



**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

Bid Receiving - PWGSC / Réception des
soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
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
Electrical & Electronics Products Division
11 Laurier St./11, rue Laurier
7B3, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Title - Sujet RFI DETECTION SYSTEM	
Solicitation No. - N° de l'invitation 21120-196517/A	Date 2018-09-13
Client Reference No. - N° de référence du client 21120-19-2956517	GETS Ref. No. - N° de réf. de SEAG PW-\$\$HN-445-75466
File No. - N° de dossier hn445.21120-196517	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-10-04	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Ladouceur, Joanne M.	Buyer Id - Id de l'acheteur hn445
Telephone No. - N° de téléphone (819) 420-0340 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

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

PART 1 - INTRODUCTION

A Request for Information (RFI) is used when detailed information and feedback are required from suppliers. Such requests might outline a potential requirement and request suppliers to describe their ability to satisfy the requirement and to provide ideas and suggestions on how the eventual solicitation might be structured. Responses are used to assist the client department and PWGSC in finalizing their plans for the requirement and in developing achievable objectives and deliverables.

The main objectives of the RFI allow suppliers to:

1. Assess and comment on the adequacy and clarity of the requirements as currently expressed;
2. Offer suggestions regarding potential alternative solutions that would meet requirements, such as solution with a lower environmental impact.
3. Provide information to assist the client department to determine whether to proceed with requirements/strategy as planned, and if so, further developing internal planning, approval and solicitation documents that may potentially lead to a solicitation;
4. Refine the procurement strategy, project structure, cost estimate, timelines, requirements definition, and other aspects of the requirement;
5. Become a more "informed buyer" with an enhanced understanding of industry goods and service offerings in the areas of interest; and
6. Assess potential alternative solution concepts that would meet its requirement, such as environmentally preferable solutions.

This is not a bid solicitation. A contract will not result from this activity.

This RFI will not necessarily result in any procurement action. This RFI is for informational purposes only and does not constitute a commitment by Canada. Responses to this RFI will not constitute a commitment from the industry provider. Canada will not reimburse any expenses incurred for the preparation of responses to this RFI.

CONFIDENTIALITY

All information obtained with this RFI is treated as confidential and protected under the Privacy Act and Access to Information Act.

PART 2 - BIDDER INSTRUCTIONS

2.1 Responses are to be submitted to the PWGSC Bid Receiving Unit:

RFI no. 21120-196517/A
Bid Receiving - PWGSC
11 Laurier Street
Place du Portage, Phase III
Core 0B2
Gatineau, Québec K1A 0S5
Tel.: (819) 956-3366

2.2 Due to the nature of the RFI, it is requested that responses are not submitted by facsimile (fax) or electronic mail (email), but rather only in hardcopy format, submitted to the Bids Receiving Unit address above.

2.3 Please submit two (3) identical copies of the response

2 copy will be given to the Correctional Service Canada (CSC) and 1 copy will remain with the Contracting Authority (PWGSC).

Any response submitted will become the sole property of Canada and will not be returned to the supplier. The response will be used to assist Canada in further analyzing the presented requirement and, as such, may be used in the development of a future solicitation process.

2.4 Response required by:

2:00 PM on 4 October 2018

2.5 Inquiries

Please address all inquiries about this RFI to the Contracting Authority:

Joanne Ladouceur (M)
Public Works and Government Services Canada
Place du Portage, Phase III
11 Laurier Street, Gatineau, Quebec Canada K1A 0S5
Telephone: (819) 420-0340
Email: joanne.m.ladouceur@tpsgc-pwgsc.gc.ca

PART 3 – STATEMENT OF REQUIREMENT

Air & Ground Intrusion Detection System

1.0 Background

1.1 Correctional Service Canada

Correctional Service Canada (CSC) is an agency within the portfolio of Public Safety. The portfolio brings together key federal government organizations involved in public safety, including the Royal Canadian Mounted Police, the National Parole Board, the Canada Border Services Agency, the Canadian Security Intelligence Service, and three review bodies.

CSC contributes to public safety through the custody and reintegration of offenders. More specifically, CSC is responsible for administering court-imposed sentences for offenders sentenced to two years or more. This includes both the custodial and community supervision of offenders with Long Term Supervision (LTSOs) for periods of up to 10 years. CSC is currently responsible for approximately 15,000 inmates and 8,000 offenders actively supervised in the community.

CSC has a presence from coast to coast, in large urban centres with increasingly diverse populations, to more remote Inuit communities across the North. CSC manages institutions, treatment centres, Aboriginal healing lodges, community correctional centres, and parole offices. In addition, CSC has five regional headquarters that provide management and administrative support and serve as the delivery arm of CSC's programs and services. CSC also manages an addictions research centre, a correctional management learning centre, regional staff colleges, and national headquarters.

1.2 Air and Ground Intrusion Detection System Project

The introduction of contraband within CSC institutions remains an ongoing concern. Several incidents within the last few years have revealed that there is an emerging potential vector for introducing contraband to an institution created by small commercially available drones. The actual threat to the security of the institution is not caused by the drone itself but by the payload the drone is carrying. Depending on the size and type of the drone, the maximum weight of the payload could exceed 5 kilograms. Drones may also be used in illicit surveillance operations to gain intelligence to aid in an escape or other illegal activities.

CSC has a requirement to acquire and test an Air and Ground Intrusion Detection system for six (6) of its institutions. In support of CSC's Public Safety mandate, it is of significant importance to develop an effective and sustainable method of detecting UAVs and/or peoples are attempting to make contraband delivery to our institutions and providing an alert to CSC staff when detected.

Technology that incorporates both ground- and air-based intrusion detection features would be optimal for CSC. Based on its initial research, conducted with the assistance of the National Research Council (NRC), CSC is of the opinion that a 3D radar-based detection system is the most mature technology to detect UAV and to provide long-term detection against the introduction of contraband to its institutions.

The following sites are being considered as the test locations for the deployment and assessment project:

1. Cowansville: (with wired fences)
<https://www.google.ca/maps/@45.2189697,-72.7853016,1101m/data=!3m1!1e3?hl=fr>
2. Dorchester: (with solid walls)
<https://www.google.ca/maps/@45.9118054,-64.5106518,896m/data=!3m1!1e3>

3. Donnacona: (with wired fences)
<https://www.google.com/maps/@46.6872079,-71.693399,1090m/data=!3m1!1e3>
4. Mission: (with wired fences)
<https://www.google.ca/maps/@49.1636036,-122.29263,843m/data=!3m1!1e3>
5. Collins Bay: (with walls)
<https://www.google.ca/maps/@44.2345328,-76.5529758,1304m/data=!3m1!1e3>
6. Stony Mountain: (with wired fences)
<https://www.google.ca/maps/@50.0824575,-97.225237,890m/data=!3m1!1e3?hl=fr>

At this preliminary stage, CSC is examining all options to fulfil the requirements of this project.

1.3 Objectives of this Request for Information (RFI)

CSC has decided that the issuance of a Request for Information (RFI) to the industry, in order to elicit the expert opinions of private sector organizations specializing in the provision of Air and Ground Intrusion detection technologies, would generate a broad and relevant picture of what is possible and what current industry leaders believe is the best approach for CSC to take.

2.0 The RFI Process

2.1 Nature of the RFI

This RFI is intended to:

1. Invite industry experts and potential suppliers of relevant products and services to provide input to CSC's requirements or to re-align CSC's expectations with industry capability, experience, and direction.
2. Invite potential suppliers to express the degree of interest that they may have in participating in any solicitation that may be issued for an air and ground intrusion detection system in the future.

The information provided by Respondents to this RFI may be used to refine the current requirement, the procurement strategy and / or the project cost envelope. The information gathered through the RFI may also be used to assist in the development of a Proof of Concept (PoC) trial and / or a competitive RFP.

This is not a bid solicitation. This RFI will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list. Therefore, whether or not any potential supplier responds to this RFI will not preclude that supplier from participating in any future procurement.

Also, the procurement of any of the goods and services described in this RFI may not necessarily follow this RFI. This RFI is simply intended to solicit feedback from industry with respect to the matters described in this RFI.

2.2 Nature and Format of Responses Requested

Respondents are requested to provide their comments, concerns, and, where applicable, alternative recommendations regarding how the requirements or objectives described in this RFI could be satisfied. Respondents should explain any assumptions they make in their responses.

There is no formal structure or format that a response to this RFI should meet. The Respondent should feel free to submit whatever information it feels would make a useful and relevant contribution to CSC's analysis of this project and the development of solicitation documents to procure a product or products to fulfill its requirements.

CSC only requests that any submissions to this RFI cite the question appearing below to which the Respondent's information pertains. This will aid CSC personnel in the gathering and collating of submitted information addressing specific areas of the project.

2.3 Response Costs

CSC will not reimburse any Respondent for expenses incurred in responding to this RFI.

2.4 Treatment of Responses

2.4.1 Use of Responses

Responses will not be formally evaluated. However, the responses received may be used by CSC to develop or modify procurement strategies or any draft documents contained in this RFI. CSC will review all responses received by the RFI closing date. CSC may, at its discretion, review responses received after the RFI closing date.

2.4.2 Review Team

A review team composed of representatives of CSC will review the responses. CSC reserves the right to hire any independent consultant, or use any Government resources that it considers necessary to review any response. Not all members of the review team will necessarily review all responses.

2.4.3 Confidentiality

Respondents should mark any portions of their response that they consider proprietary or confidential. CSC will handle the responses in accordance with the Access to Information Act.

2.4.4 Follow-up Activity

CSC may, in its discretion, contact any Respondents to follow up with additional questions or for clarification of any aspect of a response. CSC may invite one, some, or all of the Respondents to present their submissions and/or perform a product demonstration for CSC. CSC is not obliged to invite any Respondents for this further exploration nor are any Respondents obliged to participate.

3.0 CSC Requirements

The following is a list of high-level requirements CSC has identified for the new Air and Ground Intrusion Detection System (AGIDS). This list was developed through a preliminary examination of the factors driving the need for a solution from the field and from organizations within the Ministry of Public Safety. These requirements are representative of the initial visioning of system to protect our institutions against air- and ground-based intrusions and will be subject to more intense consideration and, possibly, modification throughout the development of the project.

This RFI seeks to determine the availability and maturity of integrated AGIDS solution that meets the current needs of CSC and will continue to evolve with the current practices and operational needs of CSC Institutions in Canada.

The AGIDS should:

1. Warn the operator of the presence of UAVs approaching to enable institutional staff to mount a response;
2. Detect potential air intrusions at as great a distance from the perimeter of the institution as possible to maximize reaction time (Please use quadcopter the size of DJI Phantom 3 or smaller for the size of drone/UAV when presenting the detection, recognition, and classification slant ranges);
3. Provide air volumetric coverage such that no UAV could fly over the perimeter without being detected (minimum slant range of 500m for quadcopter the size of a DJI Phantom 3 or smaller);
4. Warn the operator of the presence of a human approaching the perimeter from the ground to attempt to conduct a "throw-over" (launching a package of contraband over the perimeter fences);
5. Provide comprehensive ground coverage such that an intruder would be unable to approach the perimeter without being detected;
6. Avoid generating nuisance alarms by allowing the operator to toggle the detection/alert capabilities of areas where normal day or night activities are expected to happen;
7. Automatically classify detected targets based on characteristics and behavior (e.g. Human, animal, car, bird, airplane, helicopter, UAV);
8. Provide a means for staff to see during the day and night where the UAVs drop their payload and be able to identify individuals located near the area where the payload landed;
9. Provide the operator with the ability to view live visuals of:
 - a. The intruder(s) on the ground or in the air, and
 - b. The position of the intruder(s) on a detailed map of the institution and its environs;
10. Support a method to allow friendly drones to be used without generating nuisance alarms.

4.0 Areas of Specific Interest

These are the key elements of the Air and Ground Intrusion Detection System Project for which CSC is seeking feedback. Though respondents are invited to make any comments or suggestions freely, CSC does request that Respondents comment specifically on the subjects addressed in the questions below. CSC also requests that Respondents indicate the number of the question listed below that their responses pertain to.

1. Considering the information provided about the system above (Section 3.0), describe your solution in reference to:
 - a. 3D radar: Azimuth/elevation tracking accuracy, and 3D volumetric coverage (Vertical and horizontal field of view);
 - i. Minimum requirements for detection (radial speed, hovering target, minimum range, time to establish a track)
 - b. Method to be used to automatically classify drone: Artificial Intelligence, target behaviour, ability to detect UAV's propellers, RCS, speed variations, etc. Need to understand probability of classification versus 3D radar detection range capability (False positive and False negative rates);
 - c. Method used to identify and ignore friendly drones (e.g. ADS-B transponder)
 - d. To maintain air gap between CSC Security Network and external networks, how you would propose to detect any live external communications link connected to the system;
 - e. What PTZ camera system do you proposed to recognise a drone the size of DJI-Phantom 3 or smaller (Lens, camera type, focus type):
 - i. At a slant range of 300m or more, to maintaining the target within the display Field-of-View versus target speed and detection range (day and night) and number of pixels on target;

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- ii. Please provide example at 300m of pictures at night of quadcopter the size of a DJI-Phantom3 or smaller;
 - iii. Please provide example at 750m of pictures during the day of quadcopter the size of a DJI-Phantom3 or smaller.
 - f. Method to be used to automatically detect and classify human intruders: Artificial Intelligence, target behaviour, RCS, speed variations, etc. Need to understand probability of classification (False positive and false negative rates);
 - g. Ability for the ground detection system to cover a continuous, wide band all around an institution;
 - h. Integration with existing Genetec system to track contraband package once it has been dropped or thrown-over);
 - i. Ability for operator to drop a map marker, on the regional map, the location package is being dropped (By UAV or thrown-over);
 - j. What would you propose to help staff, located outside the institution, to locate a drone at night approaching the perimeter (EX: beam of light, goggle)?
 2. Considering the information provided about the system above (Section 3.0), how does your organization suggest CSC proceed in the design, development, and implementation of this project?
 3. Please identify all requirements set out in the information about the system above that your organization cannot meet or provide. For each element that your organization cannot meet or provide, please propose an alternative solution.
 4. CSC has embarked upon a single, internally-delivered training program for all front-line Correctional Officers at all Institutions across Canada. Is your organization able to provide the administrators of this training program with a single comprehensive 'train-the-trainer' operator training session? Is your organization able to provide the administrators of this training program with training materials that can be segmented and modified for incorporation into the training program to be delivered by CSC?
 5. Please describe the supply chain organization of your proposed product. Are fully functional machines, spare parts, and peripherals stored at a warehouse or distribution centres? If so, where are those warehouses/distribution centres located? What effect on response times to client issues does the location of your supply have? What are the response times? What Canadian presence does your organization have?
 6. Is 24/7 customer support available? Describe all support options, service levels, and tools available including any bilingual support (English and French) availability
 7. Please describe the maintenance and service model your organization favours. Is it possible that CSC maintenance resources would be qualified to perform first-line maintenance on the system? Is there a maintenance or service certification that first-line maintenance personnel would need to have in order to perform the work?
 8. How is your organization positioned in the industry with regard to the provision, configuration, and installation of system as described in Section 3.0?
 9. CSC will need to understand the cost model for the project. Describe the costs involved to acquire, support and maintain six (6) systems for a period of 5 years (total cost to ownership);
 10. Are there any important considerations that you feel need to be added to our understanding of the possible with regard to AGIDS should CSC wish to proceed?

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Amd. No. - N° de la modif.
File No. - N° du dossier
HN445.21120-196517

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HN445
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- 11.** How much space is to be used by operator console in the MCCP (limited space, lots of monitors already)