

REQUEST FOR PROPOSAL (RFP)

Space Exploration Topical Teams

Bid Submission Deadline: December 15th 2021 at 2:00 PM (EST)

Submit Bids to:

by E-Post Connect

or by fax: 819-997-9776

Reference: CSA File No. 9F055-21-0312

Note: Please read this Request for Proposal carefully for further details on the requirements and bid

submission instructions.



November 19, 2021



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PART 1 - GENERAL INFORMATION

1. Summary

The objective of the work outlined in this Statement of Work (SOW) is to engage space exploration topical teams to produce a consensus report that can inform decision-making on the future of the space exploration program via community-led consultation prioritizing Canadian science activities and investigations based upon scientific merit, importance to the community and benefits to Canada. The Topical Teams will identify discipline scientific priorities, opportunities and steps needed to incorporate these into space exploration missions. In particular, this should include a detailed update of the 2016 Canadian Space Exploration: Science and Space Health Priorities for the Next Decade and Beyond report while integrating the latest developments in knowledge, research and recommendations from the science, health and space exploration communities since its publication in 2017. As a science-driven document, the resulting updated report will be used as an input for Canada's strategic planning for future space exploration initiatives with activities beginning as early as 2024 and spanning up to a 2050 horizon.

Period of the Contract

From contract award date to April 30th, 2023

❖ Work location

The work will take place at the consultant offices

Travel

As travel is not required, no travel expenses will be reimbursed.

Official languages

The contractor must be able to provide staffs that are able to communicate and draft documents in English.

2. Security Requirement

There are no security requirements associated with this requirement.

3. Trade Agreements

This requirement is not subject to the provision of any trade agreement

4. The epost Connect service

This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information."

5. Maximum Funding

The maximum funding for contracts resulting from this RFP will be \$220,000.00 broken down as follows: 9 contracts of \$20,000.00 each and one contract of \$40,000.00. Disclosure of the maximum funding available does not commit Canada to pay this amount. Any bid whose value is greater than the amount indicated will be deemed non-responsive.



6. Debriefings

After contract award, bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

7. Recourse for suppliers with respect to the Procurement Process

Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. There are several mechanisms available to suppliers to address concerns they may have related to federal government procurement, such as: the Office of the Procurement Ombudsman (OPO), the Canadian International Trade Tribunal (CITT), the Competition Bureau, and before the Federal Court of Canada and any of Canada's provincial superior courts. Regardless of the forum to which a supplier brings a complaint, there are strict timelines for filing complaints. Additional



PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the Request for proposal (RFP) by number, date and title are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of this bid solicitation and accept the clauses and conditions of the resulting contract.

1.1. SACC Manual Clauses

The document 2003 (2020-05-28) - Standard Instructions - Request for Proposal - Goods or Services - Competitive Requirements are incorporated by reference into and form part of the bid solicitation. Section 1.2003 - Standard Instructions - Goods or Services - Buyandsell.gc.ca

2. Submission of Bids

This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

Bids must be submitted ONLY TO:

By the epost Connect service: https://www.canadapost.ca/cpc/en/business/postal-services/digital-mail/epost-connect.page

Epost connect service information: Section 08 (2020-05-28) - Transmission by epost Connect **of document 2003 (2020-05-28)** - Standard Instructions - Goods or Services - Competitive Requirements Section 1.2003 - Standard Instructions - Goods or Services - Buyandsell.gc.ca

Or

❖ By fax: 819-997-9776

at the date, time and place indicated on the front page of this bid solicitation.

DO NOT COPY THE CONTRACTING AUTHORITY

3. Enquiries - Bid Solicitation

All enquiries must be submitted **BY E-MAIL ONLY** to the Contracting Authority <u>julie.mercier@asc-csa.gc.ca</u> **no later than two (2) calendar days** before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated,



and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in **PROVINCE OF QUEBEC**.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

5. Communications Notification

As a courtesy, the Government of Canada requests that successful bidders notify the Contracting Authority in advance of their intention to make public an announcement related to the award of a contract.



PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

Canada requests that bidders provide their bid in separately sections as follows:

❖ Section I: Technical Bid
 ❖ Section II: Financial Bid
 ❖ Section III: Certifications

PWGSC, National Capital Region: The only acceptable facsimile number for responses to bid solicitations issued by PWGSC headquarters is 819-997-9776 or, if applicable, the facsimile number identified in the bid solicitation.

Prices must appear in the financial offer only.

No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid.

Use a numbering system that corresponds to that of the Request for proposal

Submitted by facsimile:

- a. For bids transmitted by facsimile, Canada will not be responsible for any failure attributable to the transmission or receipt of the faxed bid including, but not limited to, the following:
 - i. receipt of garbled, corrupted or incomplete bid;
 - ii. availability or condition of the receiving facsimile equipment;
 - iii. incompatibility between the sending and receiving equipment;
 - iv. delay in transmission or receipt of the bid;
 - v. failure of the Bidder to properly identify the bid;
 - vi. illegibility of the bid; or
 - vii. security of bid data.
- b. A bid transmitted by facsimile constitutes the formal bid of the Bidder and must be submitted in accordance with section 05.

If Submitted by epost Connect service:

https://www.canadapost.ca/cpc/en/business/postal-services/digital-mail/epost-connect.page



Epost Connect

- a. Unless specified otherwise in the bid solicitation, bids may be submitted by using the epost Connect service provided by Canada Post Corporation.
 - I. PWGSC, National Capital Region: The only acceptable email address to use with epost Connect for responses to bid solicitations issued by PWGSC headquarters is: tpsgc.dgareceptiondessoumissions-abbidReceiving.pwgsc@tpsgc-pwgsc.gc.ca, or, if applicable, the email address identified in the bid solicitation.
 - II. PWGSC regional offices: The only acceptable email address to use with epost Connect for responses to bid solicitations issued by PWGSC regional offices is identified in the bid solicitation.
- b. To submit a bid using epost Connect service, the Bidder must either:
 - I. send directly its bid only to the specified PWGSC Bid Receiving Unit, using its own licensing agreement for epost Connect provided by Canada Post Corporation; or
 - II. send as early as possible, and in any case, at least six business days prior to the solicitation closing date and time, (in order to ensure a response), an email that includes the bid solicitation number to the specified PWGSC Bid Receiving Unit requesting to open an epost Connect conversation. Requests to open an epost Connect conversation received after that time may not be answered.
- c. If the Bidder sends an email requesting epost Connect service to the specified Bid Receiving Unit in the bid solicitation, an officer of the Bid Receiving Unit will then initiate an epost Connect conversation. The epost Connect conversation will create an email notification from Canada Post Corporation prompting the Bidder to access and action the message within the conversation. The Bidder will then be able to transmit its bid afterward at any time prior to the solicitation closing date and time.
- d. If the Bidder is using its own licensing agreement to send its bid, the Bidder must keep the epost Connect conversation open until at least 30 business days after the solicitation closing date and time.
- e. The bid solicitation number should be identified in the epost Connect message field of all electronic transfers.
- f. It should be noted that the use of epost Connect service requires a Canadian mailing address. Should a bidder not have a Canadian mailing address, they may use the Bid Receiving Unit address specified in the solicitation in order to register for the epost Connect service.
- g. For bids transmitted by epost Connect service, Canada will not be responsible for any failure attributable to the transmission or receipt of the bid including, but not limited to, the following:
 - I. receipt of a garbled, corrupted or incomplete bid;
 - II. availability or condition of the epost Connect service;
 - III. incompatibility between the sending and receiving equipment;
 - IV. delay in transmission or receipt of the bid;
 - V. failure of the Bidder to properly identify the bid;
 - VI. illegibility of the bid;
 - VII. security of bid data; or,
 - VIII. inability to create an electronic conversation through the epost Connect service.



- h. The Bid Receiving Unit will send an acknowledgement of the receipt of bid document(s) via the epost Connect conversation, regardless of whether the conversation was initiated by the supplier using its own license or the Bid Receiving Unit. This acknowledgement will confirm only the receipt of bid document(s) and will not confirm if the attachments may be opened nor if the content is readable.
- i. Bidders must ensure that that they are using the correct email address for the Bid Receiving Unit when initiating a conversation in epost Connect or communicating with the Bid Receiving Unit and should not rely on the accuracy of copying and pasting the email address into the epost Connect system.
- j. A bid transmitted by epost Connect service constitutes the formal bid of the Bidder and must be submitted in accordance with section 05.

Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements.

Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

To simplify and harmonize the proposal submissions, the bidder must complete the Proposal Form shown in Annex F

Section II: Financial Bid

Bidders must submit the sum of the applicable direct and indirect costs which are, or must be reasonably and properly incurred and/or allocated, in the performance of the Contract, less any applicable credits. These costs must be determined in accordance with the Contractor's cost accounting practices as accepted by Canada and applied consistently over time.

Bidders should review Contract Cost Principles 1031-2 - https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/3/1031-2/6 for a description of allowable costs.

Bidders must submit their financial bid in accordance with the Basis of Payment and the **Annex B**-Pricing. The total amount of Goods and Services Tax must be shown separately, if applicable.

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included.

The requirement does not provide for exchange rate fluctuation protection. Any request for exchange rate fluctuation protection will not be considered and will render the bid non-responsive.



Section III: Certifications

Bidders must submit the certifications required under Part 5.



PART 4 – EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

- a. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- b. An evaluation team composed of representatives of Canada will evaluate the bids.
- c. In the event that two (2) or more bids are received from the same bidder organization AND Team Leader, only one may be recommended for funding (i.e., each Topical Team contract must be led by a different Team Leader).

2. Technical Evaluation

2.1 Point Rated Technical Criteria (see Table 1)

To be declared responsive, a bid MUST achieve a pass on rated requirements outlined in Table 1

3. Financial Evaluation

3.1 Mandatory Financial Criteria

#	Topical Team Domain	Торіс	Maximum funding
1.	Space Astronomy	Cosmic Origins (subjects can include, but not limited to: Cosmic Microwave Background, Expansion, Abundance of the Elements, Dark Matter, Dark Energy)	\$ 20,000.00
2.	Space Astronomy	Stellar and Galaxy Evolution (subjects can include, but not limited to: Structure, Galaxy Clusters, Intergalactic Matter, Galaxy and Star Formation and Evolution)	\$ 20,000.00
3.	Space Astronomy	High Energy Astrophysics (HEA) and Gravitational Waves (subjects include, but not limited to: Black Holes, Super Novae, Mergers, multi-messenger astrophysics, Physics of the Universe Extreme Conditions)	\$ 20,000.00
4.	Space Exoplanets (subjects include, but not limited to: Detection, Characterization, Formation of Planetary Systems, Exoplanetary and Solar System, Biosignatures)		\$ 20,000.00
5.	Planetary Science	Astrobiology – Could Other Planetary Bodies Host Life?	\$ 20,000.00
6.	Planetary Science	7 I Planatary Atmognharas	
7.	Planetary Science	Planetary Geology and Geophysics	\$ 20,000.00
8.	Planetary Science	Planetary Space Environment	\$ 20,000.00
9.	Planetary Science	Planetary Prospecting for Resources (subjects include, but not limited to: Destination and Reconnaissance Assessment, Resource Assessment, Environment preservation, Regolith simulants)	\$ 20,000.00
10.	Astronaut Health	Capabilities in future space platforms that are required for health research and health support/care; Strategies for countermeasure development; Recommendations for use of space to address Earth health issues.	\$ 40,000.00

- a. Bids valued in excess of the amount indicated will be considered non-responsive.
- b. This disclosure does not commit Canada to pay the maximum funding available.



4. Basis of Selection – Highest Rated Within Budget

- 4.1 To be declared responsive, a bid must:
 - a. Comply with all the requirements of the bid solicitation;
 - b. provide all documents requested in Part 3 BID PREPARATION INSTRUCTIONS Section
 1 Technical Submission; and
 - c. obtain the required minimum of 56 points of the points for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 80 points.
- 4.2 Bids not meeting (a) or (b) or (c) will be declared non-responsive. The responsive bid with the highest number of points will be recommended for award of a contract, provided that the total evaluated price does not exceed the budget available for this requirement.



Table 1: Point-Rated Technical Criteria (RC)

Bids which fail to obtain the required minimum number of points specified will be declared non-responsive. Each point-rated criterion should be addressed separately.

responsive. Each point-rated criterion should be addressed separately.				
Point-Rated Technical Criterion (RC)	Minimum points required	Maximum total points	Results	Evaluator's remark Must reference relevant section, page number of bid; and Summarize conclusion briefly.
RC1 – Understanding of the Task Requirements	18 (B)	24 (A)		
RC2 - Team Expertise	18 (B)	24 (A)		
RC3 – Team Management and Leadership	12 (B)	16 (A)		
RC4 – Engagement Approach and Diversity	8 (C)	16 (A)		
Maximum score	-	80		
Minimum required	56	-		
Total obtained			/80	



Point-Rated Evaluation Criteria Description

Evaluation Criteria and Benchmark Statements contain a series of evaluation criteria, each supported by a set of benchmark statements (A, B, C, D and 0). Each of these statements has a corresponding value:

RC1 – Understanding of the Task Requirements (24 points)

This criterion evaluates the contractor's approach to achieve the mandate, including understanding of the Topic, and effectiveness of the methodology to solicit, review and prioritize ideas from the broader community.

A) Excellent: (24 points)

The proposal includes a comprehensive overview of the Topic that references relevant previous Canadian science priority documents, and convincingly demonstrates excellent knowledge of the Topic by referencing international programs, recent results, and strengths in Canada from 2016 to the present.

AND Describes a clear and detailed methodology to solicit ideas and to build community consensus relevant to the Topic.

AND Describes a clear and detailed review and prioritization process that will be able to reflect the community consensus relevant to the Topic.

B) Good: (18 points)

The proposal includes an overview of the Topic that references relevant Canadian space exploration and science priority documents, and demonstrates good knowledge of the Topic by referencing some of the related international programs, recent results and strengths in Canada from 2016 to the present.

AND Describes a methodology to solicit ideas and to build community consensus relevant to the Topic,

AND Describes a methodology to solicit ideas and to build community consensus relevant to the Topi but lacks some details and clarity.

AND Describes a review and prioritization process that that will be able to reflect the community consensus relevant to the Topic, but lacks some details and clarity.

C) Average: (12 points)

The proposal includes an overview of the Topic that references relevant Canadian space exploration and science priority documents, but shows knowledge gaps in the Topic by referencing only a few of the related international programs, recent results, and strengths in Canada from 2016 to the present.

OR Describes an unclear methodology to solicit ideas and to build community consensus relevant to the Topic, without further details.

OR The proposed review and prioritization process contains significant gaps in whether it will reflect the community consensus relevant to the Topic.

D) Poor: (6 points)

The proposal includes an unclear overview of the Topic that does not reference relevant Canadian space exploration nor science priority documents, does not demonstrate knowledge of the Topic and does not reference to related international programs, recent results, and strengths in Canada from 2016 to the present.

OR Does not describe a methodology to solicit ideas or build community consensus relevant to the Topic. **OR** The proposed prioritization and review process is poorly thought-out and unlikely to reflect the community consensus relevant to the Topic.

E) 0: (0 points)

The proposal does not include an overview of the Topic.

OR The proposal does not demonstrate knowledge of the Topic.



RC2 - Team Expertise (24 points)

This criterion assesses the capability (education, experience, expertise* and complementarities) of the personnel assembled to carry out the Bid, as well as the affiliation among the proposed team leader and team members. Expertise of students and administrative support staff, if applicable, will not be evaluated as part of this criterion.

*Note that for the Astronaut Health Topical Team, the team MUST include scientists, clinician scientists and clinicians in order to cover the spectrum of expertise to address objectives in science and medical operations as stated in the Statement of Work.

*Note that for the Planetary Science: Planetary Prospecting for Resources Topical Team, team composition of 'subject matter experts' (team composition percentages in RC2) can also include subject matter experts from Canadian industry.

A) Excellent: (24 points)

All of the proposed team individuals (including bidder, partners and subcontractors) are nationally- or internationally-recognized experts* in their respective discipline.

AND The team has expertise in all major sub-topics relevant to the Topic sufficient to provide an excellent expert peer review of submitted ideas.

AND The team leader is from a Canadian University and the team is composed of at least 80% subject matter expert members from Canadian Academia or Canadian Government.

AND The team includes a student and a postdoctoral representative.

B) Good: (18 points)

Most of the proposed team individuals (including bidder, partners and subcontractors) are nationally- or internationally-recognized experts* in their respective discipline.

AND The team has expertise in most major sub-topics relevant to the Topic sufficient to provide a good peer review of submitted ideas.

AND The team leader is from a Canadian University and the team is composed of between 60%-79% subject matter expert members or more from Canadian Academia or Canadian Government.

AND The team includes a student or a postdoctoral representative.

C) Average: (12 points)

Some of the proposed team individuals (including bidder, partners and subcontractors) are nationally- or internationally-recognized experts* in their respective discipline.

OR The team lacks expertise in most major sub-topics relevant to the Topic.

OR The team leader is from a Canadian University and the team composition is between 40% and 59% subject matter expert members from Canadian Academia or Canadian Government.

D) Poor: (6 points)

Few of the proposed team individuals (including bidder, partners and subcontractors) members are nationally- or internationally-recognized experts* in their respective discipline.

OR The team leader is from a Canadian University and the team composition is below 40% subject matter expert members from Canadian Academia or Canadian Government.

E) 0: (0 points)

The proposed team individuals (including bidder, partners and subcontractors) are not nationally- or internationally-recognized experts* or innovators in their respective sectors.

OR The team leader is not from a Canadian University.



RC3 - Team Management (16 points)

This criterion evaluates the relevant management experience of the contractor, the availability of resources and the effectiveness of the project schedule.

A) Excellent: (16 points)

Experience of the contractor to successfully lead projects/initiatives of similar complexity and magnitude in the past is clearly demonstrated and detailed in the bid as well as in the provided CV summary.

AND The schedule of work linked to all deliverables demonstrates that the work will be completed successfully within the contract period.

B) Good: (12 points)

Experience of the contractor to successfully lead projects/initiatives of similar complexity and magnitude in the past is demonstrated in the bid as well as in the provided CV summary, but lacks some clarity and details.

AND The schedule of work linked to most deliverables demonstrates that the work will be completed successfully within the contract period.

C) Average: (8 points)

Experience of the contractor to successfully lead projects/initiatives of similar complexity and magnitude in the past is not well demonstrated in the bid as well as in the provided CV summary.

OR The schedule of work linked to most of the deliverables does not demonstrate that the work will be completed successfully within the contract period.

D) Poor (4 points)

There is no evidence in the bid OR in the provided CV summary that the contractor has past experience to successfully lead projects/initiatives of similar complexity and magnitude.

OR The schedule of work is not linked to any of the deliverables and does not demonstrate that the work will be completed successfully within the contract period.

E) 0: (0 points)

There is no evidence in the bid AND in the provided CV summary that the contractor has past experience to successfully lead projects/initiatives of similar complexity and magnitude.

OR There is no schedule for the work.



RC4 – Engagement Approach and Diversity (16 points)

This criterion evaluates the degree to which inclusion, employment equity and conflict of interest are addressed in the bid in (i) recruitment and management of the Bidder's team, and (ii) in plans for the solicitation of ideas, the review process, and the prioritization process.

A diverse and inclusive community is a strength for knowledge advancement and discovery. Groups to be considered to increase diversity include LGBTQ+ and employment equity groups. This criterion also evaluates the plan for engagement of student and postdoctoral populations for their vision and ideas for the Topic in 2050.

A) Excellent: (16 points)

The Bidder's organization has an equity, diversity and inclusion policy.

AND The proposal includes a plan to solicit ideas, conduct reviews, and assess their prioritization that is inclusive and encourages participation from all interested community members, including diversity groups with detailed information on how it will be achieved.

AND The proposal includes a plan to address potential conflicts of interest within the team in a meritbased review process that is clear and transparent and provides alternative courses of action to mitigate potential conflict of interest challenges.

AND The proposal includes a strategy to engage with student and post-doctoral population for inclusion of their ideas and vision for 2050 in the final report.

B) Good: (12 points)

The Bidder's organization has an equity, diversity and inclusion policy.

AND The proposal includes a plan to solicit ideas, conduct reviews, and assess their prioritization that is inclusive and encourages participation from all interested community members, including diversity groups, but lacks of detailed information on how it will be achieved.

AND The proposal includes a plan to address potential conflicts of interest within the team in a meritbased review process but lacks clarity and does not provide alternative courses of action to mitigate potential conflict of interest challenges.

C) Average: (8 points)

The Bidder's organization has an equity, diversity and inclusion policy.

AND The proposal includes a plan to solicit ideas, conduct reviews, and assess their prioritization, but does not encourage participation from all interested members of the community, including diversity groups.

D) Below average: (4 points)

The Bidder's organization has an equity, diversity and inclusion policy.

AND The proposal includes a plan but does not address inclusion and equity in the plan for soliciting ideas and for prioritization.

E) Poor (0 points)

The Bidder's organization does not have an equity, diversity and inclusion policy.

AND The proposal does not address inclusion and equity in the plan to solicit ideas, conduct reviews, and assess their prioritization.



PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

1. Certifications Required with the Bid

Bidders MUST submit the following duly completed certifications as part of their bid.

1.1 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, bidders must provide the information required below before contract award.

1.1.1 Definitions

For the purposes of this clause,

"former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the <u>Public Service Superannuation Act</u> (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the <u>Supplementary Retirement Benefits Act</u>, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the <u>Canadian Forces Superannuation Act</u>, R.S., 1985, c.C-17, the <u>Defence Services Pension Continuation Act</u>, 1970, c.D-3, the <u>Royal Canadian Mounted Police Pension Continuation Act</u>, 1970, c.R-10, and the <u>Royal Canadian Mounted Police Superannuation Act</u>, R.S., 1985, c.R-11, the <u>Members of Parliament Retiring Allowances Act</u>, R.S., 1985, c.M-5, and that portion of pension payable to the <u>Canada Pension Plan Act</u>, R.S., 1985, c.C-8.

1.1.2 Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension?



Yes	(No (()

If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:

- name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with <u>Contracting Policy Notice</u>: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

2. Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive?

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks:
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

3. Ineligibility and Suspension Policy

Bidders, offerors or suppliers certify to the following when submitting a bid:

- they have read and understand the Ineligibility and Suspension Policy;
- http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html
- they understand that certain domestic and foreign criminal charges and convictions, and other circumstances, will or may result in a determination of ineligibility or suspension;
- they are aware that Canada may request additional information, certifications and validations for the purposes of making a determination of ineligibility or suspension;
- they have provided a list of all foreign criminal charges and convictions;
- none of the domestic criminal offences and other circumstances described in the Policy applies to them, their affiliates and their first tier subcontractors; and
- they are not aware of a determination of ineligibility or suspension that applies to them.



4. Integrity Provisions – List of Names

Bidders who are incorporated, including those bidding as a joint venture, <u>must provide a complete list of names of all individuals who are currently directors</u> of the Bidder. (See Annex E - Integrity Form).

- Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, <u>must provide</u> the name of the owner(s).
- ❖ See Annex E Integrity Form.
- ❖ Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

5. Status and Availability of Resources

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability.

6. Education and Experience

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

7. Procurement Business Number

Suppliers are required to have a Procurement Business Number (PBN) before contract award. Suppliers may register for a PBN online at Supplier Registration Information https://srisupplier.contractscanada.gc.ca/.

For non-Internet registration, suppliers may contact the InfoLine at 1-800-811-1148 to obtain the telephone number of the nearest Supplier Registration Agent.

Procurement Business Number (PBN):	

8. Certification

Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

RFP no: 9F055-21-0312



CERTIFICATION SIGNATURE

We hereby certify compliance with the above noted certification requirements for:

- 1.1. Former Public Servant
- **1.2.** Ineligibility and Suspension Policy
- **1.3.** Integrity Provisions List of Names
- 1.4. Status and Availability of Resources
- **1.5.** Education and Experience
- **1.6.** Procurement Business Number
- **1.7.** Certification

Signature	Date		
Name (print or type) of person authorized to sign on behalf of the Organization			
Phone :			
FIIOHE.			
E-Mail :			



PART 6 - RESULTING CONTRACT CLAUSES

1. Priority of Documents

The documents specified below will form part of and will be incorporated into the Contract. If there is a discrepancy between the wording of any documents which appear on the list, the wording of the document which first appears shall prevail over the wording of any document which subsequently appears on the list.

- the Articles of Agreement;
- Annex A, Clauses and Conditions Supplementary Conditions General Conditions:
 - o **2010B (2020-05-28)**, Professional services (medium complexity) Supplementary General Conditions
 - o 4007 (2010-08-16) Canada to Own Intellectual Property Rights in Foreground Information
- Annex B, Basis of payment
- Annex C, Statement of Work;
- Annex D, Performance Evaluation
- Annex E, Integrity Form
- Annex F, Proposal Form

2. Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex C.

3. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual issued by Public Works and Government Services Canada. https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual

3.1 General conditions

2010B (2020-05-28), Professional services (medium complexity) https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/3/2010B/19

3.1.1 Supplementary General conditions

4007 (2010-08-16) Canada to Own Intellectual Property Rights in Foreground Information Section 4.4007 - Canada to Own Intellectual Property Rights in Foreground Information - Buyandsell.gc.ca

4. Security Requirements

There is no security requirement applicable to the Contract.

5. Term of Contract

From contract award date to April 30th, 2023



6. Basis of Payment - Firm price by milestone

For the Work described the Statement of Work in Annex C,

In consideration of the contractor satisfactorily completing all of its obligations under the contract, the contractor will be paid a firm price of _____ \$ according to the delivery dates set out in Annex B and applicable taxes are extra.

7. Reimbursement of Travel and Living Expenses

There is no travel and living expenses in that contract

8. Methods of Payment - Schedule of milestones payment

Canada will make progress payments in accordance with the schedule of milestones detailed in Annex B.

- a. Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. the total amount for all progress payments paid by Canada does not exceed 100% of the total amount to be paid under the Contract;
- c. the work associated with the milestone and, as applicable, any deliverable required has been completed and accepted by Canada.

9. Invoicing Instructions

- a. Invoices must be submitted in the Contractor's name. The Contractor must submit invoices for each delivery or shipment; invoices must only apply to the Contract. Each invoice must indicate whether it covers partial or final delivery.
- b. Invoices must show:
 - the date,
 - the name
 - address of the client/department,
 - item or reference numbers,
 - deliverable/description of the Work,
 - contract number.
 - Client Reference Number (CRN)
 - Procurement Business Number (PBN)
 - financial code(s);
- c. Applicable Taxes must be specified on all invoices as a separate item along with corresponding registration numbers from the tax authorities. All items that are zero-rated, exempt or to which Applicable Taxes do not apply, must be identified as such on all invoices.
- d. By submitting an invoice, the Contractor certifies that the invoice is consistent with the Work delivered and is in accordance with the Contract.
- e. Invoice must be submit

BY E-MAIL: asc.facturation-invoicing.csa@canada.ca

And One (1) copy must be forwarded to the Project Authority



10. Electronic Payment of Invoices

The Government of Canada is phasing out paper cheques in favour of Direct Deposit for all payments issued by the Receiver General. Direct Deposit is a secure and reliable method of receiving payment, eliminating the risk of lost or stolen cheques. You will find all the information to enrol in direct deposit with Canadian Space Agency at: http://www.asc-csa.gc.ca/eng/forms/vendor-direct-depot-form.asp

11. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in QUÉBEC

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

12. Contracting Authority

The Contracting Authority for the Contract is:

Julie Mercier

Procurement and Contract Agent

Canadian Space Agency 6767 route de l'Aéroport Saint-Hubert, QC Canada J3Y 8Y9

Telephone: (438) 270-5868

E-Mail: julie.mercier@asc-csa.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

13. Project Authority

To be inserted at contract award.

Name: TBD

Title:

Space Utilization

Canadian Space Agency

Address: 6767, Route de l'Aeroport St-Hubert, Québec, J3Y 8Y9

Telephone: (450) 926-E-Mail: @asc-csa.gc.ca

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.



14. Technical Authority (TA)

To be inserted at contract award.

Name: Title:

Space Utilization Canadian Space Agency

Address: 6767, Route de l'Aeroport

St-Hubert, Québec, J3Y 8Y9
Telephone: (450) 926E-Mail: @asc-csa.gc.ca

The Technical Authority (TA) is the Contractor's point-of-contact for all matters concerning the technological content of the work under this Contract. The TA is responsible for recommending for approval the technical progress of the work conducted under this contract. Any proposed changes to the scope of the work or otherwise are to be discussed and agreed with the Project Authority, but any resultant changes can only be authorized by a contract amendment issued by the Contracting Authority.

15. Contractor's Representative

The Contractor's Representative for the Contract is:

Name: Contractor: Telephone: E-Mail:

16. Performance Evaluation

Contractor shall take note that the performance of the Contractor during and upon completion of the work shall be evaluated by the Government of Canada. Should the Contractor's performance be considered unsatisfactory more than once, the Contractor's bidding privileges on future work may be suspended for a period of 18 months or 36 months.

Contractor Performance Evaluation Report Form is used to record the performance. See Annex D.

17. Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

18. Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a <u>Public Service Superannuation Act</u> (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with <u>Contracting Policy Notice: 2012-2</u> of the Treasury Board Secretariat of Canada.



19. Recourse for suppliers with respect to the Procurement Process

Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. There are several mechanisms available to suppliers to address concerns they may have related to federal government procurement, such as: the Office of the Procurement Ombudsman (OPO), the Canadian International Trade Tribunal (CITT), the Competition Bureau, and before the Federal Court of Canada and any of Canada's provincial superior courts. Regardless of the forum to which a supplier brings a complaint, there are strict timelines for filing complaints.



ANNEX "B"

Basis of Payment Pricing



The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

From contract award until April 30th, 2023. For all contracts

No.	Milestone Title	Deliverable Description	Estimated Delivery Date	Maximum funding per milestone	Price per milestone
1	Kick-off meeting report	The kick-off meeting report will also contain relevant reference documents.	No later than ten (10) working days after the kick-off meeting.	30%	\$
2	Consultation & prioritization plan	The contractor will present his consultation plan, prioritization process and prioritization criteria to the CSA for approval before moving forward.	March 31 st , 2022	10%	\$
3	Draft report	The contractor will provide a draft report for discussion and approval with the CSA to ensure that it will meet the objectives of the contract.	December 31 st , 2022	40%	\$
4	Final report	The contractor will submit the final report containing all the elements described in the statement of work.	April 30 th , 2023	20%	\$
Total sum of firm price				\$	
Applicable taxes				\$	
Total including tax				\$	

For the description of the expected deliverable(s) per milestone and expected participants, please refer to the Meetings and Deliverables section (Annex C). Additional milestones may be added through mutual agreement between the CSA and the Contractor.



ANNEX C

STATEMENT OF WORK (SOW)



1. TITLE

Space Exploration Science Priority Report – Space Exploration Topical Teams

2. OBJECTIVE

The objective of the work outlined in this Statement of Work (SOW) is to engage space exploration topical teams to produce a consensus report that can inform decision-making on the future of the space exploration program via community-led consultation prioritizing Canadian science activities and investigations based upon scientific merit, importance to the community and benefits to Canada. The Topical Teams will identify discipline scientific priorities, opportunities and steps needed to incorporate these into space exploration missions. In particular, this should include a detailed update of the 2016 Canadian Space Exploration: Science and Space Health Priorities for the Next Decade and Beyond report while integrating the latest developments in knowledge, research and recommendations from the science, health and space exploration communities since its publication in 2017. As a science-driven document, the resulting updated report will be used as an input for Canada's strategic planning for future space exploration initiatives with activities beginning as early as 2024 and spanning up to a 2050 horizon.

3. SPACE EXPLORATION SCIENCE AND ASTRONAUT HEALTH TOPICS

The contractor must form a Topical Team to address one (1) of the following Topic:

Table 1: Topical Team Domains and Topics

#	Topical Team Domain	Topic*
1.	Space Astronomy	Cosmic Origins (subjects can include, but not limited to: Cosmic Microwave Background, Expansion, Abundance of the Elements, Dark Matter, Dark Energy)
2.	Space Astronomy	Stellar and Galaxy Evolution (subjects can include, but not limited to: Structure, Galaxy Clusters, Intergalactic Matter, Galaxy and Star Formation and Evolution)
3.	Space Astronomy	High Energy Astrophysics (HEA) and Gravitational Waves (subjects include, but not limited to: Black Holes, Super Novae, Mergers, multimessenger astrophysics, Physics of the Universe Extreme Conditions)
4.	Space Astronomy	Exoplanets (subjects include, but not limited to: Detection, Characterization, Formation of Planetary Systems, Exoplanetary and Solar System, Biosignatures)
5.	Planetary Science	Astrobiology – Could Other Planetary Bodies Host Life?
6.	Planetary Science	Planetary Atmospheres
7.	Planetary Science	Planetary Geology and Geophysics
8.	Planetary Science	Planetary Space Environment
9.	Planetary Science	Planetary Prospecting for Resources (subjects include, but not limited to: Destination and Reconnaissance Assessment, Resource Assessment, Environment preservation, Regolith simulants)
10.	Astronaut Health**	Capabilities in future space platforms that are required for health research and health support/care; Strategies for countermeasure development; Recommendations for use of space to address Earth health issues.

^{*} It is noted that perfect delineation between the listed topics is not possible and that there may be overlap between proposed missions or flagships amongst different topics.

^{**} Since the selected Astronaut Health Topical Team will cover three topics, its contract value is adjusted accordingly, as mentioned in Annex B of the RFP.



4. BACKGROUND

Canada's 2019 Space Strategy supports science excellence, innovation and economic growth [RD-01]. It includes a commitment by the Government of Canada to improve its approach to selecting science missions by forging inclusive partnerships with the science community within and outside government to help collectively determine Canada's next slate of science missions.

One important element of this partnership is science community input to strategic planning of the Canadian Space Agency's Space Exploration activities through the Science Priorities documents that were produced by community Topical Teams in 2009 and 2016. The Canadian Space Agency (CSA) is looking for a significant update by the science, medical and space exploration communities to the 2016 Science Priority Report [RD-02] considering advances in knowledge and research since 2016 and extending its horizon to include activities that prepare for missions with a notional launch date prior to 2050, with preparatory activities beginning as early as 2024.

Ten (10) topics are grouped into three (3) Topical Team domains (a list of the sought Topical Teams can be found in Table 1):

- Space Exploration Topical Teams are sought from the <u>Planetary Science</u> and <u>Space Astronomy</u> domains so that community recommendations on a balanced slate of activities and missions can be identified. For Space Astronomy, this activity is a follow-on to the work of the Long Range Plan 2020 [RD-05] and the next step towards its implementation as well as an opportunity to consider a longer time horizon.
- From the <u>Astronaut Health</u> and the <u>Planetary Prospecting for Resources Topical Teams</u>, instead
 of recommendations on launches of specific missions, the CSA seeks recommendations on
 priorities and activities (more details below).

Recommendations and updates to Canadian space exploration science priorities should also consider the rapidly advancing international space exploration landscape (e.g., ISECG Global Exploration Roadmap [RD-03], ISECG Global Exploration Roadmap Supplement – Lunar Surface Exploration Scenario Update [RD-04], ISECG In-Situ Resource Utilisation Gap Assessment Report [RD-07]) and Canadian programs or initiatives that were initiated since the publication of the 2016 Science Priority Report, including Gateway, the Lunar Exploration Accelerator Program (LEAP), the Health Beyond Initiative and others.

5. SCOPE

The CSA, under this Request For Proposal (RFP), has a requirement for contractors to produce a science-driven report of Canadian community consensus recommendations in the selected Space Exploration Science Topics. The format of the report deliverable will be agreed with CSA and potentially supported by an editor appointed by the CSA. The reports generated by the Topical Teams will be combined with those of the other selected Topical Teams, and made available to the space exploration community by the CSA in both, English and French.

The Topic report will be based, as a reference, on the chapter(s) most relevant to the Topics from the 2016 Topical Teams report "Canadian Space Exploration: Science and Space Health Priorities for the Next Decade and Beyond" [RD-02], and for Space Astronomy Topics, the Canadian Astronomy Long Range Plan 2020-2030 [RD-05].

The Topic report will prioritize high impact Science Objectives that reflect Canadian interests and strengths. Under each Science Objective, the report will prioritize Canadian Investigations to advance the objective, as well as needs for community capability development.

• An Investigation uses a space mission (robotic or crew-enabled), space instrument, space data, or sample returned from space to advance the knowledge of the relevant space science. For each proposed mission or instrument concept, its readiness for flight should be described. Investigations can also use existing space data or returned samples, or those anticipated from approved missions for which the deadline for Canadian hardware contributions has passed. Possible co-investigator /guest observer/ interdisciplinary scientist investigations can also be included in the report.



 Capability development applies to general laboratory, numerical modelling, technology/infrastructure development or analogue research that could support different future space missions.

As per the 2016 Science Priority Report [RD-02], science merit, importance to community, and benefits to Canada should serve as a baseline for the prioritization of science objectives and investigations.

Considered space mission platforms should include low Earth orbit (e.g., International Space Station), lunar vicinity (e.g., Gateway), lunar surface and beyond the Moon (e.g., Mars) as well as any other platform/destination relevant to space exploration.

The notional planning horizon for Objectives and Investigations is 2050. This planning horizon reflects the timeline for selection and implementation of NASA and ESA flagships, as well as the next planning cycle for ESA's Science Program, *Voyage* 2050.

The community consultation activities of the Topical Teams are expected to include an open, inclusive and proactive solicitation intended to engage all interested members of the relevant Canadian community. The contractors should attempt, when possible, to maximize equity, diversity and inclusion in their consultation and also target input of students and postdoctoral fellows. Contractors may also choose to co-ordinate their solicitation process with other Topical Team contractors, where relevant. Proposed Topical Teams should demonstrate that they will be able to factor in the international space exploration landscape and thus understand future international mission concepts in which Canada could participate or international collaboration opportunities on potential Canadian-led mission concepts.

These recommendations will be used as a key input to CSA Space Exploration strategic planning for future science and development activities. Science community priorities documented in Topical Team reports are used as key components of the business cases for CSA investments in space science missions.

6. TASK DESCRIPTION

Please note that distinct instructions are provided for the different Topical Teams (Domains or Topics) which should be addressed. See subheadings in section 6.3 below.

6.1 Review of Reference Documents and Preparation of the Consultation Plan and Prioritization Process

The contractor must manage an activity to review the 2016 Science Priority Report [RD-02] and other reference documents relevant to the respective Topical Team and collect recommendations including proposed Science Objectives, Investigations (including possible missions), Capability Development (including a list of current capabilities) and Scientific Opportunities for consideration in the Topic selected in the bid from the relevant Canadian Science or Astronaut Health community. The consultation plan, the prioritization process and prioritization criteria must be shared and approved by CSA before moving forward. Initially suggested prioritization criteria include scientific merit, importance to the community and benefits to Canada, however they may also include other considerations where the Topical Team can justify their importance.

Other relevant reference documents are dependent on the respective Topical Team and will be discussed at the contract Kick-Off Meeting but should include references such as Canadian Astronomy Long Range Plan 2020-2030 [RD-05], NASA Human Research Roadmap [RD-06], NASA Decadal, other plans by international partners, etc. Topical Team activity should not duplicate existing community-wide consultation since 2016, but update and augment them.



6.2 Community Consultation to Identify/Review Science Objectives and Identify Opportunities

The Topical Teams must carry out an open, inclusive and proactive solicitation intended to engage all interested members of the relevant Canadian community to review currently proposed Canadian Science and Space Health Priorities [RD-02] and identify new science objectives. The objectives should be accompanied by a description and rationale as well as a description of the current state of knowledge and knowledge gaps. Further, the Topical Teams must solicit new recommendations from their respective communities and maintain a list of possible missions or priorities and activities and science opportunities until 2050, and map them against the science objectives. Options for international collaboration should be included in these opportunities. The contractor must clearly communicate their prioritization criteria to the community at the time when ideas are solicited.

6.3 Review and Prioritization of Recommendations and Preparation of Final Report

6.1.1 Specific Instructions for the Space Astronomy and Planetary Science Topical Teams (Teams 1 – 8), except for Planetary Science: Planetary Prospecting for Resources Topical Team (Team 9) which should refer to Section 6.3.2 below.

For the Space Astronomy and Planetary Science Topical Teams (except for the Planetary Prospecting for Resources Topical Team), community consensus recommendations will focus on prioritized Science Objectives, Investigations and Capability Development for the selected Topic.

The final report builds on the 2016 Science Priority Report [RD-02] (in addition to the Canadian Astronomy Long Range Plan 2020-2030 [RD-05] for the Space Astronomy Topical Teams).

The format of the final report will be agreed with the CSA. In addition, the final report will not exceed a page limit of 20 pages (including references), and is anticipated to contain the following elements:

- a. A short executive summary (suitable for public distribution)
- b. Introduction to the Topic in Canada. This section will identify the state of the art for the Topic, and include important results and capabilities in Canada, especially those that have been developed or advanced significantly since the 2016 report.
- c. Prioritized Science Objectives (denoted platform/destination and approximate timeline (short, medium, long-term) should be indicated)
 - Science Objective 1
 - Investigation 1.1
 - Investigation 1.X
 - Science Objective X
- d. Current Capabilities (this section lists active organisations, facilities, and capabilities in Canada)
- e. Prioritized Capability Development
 - Activity 1
 - Activity X
- f. List of Topical Team members and high-level summary of community consultation methodology
- g. Prioritization criteria, as applied
- h. Lessons learned for future Topical Team activities
- 6.1.2 Specific Instructions for the Planetary Science: Planetary Prospecting for Resources Topical Team (Team 9)

This Topical Team focusses on Science elements as listed below. As this Topic engages many stakeholders in addition to science, the Team will take as a starting point the recent ISECG gap assessment report [RD-07], and agree the full scope of recommendations and prioritization criteria with CSA at the Kick-Off meeting. The Team is encouraged to reach out to and include



experts in ore prospecting and extraction from both academia and industry. New material on the Topic may be provided by the CSA during the study.

Although prospecting for resources to create products and services for robotic, and human exploration and sustained presence, instead of bringing them from Earth, is broader than a direct planetary science activity, the related science capabilities are essential in the early phase of such objectives.

For the Planetary Prospecting for Resources Topical Team, community consensus recommendations will focus on:

- a. Destination and Reconnaissance Assessment
- b. Resource Assessment
- c. Environmental preservation to enable a sustained science program and human exploration presence
 - d. Regolith simulants

The Planetary Prospecting for Resources Topic report will include recommendations for Science Instrument Investigations and Co-I investigations focussed fully on achieving Resource objectives. Geoscience or other planetary science investigations that might make use of a similar payload should be prioritized within the relevant Planetary Science Topical Team report. In addition, the recommendations from this Topic will support CSA efforts to work with Other Government Departments on space mining as included in the Canadian Metal and Minerals Plan. The report from the Planetary Prospecting for Resources Topical Team will not exceed 40 pages (including references) and is anticipated to have the following structure:

- a. A short executive summary (suitable for public distribution)
- b. Introduction to the Topic in Canada. This section will identify the state of the art for the Topic, and past Canadian involvement in the three areas (prospecting, environmental preservation, and regolith simulant development as relevant), including past studies for space and Canadian science and technology capabilities in state of the art ore prospecting approaches on Earth, and new approaches to environment preservation.
- c. Prioritized Objectives for Prospecting.
 - This section should prioritize Strategic Knowledge Gaps listed for the Destination, Reconnaissance, and Resource Assessment Phase described in RD-07 with respect to Canadian capabilities and interests. The top ten SKGs should be identified with rationale.
- d. Prioritized Objectives for Environmental Preservation
 - This section should consider resource extraction, processing and production as described in RD-07 and identify key science objectives that require study to design an environmental preservation framework. The top 5 objectives should be detailed.
- e. Prioritized Objectives for Regolith Simulant
 - This section should consider objectives for which simulant is needed in RD-07 and prioritize these in terms of capabilities that Canada has to produce them, or strategic need in Canada related to prioritized Objectives identified in Prospecting or Environmental Preservation sections.
- f. Prioritized Investigations (approximate timeline (short, medium, long-term) should be indicated)
 - For each of the prioritized Objectives above, provide prioritized Instrument, and/or Co-Investigator Investigations, and/or fundamental research, where relevant
- g. Current Capabilities (this section lists active organisations, facilities, and capabilities in Canada)



- h. Prioritized Capability Development
 - Activity 1
 - Activity X
- Recommendations the team is encouraged to write a summary of recommendations, incorporating the most important priorities identified during the work, and any other recommendations related to the Topic that do not easily fall into the above sections.
- j. List of Topical Team members and high-level summary of community consultation methodology
- k. (including specific mention of the effort taken to engage with the Canadian mining industry)
- I. Prioritization criteria, as agreed with CSA
- m. Lessons learned for future Topical Team activities

6.1.3 Specific Instructions for the Astronaut Health Topical Team

For the Astronaut Health Topical Team, community consensus recommendations will focus on:

- a. Priorities for the development of capabilities in future space platforms that are required for health research and health support/care;
- b. strategies for the development of improved countermeasures; and
- c. strategies for the development of activities that use space to solve Earth health issues.

The Astronaut Health Topic report will not focus on specific missions or investigations. Instead, CSA seeks recommendations to help prioritize and optimize the development of new capabilities for the support of future space research and/or medical operations. These capabilities could include, among others, sample analysis, bioreactors, incubators, robotic elements, artificial intelligence, physiological monitoring, and imaging. Recommendations must also address how to best develop better countermeasures and biomedical technologies to counter health risks of human spaceflight and how it could directly improve health and healthcare on Earth. 'Countermeasures' in this context is broad, and can include exercise, nutritional, pharmaceutical and other interventions, as well as biomedical technologies aimed at providing autonomous health care to deep space missions. Table 2 presents exploration risks that must be considered by the team. Finally, the report will include community recommendations on how to develop activities that allow Canadians to use space to directly address health risks on Earth. The report from the Astronaut Health Topical Team will not exceed 40 pages (including references) and is anticipated to have the following structure:

- a. A short executive summary (suitable for public distribution)
- b. Introduction to the Topic in Canada. This section will identify the state of the art for the Topic, and past Canadian involvement in the three areas (development of capabilities, countermeasure evolution, and use of space for Earth health issues).
- Prioritized Capabilities to be targeted for the enablement of future space health research and medical care
- d. Recommendations for the development of countermeasures against the risks of human space flight (such as competitive opportunities, partnerships, events and other elements including infrastructure)
- e. Community recommendations on using space to address Earth health issues
- f. List of Topical Team members and high-level summary of community consultation methodology
- g. Prioritization criteria, as applied
- h. Lessons learned for future Topical Team activities



6.4 Canadian Space Exploration Workshop 2022 Status Report

The contractor (at least one Topical Team members) must participate at the planned CSA Canadian Space Exploration Workshop (CSEW) – Summer 2022 (TBC), and use this workshop to continue community consultation (side-meetings of Team members, community town hall meetings, status report presentations to attendees as part of a consensus building plan) in the Topic in question. The format of the CSEW 2022 is presently planned to be a virtual format. Topical Team members may also provide a status report presentation of Topical Team work at other Canadian or at international workshops as mutually agreed with CSA.

The contractor may propose additional activities relevant to the development of the Topical Team recommendations. These will be agreed with CSA at the Kick-Off Meeting.

7. REFERENCE DOCUMENTS

RD No.	Document Number / Source	Document Title	Date
RD-01	http://www.asc- csa.gc.ca/pdf/eng/publications/space- strategy-for-canada.pdf	Exploration, Imagination, Innovation: A New Space Strategy for Canada	Mar 2019
RD-02	ftp://ftp.asc- csa.gc.ca/users/ExP/pub/Publications/ Science%20Priority%20Reports/	Canadian Space Exploration: Science and Space Health Priorities for Next Decade and Beyond	2017
RD-03	https://www.globalspaceexploration.org /wordpress/wp- content/isecg/GER_2018_small_mobil e.pdf	Global Exploration Roadmap, International Space Exploration Coordination Group	Jan 2018
RD-04	https://www.globalspaceexploration.org/?p=1067	Global Exploration Map Supplement	Aug 2020
RD-05	https://casca.ca/wp- content/uploads/2021/05/LRP2020_fin al_EN.pdf	Canadian Astronomy Long Range Plan 2020-2030	2021
RD-06	https://humanresearchroadmap.nasa.g	NASA Human Research Roadmap	2020
RD-07	https://www.globalspaceexploration.org/wordpress/wp-content/uploads/2021/04/ISECG-ISRU-Technology-Gap-Assessment-Report-Apr-2021.pdf	In-Situ Resource Utilization Gap Assessment Report	Apr 2021



Table 2: Eligible Human Space Flight Risks

Health Risk	Description	
Musculoskeletal	Risks resulting from reduced muscle strength and aerobic capacity, and increased bone fragility, during missions and after.	
Sensorimotor	Mission risks resulting from sensory changes/dysfunctions.	
Metabolism	Mission risks associated with metabolism and the effects of nutrient composition of diet on health during space missions.	
Behavioural Health and Performance	Behavioural health and performance risks related to long duration (six months or greater) space missions.	
Radiation	Health risks related to exposure to space radiation.	
Autonomous Health Care	Risk of adverse health effects related to lack of health care capabilities during deep space missions.	
Variable Gravity	Health risks associated with physiological adaptation (including Space Associated Neuro-optical Syndrome) during transit (i.e. long duration exposure to microgravity) and sojourn on planetary surfaces. Note that physiological adaptation includes adaptation of human-associated microbial communities. Other risks can be associated with planetary exploration and can include, for instance, exposure to dust.	

Meetings and Deliverables

From the contract award date until April 30th, 2023, the contractor must provide at a minimum the following meetings and teleconferences by the specified due date:

No.	Meeting	Purpose	Delivery Date / Frequency	
1	Kick-off meeting	To review objectives and contract schedule, and to obtain mutual agreement on tasks.	No later than fifteen (15) working days after the contract start date.	
2	Progress meetings	The contractor must hold regular meetings to report on progress, ensure sufficient information flow, ensure alignment of the contractor with CSA objectives and seek mutual agreement with the CSA on the directions taken by the Topical Team. Throughout the contract, the CSA may also organize a small number of ad hoc meetings with all Topical Team leads at once to provide relevant context and ensure consistency amongst topical teams.	Meeting frequency to be determined at the kick-off meeting, but at a minimum of once every three (3) months.	
3	Draft report review meeting	To review the draft report and structure.	No later than December 31 st , 2022.	
4	Final review meeting	In the form of a presentation via teleconference or videoconference, the contractor will present the final results of the contract and review any additional recommendations from the contractor resources and from the CSA.	No later than April 21st, 2023.	



From the contract award date until April 30, 2023, the contractor must, at a minimum, provide the following deliverables by the specified due date:

No.	Deliverable	Description	Delivery Date
1	Kick-off meeting report	The kick-off meeting report will also contain relevant reference documents.	No later than ten (10) working days after the kick-off meeting.
2	Consultation & prioritization plan	The contractor will present the consultation plan, the prioritization process and prioritization criteria to the CSA for discussion and approval before moving forward.	March 31 st , 2022
3	Draft report	The draft final report to ensure that it will meet the objectives of the contract. It should be noted that this draft report may be distributed by the CSA to other relevant stakeholders as a means to further enhance the consensus building associated with the topic.	December 31 st , 2022
4	Final report	The final report must stand by its own, be complete and contain up-to-date information about the selected topics.	April 30 th , 2023



ANNEX D

Performance Evaluation Report



Contract #:						
Contractor's Name:	Award Amt:		Award Date:			
Contractor's Address:	Final Amt:		End Date	ə:		
		Total Spent	::	ļ		
		TA Contrac	t:	☐ Yes	□ No	
Description of Work:	Amendme	nt History:				
Client Department:			T			
Project Authority Name:	Procurement Authority Name:	ty PWGSC Contracting Authority Name:				
Telephone #:	Telephone #:		Telephone #			
e-mail:	e-mail:		e-mail:			
How do you rate the Contractor	's overall performance?	,				
below expectations		above expect	ations			
	_ аз ехрессеи					
2. Resources					,	
a. Did the Contractor provide the		•		∐ Yes	∐ No	
b. Did the Contractor's resources	conduct their work in a pro	ofessional ma	nner?	∐ Yes	∐ No	
c. Were replacement resources i	equired?			∐ Yes	∐ No	
3. Replacement Resources						
a. Did the Contractor's request to	replace the resources imm	ediately after	Contract Award?	☐ Yes	□No	□NA
b. Did the Replacement Resource	•	•	Contract / tw ara:	☐ Yes	□ No	□ NA
c. How many times were the Cor	·			☐ Yes	☐ No	□ NA
or rion many amos more and co.						
4. Was the Contract completed w	ihin the predetermined:					
a. Time Estimate?		Yes No				
b. Cost Estimate?				Yes	☐ No	
5. Were the required Reports and	Deliverables:					
a. In conformity with the Scope &				☐ Yes	□No	
b. Received in the specified time				Yes	☐ No	
·						
6. Contract Management						
a. Did the Contractor deal with pe	erformance issues in a time	ly basis?		∐ Yes	∐ No	∐ NA
b. Did the Contractor submit the in	the Invoicing	Instructions?	∐ Yes	∐ No		
c. Did the Contractor submit the in	the Basis of	Payment?	Yes	☐ No		
d. Did the Contractor submit the in	the Method o	f Payment?	Yes	☐ No		
e. Did the Contractor respond to			Yes	☐ No	☐ NA	
f. Did the Contractor properly res	?		Yes	☐ No	☐ NA	
7. Remarks						



ANNEX E

INTEGRITY FORM

To be included with certifications (Section III: Certifications):



Dénomination complète de l'entreprise / Complete Legal Name of Company				
A	dresse de l'entreprise / Company's address			
NI	EA de l'entreprise / Company's PBN number			
Numéro	de l'appel d'offre / Request for proposal's number			
	conseil d'administration (Utilisez le format – Prénom, Nom I of Directors (Use format – First name, Last name			
1. Membre / Director				
2. Membre / Director				
3. Membre / Director				
4. Membre / Director				
5. Membre / Director				
6. Membre / Director				
7. Membre / Director				
8. Membre / Director				
9. Membre / Director				
10. Membre / Director				
Autres Membres / Other members:				
Commentaires / Comments				



ANNEX F

PROPOSAL FORM



Bid Preparation Instruction Proposal Form

Notice to Applicants: All fields must be filled as indicated. Your application may not be considered if there is missing or incomplete information. It is the applicant's responsibility to ensure that the application complies with all relevant federal, provincial/territorial and municipal laws. In section 3 and 4, Bidders must respect the maximum number of pages (using Letter format) for each section and must format the body of the text as follows: Arial, 11pt with single space between lines. The bidder can use paragraph justification, headers and other document formatting to facilitate reading.

SECTION 1: APPLICANT INFORMATION: PROPOSED TEAM				
Legal name of the organization				
Full name of the contractor's representative				
Title / Position				
Address				
Telephone	Fax			
Email				
Preferred language for correspondence	English	French		
SECTION 2: SIGNATURES				
	Full name of duly authorize	zed representative		
	Title / Position			
Signature of Applicant Date				
Instructions: Due to the current situation with the spread of	Telephone	Fax		
coronavirus disease (COVID-19), Bidders must use the epost connection service or fax (819-997-9776) prior to the date and time indicated on the first page	Email			
of the bid solicitation. Paper bids will not be accepted.	I declare that I am the duly authorized representative for the organization.			
	Signature	Date		



SECTION 3: TASK	REQUI	REMENTS	
Space Exploration	1	Space Astronomy:	Cosmic Origins
Science & Space	2	Space Astronomy:	Stellar and Galaxy Evolution
Health Topics	3	Space Astronomy:	High Energy Astrophysics and Gravitational Waves
Select one topic*	4		
·	5	Planetary Science:	Astrobiology
	6	Planetary Science:	Planetary Atmospheres
	7	Planetary Science:	Planetary Geology and Geophysics
	8	Planetary Science:	Planetary Space Environment
	9	Planetary Science:	Planetary Prospecting for Resources
	10	Astronaut Health:	Capabilities in future space platforms that are required for health research and health support/care; Strategies for countermeasure development; Recommendations for use of space to address Earth health issues.
Understanding of the Task Requirements (Refers to Evaluation criteria RC1)	The contractor includes an overview of the Topic that references relevant previous Canadian science priority documents, and convincingly demonstrates excellent knowledge of the Topic by referencing international programs, recent results, and strengths in Canada as described in the Statement of Work. This section MUST NOT exceed two (2) pages.		
Methodology for Soliciting and Prioritizing Recommendations (Refers to Evaluation criteria RC1)	For Planetary Science and Space Astronomy Topical Teams (save the Planetary Prospecting for Resources Topical Team), the contractor must present in their bid their methodology to develop a review process and prioritization criteria that their team will use to produce and document a consensus list of priorities for (i) Science Objectives, (ii) Investigations to achieve the Science Objectives, and (iii) Capability Development.		
	For the Planetary Science: Planetary Prospecting for Resources Topical Team, the contractor must present in their bid, their methodology to develop a review process and prioritization criteria that their team will use to produce a document a consensus list of priorities for: (i) Destination and Reconnaissance Assessment, Resource assessment, Environmental preservation, Regolith simulants; (ii) Science Instrument Investigations and Co-I investigations focussed fully on achieving Resource objectives, Geoscience or other planetary science investigations that might make use of a similar payload. For the Astronaut Health Topical Team, the contractor must present in their bid their methodology to develop a review process and prioritization criteria that their team will use to produce and document a consensus list of priorities for the development of new capabilities for the support of future space research and/or medical operations; (ii) community recommendations on how to best develop countermeasures against the health risks of spaceflight; and (iii) community recommendations for approaches and activities leading to the use of space to directly address health risks on Earth. In all cases, the consensus process must be fair and inclusive and transparent. Conflicts of interests of contractor team members must be declared and addressed.		



	Consensus building around the final recommendations is expected to include an opportunity for the broad scientific/subject matter expert community who submitted ideas to comment on draft priorities before they are made final. This section MUST NOT exceed two (2) pages.
Team Expertise (Refers to Evaluation criteria RC2)	This section summarizes the capability (education, experience, expertise and complementarities) of the personnel assembled to carry out the Bid, and their ability to ensure an inclusive process. In this section, the Bidder may summarize past achievements of the personnel assembled to carry out the Bid in the fields of expertise of the selected topics. This section is complementary to Section 4 of the Proposal Form and to the requested 1-page professional CVs. This section MUST NOT exceed two (2) pages.
Team Management and Leadership (Refers to Evaluation criteria RC3)	This section summarizes relevant management experience and leadership capability of the Team Leader, the availability of resources and the project schedule. This section is complementary to the Team Leader form in Section 4 of the Proposal Form and to the requested Team Leader 1-page professional CV. This section MUST NOT exceed two (2) pages.
Engagement Approach and Diversity (Refers to Evaluation criteria RC4)	This section describes how the target community and groups are identified and the engagement plan to foster participation from diverse groups, students and postdoctoral fellows and build consensus in the community on the final recommendations. This section MUST NOT exceed one (1) page.

^{*} In the event that two (2) or more bids are received from the same bidder organization AND Team Leader, only one may be recommended for funding (i.e., each Topical Team contract must be led by a different Team Leader).



SECTION 4: TEAM EXPERIENCE*				
am Leader ☐ I have included a 1-page professional CV with the proposal ☐ I confirm having the necessary time devoted to carry out the proposed work				
Full Name	Telephone			
Title / Position	Email			
Organisation	Topic(s) related to the expertise:			
Short paragraph summarizing the expertise and leadership experience with respect to the selected topic(s):				
Team Member #2 ☐ I have included a 1-page professional C ☐ I confirm having the necessary time dev				
Full Name	Telephone			
Title / Position	Email			
Organisation	Topic(s) related to the expertise:			
Team Member #3 ☐ I have included a 1-page professional C ☐ I confirm having the necessary time dev	·			
Full Name	Telephone			
Title / Position	Email			
Organisation	Topic(s) related to the expertise:			



Team Member #4	☐ I have included a 1-page professional C☐ I confirm having the necessary time dev	·		
Full Name		Telephone		
Title / Position		Email		
Organisation		Topic(s) related to the expertise:		
Team Member #5	☐ I have included a 1-page professional C	W with the proposal		
	I confirm having the necessary time dev	oted to carry out the proposed work		
Full Name		Telephone		
Title / Position		Email		
Organisation		Topic(s) related to the expertise:		
Team Member #6	☐ I have included a 1-page professional C☐ I confirm having the necessary time dev			
Full Name		Telephone		
Title / Position		Email		
Organisation		Topic(s) related to the expertise:		
Team Member #7	Team Member #7 ☐ I have included a 1-page professional CV with the proposal ☐ I confirm having the necessary time devoted to carry out the proposed work			
	T commit having the necessary time dev			
Full Name		Telephone		
Title / Position		Email		
Organisation		Topic(s) related to the expertise:		
Team Member #8 ☐ I have included a 1-page professional CV with the proposal ☐ I confirm having the necessary time devoted to carry out the proposed work				
Full Name				
		Telephone		
Title / Position		Email		
Organisation		Topic(s) related to the expertise:		

^{*} Attach additional sheets with the same format for additional resources.