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Place du Portage, Phase III
Core 0A1 / Noyau 0A1
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

LETTER OF INTEREST
LETTRE D'INTÉRÊT

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Science Procurement Directorate/Direction de l'acquisition
de travaux scientifiques
11C1, Phase III
Place du Portage
11 Laurier St. / 11, rue Laurier
Gatineau, Québec K1A 0S5

Title - Sujet Nanosatellite Secure Communications	
Solicitation No. - N° de l'invitation W7714-135751/A	Date 2012-10-03
Client Reference No. - N° de référence du client W7714-135751	GETS Ref. No. - N° de réf. de SEAG PW-\$\$\$V-007-24964
File No. - N° de dossier 007sv.W7714-135751	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-11-01	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Caldwell, John	Buyer Id - Id de l'acheteur 007sv
Telephone No. - N° de téléphone (819) 956-1373 ()	FAX No. - N° de FAX (819) 997-2229
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE BLDG 29 RECEIVING 3701 CARLING AVE OTTAWA Ontario K1A0Z4 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

REQUEST FOR INFORMATION

DEPARTMENT OF NATIONAL DEFENCE (DND) DEFENCE RESEARCH AND DEVELOPMENT CANADA (DRDC)

1.0 OBJECTIVE

To determine the state of the art in communications security (COMSEC) devices for Canadian nanosatellites and microsatellites.

2.0 APPLICABLE DOCUMENTS (AD)

[AD01] The statement of Requirements (SOR) for the required COMSEC device is available upon request to the Procurement Authority identified below.

3.0 GENERAL

This Request for Information (RFI) seeks information from vendors with respect to the state of the art in nanosatellite and microsatellite compatible Suite-B compliant communications security (COMSEC) devices for use on future space missions on behalf of the Department of National Defence (DND), Defence Research and Development Canada (DRDC). DRDC is working in conjunction with the Communications Security Establishment Canada (CSEC), the Government of Canada's national cryptologic authority, and the Canadian Space Agency (CSA), the Government of Canada's spacecraft systems technical authority in developing its nanosatellite and microsatellite COMSEC requirements. For DND's future nanosatellite and microsatellite missions, the COMSEC equipment needs to be readily available and certified for protecting Government of Canada information, up to and including SECRET information. This document sets out a request for information on behalf of DRDC in which it is seeking information in respect of the status of state of the art of technologies relevant to the development of a COMSEC device for Canadian nanosatellite or microsatellite space missions.

More specifically, this RFI seeks information on the current development status on space qualified Suite-B compliant COMSEC equipment, the extent of development, if any, required in order to transition from a responder's current technology readiness level to that of being ready for commercialization and deployment. As such, it is still recognized that commercially available space qualified COMSEC equipment will still be required to interface with existing Canadian Nanosatellite or Microsatellite Systems. Finally, responders should note that not all requirements as set out in the Statement of Requirements need be met at this time, and the responder may suggest reasonable alternatives for any of the requirements specified in [AD01] for DRDC's consideration.

In addition to seeking information on a responder's current status of COMSEC equipment, information on related costs, scheduling, risk, contractual terms, and cost sharing is also being requested under this RFI. Based on the information received, the Government of Canada may proceed with a multi phase procurement to develop its

COMSEC requirements for future DND nanosatellite and microsatellite missions. This could include a fixed price development contract to further the development of a suitably mature COMSEC technology, with a subsequent standing offer method of supply for commercially available COMSEC equipment. In any event, the procurement vehicle(s), if any, will need to be commensurate with the technology status and availability of the applicable device.

4.0 DEFINITIONS

Microsatellites: Satellites with a mass between 10-100 kg
 Nanosatellites: Satellites with a mass between 1-10 kg

Technology readiness levels are defined in Table 1.

Table 1: Technology Readiness Levels

Technology Readiness Level (TRL)	Definition of TRL Level
1	Basic principals observed and reported
2	Technology concept formulated
3	Analytical and experimental critical function and/or characteristic proof-of-concept
4	Component and/or breadboard validation in laboratory environment
5	Component and/or breadboard validation in relevant environment
6	System/ subsystem model or prototype demonstration in a relevant environment (Ground or space)
7	System prototype demonstrated in a space environment
8	Actual system completed and "flight qualified" through test and demonstration (Ground or Flight)
9	Actual system "flight proven" through successful mission operations
10	More than two actual systems "flight proven" through successful mission operations in the last 10 years

5.0 BACKGROUND

DRDC has funded the development of previous and upcoming Canadian nanosatellite and microsatellite platforms. These have been, and will continue to be, demonstrated as low cost, turnkey solutions. Their primary intended use is as operationally responsive platforms for the Department of National Defence (DND). DRDC Ottawa also maintains a government owned and operated spacecraft ground station, to be used to support operation of these spacecraft.

Canada seeks information under this RFI for the purpose of establishing a way forward that will lead to the establishment of a contractual vehicle (possibly a standing offer) which will position Canada to be in a state of readiness in respect of secure communications equipment for future space missions that will be required for rapid

delivery. Furthermore, it is intended to determine how DRDC may be able to enhance the secure communications capability of its ground station, as well as future nanosatellites and microsatellites utilizing Suite B compliant algorithms, to facilitate the delivery of secure space platforms with reduced deployment cycle times to support space missions.

Initial investigations have shown that potential space-qualified implementations exist to meet this requirement. However, modifications may be required to meet specific requirements imposed by specific nanosatellite or microsatellite platforms. Any implementation will require testing as specified in [AD01]. The contractual vehicle under which any modification or testing work would be performed has not been determined at this time. High assurance cryptographic certification and Approval For Use (AFU) of the equipment will be overseen by the Communications Security Establishment Canada (CSEC). Any COMSEC device that is to be used for the protection of Government of Canada Secret information must be demonstrated to be capable of safeguarding such information to the satisfaction of CSEC.

6.0 SCOPE

The responder is requested to provide information with respect to its state of the art product capabilities, design, testing activities, and technical readiness level of COMSEC equipment for both space and ground segments that their organization may have completed or which may be in progress of technical development. This includes, but is not limited to the devices themselves, all test systems and related hardware and software components. Furthermore, the response to the RFI should detail any COMSEC product certifications by relevant communications security, standards or certification organizations that have been attained, or which are in progress. An estimate of remaining development costs as well as unit costs for complete units is requested in order to assist the DRDC in assessing whether there exists any merit for DRDC to consider the establishment of a fixed price (and cost shared) contractual vehicle for advancing the development of a suitably mature technology that will lead to commercially available COMSEC equipment that may benefit future DRDC nanosatellite and microsatellite missions.

7.0 REQUESTED INFORMATION

This Request for Information (RFI) is the first step in engaging industry, with a view to assessing the current status of space qualified Suite-B compliant COMSEC equipment for application to Canadian nanosatellite and microsatellite space missions. It is requested that the responder provide and/or report on the following areas in order to assist the Government of Canada with assessing the current state of the art of this technology. A suggested schema for the response is provided below:

1. Technical implementation
 - a. State of development and testing, including space qualification testing, of any existing COMSEC device implementations that may meet some or all of the requirements as specified in [AD01].

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- b. Where SOR elements in [AD01] have not yet been achieved, indicate your ability to meet the identified SOR element. Where the SOR element cannot be achieved, indicate the level of specification that can be reasonably achieved and why. Alternative solutions may also be identified. Responses are encouraged to include "best effort" feedback on those requirements that firms deem over-stringent and which will excessively drive up costs.
 - c. Responders should identify the country of origin of all components used, or that will be used, in the design and manufacturing of the identified COMSEC device.
 2. Certification and security
 - a. Provide information with respect to the status of any ongoing and/or completed high assurance (COMSEC) certification of relevant devices.
 3. Cost
 - a. Identify costs for the remaining development and commercialization work to bring the COMSEC device from its current TRL level to a commercially available product. Canada may consider a cost sharing relationship in order to complete remaining development and commercialization work, possibly through a fixed price contract. Details on quantifiable milestones may be identified.
 - b. Estimated cost of flight ready units.
 4. Participants
 - a. Provide a list of past partners that have participated in the COMSEC device development, or future anticipated partners(if applicable) that may participate in remaining development work for the COMSEC device;
 5. Marketability
 - a. Provide a preliminary assessment on market demand for a commercially available version of the proposed COMSEC device in accordance with its currently envisioned specifications. Do opportunities exist for the development of a device as per this specification that may enable the responder to broaden their business opportunities, both within Canada and abroad? The responder may explore non space related applications.

It is recognized that the information requested under this RFI is very comprehensive. Partial responses will be considered where the development status of the device has not yet concluded on a particular specification. The Government of Canada seeks information on what can be delivered, the associated cost, as well as determining if there exists any potential fit for Canada's participation in supporting remaining development for achieving a commercially available COMSEC device.

It is intended that the information obtained from responses submitted will support the project and budget approval process, as well as in finalizing requirements. Information provided will be considered for use in the development of both the final requirements

and the performance specifications. The intent is that under any resultant RFP, industry will be provided with clear, realistic performance specifications.

The requirements in [AD01] have been designed to leverage industry expertise by allowing for a baseline response to meet the SOR requirements and by providing opportunity to suggest alternative solutions. Responses are encouraged to include "best effort" feedback on those requirements that firms deem over-stringent and which will excessively drive up fixed costs due to the current availability of COTS equipment.

8.0 CONTRACTUAL, PROGRAMMATIC, AND GENERAL INFORMATION

This Request for Information seeks vendors to provide the following information:

- Where commercial readiness of a micro or nanosatellite secure communications capability does not currently exist, the RFI response should provide a cost schedule of milestones from contract award to completion that sets out the required development to transition the existing microsatellite or nanosatellite secure communications capability from its current development status to one being commercially available for purchase to support DND microsatellite or nanosatellite missions.
- Where commercial readiness of a microsatellite or nanosatellite secure communications capability already exists, the response should outline modifications which would likely be required to adapt it to a specific nanosatellite or microsatellite mission. Assumptions should be stated. If possible, cost models on adaptation of the commercial device to specific missions should also be provided.
- Provide a list of risks related to maturity of technology and transitioning it to a commercially available capability. An assessment (severity and probability) for risks related to schedule, cost, technical solution, export restrictions, use restrictions, technology approvals etc. should be included;
- Identify required regulatory approvals that would need to be satisfied in the performance of required development work to achieve commercial readiness, or in the sale of a commercially available micro or nanosatellite secure communications capability commercially available capability to DND;
- Provide a list of constraints and assumptions that apply to the RFI response;
- Provide information on terms, and your ability to meet the contractual General and Supplemental General Conditions identified herein. It is envisioned that the general conditions applicable under any resultant contract to further develop a microsatellite or nanosatellite secure communications capability for purposes of achieving commercial readiness would be PWGSC General Conditions 2040 General Conditions - Research and Development. For requirements where a commercial capability would be acquired under a standing offer and possibly adapted to the specific requirements of an identified microsatellite or nanosatellite mission, it is envisioned that 2005 General Conditions - Standing Offers - Goods or Services together with 2030 General Conditions - Higher Complexity - goods, and Supplemental General Conditions 4006 - Contractor to own Intellectual Property Rights in Foreground Information will apply. Supplemental General Conditions 4006 permit Canada to use foreground and background information in subsequent future competitive procurements for

system use, operation, maintenance, or manufacture of spare parts. Information on industry's ability to perform the work under these General Conditions and Supplemental General Conditions is requested;

- Provide input on Canadian Content. Feedback from industry is requested on the level of Canadian content (% of work performed by Canadian-based personnel) that would likely be achieved in the performance of required development work to achieve a commercially available microsatellite or nanosatellite secure communications capability; or,
- The level of Canadian content (% of work performed by Canadian-based personnel) that exists within an existing commercially available microsatellite or nanosatellite secure communications capability, and what may be realistically achieved in the adaptation of a current commercially available capability to a specific micro or nanosatellite mission;
- Provide input on industry's ability to forward price a commercially available capability, for purposes of establishing a realistic period for any resultant standing offer.

9.0 ADDITIONAL INFORMATION FOR INTERESTED FIRMS

This is not a bid solicitation and a contract will not result.

Potential respondents are advised that any information submitted to Canada in response to this Request for Information may be used by Canada in the development of a subsequent competitive Request for Proposal (RFP) and, or Request for Standing Offer (RFSO). However, the Government is not bound to accept any response or to consider it further in any resulting bid solicitation documents.

The issuance of this Request for Information does not create an obligation for Canada to issue a subsequent RFP and, or RFSO, and does not bind Canada legally or otherwise, to enter into any agreement or to accept any suggestions from organizations. Canada reserves the right to accept or reject any or all responses submitted.

There will be no short listing of firms for purposes of undertaking any future work, or the issuance of a standing offer, as a result of this request. Similarly, participation in this Request for Information is not a condition or prerequisite for participation in any subsequent RFP and, or RFSO.

Companies responding to this Request for Information should identify any submitted information that is to be considered as either company confidential or proprietary. Companies responding to this Request for Information should note that DRDC may use contracted resources to assist with project definition, management and in the provision of engineering support for its nanosatellite and, or microsatellite secure communications requirements. Such contracted resources may be required to access responses submitted by vendors, to assist with the formulation of a project implementation plan for this project. Any contracted resources will be required to sign non-disclosure agreements and their respective companies excluded from bidding on any future bid

solicitation for to further develop a nanosatellite secure communications capability or the establishment of a standing offer for such capability.

It is anticipated that any resultant Request for Proposal or Request for Standing Offer may only be issued in 2013 or 2014.

10.0 LANGUAGE OF WORK

Responses are to be provided in English or French. These documents may be translated into English or French by the Government of Canada.

11.0 SECURITY

Any solutions developed will ultimately be required to be certified for use by CSEC. Furthermore, any solution developed in conjunction with a foreign nation or foreign entity, or procured from outside of Canada may also be required to be approved for use by the relevant national government authorities and approved for export by the appropriate national authority.

Security requirements may form part of any resultant contract. As such, required clearances will need to be in place, and may be a prerequisite for bidding purposes. Subcontracts with security requirements typically require the advance approval of the relevant security authority.

Any future Request for Proposal(s) may be subject to a National Security Exemption and as such, may only be issued in accordance with the terms of the approved security exemption.

It is expected that devices compliant with the requirements of this RFI will be controlled goods. As such, it is anticipated that appropriate controlled goods registration will be required.

12.0 ENQUIRIES

All enquiries and other communications related to this Request for Information must be directed exclusively to the PWGSC Procurement Authority. Firms which intend on responding to this Request for Information are requested to advise the PWGSC Procurement Authority of their intention to respond, in order that they may be notified of any changes to the notice on MERX, which may occur during the posting period.

13.0 CLOSING DATE

Responses to this Request for Information should be submitted to the PWGSC Procurement Authority identified below, on or before the close of business on November 1st 2012. Responses can be e-mailed but a hard copy must be mailed or faxed as well.

14.0 RESPONSE EVALUATION AND INDUSTRY FOLLOW-UP

Following receipt of responses to this Request for Information, PWGSC and DND will evaluate responses received for purposes of developing a way forward on this requirement. In order to maintain awareness within the bidding community for this requirement, PWGSC will publish a RFI findings document. The purpose of the RFI findings document will be to communicate to firms that provided responses to this RFI, and to industry at large, the way forward for any follow-on procurement.

It is anticipated that the RFI findings document will include the following information:

- The number of firms that requested [AD01]
- The identification of firms submitting responses
- A collective assessment on the responses received including anticipated changes, if any to [AD01]. Proprietary information will not be disclosed.
- An assessment of the structure of a resulting procurement – Will there be a development phase?
- An estimated schedule for any resulting procurement; and,
- Next steps.

The RFI findings document will be distributed directly to firms that submitted responses to this RFI, and will be published as a RFI follow-up document on MERX. It is anticipated that the RFI findings document will be distributed within three (3) months after closing of this RFI.

15.0 PROCUREMENT AUTHORITY

Public Works and Government Services Canada
Acquisitions Branch
Specialized Services and Acquisitions Management Sector
Science Procurement Directorate,
Defense Sciences (SV) Division
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