



**RETURN BIDS TO:**

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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**

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800 rue de la Gauchetière Ouest  
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Montréal  
Québec  
H5A 1L6

<b>Title - Sujet</b> Science Maturation Studies	
<b>Solicitation No. - N° de l'invitation</b> 9F050-170207/A	<b>Amendment No. - N° modif.</b> 002
<b>Client Reference No. - N° de référence du client</b> 9F050-17-0207	<b>Date</b> 2017-11-03
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$MTB-770-14562	
<b>File No. - N° de dossier</b> MTB-7-40117 (770)	<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 2017-11-21</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> Mathurin , Martine	<b>Buyer Id - Id de l'acheteur</b> mtb770
<b>Telephone No. - N° de téléphone</b> (514) 496-3859 ( )	<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

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<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
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<b>Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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**Project Title**

Space Exploration Science Maturation Studies: Planetary Science and Space Astronomy

The above mentioned Request for Proposal(s) (RFP) is hereby amended as follows:

- 1- To deliver the minutes, questions and answers resulting from the Bidders' Conference held on October 26<sup>th</sup> 2017 :

**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.

- 2- Bring forth the following change to ATTACHMENT 1 TO PART 4, Table 4A1 of the RFP:

In rows SA-4 and SA-5, in column “Previous flight heritage and/or concept studies”:

**DELETE the following item:** “JWST Guaranteed Time Observations (GTO)”.

***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 with the Project team about the requirements and the project.

The conference was held as planned, on Thursday October 26<sup>th</sup> 2017, through a teleconference/WebEx. The speakers were Ms. Martine Mathurin (PWGSC), Ms. Laurie Metcalfe (CSA), Dr. Denis Laurin (CSA) and Dr. Victoria Hipkin (CSA).

The meeting began at 2:00 pm (EDT) and ended around 3:05 pm (EDT).

#### **B- ATTENDEES**

Approximately twenty people attended the session. Among the participants, there were representatives from the private sector, Canadian universities as well as representatives of Public Works and Government Services Canada (PWGSC) and the Canadian Space Agency (CSA).

#### **C- MINUTES OF THE MEETING**

##### **Introduction**

Ms. Martine Mathurin was the first speaker and led the introduction period with a short presentation. She 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.

Shen 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.

Ms. Mathurin carried on by informing all participants on the proposed agenda and the objective 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.)

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This last clarification closed the introduction period, which lasted about ten minutes. CSA then began their 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**

Dr. Denis Laurin (Senior Program Scientist) and Dr. Victoria Hipkin (Senior Program Scientist) made a short presentation to provide general information on Science Maturation Studies (SMS).

It was clarified that the objective of the RFP is to advance science development for possible missions – and is not a guarantee of selection for a future mission.

We expressed that this Bidder's conference would focused on this RFP and questions on Concept Studies would not be answered. There is no plan for a Bidder's Conference for the anticipated RFP for Science Priority Concept Studies but there may be one for the upcoming RFP for Concept Studies related to Secondary Payloads and Nanomissions.

Note: During the presentation, a slide was missing: Question 2 (Q2). It was discussed verbally only. The missing slide is included in this document, in ANNEX 2 TO ATTACHMENT 1 TO PART 2, forming part of the RFP document.

## **Question Period**

The presentation ended at approximately 2:20 pm after which a question period was held by Ms. Martine Mathurin, Ms. Laurie Metcalfe, Mr. Denis Laurin and Ms. Victoria Hipkin.

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:

*The Statement of Work (SOW) mentions three aspects of missions (DID 004 Part 3), threshold, baseline and augmented. For the full (augmented) mission CSA is asking for a full cost accounting of the project whereas it's not mentioned in the other two. How important is the full costing of the project?*

### Answer 1:

- a. To clarify, Baseline, Threshold and Augmented aspects apply to investigations (ie. can be mission or instrument). The Baseline is the nominal investigation you want to do. The augmented version is an opportunity to provide options for additional science should additional resources become available. The Threshold is your ultimate descope position: how much of the baseline you are willing to sacrifice to still consider the investigation worth implementing (reducing capabilities: removing an instrument from a mission, or removing a spectral filter from an instrument etc). All three refer to the same investigation.
- b. In terms of the budget breakdown referred to in DID 005 of the SOW, we are only looking for the costs related to the Baseline mission, and only for the science team elements as per section 3.3 of the SOW. Science team budgets are required prior to mission approval so this information is extremely useful when planning missions. In DID 004, Parts 3.2 and 3.3 of the SOW, an assessment of the impact of the threshold and augmented versions to budgets (cost, mass etc.) is requested.

### Question 2:

*(Question received prior to the Bidders' Conference)*

*On page number 39 of the RFP, in Attachment 1 to Part 4, section 4A.1.1, table 4A2, the 2006 CSA MOMENT Concept Study is listed as relevant prior work under the "Planetary Space Environment" topic. This would appear to be a mis-classification. MOMENT was designed to map magnetic fields of the Martian surface, for insight into Martian geology and geophysics; any contribution to space-environment science would have been incidental. The study's science team was composed entirely of geologists and geophysicists.*

*Would it not be appropriate to move the MOMENT concept study, and the Eligible Investigation "Magnetic field measurements with fluxgate magnetometer", to the "Planetary Geology, Geophysics & Prospecting" topic?*

### Answer 2:

- i. The priorities derive from the Planetary Topical Teams Report, in reference document RD-9 mentioned in the SOW. It is recommended to review the report for a better understanding of the stated SMS priorities.
- ii. It is important to clarify:
  - PGGP-04 does not mention a magnetic survey of Mars as a priority investigation.
  - PSE Section 1.4.1.1 introduces a fluxgate magnetometer as cross cutting heritage instrumentation and in PSE-01-04 you will see a "map of magnetic anomalies on mars". Clearly, the community is interested in this area.

- In the Topical Teams reports in general, if science investigations crop up in other disciplines, it may be an interesting opportunity to expand your team and partner with others interested in looking at the question from a new perspective.
- For this SMS priority, teams must reference Canadian heritage instruments and/or the MOMENT concept study in their proposals for Science Maturation Studies. There is no requirement to reference the MOMENT concept study, but it is seen as relevant.

**Question 3 A):**

*I have a question about the relationship or lack thereof of SMS to Contribution studies. Recently a RFP for a LiteBIRD contribution closed. This area is also highlighted for an SMS (SA-1). Looking for clarification on overlap between these two studies and if there are potential conflicts to be avoided?*

**Answer 3 A):**

- i. Note that there is also a SMS for CASTOR that closed recently so that is not eligible here. LiteBIRD was a contribution study which is quite different.
- ii. Work on a technical field does not necessarily duplicate the SMS deliverables as the focus here is really on the science requirements and defining the science thresholds, so having a Concept study for a mission does not preclude it from also having an SMS.
- iii. Similar to technology development which reduces risk by increasing the TRL, the SMS seeks to increase the SRL in a similar manner in order to reduce risk to the science investigation

**Question 3 B):**

*As per section 3.1 of the SOW: This work may include developing theory, simulations and experiments, including but not limited to: computer modelling, data analysis, instrument breadboarding. Understanding is that the SMS could include any or all of these items – is that correct?*

**Answer 3 B):**

Yes, however to clarify - Breadboarding is intended to verify models or scientific assumptions or determine inputs - not to prototype the instrument. The SMS is not looking to reduce technology risk – it is looking to reduce science risk (science signal to noise etc.).

**Question 4 A):**

*Regarding eligibility of expenses, if it is assumed most of the work would be work done in house at Universities so presumably most expenses would include travel to meetings and expenses for wages for students. What sorts of expenses are allowable? Student wages and teaching relief?*

**Answer 4 A):**

- i. I recommended that you consult Chapter 10, section 10.40 of the Supply Manual. It includes all pertinent information concerning allowable costs for Research and Development Contracts with Canadian universities. The Supply Manual is accessible online, to all, at the following link: <https://achatsetventes.gc.ca/politiques-et-lignes-directrices/guide-des-approvisionnements/section/10/40>.
- ii. As specified at section 3.1.3 of the RFP, a price breakdown is requested. This detailed cost breakdown in support to your financial proposal, must be in conformity with the allowable costs specified in the aforementioned chapter of the Supply Manual. It is important to receive this information because these costs will be examined in relation to the technical proposal submitted and it will allow us to determine that your costs are acceptable.
- iii. To clarify, for this project, based on the Statement of Work, we have opted for contracts with a firm price basis of payment. For this type of contract, all aspects of the contract (including all allowable expenses) are negotiated before its award. Therefore, a contract with a firm price basis of payment does not require invoices in support of claims for progress payments. A Schedule of Milestones will be established and payments will be made in accordance with that schedule and the delivery and acceptance of the deliverables. Generally, when dealing with payment claims with universities, the management of this type of contract is easier.

**Question 4 B):**

*Sounds like items listed are eligible and are the choice of the bidder, however past bids have asked for a very detailed listing and justification for items – can you provide more clarification?*

**Answer 4 B):**

We need to see what you are spending the money on and we reserve the right to validate the information provided in your proposal for purposes of transparency and due diligence.

- i. As previously mentioned, your detailed cost breakdown, in support to your financial proposal, must be in conformity with the allowable costs specified in the aforementioned chapter of the Supply Manual.
- ii. In addition, even if invoices are not required in support of the claims, the contractor must perform the work and deliver the deliverables in accordance with the contract and your submitted and accepted proposal.
- iii. Specific to teaching relief – this is considered on a case by case basis for space missions in Phase A and beyond but is not seen as an acceptable expense for a CSA study.

**Question 4 C):**

Is the contribution of a grad student to do an analysis an acceptable expense?

**Answer 4 C):**

Yes, this is acceptable for a study.

**Question 5:**

*In relations to pricing establishment, does 65% of overhead for salaries apply for this type of contract?*

**Answer 5:**

- i. Yes, the allowable overhead for labour is 65% for universities. As specifically indicated in the Supply Manual, Chapter 10 – Cost and Profit, section 10.40 - Research and Development Contracts with Universities and Colleges, at its paragraph f):

*f) Allowable overhead costs are:*

- i. maximum of 65 percent applicable to Direct Payroll Costs for on-campus work;*
- ii. maximum of 30 percent applied to Direct Payroll Costs for off-campus work;*

- ii. Please refer to Answer 4 A) above, specifically paragraph i, for a more information on allowable costs.

**Question 6:**

*There are three Planetary Geology, Geophysics and Prospecting (PGGP) investigations that are listed in RFP Table 4A2 Priorities for Planetary Science Maturation Studies, but the Topical Team report lists other priorities – even those are not specifically referenced in the RFP could they be considered eligible?*

**Answer 6:**

- i. No. Only the investigations listed in the table are eligible. We've included instruments that based on our judgement already have a sufficient level of maturity that they are suitable for an SMS. Headings in the table should match headings in the topical team reports. Other instrument priorities in the reports are most likely a better fit for concept studies.

- ii. For PGGP, two other SMS studies are also underway: PHASR SMS, option in Mars SAR contract) and future RFPs will provide opportunities for concept studies.



**Question 7:**

*In the RFP, Attachment 1 to Part 4, in Table 4A1 & 4A2 Concerning examples of past operations (missions) column : Is this column meant to indicate missions that have had concept studies done and then could go forward as SMS or is there some other intention?*

**Answer 7:**

- i. It's meant to reflect past concept studies or flight heritage that are relevant to the discipline. The column on the right is not necessarily comprehensive or exhaustive, it's meant to provide some known examples detailing work that CSA has done or is aware of.
- ii. Euclid (in dev) is a concept that is in development. Note that SMS are done for missions that are pre-Phase A at CSA (even if they are further along at other agencies). For something like Euclid, this work is in progress, but is not an approved CSA mission – therefore it is still eligible for a CSA SMS.
- iii. In order to demonstrate eligibility you are required to reference one of the study categories as well as a reference to the work done in the past that demonstrates a level of maturity required to base an SMS on the concept.

**Question 8:**

*In the RFP, Attachment 1 to Part 4, table 4A1 has JWST GTO listed. How is this an example of a previous flight heritage or concept study?*

**Answer 8:**

GTO is now overtaken by events. RFP will be amended to remove references to JWST GTO.

**Question 9:**

*It is understood that SMS needs to be based on previous work. Previously, there was an Exploration Core program that included developing concept studies for technology and testing tech on the ISS. Could we mature science or technology for future validation or implementation on ISS?*

**Answer 9:**

- i. The purpose of this RFP is to respond to CSEW science priorities. It is not intended for technology development.
- ii. To understand eligible investigations, please refer to the Topical Teams reports for background to the priority investigations in Tables 4A1 and 4A2 of Attachment 1 to Part 4 of the RFP. In order to be eligible the investigation must fit into one of the categories specified in the RFP.
- iii. To understand whether a SMS is appropriate, please also consider the required deliverables. The deliverables we are asking for are science baseline requirements for a mission or instrument – a study looking to develop technologies is not likely to deliver these.

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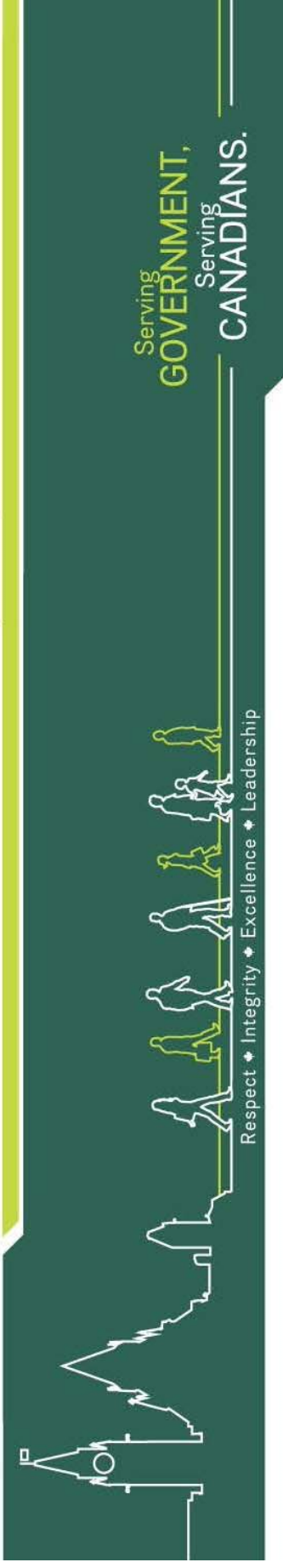
## **E- Adjournment of the session**

Following the Q&A period, Ms. Mathurin 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 adjourned the conference at about 3:05 pm (EDT).

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## ANNEX 1 TO ATTACHMENT 1 TO PART 2

# Bidders' Conference

Request for Proposals  
9F050-170207/A

Science Maturation Studies  
26 octobre 2017

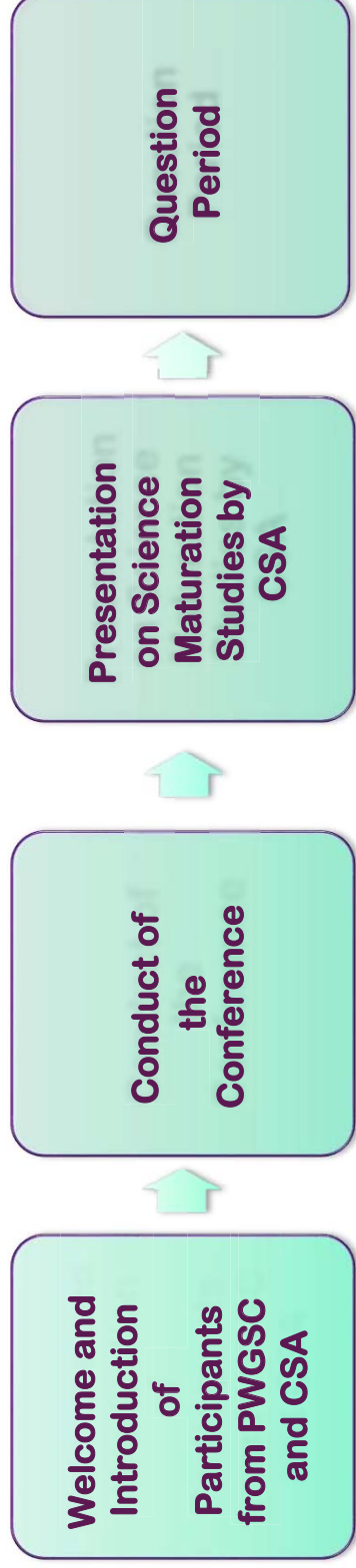


Travaux publics et  
Services gouvernementaux  
Canada

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Government Services  
Canada

Canada

# Agenda



# Welcome and Introduction of Participants from PWGSC and CSA



# 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.**

**IMPORTANT NOTICE:** The WebEx service includes a feature that allows audio and any documents and other materials exchanged or viewed during the session to be recorded. **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.** Please note that any such recordings may be subject to discovery in the event of litigation.

# Conduct of the Conference *cont'd.*



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 ~~avoid~~ side conversations. It could be difficult to distinguish the actual speaker from other noises on the line.

# 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 Science Maturation Studies.

There will be a question period at the end of the presentation.  
Responses to questions will be provided at this Bidders' Conference, when possible.  
Answers to questions not answered during this meeting will be posted on the Buy and Sell website ([www.buyandsell.ca](http://www.buyandsell.ca)), for the benefit of all potential bidders.



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# Question Period



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# ANNEX 2 TO ATTACHMENT 1 TO PART 2

REQUEST FOR PROPOSALS (RFP) 9F050-170207/A

## AGENCE SPATIALE CANADIENNE CONFERENCE DES SOUMISSIONNAIRES ÉTUDES DE MATURATION SCIENTIFIQUE

26 octobre 2017

INNOVATION  
EXPLORATION  
OBSERVATION  
INSPIRATION

## CANADIAN SPACE AGENCY BIDDER'S CONFERENCE SCIENCE MATURATION STUDIES

October 26<sup>th</sup> 2017



Canadian Space Agency  
Agence spatiale  
canadienne

Canada





Canadian Space Exploration Workshop  
*Atelier canadien sur l'exploration spatiale*  
Nov. 24-25, 2016 (Montréal, QC)

# Canadian Priorities for Planetary Science & Space Astronomy: Next decade and beyond

## Topical Team Aims

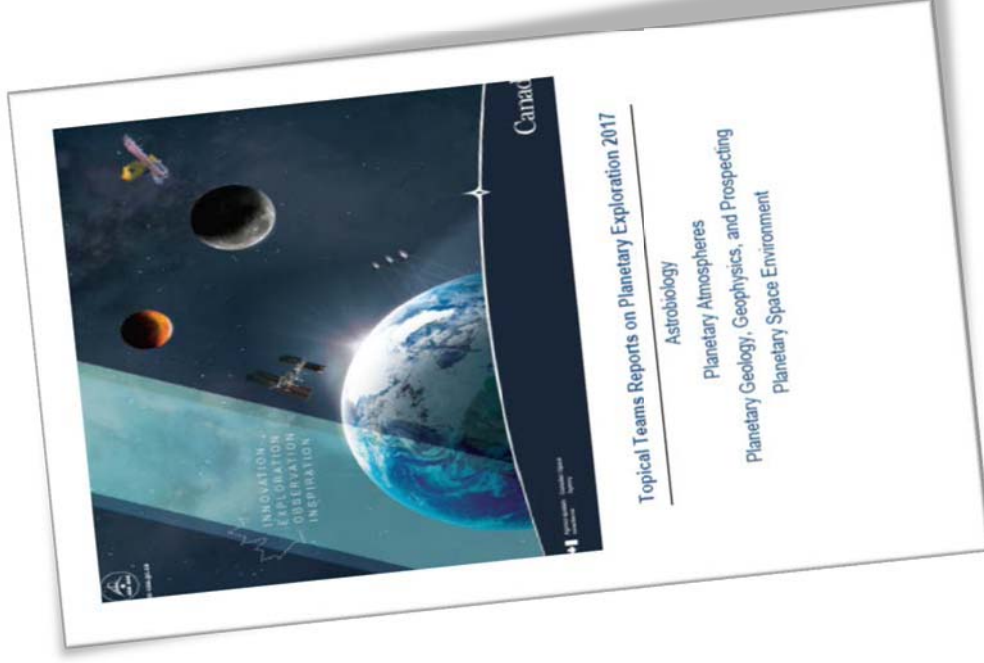
- Prioritize objectives & investigations
- Outline recommended technology and science development activities

## Topical Teams Reports

- [ftp://ftp.asc-csa.gc.ca/users/Exp/pub/  
Publications/CSEW2016](ftp://ftp.asc-csa.gc.ca/users/Exp/pub/Publications/CSEW2016)

## Advance notice of CSA Studies

- Advance Notice listing CSA's intent to invest in selected Topical Team priorities with concept studies and science maturation studies



# Advanced notice – posted March 2017

Ref	Description	Schedule	Status
<b>CS-01</b>	Advanced Crew Medical System (ACMS) Study	18 months	Closed
<b>CS-02</b>	Cislunar Mission Contribution Studies	6 months	RFI Open
<b>CS-03</b>	Deep Space Telecommunications (DST) - RF	6 months	Closed
<b>CS-03</b>	Deep Space Telecommunications (DST) - Optics	6 months	Closed
<b>CS-04</b>	Lunar Surface Rovers Architecture Concept Studies	6 months	Closed
<b>SMS-01</b>	Lunar Surface Science Maturation Study	12 months	Closed
<b>P0-01</b>	Deep-Space Exploration Robotics (DSXR) Phase 0	12 months	Closed
<b>P0-02</b>	Relative Navigation System (RelNav System) Phase 0	7 months	Closed
<b>CS-06</b>	SE Secondary Payloads and Nanomissions (5)	9-12 months	2017-Q4
<b>CS-07</b>	Mars Sample Return Mission	6-12 months	2017-Q4
<b>CS-08</b>	Planetary & space astronomy concept studies (4)	12-24 months	2017-Q4
<b>CS-09</b>	Space Astronomy: LiteBIRD concept study	8-10 months	Closed
<b>SMS-02</b>	Planetary and space astronomy science studies (5)	24-36 months	Open
<b>SMS-03</b>	CASTOR study	12-16 months	Closed

<https://buyandsell.gc.ca/procurement-data/tender-notice/PW-17-00774769>



# FAQS

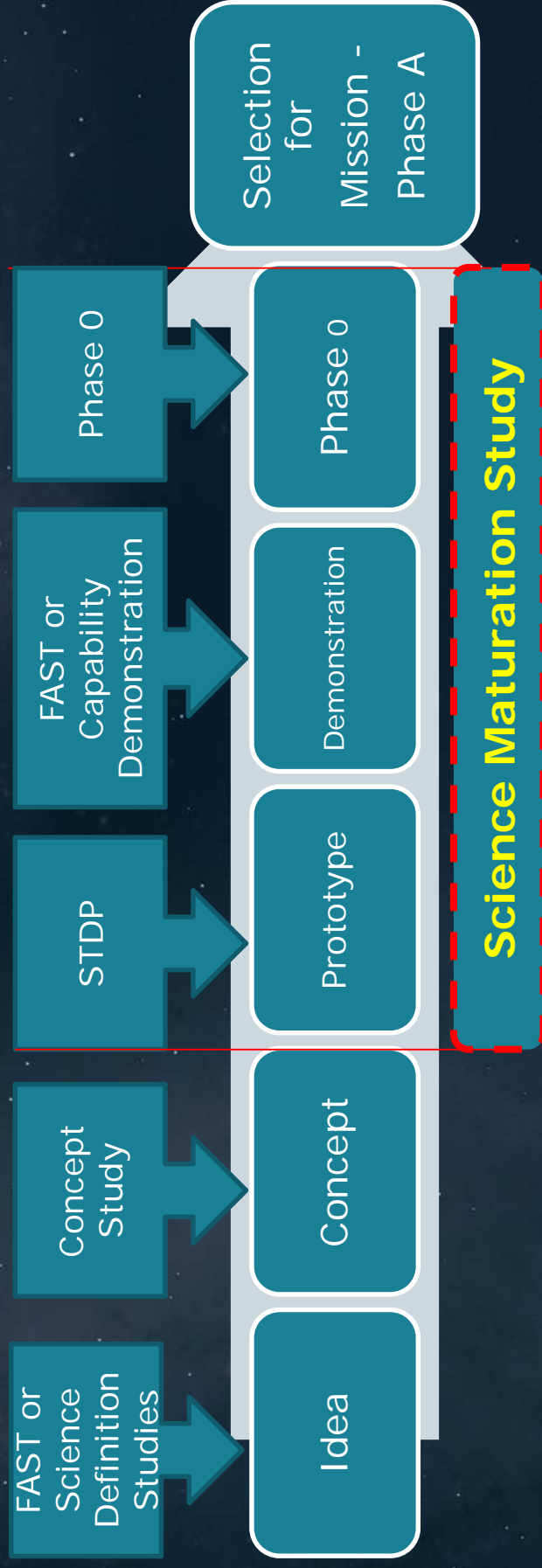
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- Q1: Should I submit my proposal as a **science maturation study (SMS)** or concept study or to FAST, STDP or capability demonstration opportunities?
- 
- Q2: Should I submit the academic part of my proposal to a **science maturation study** and the technology part (industry) to a concept study?
- Q3: How will mandatory criteria be used to assess the **eligibility** of my proposal?

Q1: Should I submit my proposal as a science maturation study or concept study or to FAST or STDP or capability demonstration opportunities?

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**Answer:** Assuming your idea is eligible for the opportunity, which investment you need depends on how ready your idea is to be selected for a Space Exploration mission opportunity.



# Comparison of pre-mission development opportunities

	Target group	Eligible work	Purpose	Study duration
Science definition studies / FAST	Academia	Research & Development with focus on science results / student training	<b>SRL 1-2</b> Explore new ideas – open ended research	2-3 years
Concept Study	Academia / Industry	Paper study	<b>SRL 3</b> Initial science requirements and engineering solution	6mo-1 yr
Mission Contribution Study	Industry / Academia	Paper study	<b>SRL 2-3</b>	6mo-1 yr
STDP	Industry	Technology development	Instrument and advanced system prototyping	6mo-2yr
Science Maturation Study	Academia	Research & development	<b>SRL 4-5</b> Validate Baseline & Threshold science requirements	1-3 years
Capability Demonstration / FAST	Industry / Academia	Field or TVAC demonstration	<b>SRL 5</b> Validate science rqts Buy down technical risk	1-3 years
Phase 0	Industry + academia	Paper study	Baseline project with <b>cost</b> and <b>schedule</b>	6mo-1 year
Mission selection / Phase A	Industry + academia	Paper study	SRL 5 Finalise mission requirements, formal flow down to systems reqts	6mo-1 year



# Science Readiness Levels

SRL	Science Readiness Level Description	Program or Mission Phase
1	Basic scientific principles observed and reported	Fundamental research
2	Science investigation defined	R&D programs (preparatory phases including: Science Definition, Concept Studies, Science Maturation); FAST
3	Science investigation proof of concept	
4	<b>Science investigation validated using simulated and/or breadboard data</b>	
5	<b>Science investigation validated using analogue and/or instrument prototype data</b>	SST STDP and FAST, Phase 0/A
6	Science investigation validated using instrument Engineering Model calibration/ characterization data products	Phase BCD
7	Science investigation validated using instrument Flight Model pre-launch calibration data products, and analogue science operations where relevant	
8	Science investigation data production proven through successful mission operations	Phase E Operations
9	Science investigation outcomes generated through publication of results	Phase E Data Analysis

Q2: Should I submit the academic part of my proposal to a **science maturation study** and the industry part to a concept study?

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- **No**, this is not the intent.
- A concept study includes a science work package and the concept must be driven by science requirements.
- A science maturation study is intended to follow a concept study and respond to the science plan produced as part of a concept study report.
- It is recognised that a concept study is a short duration paper study, and there may be significant science development activities needed to establish values and confidence limits for those science requirements which remain To Be Determined.
- The role of the science maturation study is to buy down risk for the mission, in the same way that STDP can buy down technology risk.

### Q3: How will mandatory criteria be used to assess the **eligibility** of my proposal?

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- Eligible projects have been tabulated in the RFP, referencing Topical Teams' objectives and investigations
- For the given objectives, it is known that work has been done in the past that suggests a science-driven conceptual technical solution exists and a science maturation study would be a valued investment at this time.
- As mandatory criteria, the bid is required to clearly identify which eligible project the proposal addresses and provide references to the relevant previous work.

Q3: How will mandatory criteria be used to assess the **eligibility** of my proposal?

PIÈCE JOINTE 1 À LA PARTIE 4

CRITÈRES D'ÉVALUATION OBLIGATOIRES ET CRITÈRES TECHNIQUES ET DE GESTION COTÉS

ATTACHMENT 1 TO PART 4

MANDATORY AND POINT RATED TECHNICAL EVALUATION CRITERIA

4A.1 *Mandatory Evaluation Criteria*

4A.1.1 Investigation Eligibility

The proposed study must be in an Eligible Investigation Category as indicated in Table 4A1 OR Table 4A2

TABLE 4A1: 2017 PRIORITIES FOR SPACE ASTRONOMY SCIENCE MATURATION STUDIES

Study #	Topic	Eligible Investigation(s)	Examples of previous flight heritage and/or concept studies
SA-1	Cosmology: Cosmic Microwave Background (CMB) and inflation	Investigations related to CMB, measuring B-modes (polarization in CMB) and structure of the Universe	Planck mission and EBEX & SPIDER balloon flights, Concepts for LiteBIRD and other CMB pol.
SA-2	Dark Energy and Dark Matter	Investigations related to wide field imaging, cosmological surveys, and low resolution spectroscopy. Cosmic expansion, matter density, DE acceleration of state parameter, influence of dark	Euclid (in dev.). CASTOR and WFIRST studies.

26 octobre 2017

# Autres questions? Other questions?

October 26<sup>th</sup> 2017





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