



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Travaux publics et Services gouvernementaux  
Canada

Place Bonaventure,  
800 rue de la Gauchetière Ouest  
Voir aux présentes - See herein  
Montréal  
Québec

H5A 1L6

FAX pour soumissions: (514) 496-3822

**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address**

Raison sociale et adresse du  
fournisseur/de l'entrepreneur

**Issuing Office - Bureau de distribution**

Travaux publics et Services gouvernementaux Canada  
Place Bonaventure, portail Sud-Oue  
800, rue de La Gauchetière Ouest  
7e étage, suite 7300  
Montréal  
Québec  
H5A 1L6

<b>Title - Sujet</b> Tech. Concept Studies - 3 fields	
<b>Solicitation No. - N° de l'invitation</b> 9F063-180463/A	<b>Amendment No. - N° modif.</b> 003
<b>Client Reference No. - N° de référence du client</b> 9F063-180463	<b>Date</b> 2018-11-20
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$MTB-575-15066	
<b>File No. - N° de dossier</b> MTB-8-41203 (575)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2018-12-10</b>	
<b>Time Zone</b> Fuseau horaire Heure Normale du l'Est HNE	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Jurca, Anca	<b>Buyer Id - Id de l'acheteur</b> mtb575
<b>Telephone No. - N° de téléphone</b> (514) 415-4231 ( )	<b>FAX No. - N° de FAX</b> (514) 496-3822
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> Raison sociale et adresse du fournisseur/de l'entrepreneur	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Solicitation No. - N° de l'invitation  
9F063-180463/A  
Client Ref. No. - N° de réf. du client  
9F063-18-0463

Amd. No. - N° de la modif.  
003  
File No. - N° du dossier  
MTB-8-41203

Buyer ID - Id de l'acheteur  
MTB575  
CCC No./N° CCC - FMS No./N° VME

---

**Project Title**

Technology Concept Studies in the Fields of Medical Diagnostic Tools, Radiation Protection and Medical Training and Simulation for Deep Space Missions.

The above mentioned Request for Proposal (RFP) is hereby amended to deliver the minutes, questions and answers resulting from the Bidders' Conference held on November 8<sup>th</sup> 2018:

**ADD the following attachment to the RFP document:**

**“ATTACHMENT 1 TO PART 2 - MINUTES, QUESTIONS AND ANSWERS RESULTING FROM THE BIDDERS' CONFERENCE”,** forming part of the RFP document.

***ALL OTHER TERMS AND CONDITIONS OF THE RFP REMAIN UNCHANGED***

---

## ATTACHMENT 1 TO PART 2

### MINUTES, QUESTIONS AND ANSWERS RESULTING FROM THE BIDDERS' CONFERENCE

#### A- BACKGROUND

As stated under Part 2, section 2.7 of the *Request for Proposal* (RFP) document, all parties who intend to submit a proposal in response to the RFP were invited to attend a Bidder's Conference. This conference presented as a good opportunity for any interested bidder to seek clarifications about the bid solicitation document.

The conference was held as planned, on Thursday November 8<sup>th</sup> 2018, through a teleconference/WebEx.

The speakers were Mrs. Annie Martin (ASC), Mrs. Geneviève Dubreuil-Laniel (ASC) and Mrs. Anca Jurca (PWGSC).

#### B- ATTENDEES

Approximately 13 people attended the French session and 48 people the English session. Among the participants, there were representatives from the private sector and Canadian universities.

#### C- MINUTES OF THE MEETING

##### Introduction

Mrs. Anca Jurca first welcomed the participants and then followed by introducing herself as the PWGSC Contracting Officer in charge of managing this procurement activity for CSA.

She invited the CSA representatives to introduce themselves. She then informed all participants that the conference would be recorded.

All participants were instructed to voice their objection before the start of the recording of the session, to not participate in the session and if they did participate, that it would automatically implies their consent to the recording.

Please note that because of the technical difficulties the conference was not recorded.

Mrs. Jurca carried on by informing all participants on the conduct and the agenda of the Bidder's conference. She also specified that there would be a question period at the end of CSA's presentation and that we would write down all the Questions and Answers (Q&As) that would arise from the conference and those Q&As would be posted on [www.buyandsell.gc.ca](http://www.buyandsell.gc.ca), in both languages, a few days after the event. (Please refer to section D- of this document for the Q&As.)

This presentation lasted about ten minutes and then the ASC began its presentation.

Copies of the presentations made by PWGSC and CSA are included as annexes to this document (ANNEX 1 and ANNEX 2 TO ATTACHMENT 1 TO PART 2).

---

### **CSA Presentation**

Mrs. Annie Martin (Project Officer, Operational Space Medicine, CSA) gave a presentation giving general information on the Technology Concept Studies. She presented the main risks and needs related to astronaut's health during deep space missions. She also presented the categories of technologies that are covered by the RFP. The information presented is available in the RFP.

Mrs. Geneviève Dubreuil-Laniel (Technology Development Officer, CSA) gave a presentation giving general information on the RFP content: the number of contracts, the schedule and the planned budgets. She also reviewed the content required for the Technical and managerial Bids and the associated evaluation criteria. The information presented is available in the RFP.

### **Question Period**

Section D - **QUESTIONS AND ANSWERS (Q&As)** of this document covers the answers to questions that were raised prior to the bidders' conference and during. For purposes of clarity, questions and answers have been rephrased or summarised and some answers have been elaborated.

### **D - QUESTIONS AND ANSWERS (Q&AS)**

#### **Question 1:**

Is the deadline to submit the Bids still December 4<sup>th</sup> 2018? Is there any chance that it can get extended?

#### **Answer 1:**

Both Requests for Proposals (RFPs) have been amended to grant an extension to the Bids closing date, as follows:

- RFP 9F063-180463/A, is postponed to December 10, 2018 at 2:00PM, Eastern Standard Time (EST);
- RFP 9F063-180462/A, is postponed to December 12, 2018 at 2:00PM, Eastern Standard Time (EST);

Bidders should not anticipate any other extension.

#### **Question 2:**

When do you expect contracts to be awarded?

#### **Answer 2:**

As specified in the RFPs, the contracts are expected to be awarded by the end of January 2019.

#### **Question 3:**

There is no criteria for companies in the RFP. Does this mean that any type of company can apply, including a SME (small- or medium-sized enterprise) or a new company?

#### **Answer 3:**

All interested suppliers can submit a Bid, including SMEs, new companies and academia provided that the minimal Canadian Content is respected.

#### **Question 4:**

What is the role of National Research Council Canada (NRC) and their *Industrial Research Assistance Program* (IRAP)?

#### **Answer 4:**

The current RFP process only concerns Canadian Space Agency's (CSA) activities.

The CSA is collaborating with NRC-IRAP to stimulate innovation. The NRC-IRAP funding opportunities will be complementary to the current RFPs and dedicated to small- and medium-sized (SMEs) enterprises.

**Question 5:**

The RFPs mention CSA but never NRC. What is NRC's involvement?

**Answer 5:**

NRC is not involved in this procurement.

CSA is collaborating with NRC-IRAP for activities that are complementary to these RFPs. These additional funding opportunities will be fully managed by NRC-IRAP. NRC-IRAP should soon release an announcement to inform SMEs of these opportunities. In the meantime, we invite you to contact your regional NRC-IRAP representative.

**Question 6:**

Who will fund the Technology Concept Studies? NRC-IRAP, CSA or PWGSC (Public Works and Governmental Services Canada – now Public Services and Procurement Canada)?

**Answer 6:**

CSA is the funding body.

**Question 7:**

Who will be the technical contact in the future?

**Answer 7:**

The CSA Project Authority will be mentioned in any resulting contract.

**Question 8:**

As a government employee, I am a researcher. I was asked by a company representative and professor at university, to be a collaborator in their project. Am I eligible as a collaborator for this Request for Proposals (RFP)?

**Answer 8:**

Please refer to the Values and Ethics Code for the Public Sector and your organization's code of conduct.

**Question 9:**

Will the proposals be made public? Can an idea/technology concept be patented after the proposal process?

**Answer 9:**

The proposals will not be made public. However, as specified in the RFP, Attachment 1 to Part 3 – Technical and Managerial Bid Preparation Instructions, section 3A.2 d) the Executive Summary (maximum 10 lines) of the Bid may be made public, for example, through the CSA web site.

Yes, an idea/technology can be patented after the proposal process, there is no restriction to that effect.

**Question 10:**

How are you going to evaluate if the team expertise is sufficient and complete? Based on what criteria? Our proposal? Any other specifics like expertise in medicine, or experience in the space-related domain?

**Answer 10:**

The team expertise will be evaluated according to the expertise required by the proposed project. The CSA expects that the team will demonstrate experience and expertise in the field(s) that

is/are required to successfully complete their proposed technology concept study. The evaluation criteria related to the Team expertise are detailed in the RFP document, Attachment 1 to Part 4.

**Question 11:**

Our organization has previously participated in a bone mineral density research project on the ISS. Can we apply for the Bid with that research information/technology?

**Answer 11:**

The proposal will be considered if there is certain level of innovation or an adaptation of the technological solution to fit the needs for future deep space missions. The concepts of operations for deep space missions will differ from the ones on the ISS. The detailed evaluation criteria that will be used to evaluate the proposals are available in the RFP, Attachment 1 to Part 4.

**Question 12:**

Will technologies used for work behavioural assessment/changes be considered?

**Answer 12:**

Yes, a technology allowing behavioral assessment can be included in different categories. For example, if the central aspect of the concept is a tool to quantify or assess the level of change, it could be considered as a diagnostic tools as it is providing data input to infer diagnosis. In another case, if it focuses on a solution using simulation components (e.g. with artificial or virtual reality) for psychosocial assessment, it could be considered in the category for "Medical Training and Simulation". Finally, if the proposal focuses on a solution that provides an algorithm to assess behaviours, infer a diagnosis and propose countermeasures, this could fit in the "Decision Support System" category to support decision making.

**Question 13:**

Can you please clarify what specific end-product deliverable the CSA seeks to obtain for \$100,000?

**Answer 13:**

The description of all deliverables are available in the RFP's Annex A (Statement of Work) and Annex B (Basis of Payment).

**Question 14:**

Must concepts or ideas have dual uses (i.e. terrestrial & space applications)? Are terrestrial benefits part of the evaluation?

**Answer 14:**

Technology concepts and ideas can have dual uses, however it is not mandatory for this RFP. The Bids will not be evaluated on their terrestrial applications or benefits. Note that a section of the Technology Concept Study Report requested for the contract must include the "Assessment of the terrestrial needs and the feasibility of modifying the technology to meet those needs".

**Question 15:**

Regarding standard space health regulations that the new technology would have to follow, would this be considered in the RFP or is this out of the scope of the RFP?

**Answer 15:**

It is out-of-scope for this RFP. This aspect would be covered in a future technology development step.

---

**Question 16:**

Concerning the RFP about Decision Support Systems (DSS): Should the proposal be for any conditions and diseases based on the space mission risks? Or can we choose a scenario or one condition and build our use case with the DSS prototype for this condition?

**Answer 16:**

Proposals can either target a specific scenario/condition or provide a solution for the whole DSS system. Both approaches are accepted. The solution's choice usually depends on the team's expertise and available budget.

**Question 17:**

Concerning the RFP about Decision Support Systems (DSS): There is no data for deep space, and there is no guideline for deep space missions. So the prototypes and use cases will be developed on simulated data and on the closest similar situations on Earth like isolation and extreme conditions: for example weather and isolation (arctic), pressure and isolation (deep oceans, submarine) and so on. Are there any ideas on how we can get the data? Will we have access to the Crew Medical Officer at CSA? Can we have access to ISS data and more information on their existing tools for screening and monitoring?

**Answer 17:**

No data will be provided to the Bidders or the contractors more than the information available in the RFP. More information on existing tools could be shared with the contractors once the contracts are awarded. CSA Flight Surgeons will participate in meetings to provide insights and comments.

**Question 18:**

Concerning the RFP about Decision Support Systems (DSS): Do we have to submit the Phase 2 proposal along with the Phase 1 proposal?

**Answer 18:**

No. The proposal for Phase 2 will be submitted at the end of the Phase 1. Only companies already under contract for Phase 1 of the Technology Concept Study will be able to submit a Phase 2 proposal at the end of Phase 1. See the RFP document: Attachment 1 – Phase 2.

**Question 19:**

Concerning the RFP about Decision Support Systems (DSS): Do we need to complete the Phase 2 proposal in greater details when submitting a Bid?

**Answer 19:**

No, the Bid concerns only the Technology Concept Study (Phase 1). See the RFP document at Part 3 - Bid Preparation Instructions – Phase 1.

**Question 20:**

Concerning the RFP about Decision Support Systems (DSS): What is the decision process for a contract to proceed to Phase 2?

**Answer 20:**

The decision process for a contract to proceed to Phase 2 is detailed in Annex C of the RFP document.

**Question 21:**

Concerning the RFP about Decision Support Systems (DSS): Can you please provide specific guidance on the criteria the CSA will use in cooperation with its partners to determine whether the contract will proceed to Phase 2? How will the finalists be evaluated and selected for Phase 2?

**Answer 21:**

The proposal for Phase 2 will be evaluated according to the evaluation criteria mentioned in the RFP (See Annex C – Phase 2/ Attachment 2 – Evaluation Procedures, Basis of Selection and Point Rated Evaluation Criteria).

**Question 22:**

Concerning the RFP about Decision Support Systems (DSS): For Phase 2, are you asking for a “formal bid” to be delivered after Phase 1 only by the 4 enterprises who won phase 1? Who will evaluate them?

**Answer 22:**

Yes, only the contractors who will be selected for a Phase 1 contract will be able to submit a proposal for Phase 2.

An evaluation team composed of representatives of Canada will evaluate the Bids.

**Question 23:**

Concerning the RFP about Decision Support Systems (DSS): Will there be more funding for Phase 2? Or a possibility for a new RFP for Phase 2?

**Answer 23:**

As specified in the RFP, Attachment 2 – Phase 2, section 2.2, in the event that all available budget has not been spent or that additional budget is made available, Canada may elect to recommend the next bidder(s) on the Responsive Bid List to move forward to Phase 2.

We do not plan a new RFP for Phase 2.

**Question 24:**

Can you please clarify CSA's expectations around partnered bids, joint ventures, etc. for the DSS RFP technology Phase 1 concept study AND Phase 2 prototype development?

**Answer 24:**

Partnerships are accepted and encouraged, but it is not a mandatory requirement. Team members and partners may also change from Phase 1 to Phase 2.

**Question 25:**

Concerning the RFP about Decision Support Systems (DSS): What levels of TRL (Technology Readiness Level) are expected for Phase 1 and Phase 2?

**Answer 25:**

No TRLs are mentioned in the RFPs. The proposed concepts (Phase 1) do not have to fit with a TRL; they rather have to provide solutions to the Problem Statements specified in the Statements of Work (see Annex A of the RFP document) and to all other requirements stated in the RFPs.

**Question 26:**

For the “Technology Concept Studies – 3 fields” RFP, are we allowed to bid for only one area instead of all three (TCS 1, TCS 2 and TCS 3)? Will the Bid be disqualified if we bid only on one area?

**Answer 26:**

As specified in the RFP Part-3: Bid Preparation Instructions, section 3.1: A Bidder can bid on more than one Technology Concept Study specified in Table 1: List of Technology Concept Study Categories of Part 2 – Bidder Instructions, but must submit one separate bid for each Technology Concept Study.

No, you will not be disqualified if you bid only on one area.



**Question 27:**

Can you please clarify the specific requirements and statements in the tender dealing with components and processes of the DSS concept study?

**Answer 27:**

All requirements concerning the Technology Concept Study are detailed in the RFP document. Specific requirements related to the proposed technology concept are detailed in the Statement of Work (Annex A).

**Question 28:**

Is the T&L expense acceptable for the meetings (technical or project) that needs to be held in the CSA facility?

**Answer 28:**

Yes. However, those costs must not exceed the limits of the National Joint Council's Directive – Please refer to Part 3 – Bid Preparation Instructions, section 3.1.3 – Price Breakdown.

**Question 29:**

Are we allowed to include in-kind funding to support the work we are proposing?

**Answer 29:**

You can include in-kind funding to support the work you are proposing, but this will not be considered in the evaluation process. You must clearly indicate in the Financial Bid the portion of funds that will be charged to Canada and your in-kind funding.

**Question 30:**

Can a technology concept study funded by STDP AO5 be submitted to this RFP? (*“STDP AO5” is one of the [CSA funding programs](#) and it is dedicated to space technology development projects. Only for-profit Canadian businesses are eligible to the STDP AO5 program.*)

**Answer 30:**

You can submit the same project to both programs but the CSA will not fund the same project twice. If your project is selected for both programs, you will have to make a choice and chose one of.

**Question 31:**

Looking at the RFPs, it seems like hardware is mainly associated with diagnostic tools and software with the DSS. Can software be only proposed for DSS solutions or both?

**Answer 31:**

When it comes to software, the category can be one or the other. It will up to you determine what category you choose. However, you have to ensure your solution meets all the RFP's requirements associated to the chosen category.

**Question 32:**

What exactly are the expectations/gaps identified in the medical/psychosocial field during current space missions? What are the expected issues for deep space missions? Regarding the astronaut's health, what are the most prevalent needs during missions?

**Answer 32:**

Please refer to pages A-16 to A-22 of the Request for Proposals (RFP) for generic astronauts' health risks and needs for space exploration. The challenges and some limitations are described in section 3.2 of these pages. In addition, the NASA references listed here will give you more details on the specific needs of your project. For example, references RD-1, RD-2, RD-4 and RD-5 contain many of this information. Note that CSA is in the exploratory mode of potential solutions

for Canada's participation in future deep space missions and that various and innovative technologies are sought.

**Question 33:**

What medical equipment is currently available on board at the ISS? Is there any additional equipment planned for deep space missions? What support and diagnostic tools are used so far during missions?

**Answer 33:**

Concerning medical equipment and material currently onboard the International Space Station (ISS), please refer to the NASA's website. Certain information may also be included in the NASA's reference documents mentioned in the RFPs, mostly the RD-5 reference. Concerning the current RFPs, we invite you to propose innovative solutions that go beyond the current ISS capacities as the current RFPs concern future deep space missions for which the list of required technologies is yet to be defined by Canada and its partners. Also note that the medical system for deep space exploration missions will include technologies and concepts of operations that differ from medical operations on the ISS.

**Question 34:**

Are there any devices/prototypes using artificial intelligence (AI) on space stations/vehicles? If yes, for what needs and objectives?

**Answer 34:**

There are some projects that involve AI, however the current concept of health care in space involves telemedicine with a physician stationed on Earth. For exploration missions to the Moon and Mars, there are no AI devices that have already been selected, however it is expected that AI will be part of the needs for medical autonomy. For more information, refer to the literature available online and the references provided in the RFP.

**Question 35:**

Beyond taking into account the diagnosis/assessment/monitoring of physiological adaptations to extreme environments, is the "treatment" aspect of physiological disorders a primary objective for this project?

**Answer 35:**

The Statement of Work (SOW) for the two RFPs outlines the technology concept categories for Diagnostic Tools, Medical Training and Simulation, Radiation Protection and a Decision Support System. Technology solutions aimed at the treatment of physiological and psychological disorders will therefore also be considered if a component of the solution concerns one of the identified categories. For example, a platform using simulation aimed at treating anxiety would be considered. However, a pharmaceutical product for the treatment of osteoporosis without a component related to the identified technology categories such as for diagnostic measurements, cannot be considered for this RFP. This does not limit future RFPs that may cover the treatment aspect.

**Question 36:**

What is the estimated duration for Deep Space missions? How many people will be on board for Deep Space missions?

**Answer 36:**

Although the duration for Deep Space missions has not been completely defined, the estimated duration of a Mars mission is about 3 years with a crew of 4-6 people.

**Question 37:**

Are there already established regulations on the weight/volume/acceptability for the technology implementation?

**Answer 37:**

There is a growing trend towards minimizing the weight and volume of new technologies since heavy and large equipment will not be feasible for early deep space exploration missions. That said, there is no current regulation on this subject or specific limits that have been determined at this time.

**Question 38:**

Are the social, anthropological and psychological components of long-term isolation currently being addressed by digital technology?

**Answer 38:**

Different strategies are used on the ISS to counter the negative effects of isolation and may include mobile devices used by astronauts. We invite you to visit the websites of the CSA and its international partners for more information specific to your project.

## **E - ADJOURNMENT OF THE SESSION**

Following the Q&A period, Mrs. Jurca thanked all the participants to the conference for their participation and invited them to send her, by e-mail, any other questions that they may have. She then closed the conference.

## **ANNEX 1 TO ATTACHMENT 1 TO PART 2**

### **Bidders' Conference**

#### **Request for Proposals**

**9F063-180462/A : Technology Concept Studies – DSS**

**and**

**9F063-180463/A : Technology Concept Studies – 3 fields**

**November 8, 2018**



Travaux publics et  
Services gouvernementaux  
Canada

Public Works and  
Government Services  
Canada

**Canada**

# Conduct of the conference

**This WebEx tele-conference will be recorded for purposes of information gathering for the record of the meeting minutes.**

**The meeting minutes, including all questions and answers will be published on the Buy and Sell website, in the form of an amendment to the RFP, for the benefit of all potential bidders.**

# Conduct of the conference, cnt

## IMPORTANT NOTICE:

By joining this session, you automatically consent to such recordings. If you do not consent to the recording, please voice your concerns now with the meeting host prior to the start of the recording or do not join the session.

# Conduct of the conference, cnt



In order to reduce background noise, please turn off your cell phone ringer.



Please use the “mute” feature of your phone or teleconferencing system when you’re not speaking.



As much as possible, please speak one at a time and avoid side conversations. It could be difficult to distinguish the actual speaker from other noises on the line.

4



Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

Canada

# Agenda

1. Introduction of participants from PWGSC and CSA;
2. Objective of the conference;
3. General information;
4. Presentation of Technology Concept Studies by CSA;
5. Question period.



# 1. Introduction of participants from PWGSC and CSA

- **PWGSC – Contracting Authority**
  - Only point of contact during the posting and until award of the contracts
- **CSA – Technical and Project Authority**

## 2. Objective of the conference

The main objective of this conference is to ensure all potential bidders have a clear common understanding of this procurement.

The CSA team has prepared a presentation to provide you with context and information on the Technology Concept Studies.

### 3. General information

- a) Who may submit a bid?
- b) Where to find all the instructions, clauses and conditions identified in the bid solicitation by number, date and title?
- c) How to prepare the bid?
- d) How to submit the bid?
- e) How will the bid be evaluated?
- f) What happens after the evaluation is completed?

# 3. General information

## a) Who may submit a bid?

- All interested suppliers, including academia, may submit a bid provided that the Canadian Content is respect.
- These requirements are limited to Canadian goods and services.
- You can find more information about the Canadian Content in the RFP Part 5 – Certifications and additional information.

### 3. General information

- b) Where to find all the instructions, clauses and conditions identified in the bid solicitation by number, date and title?
- All instructions, clauses and conditions identified in the RFP by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual
  - The http address is indicated in the RFP Part 2 – Bidder Instructions, section 2.1 Standard Instructions, Clauses and Conditions

# 3. General information

## c) How to prepare the bid?

- You can find this information:
  - in the RFP Part 3 – Bid Preparation Instructions; and
  - in Attachment 1 to Part 3: Technical and Managerial Bid Preparation Instructions, where the structure and content requested for the Technical and Managerial Bid (Section I) are detailed.

# 3. General information

## d) How to submit the bid?

In the RFP, Part 2 – Bidder Instructions, section 2.2-Submission of Bids, you can find two ways to submit your Bid:

1. Hard copies: at the physical address indicated at this section;
2. Electronically: using the epost Connect service as detailed in the Standard Instructions, 2003 article 08.

### 3. General information

#### d) How to submit the bid? - Cnt

- If you decide to submit the bid electronically by using the epost Connect service, the PWGSC Regional Bid Receiving Unit e-mail address, indicated in the section 2.2- Submission of Bids, must be used only to **initiate an epost Connect conversation**.
- Bids will not be accepted if emailed directly to this e-mail address.
- An epost Connect conversation must be initiated at least 6 business days prior to the solicitation closing date and time, (in order to ensure a response), as detailed in the Standard Instructions, 2003 article 08.



### 3. General information

#### e) How will the bid be evaluated?

You can find this information in the RFP Part 4 – Evaluation procedures and basis of selection.

- **Mandatory Financial criteria:** The Bidder must submit a firm, all inclusive lot price for the work, which must not exceed the maximum funding available for each contract resulting from the bid solicitation indicated in Part 2, Section 2.7: *Maximum Funding* (Applicable Taxes extra, as appropriate).
- Bids which fail to meet the mandatory financial criteria will be declared non-responsive and the Technical and Managerial Bid will not be evaluated.

### 3. General information

#### f) What happens after the evaluation is completed?

- Bidders whose bid has been recommended for award of a contract will be contacted first.
- In order to do business with the federal government you must have a Procurement Business Number (PBN). You can find information on how to get a PBN on Buy and Sell site.
- Once all contacts have been awarded, the other Bidders will receive a letter with details concerning the evaluation of their bid.

### 3. General information

#### f) What happens after the evaluation is completed? - Cnt

- As specified in the RFP, Part 1 – General information, section 1.3 – Debriefings: Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within fifteen (15) working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

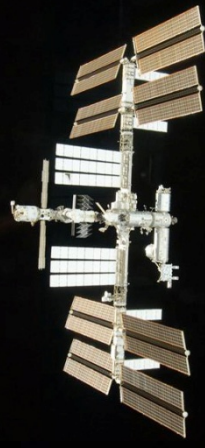
## 4. Presentation of Technology Concept Studies by CSA

# Astronaut's health in space

- Impact of the space environment
  - Variable gravity
  - Radiation
  - Isolated, confined and extreme environment
- Infrastructure and mission concepts
- Medical capabilities



# Exploration Challenges



400 km  
msec



55.7 – 401.3 millions km  
7 - 40 minutes

Distances  
Communications delay  
Évacuation

Medical  
Autonomy



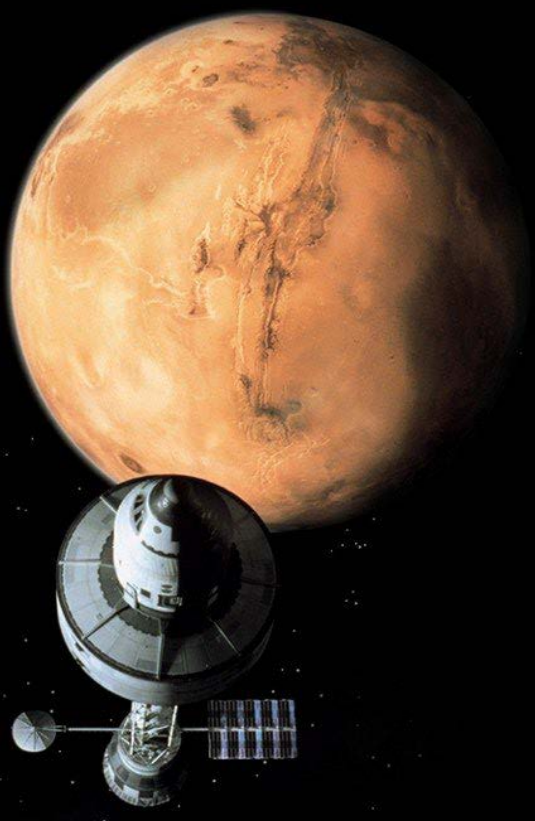
384,467 km  
Up to 6 sec

- Skills
- Technologies
- Medical consumables



# Next steps in exploration

- Challenges
- Opportunities
- Benefits for Canadians



# The crew health and performance system for deep space must:

- Maintain the crew healthy
- Support management of astronauts' health through prevention, diagnosis and treatment
- Support execution of health-related tasks during the mission
- Allow for medical autonomy and telemedicine





# Crew health and performance system for deep space exploration

Telemedicine



Medical Autonomy

## Data Collection

Medical History

Bio-Monitoring

Bio-analysis (blood,  
urine, etc.)

Imaging

Environmental Data

Clinical Observations

Other data  
(Sleep, nutrition,  
exercise, etc.)

## Data Integration and Management

Crew Health  
Databases

Crew Interfaces

Data Management

## Data Analysis and Decision Support

Diagnosis and  
Treatment Plans

Trend analysis  
Data analysis  
Prediction

## Treatments and Countermeasures

Treatment  
Technologies

Management of  
consumables

## Crew Medical Training

Technologies for skills  
maintenance and  
acquisition

# Technology Challenges

During deep space missions where communications with Earth may be delayed or non-existent and where medical evacuation is not an option, the medical infrastructure must assist the CMO (or the crewmembers themselves in certain cases) in the management of crew health and determination of fitness for duty, as well as in the diagnosis and treatment of injury and disease

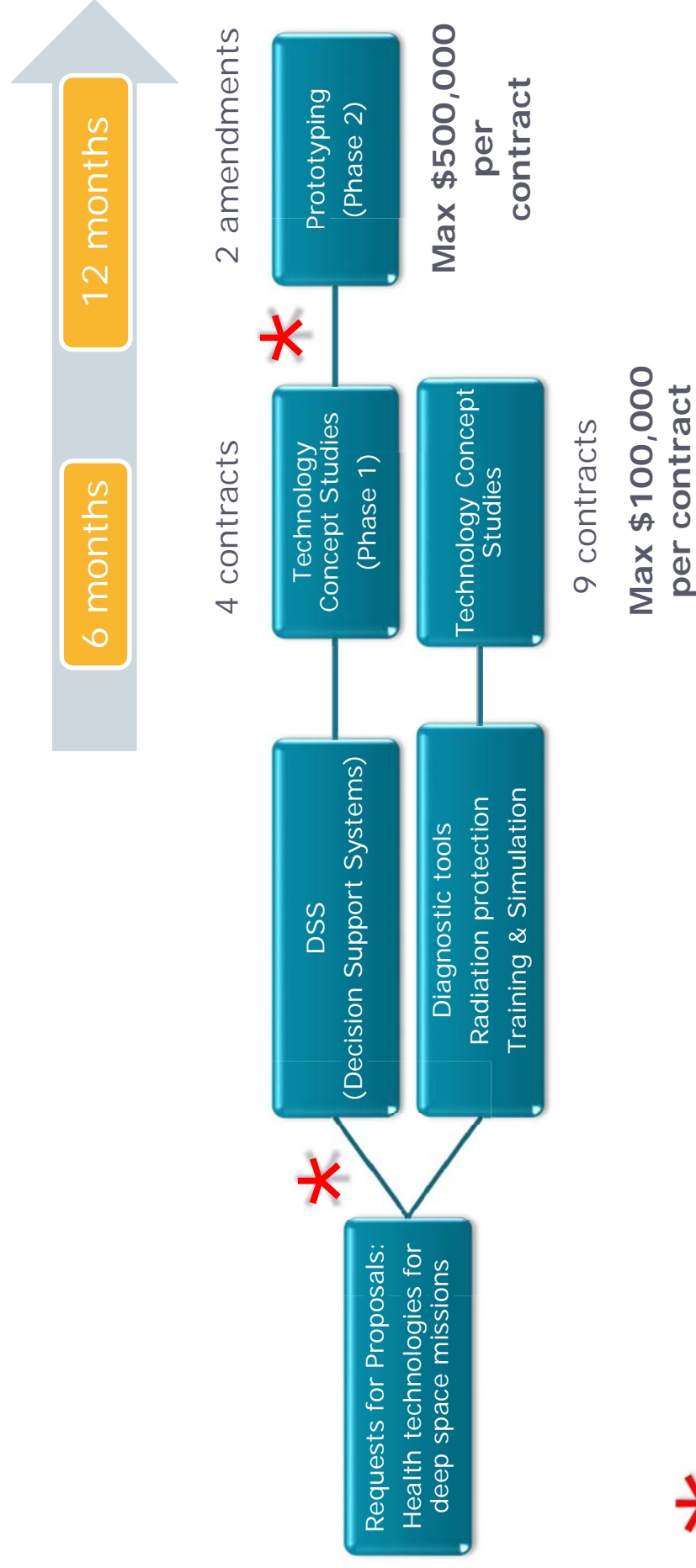
In order to achieve this level of autonomy in the management of crew health and medical care delivery, advanced diagnostic tools will be required.

The CSA is requesting technology concept studies for solutions that will address health risks and challenges.

# Technology Challenges

- Technology concept studies for 3 fields:
  1. Medical Diagnostic Tools
    - Bioanalytical, biomonitoring, imaging devices, etc.
  2. Radiation Protection
    - Monitoring, prediction, protection, etc.
  3. Medical Training and Simulation
    - Systems for skill maintenance and acquisition inflight, psychosocial support, behavioral and performance assessment, etc.
- Technology concept study and prototyping for decision support technology.

# RFPs Health Technologies for Deep Space



**\*** Evaluation step

Note: This is an anticipated plan.

Numbers may change (#contracts & #amendments to go into Phase 2).



# Bids Submission

3 separate parts in a Bid (p.9 of RFP)

- Section I: **Technical and Managerial Bid**
- Section II: Financial Bid
- Section III: Certifications



# Technical and Managerial Bid (p. 27)

1. Title / Project Identification Page

2. Table of contents

## **3. Description of the Project**

4. Bid Appendices:

- a. List of acronyms
- b. Background Intellectual Property
- c. Resumes
- d. Relevant technical papers published by team members
- e. List of contacts
- f. Letters of intent



# Technical and Managerial Bid (cont'd)

## Description of the Project (p.28)

- 20 pages maximum
- Divided in 5 sections, each corresponding to an evaluation criterion:
  - Proposed solution
  - Understanding the needs and the risks & demonstrating the feasibility of the solution
  - Innovation
  - Work Plan
  - Team expertise



# Statement of Work – Annex A

- **Statement of Work (SOW) - Generic**
  - Details tasks applicable to all contracts to implement once contract emitted: meetings and deliverables.
- **Specific SOWs (Appendix A-4)**
  - Description of **health risks & needs**
  - **Problem statement** specific to each field
  - **Scope of work:** Details specific technical tasks to complete during the contract.





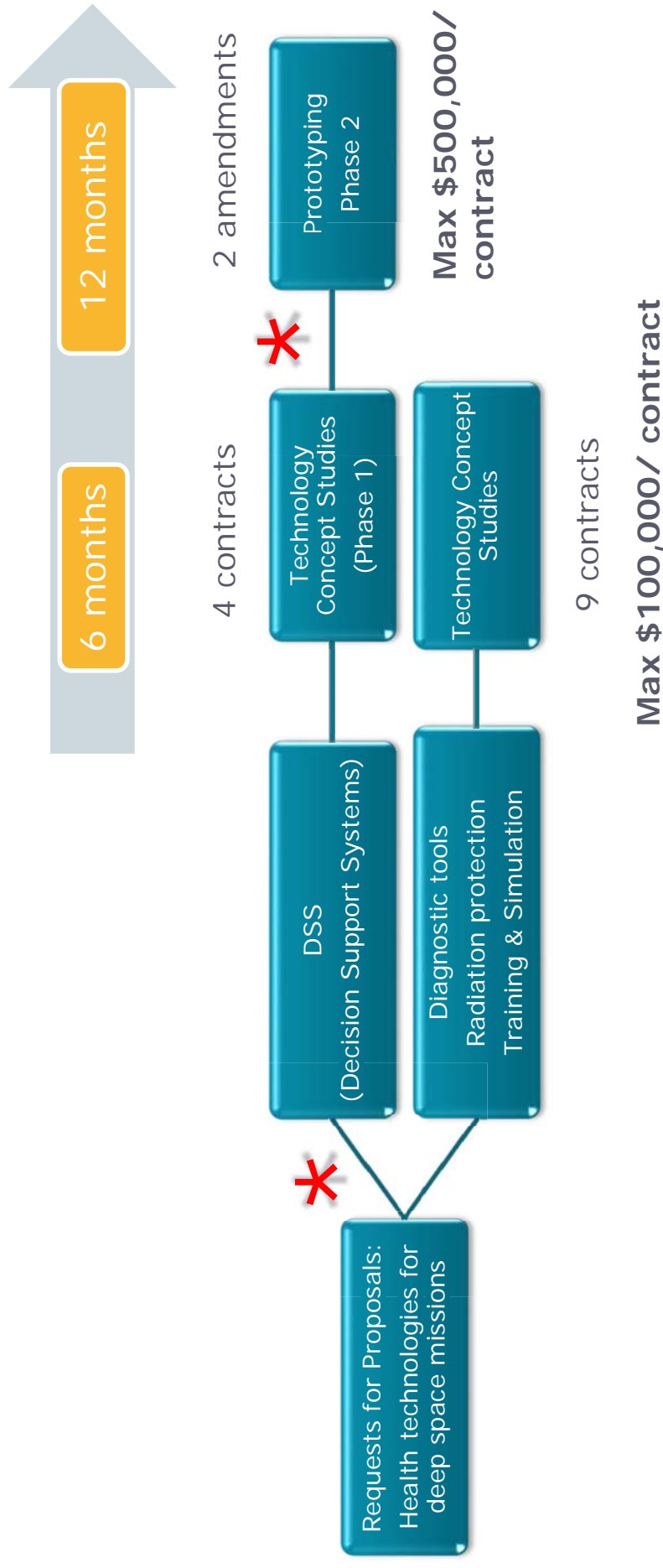
# Evaluation Criteria and Ratings (p.32-39)

Criteria	Ratings
1. Proposed solution	25
2. Understanding the needs and the risks and demonstrating the feasibility of the solution	20
3. Innovation	20
4. Project Plan	15
5. Team Expertise	20
<b>Maximum Overall Technical and Managerial Score</b>	<b>100</b>
<b>Minimum Overall Technical and Managerial Score Requirement</b>	<b>70</b>

# Evaluation Criteria and Ratings (Cont'd)

0	<ul style="list-style-type: none"><li>• The Bid provides no information on the innovation involved in the development of the proposed products, methods and/or know-how; OR</li><li>• The Bid does not demonstrate how the solution will improve existing technologies, including available competing solutions.</li></ul>
25	<ul style="list-style-type: none"><li>• The Bid provides limited information on the innovation involved in the development of the proposed products, methods and/or know-how; AND</li><li>• The Bid identifies how the proposed solution advances the state-of-the-art over existing technologies.</li></ul>
50	<ul style="list-style-type: none"><li>• The Bid demonstrates a limited degree of innovation that will lead to improved performance of existing products, methods and/or know-how; AND</li><li>• The Bid identifies how the proposed solution advances the state-of-the-art over existing technologies, with limited supporting references; AND</li><li>• The Bid explains and provides adequate justification as to why the proposed solution will lead to the expected results.</li></ul>

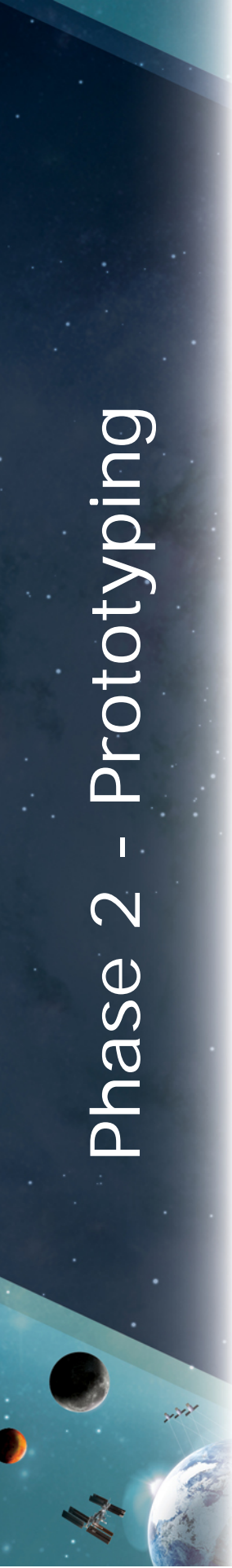
# RFPs Health Technologies for Deep Space



**\*** Evaluation step

Note: This is an anticipated plan.

Numbers may change (#contracts & #amendments to go into Phase 2).



## Phase 2 - Prototyping

- **Applicable only to DSS;**
- Includes the prototyping of the proposed concept (complete or partial);
- Funding available for 2 prototyping concepts valued at \$500,000 each;
- Evaluation will be based on a Phase 1 deliverable;
- The phase will be implemented in the form of an amendment to the contract;
- Details are available in Annex C.



# Question period

10



Public Works and  
Government Services  
Canada

Travaux publics et  
Services gouvernementaux  
Canada

Canada