

Deep Space Healthcare Challenge: Application form

Canadian Space Agency

Thank you for applying for the Deep Space Healthcare Challenge!

Please read the Applicant Guide for Stage 1 in full, to assist you in filling out this form. It should be noted that the Applicant Guide contains very important and mandatory background information on eligibility to receive prizes and on the evaluation criteria from which submissions will be judged.

You must answer all fields as indicated and complete all three mandatory sections of the application form. Your application may not be considered if it is incomplete. The survey (Section 4) is optional.

Note: You will be able to save your application form and continue at a later time.

All applications must be received no later than February 1, 2022 at 9:00 PM Eastern Time. Entries received after this time will not be accepted.

Section 1: Applicant Details

1.1 Title of your proposed solution
(may be made public)

1.2 Describe your solution in one sentence using clear and simple language (written to a non-technical audience, may be made public)

Limit of 200 characters

1.3 Lead Organization/Group: Enter the information of the organization that is leading the solution and which will receive prize funding if the solution is successful in the challenge

1.3.1 Organization Name

1.3.2 Full Legal Name of Organization/Group (if incorporated)

1.3.3 Street Address

1.3.4 City

1.3.5 Province

- Alberta
- British Columbia
- Manitoba
- New Brunswick
- Newfoundland and Labrador
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon

1.3.6 Country

1.3.7 Postal Code

1.3.8 Mailing Address (if different than address above)

1.3.9 Business E-mail

1.3.10 Business phone number

1.3.11 Organization/Group website URL (if available)

1.4 Confirm the applicant category that applies to you:

- Businesses or other for-profit organizations incorporated in Canada;
- Not-for-profit organizations incorporated in Canada;
- Post-secondary/academic institutions located in Canada;
- Indigenous organizations and groups located in Canada;
- Individuals or groups (non-incorporated) based in Canada;

1.5 Are you an incorporated organization in Canada, including a business, not-for-profit or academic institution?

Yes

No

1.5.1 Please confirm that you are willing to incorporate in order to receive financial prizes for the Challenge

Yes

No

1.5.2 CRA Registration Number for Businesses, Charities or Not-for-Profit Organizations

Please only include your nine-digit Business Number (BN): It is a unique number the Canada Revenue Agency (CRA) assigns as a tax ID and is used when dealing with federal, provincial, or local governments. Visit [this link](#) for more information. If you're an academic organization, please include the BN of the entity (e.g. research centre, lab, etc.) that will receive prize funding if the solution is successful in the challenge.

1.6 Contact Person for the Team:

1.6.1 Full Name

1.6.2 Job Title

1.6.3 Organization

1.6.4 E-mail Address

1.6.5 Telephone Number (xxx-xxx-xxxx)

1.6.6 Preferred language of communication

English

French

1.7 [Optional] Additional Contact Persons (maximum 2)

Full Name

Job Title

Organization

E-mail

1.8 If you are collaborating with other organizations to develop your solution, list them below and briefly indicate their role in the solution development process, if applicable

(maximum 10)

Organization

Role

Section 2: Proposed Solution Details

2.1 Design Abstract

This is your elevator pitch to describe your solution to the Judging Panel members. This is your opportunity to make a strong first impression, so make every word count! Provide a brief summary description of your solution to address the following questions: What is your proposed technology? How is your technology relevant to space and to remote communities? How does your technology increase the autonomy of remote healthcare providers? What type of medical condition(s) does your technology support detection/diagnosis for? What is novel and innovative about your proposed technology?(Limit of 1500 characters)

2.2 Design Report

2.2.1 Description of the proposed solution Describe what the technology is, what it does, how it functions, and how the practitioner will interact with it. Include descriptions of major software/hardware components and processes. (Limit of 3000 characters)

2.2.2 Describe the basic operational needs of the technology

Describe assumptions required for operation. For example: Is there a specific skill set needed to use this technology? Is a sterile/aseptic environment needed? What inputs are required? To what extent does it interface with centralized data infrastructure and/or peripheral technologies? What other technologies are required for operation?(Limit of 3000 characters)

2.3 Describe how the solution addresses the following criteria

2.3.1 RELEVANCE FOR REMOTE TERRESTRIAL CONTEXT In which priority area for remote communities (table 1, Applicant Guide) will the solution primarily provide support? Briefly describe the relevance of the solution to this area. NOTE: The medical condition categories shown in the Application Guide are not exhaustive. If your technology provides support for detection or diagnosis of a different medical issue, please specify, and justify why this condition is of importance for remote communities. (Limit of 1500 characters)

If the solution has the potential to address or significantly impact one or more additional areas of concern, list them below and describe the impact it will have, including current and future degree of relevance to this/these area(s). (Limit of 1500 characters)

2.3.2 RELEVANCE FOR SPACE

Which medical condition expected to occur in space (table 2, Applicant Guide) does the solution have the potential to help detect or diagnose? What is the plan and timeline for being able to support the detection and diagnosis of the primary listed condition? (Limit of 1500 characters)

If the solution has the potential to address or significantly impact one or more additional medical conditions from the list, identify them below and describe the impact it will have, including the degree of relevance to this/these area(s). (Limit of 1500 characters)

2.3.3 ADAPTABILITY FOR SPACE

Does the solution currently meet the technical constraints outlined in the Applicant Guide (table 3)? If so, briefly explain how, and if not, explain which constraints are not being met, and provide an assessment (using industry standards and existing research) on how they will be met within the next 5 years. (Limit of 1500 characters)

2.3.4 INNOVATION

Describe what makes the solution novel and innovative. How does it introduce new ideas or methods and/or open new opportunities in the remote healthcare sector? (Limit of 3000 characters)

2.3.5 EFFECTIVENESS

Describe the effectiveness of the solution for its given application. You should include: The gold-standard tool to which it compares How the sensitivity and specificity compare to this gold-standard Preliminary data, if applicable Relevant research findings, if applicable (Limit of 3000 characters)

2.3.6. AUTONOMY - Healthcare provider

Describe how the solution increases the autonomy of the remote healthcare provider. You may include: Quality of outputs provided to the practitioner How frontline practitioners are enabled to make more informed decisions How reliance on medical experts to provide required healthcare assistance is minimized Reduction in specialized skills required for use Solution's potential to support practitioners in keeping patients within their communities (Limit of 3000 characters)

2.3.7 AUTONOMY - Connectivity

Describe the solution's capacity to operate in situations with no/low connectivity. You may include: Supporting infrastructure and interfaces required Difference in operation when full connectivity is available, if applicable Data transfer capabilities during periods of connectivity Ability to manage unreliable or intermittent network connectivity (Limit of 3000 characters)

2.3.8 ADOPTION POTENTIAL

Briefly describe a long-term business plan that will ensure commercial success of your solution. You may include: Target markets and applications in short and long term Potential barriers expected on the path to commercialization and adoption Regulatory concerns or potential hurdles Experience of team with the commercialization process (Limit of 3000 characters)

2.3.9 CONTEXT SENSITIVITY

Describe how the unique challenges and physical constraints experienced in providing healthcare in remote communities will be supported by the solution. How does the design reflect the unique context of these communities, which would include challenges such as: Limited space and storage Temperature variability Ability to resupply Minimal staffing and resources Practitioner turnover (Limit of 2000 characters)

2.3.10 EASE-OF-USE

Describe a typical use-case for this solution. Please ensure to include: Where the solution is located/used Level of training needed for a typical operator, including initial training and skill maintenance requirements Setup and cleanup procedure Time needed for procedure, if applicable Timeliness of results (Limit of 3000 characters)

2.3.11 RELIABILITY

Describe how the solution will reliably perform its intended function in conditions outside of the urban setting. Please include information on: Resistance to power/data interruptions Physical robustness Maintenance parameters, including the time, training and resources required for ongoing maintenance, and the level of expertise required to do so. (Limit of 3000 characters)

2.4 Supporting material

2.4.1 Include any visual representations of the technology or the process, which may include models, schematics, drawings or process charts. (Maximum five (5) 8.5" x 11" pages; 16MB, PDF)

2.4.2 [Optional] Include any preliminary data or calculations that support the design and operation of the diagnostic or detection technology. (Maximum two (2) 8.5" x 11" pages; 16MB; PDF)

2.4.3 Intellectual Property

Who owns the intellectual property of the proposed solution? Explain, taking into account the context of your organization. Is the solution built on existing or off-the-shelf technology protected by intellectual property (e.g. patents, copyrights, trade secret, etc.)? If so, detail the permissions (if applicable) you have to use that technology. (Limit of 2000 characters)

Certification

I certify that the Applicant and my Team members have all the rights/permissions for using the intellectual property for the proposed diagnostic or detection technology, as part of this challenge

Section 3: Declaration

3.1 As Primary Contact for my Team, I confirm that I represent the Applicant and my Team when completing the following section, and that the Duly Authorized Representative of my organization is supportive of our submission (if applicable).*

Yes

No

3.2 As Primary Contact and on behalf of the Applicant and my Team, I confirm that I have read and accepted the terms and conditions contained in the Applicant Guide.

Yes

No

3.3 I acknowledge that by submitting this challenge application form I agree to the text below.

Yes

No

Use and/or Disclosure

The personal and/or business information in, accompanying and/or submitted in support of this application is being collected under the authority of the Canadian Space Agency Act and, by applying to the Challenge, Applicants agree that such information, may be used by CSA, or disclosed to third parties including other Government Departments and members of the Jury Panel, to:

assess and review the eligibility of the Applicant and the Solution under the applicable CSA program;

verify the accuracy of the information provided in or with the application form and additional documents;

assess the efficiency of the challenge model in furthering departmental priorities; and
assess how well the initiative contributed to CSA program objectives.

The Applicant consents that the information may also be used for the purposes of: contacting you should additional information be required; validating your credentials; signing a grant agreement; facilitating payment of the grant in the event your application is successful; program administration; and evaluation, reporting, and statistical analysis.

The information collected under the application form of the Impact Canada Deep Space Healthcare Challenge will be stored and protected in the personal information bank of CSA (ASC PPU 045). Personal information will be treated and disclosed in accordance with the Privacy Act. You have the right to access your personal information held by the Canadian Space Agency and to request changes to correct personal information by contacting CSA Access to Information and Privacy Director at asc.aiprp-atip.csa@canada.ca.

Business information will be disclosed only in accordance with the provisions of the Access to Information Act.

Information on the Privacy Act and the Access to Information Act is available at the following website: <http://laws.justice.gc.ca>. For further information about these Acts please contact the Access to Information and Privacy Director at asc.aiprp-atip.csa@canada.ca.

Copyright permission

CSA may disclose, reproduce and distribute any part of or the whole of the documentation provided in or with this Application Form, within CSA and to its authorized third parties, including other Government Departments, for purposes consistent with the receipt, assessment and subsequent treatment of the Application .Applicant warrants that CSA is not breaching any intellectual property rights of the Applicant, Team members or any third parties by conducting such activities.

Section 4: Survey [Optional]

Thank you for taking the time to complete this short survey about your recent experience as an applicant to an Impact Canada challenge.

The purpose of this survey is to gather your insights as an applicant to help us improve the design of future challenges so that they can more effectively stimulate innovation.

This survey is confidential. The data collected in this survey will be aggregated to help us understand what works in a challenge, and what to improve in future challenge design. No individual answers will be published. Your answers to this survey will not be used in the assessment process and will not affect your chances of success in this challenge or any other federal funding application.

4.1 How did you first hear about the challenge?

- News outlets/news websites
- E-mail announcement of the challenge
- Social media posts by government
- Direct contact from government representative via social media, e-mail or others
- Networks related to the subject matter of the challenge (e.g. food waste)
- Networks related to innovation or entrepreneurship
- Impact Canada website
- Other

Please specify

4.2 Indicate the importance of each of the following incentives in motivating you to participate in the challenge.

	Importance			
	Not Important	Somewhat	Somewhat Important	Important
The chance to work on a tough problem or something I care about	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The chance to test out a new idea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The grand prize/final prize	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any financial support/grants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to facilities or equipment (labs, testing facilities, industrial assistance, etc...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentoring and skills development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chance to meet/network with experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to build collaborative partnerships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recognition of achievement by the government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Media exposure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other incentive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.3 Prior to the launch of this Challenge, were you working in the same sector/domain as the Challenge problem area?

Yes

No

4.4 Have you been working on your solution prior to the launch of this Challenge?

Yes

No

4.4.1 Did you make changes/improvements to your solution in order to apply to this Challenge?

Yes

No

4.5 Was your challenge team exclusively created to participate in this Challenge?

Yes

No

4.5.1 Did the Challenge launch affect the composition of your team?

Yes

No

4.6 Did the challenge launch encourage you to create new partnerships with other organizations or individuals?

Yes

No

4.7 In the past, have you applied to other Impact Canada challenges (other than this Challenge)?

Yes

No

4.8 Other than Impact Canada challenges, have you ever applied for a Government of Canada grant or contribution program?

Yes

No

4.8.1 Relative to your experience with other Government of Canada funding applications, how easy or difficult did you find the challenge application?

A lot easier

Somewhat easier

About the same

Somewhat more difficult

A lot more difficult

Not applicable

4.8.2 Approximately how many grants or contributions have you received from the Government of Canada over the past five years?

None

1 or 2

3 to 5

More than 5

4.8.3 Approximately what was the total aggregate value of the grants and contributions you have received from the Government of Canada over the past five years?

- less than \$10,000
- between \$10,001 and \$50,000
- between \$50,001 and \$150,000
- between \$150,001 and \$300,000
- between \$300,001 and \$500,000
- between \$500,001 and \$1,000,000
- over \$1,000,001
- don't know

The following questions will help us to better interpret your responses to this survey. Rest assured that any data collected will strictly be used to help us understand whether and how challenges are an effective tool, and to help us improve upon their design in the future. No information that could potentially identify you or your responses to this survey will be released.

4.9 Where are you based?

- Canada
- International (outside Canada)

4.9.1 What is the postal code for your business headquarters? (May be used to track geographic distribution of applicants with respect to urban, rural and remote populations)

4.10 Is your entire challenge team based in the same geographical area?

- Yes, all team members are based in the same geographical area

- No, team members are spread out across Canada
- No, team members are spread out across Canada and internationally

4.11 Confirm the applicant category that applies to you:

- Businesses or other for-profit organizations;
- Not-for-profit organizations;
- Post-secondary/academic institutions;
- Indigenous organizations and groups (e.g. First Nation band, Tribal Council or community under a Self-Government Agreement, Comprehensive Land Claim Agreement or the Métis Nation);
- Individuals or groups (non-incorporated);
- Government organization (federal, provincial/territorial, regional or municipal)
- Public utility

4.11.1 Please confirm your CRA registration number.

4.12 What is the size of your organization?

- 1 to 4 paid employees
- 5 to 9 paid employees
- 10 to 19 paid employees
- 20 to 99 paid employees
- 100 to 499 paid employees
- Over 500 paid employees
- Prefer not to answer/do not know

4.13 Is your business majority (i.e. over 50%) owned by individuals who self-identify as:

- Women
- Men
- Non-binary, gender fluid or two-spirit
- Prefer not to answer/do not know
- Other

Please specify

4.14 Is your business majority (i.e. over 50%) owned by individuals who self-identify as youth:

- Yes, Youth (30 years old or under)
- No, not Youth (above 30 years old)

4.15 Is your business majority (i.e. over 50%) owned by individuals who self-identify as an Indigenous person(s):

- Yes, Indigenous person(s)
- No, not Indigenous person(s)

4.15.1 If yes, please select the options that the majority owners of your business identify with (check as many as apply):

- First Nations (First Nations includes Status and Non-Status Indians)
- Inuit
- Métis
- Prefer not to answer/do not know
- Other

Please specify

4.16 Is your business majority (i.e. over 50%) owned by individuals who self-identify as a person(s) who are from a visible minority group (other than Indigenous):

- Yes, Person(s) who are from a visible minority group (other than Indigenous).
- No, Person(s) who are from a visible minority group (other than Indigenous).

4.16.1 Please select the options that the majority owners of your business identify with (check as many as apply):

- Black
- Latin American
- Arab
- West Asian (e.g., Iranian, Afghan, etc.)
- South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
- Chinese
- Korean
- Japanese
- Filipino
- Southeast Asian (e.g., Vietnamese, Cambodian, Laotian, Thai; etc.)
- Another visible minority group
- Prefer not to answer/do not know

Please specify

4.17 Is your business majority (i.e. over 50%) owned by individuals who self-identify as (check as many as apply):

- Person(s) living with a disability (e.g. physical, mental, or other long-term condition)
- Person(s) not born in Canada
- Person(s) who are recent immigrants to Canada (e.g. landed in Canada in the last 5 years)
- Person(s) living in an official language minority community
- Person(s) self-identifying as LGBTQ2+
- Other diverse group
- Prefer not to answer/do not know

Please specify

REFERENCE ONLY