



Request for Information

TITLE: Space Health and Nutrition STEM Initiative

1. Purpose and nature of the Request for Information (RFI)

The Canadian Space Agency (CSA) is informing the education, nutrition, and youth and science outreach sectors¹ of the Government of Canada's intent to launch a Request for Proposal (RFP). The RFP is for creating hands-on health and nutrition activities linking science, technology, engineering, and mathematics (STEM) with long-duration space missions, targeted to groups underrepresented in STEM studies and careers such as Indigenous youth in grades 6, 7, 8, and 9 residing in the Inuit Nunangat region and Northern Canada. Our goal is for the resulting activities of the initiative to be available for use in classrooms, youth clubs, organizations, and science centres, heritage centres, and museums in Inuit Nunangat and Northern Canada with the possibility of implementing these activities across Canada.

The CSA is a federal government agency responsible for advancing the knowledge of space through science and using its discoveries for the good of Canadians and all of humanity. The goal of the initiative is to use space to engage and inspire youth, in particular Indigenous youth, in pursuing studies in STEM and eventually space careers.

The objectives of the RFI are as follows:

- To inform the interested sectors of the Request for Proposal including the statement of work (SOW) proposed (Appendix A);
- To engage suppliers to suggest innovative ideas and concepts that would be compatible with the objectives of the requirement (Appendix B);
- Collect information and factors to be considered in a potential RFP;
- Collect information regarding potential reach of the proposed initiative;
- Collect information regarding potential activity designs and target audiences;
- Determine Indigenous business capacity and considerations.

This RFI is neither a call for tender nor an RFP. No agreement or contract will be entered into further to this RFI. The issuance of this RFI must not be considered, in any way, as a

¹ Non-government organizations, not-for-profit, charitable organizations, academia, company, science centres, heritage centres, etc.



commitment by the Government of Canada or as an authority to potential respondents to undertake any work that could be charged to Canada. This RFI must not be considered as a commitment to issue a call-up or award contracts for the work described herein. It is important to note that some of the information provided in this RFI may be amended, in part or in whole, or removed prior to the official publication of a potential RFP. Finally, this RFI must not be considered as a commitment with regard to any part of the scope of work described.

Although the information collected may be provided as commercial-in-confidence (and, if identified as such, will be treated accordingly by Canada), Canada may use the information to assist in drafting performance specifications (which are subject to change) and for budgetary purposes.

Respondents are encouraged to identify, in the information they share with Canada, any information that they feel is proprietary, third party or personal in nature. Please note that Canada may be obligated by law (e.g. in response to a request under the *Access of Information and Privacy Act*) to disclose proprietary or commercially-sensitive information about a respondent (for more information: <http://laws-lois.justice.gc.ca/eng/acts/a-1/>).

Respondents are asked to identify if their response, or any part of their response, is subject to the Controlled Goods Regulations.

Respondents will not be reimbursed for any costs incurred by participating in this RFI.

2. Context

On February 2019, the Government of Canada announced Canada's involvement in the NASA-led Lunar Gateway program, which includes STEM-focused youth outreach initiatives to increase youth awareness about space and interest in STEM, provide hands-on experience, support educators and involve youth in CSA projects and missions. One of these initiatives is linked with the health and nutrition of astronauts during long-duration space missions.

The activities of the Space Health and Nutrition STEM Initiative will be aligned with two CSA initiatives—the Lunar Exploration Accelerator Program (LEAP) Health, and Food Production.

LEAP Health focuses on identifying opportunities where space and health partners could work together to solve healthcare challenges that are common to both astronauts in space and



Canadians living in rural or remote environments. Key activities include collaborative development of a shared national vision, early demonstration missions in medically isolated communities, and collaborative research and development initiatives to identify Canadian health technology capabilities.

[Exploration, Imagination, Innovation: A New Space Strategy for Canada](#) identifies *harnessing space to solve everyday challenges for Canadians and particularly enhancing access to nutritious food* (across Canada and off Earth) as a priority area. The CSA has begun activities in the food production domain to help improve the accessibility of fresh food across Canada, including the North, with the aim of taking these lessons learned to help astronauts grow food off Earth. For example, the CSA partnered with other government departments and a not-for-profit organization to create the Naurvik (which means “growing place” in Inuktitut) plant production facility in Gjoa Haven, Nunavut, Canada. This facility will test some of the technologies, science, and operational protocols that will one day be used in space. The CSA works to ensure that space science and technology make life better for Canadians and help solve everyday challenges on Earth. The Naurvik project is an initial step towards achieving that objective. By working with community members and partners, the CSA can support opportunities related to Arctic food security, green energy, nutrition, health, infrastructure and technology. The integration of Inuit knowledge into Naurvik makes this project unique and adapted to the needs of the community.

3. Potential work scope and constraints

Respondents are asked to provide feedback using the RFI Feedback Form (Appendix B) on the information contained in this RFI and in the proposed Statement of Work (Appendix A). It is important to note that these descriptions may be subject to change, in part or in whole, prior to the official publication of an RFP.

Responses will not be subject to a formal assessment. However, they could be used in the preparation of a potential RFP. Respondents must take care to provide a contact person and accurate contact information. While no additional exchange on the response in question must be expected, clarification may be requested, as needed.



To encourage Indigenous groups and organizations to bid on this contract, we invite bids from smaller and more specialized firms by permitting bids for a specified portion of the larger contract to conduct the work.

Furthermore, the work stated in this SOW may involve multiple smaller contracts by region in the Inuit Nunangat and Northern Canada.

4. Trade agreements and government policies

Trade agreements and government policies that could impact a potential RFP:

- Trade agreements could apply;
- The Canadian Content Policy will apply;
- The Controlled Goods Program could apply;
- The Federal Contractors Program for Employment Equity (FCPEE) will apply; and
- The Comprehensive Land Claim Agreements (CLCA) could apply.

Nunavut:

- [Nunavut Land Claims Agreements \(NLCA\)](#)

Quebec:

- [James Bay and Northern Quebec Agreement](#)

Newfoundland & Labrador

- [Labrador Inuit Land Claims Agreement](#)

NWT

- [Inuvialuit Final Agreement](#)
- [Gwich'in Comprehensive Land Claims Agreement](#)
- [Sahtu Dene and Metis Comprehensive Land Claims Agreement](#)
- [Tlicho Land Claims Agreement](#)

Yukon

- [Umbrella Final Agreement](#)



5. Schedule

Publication of the RFP

- For guidance purposes only, the publication of the RFP on the Government Electronic Tendering Service, Nunavut Tenders, Northwest Territories Government Contract Opportunities, and Yukon Bids and Tenders is currently planned for fall 2021. It must be noted that several factors may influence this date or could lead to the publication being cancelled.
- In order to process the information submitted and for it to be considered in the drafting of the RFP, responses must be received by the closing date as published in Point 7.

6. Important notes to respondents:

Interested respondents may submit their responses to the Canadian Space Agency (CSA) contracting authority identified below, preferably via email. However, paper versions will also be considered.

Marie-Eve Soucy
6767 Route de l'Aéroport
Saint-Hubert, QC J3Y 8Y9
Phone: 514-792-7036
E-Mail: marie-eve.soucy2@canada.ca

Changes to this RFI may be made and will be posted on the Government Electronic Tendering Service. Canada asks respondents to visit <https://buyandsell.gc.ca/> regularly to check for changes, if any.

For any technical questions regarding the statement of work you may contact the project authority:

Hope Desiree Kurylo at hopedesiree.kurylo@canada.ca



7. RFI closing date

Responses to this RFI must be received by the CSA contracting authority identified above no later than **September 15, 2021**.

The purpose of the RFI closing date is to ensure that the comments received can be processed. Comments will be accepted until the RFP is published (where relevant); however, due to the scheduled posting date for this RFP, late comments may not be fully considered.

APPENDIX A. DRAFT STATEMENT OF WORK (SOW)

1.0 OBJECTIVES

The Canadian Space Agency (CSA) is seeking a contractor with expertise in educational activity development, implementation, and delivery within Indigenous contexts and with technical experience, either directly or through subcontractors, in health and nutrition.

Period of the contract

From the award date of the contract until March 31st, 2024.

Work location

The work will take place at the contractor's location and the agreed upon locations in Inuit Nunangat and Northern Canada. The contractor will need to be available for teleconference or video calls.

Travel

If travel is required, the contractor must be reimbursed for travel and living expenses as per the [National Joint Council's Travel Directive](#). A contractor that is located in the [Montréal Metropolitan Community](#) must not be reimbursed for travel to/from/within this region.

Official languages



Bilingual. However, all communications (oral and written) between the Contractor and Government representatives will be conducted in English, deliverables will be provided in both English and French.

2.0 BACKGROUND

The Canadian Space Agency (CSA) was established in 1989 by the Canadian Space Agency Act. The Agency partners with government, industry, universities, and international organizations to meet citizens' evolving needs. Space has a unique ability to inspire young people across all genders, cultures and communities to pursue an interest and studies in Science, Technology, Engineering and Math (STEM) subjects.

In February 2019, the Government of Canada (GoC) announced Canada's involvement in the NASA-led Lunar Gateway program, which includes science, technology, engineering, and math-focused (STEM) youth outreach initiatives with the goal of using space to inspire youth into STEM studies and careers. One of these initiatives is focused on hands-on activities for youth linked to health and nutrition for astronauts on future long duration missions.

In order to reach youth through STEM activities, it is important to consider educators who have an influence on their learning, future education, and career choices. Educators can include family members, teachers, volunteers, and youth group leaders through various organizations (e.g. schools, school boards, teachers' associations, science centres, youth organisations, youth associations, clubs, community groups, etc.).

Context

Feeding our astronauts fresh, nutritious food as they venture outside of low Earth orbit to the Moon or deep space will be key to keeping both their bodies and minds healthy. Currently on the International Space Station, astronauts receive shipments of fresh food an average of once every couple of months to supplement the on-orbit menu. Having access to fresh food has a significantly positive impact on our astronauts. As we venture farther into space, astronauts will need to become more autonomous as shipments for food and supplies will be less frequent or impossible. Similarly, creating autonomous, digital health technologies will be important to monitor and keep our astronauts in good health as they venture outside of low Earth orbit. Not only does this have applications in space, but it has major applications on Earth, especially in unique and Northern regions of Canada.



Space health and nutrition STEM activities are a powerful catalyst to inspire the widespread interest in science and technology that can keep youth in the STEM studies and open opportunities to transition into the STEM workforce.

The goal of this contract is to assist the Canadian Space Agency in developing space-related activities of maximum interest to teachers and educators across all provinces and territories. The aim is to create activities that will be easy to integrate into educators' work plans, while focusing on underrepresented groups in STEM, particularly Indigenous youth (Inuit, Metis, First Nations) in grades 6-9. Through this contract, we aim to reach 1,000-2,000 youth residing in Inuit Nunangat and Northern Canada.

3.0 SCOPE OF WORK

1. Kick-off Meeting:

The Contractor will conduct a kick-off meeting, via teleconference or video call, with the Technical Authority and CSA team members for the purpose of introducing the Contractor's resources and CSA team members and confirming the scope, deliverables, relevant documents, work-plan/timelines, basis of payment and invoicing/payment schedule.

Deliverables: The Contractor will be responsible for issuing the agenda at least 1 day in advance of the meeting and for issuing minutes within 3 days of the meeting to capture decisions and actions.

2. Monthly Progress Meetings:

Throughout the duration of the engagement the Contractor will be available to meet with the CSA team monthly or on an as-needed basis via teleconference calls to discuss progress and provide written summaries of the progress.

Deliverables: The Contractor will be responsible for issuing a proposed agenda at least 1 day in advance of the meeting and a written follow-up summary highlighting the main progress and capturing decisions and actions from the meeting (in either Word or PowerPoint form).

3. Options of Implementation

Before proceeding to additional tasks, an options analysis needs to be completed with three (3) different activities related to developing and delivering hands-on, experiential health and nutrition activities linked to space for youth in grades 6 to 9 and to educators in a variety of



settings (schools, organizations, camps, science centres, museums, community events, etc.). This task must involve elders, community members, educators, and youth residing in the Inuit Nunangat region and Northern Canada in order to create meaningful activities through co-development.

Each option must include high-level information on the following:

- Timeline, expected duration, level of effort, level of engagement and scope, and cost
- Delivery mechanisms or platforms
- Three activity technology options (high tech, low-tech, no-tech)
- Three levels of difficulty (beginner, intermediate, advanced)
- Expected number of youth reached
- Support for educators (material, training, real-time support, etc.)
- Recommendations for implementing activities with limited or non-existent Internet access

Additionally, the options must be aligned with CSA initiatives “Food Production” and “LEAP Health”. The result of this options analysis will lead to the selection of one or more options to develop that is ready-to-use by educators and includes all materials and instructions (turnkey). A more detailed plan will be discussed during the kick-off meeting as well as more information on the aforementioned CSA initiatives.

Deliverable: An options analysis report detailing all high-level relevant information and proposed options in a Word document with an executive summary including the recommended option with justification.

4. Activity Development and Implementation in Various locations in Inuit Nunangat and Northern Canada

a) The Contractor shall produce an activity development plan with detailed descriptions of the lunar health and nutrition activities, their links to lunar food production, nutrition, health monitoring, and telemedicine as well as links to applicable curricula in the target grade levels from Task 3 Options of Implementation.

The plan shall include the mechanism of delivery for in-class or extracurricular use (science centres and museums, youth and STEM organizations, libraries, etc.) as well as be accessible, inclusive, and easily available to anyone wishing to deliver the activity to



youth in the target age range. The activity packages must include resources and support for educators before, during, and after running an activity, including the possibility of real-time support.

In addition to outlining the activity, the plan will also include a timeline of the tasks needed for development, testing, implementation, and all activities leading to activity readiness. Upon CSA approval of the activity development plan and timeline, the contractor will proceed to Task 4b.

Deliverable: The Contractor will produce a report or document for the plan of the Health and Nutrition activities including the information above. For this deliverable, the contractor must deliver an outline to be approved by the CSA, followed by a 50% completed version, and finally the complete document.

b) This task will encompass the complete development of the activities by executing the plan agreed upon from Task A1. The task involves activity testing with focus-groups in order to refine and improve the fine details of the activities. All activity material and resources will be in English, French, and the local language.

Deliverable: A fully developed set of activities in both official languages (English and French) as well as the local language tested with both educators and the youth target audience.

c) This task will involve activity promotion beginning before and throughout the initiative delivery phase (aligned with the 22/23 academic school year and summer 2023). As per the contractor's work plan, promotion must be started early enough for educators to have sufficient advance notice to include the activity in their 22/23 planning. Promotion will be coordinated with the CSA and must include a variety of platforms such as virtual and in-person engagement, science fairs, Indigenous education seminars and workshops, email blasts, social media posts, etc.

Deliverable: Successful promotion of the initiative in the region of implementation (location in Inuit Nunangat or Northern Canada).

d) The developed and tested activities are to be delivered by educators in region of implementation during the 22/23 academic school year and summer 2023. Through the Contractor's network, the Contractor should aim to reach as many youth as possible within the targeted age range residing in Inuit Nunangat and Northern Canada.



Deliverable: Successful delivery of the *Health and Nutrition* initiative during the 22/23 academic school year and summer 2023.

5. Performance Reporting

The Contractor must provide monthly reports in a slideshow presentation, which will include the following:

- Qualitative and quantitative data and feedback
- Quantitative information on key indicators:
 - Number of youth engaged;
 - Number of underrepresented groups engaged categorized by girls and Indigenous youth;
 - Number and description of schools, science centres, and youth organizations reached;
 - Youth's interest in STEM topics and careers following the activity.

The Contractor shall produce a final report that describes and compares all of the qualitative and quantitative feedback throughout the contract.

Deliverables:

1. Quarterly reports on qualitative and quantitative data in PowerPoint
2. Final written report describing and comparing all qualitative and quantitative data collected throughout the Contract period.

SUPPORT FROM THE CSA

The CSA will provide the Contractor with relevant background information, subject-matter expertise and access to data as necessary for the Contractor to perform the work. Every attempt will be made, throughout the course of the contract, to provide timely information requested by the Contractor, if deemed relevant to the project. The CSA may also provide promotional material to be included with any materials being distributed.

The CSA will provide the Contractor with instructions on each milestone of the project, including:

- work to be done;



- objectives and desired outcomes;
- relevant and necessary information;
- deliverables expected; and
- timelines.

4.0 APPROACH

Once the contract is awarded, the Contractor is required to schedule a **kick-off meeting** (KOM) within ten (10) working days at the CSA with the Technical Authority (TA) and other key personnel from the CSA, to:

- Confirm the contract requirements and specific objectives;
- Ensure that there is a clear understanding of the work to be done and the deliverables;
- Provide the necessary information and documentation to the Contractor ;
- Identify key documentation;
- Determine key target dates and critical constraints.

During the contract, the Contractor will also be asked to:

- Develop documents under short timelines;
- Regularly report to the CSA Technical Authority on project progress, schedule, and forward-looking plans.

The Technical Authority will be responsible for providing, as required, guidance to the Contractor and the review, acceptance, and approval of its deliverables. Additionally, as required for the completion of the Work, the TA will:

1. Provide input, answer questions, evaluate deliverables, and participate in meetings;
2. Coordinate input that is required;
3. Provide comments on draft submitted deliverables.



APPENDIX B. RFI Feedback Form

Respondents to this RFI are encouraged to provide feedback by completing this form. Any other information, deemed relevant by the respondent, may be attached to this form.

Priority Questions:

1. Name of organization:
2. Contact (name, address, phone, email):
3. Considering the scope in Appendix A and linking these activities with long duration space travel, which STEM topics in nutrition, health, and food production would be most relevant and of most interest to Indigenous youth in grades 6-9? Are there any other grade-levels that could benefit from activities on these topics? If so, please clarify.
4. Please specify if there are any topics of little interest relating to food, nutrition, and health for the target audience or that should be avoided and explain why? For example: cost and availability of food, food security, allergies, mental health, etc.
5. What constraints and/or opportunities should be considered when developing and delivering these activities in Inuit Nunangat and Northern Canada? Please provide insights on the impacts these may have.
6. Conditions, ideas and suggestions related to the timeline for development, testing and delivery of activities.
7. For the cost estimates below (a, b, and c), please provide a high-level description of potential activities that could be created for Task A-D, aligned with the requirements in Appendix A:
 - a. \$500,000
 - b. \$700,000
 - c. \$900,000



Indigenous Considerations:

1. Is your business located within a Modern Treaty/Comprehensive Land Claim Agreement (CLCA)? If yes, please specify and indicate if you are registered in the respective CLCA business list, if applicable.
2. Is your business an Indigenous business eligible under the Government of Canada's Procurement Strategy for Aboriginal Business (PSAB)?
3. How can your company maximize regional Indigenous participation (i.e. Indigenous employment or subcontracting) in the Space Health and Nutrition STEM Initiative?
4. Does your business have a history of employing Indigenous persons or sub-contracting with Indigenous businesses?
5. What incentive strategies have you encountered in previous contracts to encourage Indigenous engagement resulting in skills development, industrial capacity, and economic benefit to Indigenous groups?



Optional additional questions:

1. Conditions, ideas and suggestions to run the activities where internet access is limited or nonexistent:
2. Suggestions for meaningful engagement with Indigenous youth and their educators, including elders:
3. Conditions, ideas and suggestions to increase reach, engagement, and accessibility:
4. Suggested promotion schedule of the initiative:
5. Propose 1 to 3 cross-curricular activity ideas with a brief description:
6. Other feedback (if any):