing intellectual property rights and intent to commercialize.

\*For Canadian SME's with co-innovation project opportunities with Japanese corporations that do not align with the project consortium structure, please contact the NRC IRAP Japan National Program Coordinator, [Harvey.Lam@nrc-cnrc.gc.ca](mailto:Harvey.Lam@nrc-cnrc.gc.ca), for future opportunities that are in development.

### 4.2 Project

- The **project must focus on co-development, adaptation, and/or validation of an innovative product, process, or technology-based service** that has:
  - Advances the objectives of the NRC's [Aging in Place Challenge Program](#) or the NRC's [AI for Design Challenge Program](#)
  - substantial commercial potential and outcomes that can be realized within 2-3 years of completion of the project
  - a civilian (non-military) purpose
- The project must demonstrate:
  - a complementary technological contribution from each partner
  - an obvious advantage and added value resulting from the cooperation between the participants
  - a balanced contribution between project partners and countries (with no more than 75% of the effort contributed by any one partner or country)



- an increase in the international competitiveness of Japanese and Canadian partners, including the development of market potential

In addition to the above eligibility requirements, each applicant must meet their country-specific requirements, outlined below:

### 4.3 Canadian eligibility requirements

Canadian applicant(s) must also meet the following criteria.

#### Canadian SMEs

The Canadian SME applicant must:

- be an incorporated, profit-oriented small or medium-sized business in Canada
- have 500 or fewer full-time equivalent employees
- pursue growth and profit by developing and commercializing innovative, technology-driven new or improved products, services or processes in Canada
- have a differentiated and protectable technology that could become competitive in global markets
- have sufficient working capital and resources to undertake a multi-year R&D collaboration and commercialize the results
- be committed to significant growth through international market expansion

Preference may be given to SME applicants who:

- have a minimum of 15 full-time equivalent employees
- have commercialized one or more products domestically or internationally
- have greater than \$500,000 CAD in annual revenue

#### Canadian Research Institutions

- eligible recipients are Canadian research institutions (e.g., post-secondary institutions, research and technology organizations)
- eligible institutions must perform collaborative research and development and/or prototype development which supports research, development, adoption and/or adaptation of innovative or technology-driven products, services or processes

#### NRC Researchers

- NRC researchers' project-related work must support the advancement of NRC's [Aging in Place Challenge Program](#) or the NRC's [AI for Design Challenge Program](#).

### 4.4 Japan eligibility requirements

Any independent researcher personally affiliated with and actively conducting research at a domestic Japanese research institution (or who would fulfil this requirement by the start of the research project), regardless of nationality, is eligible to apply.

Note: "Domestic Japanese research institution" in Japan refers to universities, independent administrative institutions, national/public testing and Research Institutions, specially authorized corporations, public-service corporations and enterprises, etc. that must satisfy pre-determined requirements designated by MEXT. Please refer to the MEXT homepage for more information:



[https://www.mext.go.jp/a\\_menu/kansa/houkoku/1324571.htm](https://www.mext.go.jp/a_menu/kansa/houkoku/1324571.htm) (in Japanese only)

## 5. Funding

Eligible project participants in collaborative projects selected through this call for proposals may receive funding from their respective national funding bodies. Funds will be provided in accordance with the applicable laws, regulations, rules, and procedures established by the relevant national funding bodies, country, and jurisdiction.

**NOTE:** One country and/or project partner cannot represent more than 75% of the total project budget and the project duration must be between 24 and 36 months. All projects must start by November 2023 and end no later than March 2027.

Additional country-specific funding parameters are outlined below:

### 5.1 Canadian funding

In Canada, this call for proposals is offered through the National Research Council of Canada (NRC), the NRC Industrial Research Assistance Program (NRC IRAP) and through the NRC National Program Office. NRC IRAP is responsible for the delivery of this call for proposals and for the management of any resulting SME funding agreements. The NRC National Program Office is responsible for the management of any resulting funding agreements with research institutions.

#### Canadian SMEs

Eligible Canadian SMEs may receive up to 50% reimbursement of eligible project costs up to a maximum total funding amount of \$600,000 CAD.

**NOTE: Canadian SME applicants must be eligible for funding as NRC IRAP clients before they can be considered for funding through this call for proposals. For more information on NRC IRAP eligibility and becoming an NRC IRAP client, please contact NRC IRAP at 1-877-994-4727.**

**Note:** Canadian SME applicants may apply to more than one NRC IRAP call for proposals simultaneously. However, NRC IRAP may limit the number of funded projects per applicant. Canadian SME applicants who are applying to more than one opportunity or who have ongoing NRC IRAP projects should speak to their NRC IRAP representative for more information.

#### Canadian Research Institutions

Eligible Canadian research institutions may receive funding of up to 100% of eligible costs up to a maximum of \$100,000 CAD per year. Indirect (i.e. overhead) costs may represent up to 10% of total eligible project costs.

Eligible direct costs include salaries (excluding academic principal investigator salaries); research support costs (including student stipends, research materials and minor equipment purchases up to \$10,000); travel and accommodation costs; and professional services (amounts invoiced by a contractor for services rendered directly to the project).



## NRC Researchers

NRC Researchers may request up to \$100,000 CAD per year to cover incremental operating costs. Eligible operational costs include research related expenses such as: student research staff salaries or stipends (e.g., students or post-doctoral fellows), consumables, minor capital acquisitions, workshops, consortium in-person meeting coordination expenses, and travel.

NRC Research Centres will be expected to provide in-kind contributions that match or exceed the amount of funding received through this call for proposals, i.e. if \$100,000 CAD funding is awarded for the project, the Research Centre must provide at least \$50,000 CAD worth of in-kind contribution for a total minimum project contribution value of \$200,000 CAD.

**NOTE:** Please contact the NRC challenge officer to determine if the proposed project is in alignment with NRC's [Aging in Place Challenge Program](#) or the NRC's [AI for Design Challenge Program](#).

## 5.2 Japan funding

In Japan, this call for proposals is administered by Japan Science and Technology Agency (JST). JST is responsible for the delivery of this call for proposals and the management of any resulting funding agreements.

### Type of financing

The funding amount will be up to 58.5 million Japanese yen per project (including 30% overhead expenses): approximately 19.5 million Japanese yen per project per year. The project period is usually for 36 months.

JST expects Japan-based commercial companies to cover at least 50% of project related costs through their own contribution. All of the eligible costs can be calculated in the project-related costs, including personal costs and equipment cost.

Please refer to JST website for further information

[JST website](#)

### Expenditure/costs eligible for funding

The following expenditure/costs will be eligible for funding:

(a) Eligible direct costs

In principle, eligible direct costs are those costs directly necessary for accomplishing the research, indicated below. Please refer to the guidance documents available at the following link for further details of eligible direct costs (available in Japanese only).

<https://www.jst.go.jp/inter/research/contract/contract.html>

- (a-1) Facilities, Equipment and Consumables: costs of research equipment, spare parts, prototypes, software (in-line products) and purchase of books, reagents, materials and consumables.



Only for commercial companies: Equipment costs are not eligible. Equipment includes facilities for which the estimated usable period is more than a year and acquisition price is more than 500 thousand yen.

- (a-2) Travel Expenses: costs and associated living expenses of the project members registered in the project plan, and costs of inviting external experts.
- (a-3) Personnel costs: costs of the researchers, temporary staff, post-docs, etc., who are hired for the research and other costs such as honoraria for invited lecturers.  
Only for commercial companies: Personnel costs are not eligible.
- (a-4) Others: costs for the organization of small scientific events in Japan including rental costs for the venue, food & beverage (excluding alcohol) costs and other costs which are deemed to be necessary for organizing the events.

(b) Eligible indirect costs

Please refer to the following link for the provisions regarding indirect costs:

<https://www8.cao.go.jp/cstp/compefund/shishin2.pdf>

## 6. Application process

Application processes and evaluations will be performed independently by national funding bodies in accordance with their national and institutional laws and regulations. Once the national funding bodies have evaluated the submitted applications, a final joint project selection will be performed.

**Each country lead participant** must submit all required consortium application documents on behalf of the consortium, to the appropriate national funding body (NRC IRAP for Canada and JST for Japan) and meet its due diligence process requirements.

Not meeting these requirements may cause the collaborative project application to be considered incomplete or ineligible and render the entire project consortium ineligible for funding through this call for proposals.

Information on respective application processes follows below:

### 6.1 Canadian application process

The Canadian application process has four phases:

1. Registration
2. Expression of Interest (EOI)
3. International Consortium Project Proposal (ICPP)
4. National Funding Body Proposal and Funding Agreement

#### Step 1: Registration phase

The lead Canadian applicant must register electronically by using the *REGISTER* button (at NRC website: <https://nrc.canada.ca/en/irap/about/international/>) and completing the online registration form which requests basic information about the Canadian applicants and their organizations.

NRC IRAP will review registrations for this call for proposals and contact applicants if more information is required. Qualifying applicants will proceed to the next phase and be invited to submit an Expression of Interest (EOI) form.



## Step 2: Expression of interest phase

During this phase, the lead Canadian applicant seeking funding must submit an EOI form outlining basic information on the applicants and the collaborative project.

While completing the EOI form, each Canadian SME applicant is encouraged to contact their NRC IRAP representative to discuss their project idea and to receive guidance on preparing their submission.

Canadian research institutions must have their project idea approved by NRC's [Aging in Place Challenge Program](#) or the NRC's [AI for Design Challenge Program](#) director prior to application submission. Research institutions are encouraged to contact the NRC Challenge Officer to discuss their project idea and to receive guidance on preparing their submission.

It is recommended that applicants submit the EOI as early as possible. EOIs will be evaluated by an NRC evaluation team. Qualifying applicants will be invited to submit the more detailed international consortium project proposal (ICPP) in collaboration with their project partners. The lead Canadian applicant will be provided all templates needed to submit an ICPP.

## Step 3: International Consortium Project Proposal phase

During the International Consortium Project Proposal (ICPP) phase, all project partners work together to complete and submit an application package to each lead national call administrator. The contents of the ICPP package are unique to each national call administrator.

In this call for proposals, the Canadian ICPP application package consists of:

1. **International Consortium Project Proposal (ICPP)/Joint Application** form outlining the:
  - project consortium,
  - collaborative project,
  - expected outcomes, and
  - funding request
2. **NRC IRAP Canadian SME Annex** form containing additional information required to assess the Canadian SME applicants and the project consortium
3. **NRC NPO Canadian Researcher Annex** form containing additional information required to assess the Canadian researcher applicants and the project consortium

Canadian ICPP applications will be evaluated by an NRC evaluation team including the applicant's NRC IRAP representative, the NRC National Program Office and the NRC IRAP International Office. Next, the amalgamated evaluation results will be shared between national funding bodies to jointly select the collaborative projects that will be invited to proceed to the final national funding body proposal and funding agreement stage.

## Step 4: National Funding Body Proposal and Funding Agreement Phase

During the national funding body proposal and funding agreement phase, all eligible project partners work independently to complete funding proposals and sign legally binding funding agreements with their respective national funding body.

Additionally, during this phase an International Consortium Agreement must be prepared that contains descriptions of the consortium member roles and responsibilities, the project management framework, the division of intellectual property rights, any confidentiality and publication agreements, and any liability clauses. The agreement must be signed by all consortium partners and submitted before funding is approved.



Canadian SME applicants will work with their NRC IRAP representative to prepare an NRC IRAP funding proposal and contribution agreement. Canadian research institutions will work with the NRC National Program Office to prepare a funding proposal and contribution agreement.

For further application instructions and guidance, Please refer to NRC website

[NRC website](#)

## 6.2 Japan application process

Each Japanese consortium project partner must submit all required documents by **17:00 JST on April 3, 2023** to the Cross-Ministerial R&D Management system (e-Rad) portal.

- Application documents by the Japan-based researcher should be submitted through the Cross-Ministerial R&D Management system (e-Rad) : <https://www.e-rad.go.jp/index.html>
- Complete a research ethics training program conducted by the research institute with which they are affiliated and then declare the completion of the program to JST by the deadline of the call for proposals. If it is difficult for them to undertake a program provided by their own institute, they should contact JST to register for a research ethics program provided by eAPRIN (formerly known as CITI Japan). Unless applicants complete a research ethics program, their application will be deemed ineligible for funding.

For further application instructions and guidance, Please refer to JST website

[JST website](#)

## 7. Contacts

For questions or for more information, please contact the appropriate call for proposals representative listed below:

### 7.1 Canadian contacts

#### Small and medium-sized enterprises

Harvey Lam

NRC IRAP Japan National Program Coordinator

National Research Council of Canada Industrial Research Assistance Program

[Harvey.Lam@nrc-cnrc.gc.ca](mailto:Harvey.Lam@nrc-cnrc.gc.ca)

#### Research institutions and NRC researchers

Joel Savard

Challenge Officer, National Program Office

National Research Council of Canada

[NRC.3plus2-3plus2.cnrc@nrc-cnrc.gc.ca](mailto:NRC.3plus2-3plus2.cnrc@nrc-cnrc.gc.ca)





National Research Council Canada    Conseil national de recherches Canada



## 7.2 Japan contact

Shiho Hashimoto  
Chief, Department of International Affairs  
Japan Science and Technology Agency  
[jointca@jst.go.jp](mailto:jointca@jst.go.jp)

## 8. Registration for Canadian applicants

Canadian SME participants are registered IRAP clients. If not already an IRAP client, Canadian SMEs must contact 1-877-994-4727 to determine if they might be eligible for support through the NRC Industrial Research Assistance Program.

To begin the application process, the lead Canadian applicant must register for this opportunity. Please refer NRC website: <https://nrc.canada.ca/en/irap/about/international/>