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Title - Sujet Enhanced SATCOM Project - Polar	
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**Industry Engagement Process for
Enhanced SATCOM Project – Polar
(W6369-180123/A and W6369-180123/B)**

Summary of Feedback and Outcomes



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1. Introduction

Public Services and Procurement Canada (PSPC) released a Request for Information (RFI) (W6369-180123) on December 4, 2017 as a first step to inform Industry of a potential procurement to deliver an end-to-end solution for satellite communications (SATCOM) in the Arctic for the Enhanced Satellite Communication Project – Polar (ESCP-P) on behalf of the Department of National Defence (DND), as well as to seek Industry input on this requirement. The RFI analysis team did not evaluate or rank the responses submitted by Industry.

With this RFI, Canada sought to:

- a. Inform Industry of ESCP-P preliminary requirements;
- b. Obtain input from Industry on the feasibility, deficiencies and proposed improvements with respect to potential options to meet the requirement needs;
- c. Align this requirement with the Industry’s capabilities, as applicable;
- d. Seek Industry input on potential economic leveraging opportunities; and
- e. Obtain Rough Order of Magnitude (ROM) costing estimates from Industry.

An Industry Day and one-on-one meetings were also conducted as part of the project engagement activities.

A slide presentation with project information and status update has also been shared with RFI respondents that signed the Rules of Engagement document. Additional future engagement activities may include the publication of draft Request for Proposal (RFP) documents, such as draft Statement of Work (SOW), draft evaluation criteria and draft terms and conditions.

2. Industry Engagement Process

Industry Engagement Period	<ul style="list-style-type: none">• Posting of RFI: 4 December 2017• Industry Day: 16 January 2018• One-on-one meetings: 17-20 January 2018• RFI Responses Requested: 15 May 2018• Follow-on one-on-one meetings: 12-27 September 2018
Information disclosed under the RFI	<ul style="list-style-type: none">• ESCP-P RFI (document)• ESCP-P RFI Industry Day Briefing (slide presentation)• ESCP-P RFI BRs (document)• Industrial and Technological Benefits (ITB) Policy (slide presentation)
Government Participants	<ul style="list-style-type: none">• ESCP-P Project Team (Department of National Defence, Public Services and Procurement Canada, Innovation, Science and Economic Development Canada)

Participants that signed the ESCP-P Rules of Engagement	<p>AIRBUS CORPORATION ALLAM ADVISORY GROUP ATCO STRUCTURES & LOGISTICS BEYOND AEROSPACE LTD. CB2.0 COMMUNICATIONS INC. C-CORE CIEL SATELLITE L.P. COMSAT, Inc. EXACTEARTH LTD. GENERAL DYNAMICS MISSION SYSTEMS GRINTEX TECHNOLOGIES INC. HARRIS CORPORATION HUNTER COMMUNICATIONS CANADA INC. INMARSAT INTELSAT GENERAL CORPORATION IRIDIUM SATELLITE LLC KRATOS COMMUNICATIONS LTD L3 TECHNOLOGIES CANADA INC. LOCKHEED MARTIN SPACE MAGELLAN AEROSPACE MDA CORPORATION OMNISPACE CANADA ULC. PERATON CANADA CORP. RAYTHEON CANADA LTD RHEA INC. SED, A DIVISION OF CALIAN LTD. SES NETWORKS SPACE SYSTEMS/LORAL, LLC T24 DEFENCE TELESAT CANADA THALES ALENIA SPACE VIASAT INC.</p>
Participants at the Industry Day (January 2018)	23 firms were represented at the Industry Day.
Participants at the one-on-one meetings (January 2018)	16 firms participated in a one-on-one meeting.
RFI responses submitted	12 firms submitted responses to the RFI.
Participants at the follow-on one-on-one meetings (September 2018)	10 firms participated in a follow-on one-on-one meeting.

Questions and Answers from Industry	68 questions were received from Industry during and following the initial Industry Days in January 2018. 54 questions were received from Industry during and following the additional one-on-one sessions in September 2018. Canada provided responses and/or clarification to all 122 questions.
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3. Acronym List

BCA	Business Case Analysis
BR	Business Requirements
CAF	Canadian Armed Forces
DND	Department of National Defence
ESCP-P	Enhanced Satellite Communication Project - Polar
HLMR	High Level Mandatory Requirement
HTS	High Throughput Services
IOC	Initial Operational Capability
ISS	In Service Support
ITB	Industrial and Technological Benefits
ITQ	Invitation to Qualify
IW	Integrated Waveform
PSPC	Public Services and Procurement Canada
RFI	Request for Information
RFP	Request for Proposal
ROM	Rough Order of Magnitude
SATCOM	Satellite Communications
SOR	Statement of Operational Requirements
SOW	Statement of Work
WCDMA	Wideband Code Division Multiple Access

4. Summary of Feedback and Outcomes

Topic 1 End-to-end solution	Responses were requested to present an end-to-end solution for Narrowband and Wideband SATCOM in the Arctic.
Feedback	A total of twelve responses were received from Industry. In general, some responses were partial in nature, addressing a subset of the requirement. Other responses included complete end-to-end solutions for the lifetime of the capability.
Outcome	Canada has determined that, in aggregate, Industry is able to deliver solutions that would constitute an end-to-end solution.

Topic 2 Wideband Requirement Business Requirements (BR) Section 4.3	Feedback was requested on ESCP-P Wideband coverage and capacity requirements.
Feedback	Out of six responses that addressed the Wideband requirements, two responses indicated that the coverage and/or capacity requirements for Tier 1 and Tier 2 were not achievable based on their identified solution. The remaining four responses demonstrated that the coverage and capacity requirements were achievable. Two of the four stated coverage or capacity requirements could be exceeded.
Outcome	Canada has determined that there is Industry capability to deliver the Wideband solution as stated in the BRs.
Topic 3 Narrowband Requirement BR Section 4.5	Feedback was requested on ESCP-P Narrowband coverage and capacity requirements.
Feedback	Nine responses addressed the Narrowband requirement. Four of those nine suggested using a technology other than Integrated Waveform (IW) or Wideband Code Division Multiple Access (WCDMA). Three of the nine responses would only achieve Tier 1 coverage and capacity requirements. Two of the nine responses suggested they could exceed the Narrowband coverage and capacity requirements for Tier 1 and Tier 2.
Outcome	Canada has determined that there is Industry capability to deliver the Narrowband solution as stated in the BRs.
Topic 4 High Throughput Services (HTS) BR Section 4.4	Feedback was requested on ESCP-P HTS coverage and capacity requirements.
Feedback	The majority of respondents did not address the HTS requirements. Six responses had some specific consideration for HTS (Tier 3) requirements, including purpose built solutions or suggestions to use a separate constellation or commercial service.
Outcome	Canada is currently analyzing the merits of having the HTS (Tier 3) requirements remain within the scope of ESCP-P.
Topic 5 High Level Mandatory Requirement (HLMR) 1 – Coverage and Availability BR Section 4.2	Feedback was requested on ESCP-P HLMR 1 – Coverage and Availability.
Feedback	Five responses suggested that they could meet all requirements of HLMR 1. All Industry respondents advised that they could meet the 15 year service life of the capability regardless of the particular solution.
Outcome	Canada has determined that there is Industry capability to fulfill Canada's HLMR 1 – Coverage and Availability.

Topic 6 HLMR 2 – Capacity BR Section 4.3, 4.4, 4.5	Feedback was requested on ESCP-P HLMR 2 – Capacity.
Feedback	Most responses indicated that the capacity figures stated in the HLMR could be met, and in some cases, exceeded.
Outcome	Canada has determined that there is Industry capability to fulfill Canada’s HLMR 2 – Capacity.
Topic 7 HLMR 3 – Protection BR Section 4.6	Feedback was requested on ESCP-P HLMR 3 – Protection.
Feedback	The security and protection requirements were not fully elaborated and as such, most respondents provided broad statements indicating the requirements could be met. Other responses detailed their familiarity with security requirements for similar capabilities.
Outcome	Canada realizes that the Protection and Security requirements are not yet mature and need further refinement.
Topic 8 HLMR 4 – Technical Interoperability BR Section 3.4	Feedback was requested on ESCP-P HLMR 4 – Technical Interoperability.
Feedback	The Technical Interoperability HLMR was not fully discussed in the responses from Industry. However, options presented in the responses indicate that interoperability within the Canadian Armed Forces (CAF) and with Allies should be achievable.
Outcome	Canada realizes that the Technical Interoperability requirements are not yet mature and need further refinement.
Topic 9 HLMR 5 – Control BR Section 4.7	Feedback was requested on ESCP-P HLMR 5 – Control.
Feedback	Responses on this HLMR topic ranged from minimal control (existing/planned constellations) to maximum control (custom constellations). Responses did not clearly articulate how Allied portions of the capability would be controlled.
Outcome	Canada realizes that the Control requirements are not yet mature and need further refinement.
Topic 10 HLMR 6 – Supportability BR Section 4.8	Feedback was requested on ESCP-P HLMR 6 – Supportability.
Feedback	Most Industry respondents suggested an In Service Support (ISS) model similar to other military procurement programs.
Outcome	Canada has determined that there is Industry capability to fulfill Canada’s HLMR 6 – Supportability.

Topic 11 Industrial and Technological Benefits RFI Section 5.16	Feedback was requested regarding economic leveraging opportunities related to ESCP-P in the context of the application of ITB policy.
Feedback	Generally, Industry responses received indicated there are opportunities to support direct work, supplier development, Research & Development, and export pillars of the ITB Policy. Respondents who provided RFI responses with an end-to-end solution were found to be among the most responsive to the ITB questions.
Outcome	Canada has determined that there are economic leveraging opportunities within the space systems Industry in Canada across all ITB pillars for ESCP-P, including capacity for direct work on ESCP-P. Innovation Science and Economic Development Canada will engage Industry on the development of a Value Proposition framework for ESCP-P as part of the project's Definition Phase.
Topic 12 Risks RFI Section 5.14	Feedback was requested on potential programmatic and technical risks.
Feedback	Several RFI responses identified potential technological and programmatic risks.
Outcome	Appropriate risks have been added to the project Risk Register and will be monitored/mitigated by the project team. Some example risks include: <ul style="list-style-type: none"> • Launch failure; • In-orbit degradation or failure; • Evolution of user needs (between RFI/RFP and Initial Operational Capability (IOC)); • Spectrum coordination; and • Prolonged procurement period.
Topic 13 Cost Estimates RFI Section 5.12	Respondents were requested to provide budgetary cost estimates and projected cash flows broken down by sub-system and Tier.
Feedback	Limited, high-level cost information was provided in RFI responses.
Outcome	It is assumed that the limited cost information provided in responses was due to the level of detail provided by Canada in the RFI document itself. Consequently, DND has addressed the development of a project cost estimate through independent research. Additionally, future engagements with Industry may address the topic of project costs in more detail.

5. Conclusion

Overall, the feedback from Industry was valuable in contributing to the development and refinement of the BRs, Statement of Operational Requirements (SOR), and Business Case Analysis (BCA) for ESCP-P.

Canada has drawn a number of observations from the RFI responses, Industry Day and one on one meetings with respondents:

- a. It was noted that at least two technical HLMRs of the project (“Coverage and Availability” and “Capacity”) can be met or exceeded based on Industry responses. Other ESCP-P HLMRs and BRs will require further refinement and analysis, which is planned to be done in the remainder of the project’s Options Analysis and Definition phases. Much of this work will be completed through internal stakeholder and user engagement, prior to sharing the results with Industry.
- b. The RFI was open-ended with the goal of not constraining the solution space for Industry responses and with the intent of being as inclusive as possible. Consequently, a broad spectrum of observations and advice, as well as a variety of potential solutions, were shared by Industry. However, an unintended result was that Canada did not receive sufficient cost information for many of these options. Furthermore, certain HLMRs were interpreted by Industry in different ways. Canada realizes that these requirements need to be more clearly articulated in future engagements.

Due to these observations, Canada has and is currently spending a great deal of time conducting internal and independent analyses to develop a greater degree of certitude regarding the overall cost and in refining requirements. These activities have resulted in programmatic delays in obtaining approvals and in responding back to Industry in a timely manner. For these reasons, the Outcomes contained in this document are relatively high-level.

6. Next Steps

A substantial amount of work remains to be completed in order to better define Canada’s requirements for the ESCP-P capability. To that end, Canada will initiate the next steps in the Industry collaborative engagement process. Canada anticipates soliciting Industry feedback regarding various subjects, such as the potential use of a supplier pre-qualification process for any future ESCP-P Request for Proposal(s). This process, known as an Invitation to Qualify (ITQ), would be a multi-phased procurement process, whereby multiple bidders with the requisite experience could qualify to work with Canada to review and refine requirements, prior to Canada issuing a formal Request for Proposal. This process could be applied in many different formats. Canada intends to welcome Industry feedback at the next formal engagement opportunity, which is currently anticipated to occur in early 2020.

Information on the ESCP-P RFI can be found on Buy and Sell under tender notices W6369-180123/A and W6369-180123/B. Industry will be notified of further opportunities for engagement through the ESCP-P Buy and Sell notice.

The Government of Canada ESCP-P team members thank all participants for taking part in the Industry Engagement Process.

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