



**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

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government  
Services Canada**

We hereby offer to sell to Her Majesty the Queen in  
right of Canada, in accordance with the terms and  
conditions set out herein, referred to herein or attached  
hereto, the goods, services, and construction listed  
herein and on any attached sheets at the price(s) set  
out therefor.

**Proposition aux: Travaux Publics et Services  
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la  
Reine du chef du Canada, aux conditions énoncées ou  
incluses par référence dans la présente et aux annexes  
ci-jointes, les biens, services et construction énumérés  
ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**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

<b>Title-Sujet</b> <b>EMERGENCY OPERATIONS AIRPSACE MANAGEMENT SYSTEM</b>	
<b>Solicitation No. - N° de l'invitation</b> W7741-176277	<b>Date</b> 2017-06-23
<b>Client Reference No. - N° de référence du client</b> W7741-176277	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-17-00784051	
<b>File No. - N° de dossier</b> 035sv W7741-176277	<b>CCC No./N° CC - FMS NO. / N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b>  at - à 2:00 PM on - le 2017-08-10	<b>Time Zone</b> Fuseau horaire Eastern Daylight Time (EDT)
<b>F.O.B. - F.A.B</b>  Plant-Usine : <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Joseph Hulse	<b>Buyer Id - Id de l'acheteur</b> 035SV
<b>Telephone No. - N° de téléphone</b> 873-469-4832	<b>FAX No. - N° de FAX</b> 819-957-2229
<b>Destination of Goods, Services and Construction: Destinations des biens, services et construction :</b>  Specified Herein Précisé dans les présentes	

**Instructions : See Herein**

**Instructions : voir aux présentes**

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de telephone Facsimile No. - N° de télécopieur</b>	
<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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## **PART 1 - GENERAL INFORMATION**

### **1. Introduction**

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work and the Basis of Payment.

### **2. Summary**

Canada wishes to issue a contract to [create and demonstrate an Emergency Operations Airspace Management System for supporting the safety of Unmanned Aerial System flight in Beyond Visual Line of Sight operations.](#)

The resulting contract will be from date of contract award to March 31, 2019.

There is no security requirement associated with this requirement.

Bidders must provide a list of names, or other related information as needed, pursuant to section 01 of Standard Instructions 2003.

For services requirements, Bidders in receipt of a pension or a lump sum payment must provide the required information as detailed Part 5 of the bid solicitation.

The Contractor will own the Intellectual Property Rights in the Foreground Information.

This procurement is subject to the Agreement on Internal Trade (AIT)

The requirement is subject to a preference for Canadian goods and/or services.

"There is a Federal Contractors Program (FCP) for employment equity requirement associated with this procurement; see Part 5 - Certifications, Part 7 - Resulting Contract Clauses and the attachment named Federal Contractors Program for Employment Equity - Certification."



#### **4. Debriefings**

After contract award, Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

#### **5. Communications**

As a courtesy and in order to coordinate any public announcements pertaining to this contract, the Government of Canada requests that successful Bidders notify the Contracting Authority 5 days in advance of their intention to make public an announcement related to the recommendation of a contract award, or any information related to the contract. The Government of Canada retains the right to make primary contract announcements.

#### **6. Conflict of Interest**

The Work described herein and the deliverable items under any resulting Contract specifically exclude the development of any statement of work, evaluation criteria or any document related to a bid solicitation. The Contractor, its Sub-contractor(s) or any of their agent(s) directly or indirectly involved in the performance of the Work and/or in the production of the deliverables under any resulting Contract will not be precluded from bidding on any potential future bid solicitation related to the production or exploitation of any concept or prototype developed or delivered under any resulting Contract.



## **PART 2 - BIDDER INSTRUCTIONS**

### **1. Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual)(<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days

Insert: 120 days

### **2. Submission of Bids**

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.

### **3. Former Public Servant**

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, Bidders must provide the information required in Attachment 3 before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

### **4. Communications - Solicitation Period**

All enquiries must be submitted in writing to the Contracting Authority no later than 10 calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies



to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

## **5. Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

## **6. Improvement of Requirement During Solicitation Period**

Should Bidders consider that the specifications or Statement of Requirement contained in the bid solicitation could be improved technically or technologically, Bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favor a particular Bidder will be given consideration provided they are submitted to the Contracting Authority at least 5 days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.



## **PART 3 - BID PREPARATION INSTRUCTIONS**

### **1. Bid Preparation Instructions**

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (4 hard copies and 1 soft copy on CD in .doc 2013, or earlier, format)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

#### **Section I: Technical Bid**

In their technical bid, Bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that Bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.



## **Section II: Financial Bid**

### **1.1 Financial Bid Preparation Instructions**

Bidders must submit their financial bid in accordance with "Attachment 1" - Financial Bid Presentation Sheet. The total amount of Applicable Taxes must be shown separately.

### **1.2 Evaluation of Price - Canadian / Foreign Bidders**

A0222T (2014-06-26) Evaluation of Price - Canadian / Foreign Bidders

### **1.3 Exchange Rate Fluctuation**

C3011T (2013-11-06) Exchange Rate Fluctuation

## **Section III: Certifications**

Bidders must submit the certifications required under Part 5.





## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **1. Evaluation Procedures**

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) The evaluation team will determine first if there are two or more bids with a valid Canadian Content certification. In that event, the evaluation process will be limited to the bids with the certification; otherwise, all bids will be evaluated. If some of the bids with a valid certification are declared non-responsive, or are withdrawn, and less than two responsive bids with a valid certification remain, the evaluation will continue among those bids with a valid certification. If all bids with a valid certification are subsequently declared non-responsive, or are withdrawn, then all the other bids received will be evaluated.

### **1.1 Technical Evaluation**

#### **1.1.1 Bidder Experience**

Except where expressly provided otherwise, the experience described in the bid must be the experience of one or more of the following:

- 1. The Bidder itself (which includes the experience of any companies that form the Bidder by way of a merger but does not include any experience acquired through a purchase of assets or an assignment of contract); or
- 2. The Bidder's affiliates (i.e. parent, subsidiary or sister corporations, maximum of 5), provided the Bidder identifies and demonstrates the transfer of know-how, the use of toolsets and the use of key personnel from each affiliate for the applicable criteria; or
- 3. The Bidder's Subcontractors (maximum of 5), provided the Bidder identifies the roles and responsibilities of all parties under the resulting contract and how their work will be integrated.

The experience of the Bidder's suppliers will not be considered.

#### **1.1.2 Supporting Information**

In the event that the Bidder fails to submit any supporting information pursuant to PART 3 - Bid Preparation Instructions, at the sole discretion of the Contracting Authority, Canada may request it thereafter in writing, including after the closing date of the bid solicitation. It is mandatory that the Bidder provide the supporting information within three (3) business days of the written request or within such period as specified or agreed to by the Contracting Authority in the written notice to the Bidder.

### **1.2 Mandatory and Point Rated Criteria**

Mandatory and Point Rated Technical evaluation criteria are included in Attachment 2.

### **1.3 Financial Evaluation**

#### **1.3.1 Evaluation of Price**



The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, Canadian customs duties and excise taxes included.

For evaluation purposes only, the price of the bid will be determined as detailed in Attachment 1, Financial Bid Presentation Sheet.

## 2. Basis of Selection

### 2.1 Basis of Selection - Highest Combined Rating of Technical Merit and Price

*In this clause, Technical Merit refers to the Technical Evaluation Score*

1. To be declared responsive, a bid must:
  - (a) comply with all the requirements of the bid solicitation;
  - (b) meet all mandatory criteria; and,
  - (c) obtain the required minimum pass scores for the technical evaluation criteria which are subject to point rating.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60 % for the technical merit and 40 % for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained divided by the maximum number of points available multiplied by the ratio of 60 %.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40 %.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating, calculated to 2 decimal points.
7. Responsive bids will be ranked according to the combined rating of technical merit and price (CRTMP) with the highest CRTMP being the top-ranked bid, the second highest CRTMP being the second top-ranked bid, and so on.
8. The top-ranked bid will be required to undergo a Proof of Bid (PoB) test as detailed at article 3 below and in Attachment 2 to Part 4. In the event two or more responsive bids have the same CRTMP, the responsive bid with the lowest evaluated price will be subject to the PoB test.
9. If the PoB test results in no decrease to the scores determined through 2.1.1 through 2.1.8 above, the bid will be recommended for award of a contract. If the PoB test results in decreased point(s), the bid will be recalculated to establish a revised CRTMP score (in accordance with articles 2.1.1 through 2.1.8 above). If the revised CRTMP score is lower than the second top-ranked bid, the second top-ranked bid will be subject to the PoB test and the process will be repeated accordingly.
10. If the PoP results in a tie between ranked bids, and the 1<sup>st</sup> ranked bid still has the lowest evaluated price, it will be recommended for award of a contract; however, if 2<sup>nd</sup> placed bid has the lowest ranked price, the PoP test will be completed on the 2<sup>nd</sup> place bid, and if no points are lost, then the 2<sup>nd</sup> place bid will be recommended for award of contract.



11. The table below illustrates an example where all three bids are responsive and the selection of the Contractor is determined by a 60/40 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

**Basis of Selection - Highest Combined Rating Technical Merit (60%) and Price (40%)**

	<b>Bidder</b>		
	<b>Bidder 1</b>	<b>Bidder 2</b>	<b>Bidder 3</b>
<b>Overall Technical Score</b>	120/135	102/135	115/135
<b>Bid Evaluated Price</b>	\$55,000.00	\$50,000.00	\$45,000.00
	<b>Calculations</b>		
<b>Technical Merit Score</b>	$120/135 \times 60 = 53.33$	$102/135 \times 60 = 45.33$	$115/135 \times 60 = 51.11$
<b>Pricing Score</b>	$45/55 \times 40 = 32.73$	$45/50 \times 40 = 36.00$	$45/45 \times 40 = 40.00$
<b>Combined Rating</b>	86.06	81.33	91.11
<b>Overall Rating</b>	<b>2nd</b>	<b>3rd</b>	<b>1st</b>



## “ATTACHMENT 1” FINANCIAL BID PRESENTATION SHEET

The price of the bid will be determined as follows:

1. The Bidder must complete the following table and indicate a firm price for each listed deliverable.
2. Total Bid Price = Cumulative Total for all Deliverables 7.1-7.14.
3. All Prices are in CAD

Number	Task Reference	Deliverable	Format	Delivery Date	Firm Price
7.1	6.1b	Radar Evaluation Plan	MS Word	30 Sep 17	
7.2	6.1d	Radar Evaluation Report	MS Word	15 Dec 17	
7.3	6.2b	Software licences for SAD	Contractor	31 Mar 19	
7.4	6.2c	SAD System and User Interface Design Document	MS Word	31 Jan 18	
7.5	6.2d	SAD Verification Document	MS Word	30 Jun 18	
7.6	6.3	Ancillary Support Plan	MS Word	31 Oct 17	
7.7	6.4a	EOAMS System Design Document	MS Word	31 Jan 18	
7.8	6.4d	User and Maintenance Manual	MS Word	31 Jul 18	
7.9	6.2a, 6.4b, 6.4c	EOAMS System including SAD	Hardware/software per contractor	31 Jul 18	
7.10	6.5a	Demonstration Plan	MS Word	30 Apr 18	
7.11	6.6a	Training Plan and Materials	Contractor	31 Jul 18	
7.12	6.6a	Training Course for 10 Persons	Contractor	30 Sep 18	
7.13	6.5d	Final Report	MS Word	31 Mar 19	
7.14	6.6b	Help and Maintenance Support	As per Task 6.6b	30 Sep 17 - 31 Mar 19	

<b>Total Bid Price</b>	<b>\$</b> _____
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## “Attachment 2” Mandatory and Point Rated Technical Criteria

### 1. Mandatory Criteria

- 1.1 At bid closing time, the Bidder must comply with the following mandatory criteria and provide the necessary documentation to support compliance. Any bid which fails to meet the following mandatory criteria will be declared non-responsive. Each criterion should be addressed separately.
- 1.2 The following criteria will be applied to the evaluation. This table should be completed and submitted by each Bidder.
- 1.3 Canada has the sole discretion judging all information provided and of the degree to which the proposal satisfies and answers the criteria.

	<b>MANDATORY CRITERIA</b>	<b>MET</b>	<b>NOT MET</b>
<b>M1</b>	The Bidder must have an existing Situation Awareness Display (SAD) system available for purchase at the time of bidding, as evidenced by brochures and/or website (provide screen shot and dated URL), and must provide documentation of a sale of the proposed SAD in the past year.		
<b>M2</b>	The Bidder must provide evidence of having completed at least two projects in software and hardware design and development involving a Situation Awareness Display in the past three years.		
<b>M3</b>	The Bidder must have experience conducting at least one each of: evaluation of user requirements for a Situation Awareness Display (SAD); modification of the SAD to meet user requirements; integration of the SAD with sensors; and field evaluation of SAD capabilities.		



**2. POINT-RATED EVALUATION CRITERIA (Part A)**

<b>POINT-RATED EVALUATION CRITERIA</b>		<b>Points</b>	<b>Maximum</b>
<b>P1</b>	<p>A Project Plan, demonstrating the Bidder has a clear and concise understanding of the scope and scale of the work, should be provided in the proposal that documents how the Bidder intends to conduct each of the Tasks in the Statement of Work. The project plain should include, at least, the following details:</p> <ol style="list-style-type: none"> <li>1. Approach to the requirement demonstrating the feasibility;</li> <li>2. Identification of technical requirements and methodologies;</li> <li>3. Identification of project risks and mitigation strategies;</li> <li>4. Work breakdown structure, to include details of sub-tasks, resource allocation, labour hours, equipment requirements, and other details; and</li> <li>5. Gantt chart with a complete project schedule including progress milestones.</li> </ol> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• Break-down of the key tasks and their sub-Tasks, methodologies, risks, schedule, and/or labour hours is missing or inadequate for two or more Tasks or sub-Task, inadequate information is provided on technical requirements or risk, little evidence is provided of the overall feasibility of the approach, little to no demonstration that the bidder has a clear and concise understanding of the scope and scale of the work – 0 pts</li> <li>• Required details are not provided for one Task, including the sub-Tasks, or a one Task or sub-Task breakdown contains insufficient detail or is difficult to understand, or the Bidder has not provided sufficient evidence that all aspects of its proposal are feasible; some demonstration the bidder has a clear and concise understanding of the scope and scale of the work – 15 pts</li> <li>• Includes a detailed, understandable, and feasible break-down of the Tasks and sub-Tasks, methodologies, risks, schedule, and labour hours, as well as adequate information on technical requirements and risks, for all Tasks and sub-Tasks, and has demonstrated the Bidder has a clear and concise understanding of the scope and scale of the work – 30 pts</li> </ul>		<b>30</b>
<b>P2</b>	<p>The Bidder should have conducted technical assessment trials of commercial of the shelf equipment in which technical criteria related to operational requirements were assessed in a field environment.</p> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• Insufficient evidence to demonstrate experience – 0 pts</li> <li>• Demonstrated experience in at least one trial – 5 pts</li> </ul>		<b>5</b>
<b>P3</b>	<p>The Bidder should have experience soliciting and selecting vendors by a bid solicitation process, in which vendors had the opportunity to provide solutions to the bidder, and those solutions were evaluated based on technical criteria related to operational requirements.</p> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• Insufficient evidence to demonstrate experience – 0 pts</li> <li>• Demonstrated experience in at least one solicitation of vendors process – 5 pts</li> </ul>		<b>5</b>



<p><b>P4</b></p>	<p>The named Project Manager (PM) should have knowledge and experience in managing software and system development and integration projects, which includes either: 1. use of Situation Awareness Display (SAD)s in the conduct of operational tasks; or 2. Multiple systems, displays, and operator requirements, and; experience with a related operational area (e.g. airspace management and /or UAV and/or situation awareness).</p> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• PM has experience managing fewer than three projects as describe above – 0 pts</li> <li>• Details are lacking to demonstrate experience or the PM does not have knowledge regarding the use of SADs in the conduct of operational tasks as describe above – 5 pts</li> <li>• The PM has detailed documentation that demonstrates at least three or more projects and has experience with a related operational area as describe above – 10 pts</li> </ul>		<p><b>10</b></p>
<p><b>P5</b></p>	<p>The named Project Manager should demonstrate that they have one of the following qualifications:</p> <ul style="list-style-type: none"> <li>• A Project Management Professional (PMP) Certification</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• A Canadian or Canadian recognized University Degree, and</li> <li>• 4,500 hours leading and directing projects, and</li> <li>• 70 hours of project management education or training</li> </ul> <p>The criteria will be assessed as follows: PM does not have the required qualifications. – 0 pts The PM has the required qualifications- 5 pts</p>		<p><b>5</b></p>
<p><b>P6</b></p>	<p>The named project team members should collectively have experience in developing situation awareness capabilities to meet operational requirements in each of the following areas:</p> <ul style="list-style-type: none"> <li>• software engineering;</li> <li>• user interface design;</li> <li>• display and sensor integration; and,</li> <li>• airspace management or UAV operational experience.</li> </ul> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• Team experience is lacking in three or more areas - 0 pts</li> <li>• Team experience is lacking in one or two areas – 7 pts</li> <li>• Team experience is in all four areas and the team has substantial technical and operational experience in the hardware and software development of Situation Awareness Display (SAD) to meet operational requirements – 14 pts</li> </ul>		<p><b>14</b></p>



<p><b>P7</b></p>	<p>The Bidder should have experience in integrating sensors or other components from third-party vendors within the Bidder’s Situation Awareness Display (SAD). The proposal should indicate:</p> <ol style="list-style-type: none"> <li>1. Type of sensor/component;</li> <li>2. Purpose of the integration;</li> <li>3. Work necessary to do the integration; and</li> <li>4. Result.</li> </ol> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• No integration demonstrated – 0 pts</li> <li>• Fewer than five sensor/components integrated, or little and / or inadequate details provided regarding the above-listed aspects for each integration – 7 pts</li> <li>• Five or more integrations, including sufficient information about the above-listed aspects – 14 pts</li> </ul>		<p><b>14</b></p>
<p><b>P8</b></p>	<p>The Bidder should have conducted field demonstrations of a prototype hardware and software system.</p> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• Insufficient evidence of experience – 0 pts</li> <li>• Demonstrated experience through one demonstration – 10 pts</li> <li>• Demonstrated experience through more than one demonstration – 20 pts</li> </ul>		<p><b>20</b></p>
<p><b>P9</b></p>	<p>For each capability, the Bidder must demonstrate the capability via a video (format compatible with windows media player 2013) submitted with the Bid (DVD, CD). The Bidders proposed Situation Awareness Display (SAD) should have the capabilities listed below.</p> <ol style="list-style-type: none"> <li>1. Input Asterix radar, ADS-B, ATM, meteorological, geomatics, UAS control data, FAA and NavCanada aeronautical data;</li> <li>2. Warnings and alerts of traffic or airspace conflict;</li> <li>3. Display UAV video;</li> <li>4. Wireless mirroring of SAD information to an external display;</li> <li>5. Control from the SAD of a third-party attached device, eg, radar;</li> <li>6. Transportable by small SUV or equivalent, capable of being carried by two persons and set up by one; and,</li> <li>7. Powered by standard 110V @ 15A maximum, or through a 12V DC automotive-type power source.</li> </ol> <p>The criteria will be assessed as follows:</p> <ul style="list-style-type: none"> <li>• More than one capability not demonstrated – 0 pts</li> <li>• One capability not demonstrated – 10 pts</li> <li>• All capabilities demonstrated – 20 pts</li> </ul>		<p><b>20</b></p>





<b>P10</b>	<p>SAD Functionalities and User Features (FUFs).</p> <p>P10.1) The Bidder’s proposed SAD should have the functionalities and user features listed below at A; and, P10.2) the Bidder’s proposed SAD functionalities and user features should be user friendly and easy to use.</p> <p>All FUFs proposed by the Bidder as part of the SAD must be demonstrated on a video submitted with the bid. The video must be on DVD or CD in a format compatible with MS Windows media player 2013.</p> <p>The video must showcase</p> <ol style="list-style-type: none"> <li>a) how the FUFs work; and</li> <li>b) how the user features are displayed to the user; and</li> <li>c) the user friendliness and ease of use of the FUFs.</li> </ol> <p>A) Functionalities and User Features (FUF)</p> <ol style="list-style-type: none"> <li>1. Start system and configure for UAS flight scenario, including input of UAS route, creation of airspace intrusion and UAS excursion warnings, and configuration of radar surveillance of the local area;</li> <li>2. Select and view multiple data types, including maps, video feeds, UAS flight status, radar data, weather information, flight tracking, airspace boundaries, and dynamic warnings;</li> <li>3. Select between 2D and 3D views and pan/zoom/tilt the view;</li> <li>4. Control other user features declared by the bidder in its proposal ; and</li> <li>5. Terminate the flight scenario and shut down the system</li> </ol> <p>The criteria will be assessed as follows: For sub-criterion P10.1:</p> <ul style="list-style-type: none"> <li>• One or more FUF in A) are not available or seemingly non-functional– 0 pts</li> <li>• All FUF in A) are available and seemingly* functional – 5 pts</li> <li>• All FUF in A) are available and seemingly* functional, and, additional user features declared by the Bidder are available and seemingly* functional and are deemed by the Evaluator to be useful and relevant to the contract requirement – 10 pts</li> </ul> <p>For sub-criterion P10.2:</p> <ul style="list-style-type: none"> <li>• The FUFs appears to** require lots of bidder assistance to demonstrate – 0 pts</li> <li>• The FUFs appears to** require some bidder assistance to demonstrate – 5 pts</li> <li>• The FUFs appears to** require little to no bidder assistance to demonstrate the features – 10 pts</li> </ul> <p>-* “seemingly” does not apply to the PoB test. -** “appears to” does not apply to the PoB test</p>		<p><b>P10.1) = 10 points</b></p> <p><b>P10.2) = 10 points</b></p>
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<b>Maximum Points Available:</b>	<b>143</b>
<b>Minimum Pass Score Required:</b>	<b>69</b>
<b>Bidder's Self-Score:</b>	

### **3. Demonstration of SAD Capability**

#### **Proof of Proposal Test for Top-Ranked Bid resulting from point rated criteria:**

- (i) Through the Proof of Proposal (PoP) test, Canada will test the SAD system proposed in the top-ranked bid to confirm that it will function as described in the bid against point rated criteria (P9,P10, and P11). The PoP test will take place at a site in the National Capital Region provided by Canada. Bidder will be given 5 day advanced notice and re required to response with 2 days of receiving the notice. The Bidder is required to present Canada with the opportunity to verify criteria P9, P10 and P11, by live demonstration and by letting the evaluation team to use the SAD system and verify the criteria for themselves. Canada will not pay the Bidder for its cost associated with the PoP test.
- (ii) Up to 3 representatives of the Bidder may be present during the PoP test. The representative(s) named in the bid to provide technical support during the PoP test should be available by telephone for technical advice and clarification during the PoP test; however, Canada is not required to delay the PoP test if an individual is unavailable. Once the PoP test has begun, it must be completed within 1 hour.
- (iii) Canada will document the results of the PoP Test. Canada will follow the assessment criteria of the solicitation. If the test results have a lower score, the bid's score will be adjusted downward, according and subject to Part 2 Section 2. A higher score result will not affect the bid's score. If the adjusted bid score results in the bid being non-responsive, the second top ranked bid will be required to undergo the PoP test and the process will continue.



## PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and documentation to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a Contractor in default, if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority may render the bid non-complaint or constitute a default under the Contract.

### 1.0 Certifications Required Precedent to Contract Award

#### 1.1 Integrity Provisions – Required Documentation

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### 1.2 FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a Contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\)-Labour's](#) website.

Date: \_\_\_\_\_ (YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

( ) A1. The Bidder certifies having no work force in Canada.

( ) A2. The Bidder certifies being a public sector employer.

( ) A3. The Bidder certifies being a federally regulated employer being subject to the Employment Equity Act.

( ) A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and



A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

**OR**

A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

B1. The Bidder is not a Joint Venture.

**OR**

B2. The Bidder is a Joint venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

### **1.3 Former Public Servant - Competitive Requirements**

Contracts with former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, Bidders must provide the information required below.

#### **Definitions**

For the purposes of this clause, "former public servant" is any former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means, a pension or annual allowance paid under the Public Service Superannuation Act (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the Canadian Forces Superannuation Act, R.S., 1985, c.C-17, the Defence Services Pension Continuation Act, 1970, c.D-3, the Royal Canadian Mounted Police Pension Continuation Act, 1970, c.R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c.R-11, the Members of Parliament Retiring Allowances Act, R.S., 1985, c.M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c.C-8.



### **Former Public Servant in Receipt of a Pension**

As per the above definitions, is the Bidder a FPS in receipt of a pension? Yes ( ) No ( )

If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

### **Work Force Reduction Program**

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of a work force reduction program? Yes ( ) No ( )

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force reduction program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including the Goods and Services Tax or Harmonized Sales Tax.

## **1.4 Status and Availability of Resources**

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience (technical evaluation must be equal or higher). The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability. Failure to comply with the request may result in the bid being declared non-responsive.



## 1.5 Education and Experience

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

## 1.6 Canadian Content Certification

This procurement is conditionally limited to Canadian goods and Canadian services.

Subject to the evaluation procedures contained in the bid solicitation, Bidders acknowledge that only bids with a certification that the goods and services offered are Canadian goods and Canadian services, as defined in clause A3050T, may be considered.

Failure to provide this certification completed with the bid will result in the goods and services offered being treated as non-Canadian goods and non-Canadian services.

The Bidder certifies that:

( ) a minimum of 80 percent of the total bid price consist of Canadian goods and Canadian services as defined in paragraph 5 of clause A3050T.

For more information on how to determine the Canadian content for a mix of goods, a mix of services or a mix of goods and services, consult Annex 3.6.(9), Example 2, of the Supply Manual.

## 2. Acknowledgment:

By submitting a bid, the Bidder certifies that the information submitted by the Bidder in response to the above requirements is accurate and complete.

The bid must contain no condition. Any condition, whatsoever, will render the bid non-responsive.

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## **PART 6 - RESULTING CONTRACT CLAUSES**

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### **1.0 Statement of Work**

The Contractor must perform the work in accordance with the Statement of Work at Annex A.

### **2. Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

#### **2.1 General Conditions**

2040 (2016-04-04) General Conditions – Research and Development Services as modified by:

#### **2.3 Supplemental General Conditions**

4001 (2015-04-01) Hardware Purchase, Lease and Maintenance

4002 (2010-08-16) Software Development or Modification Services

4003 (2010-08-16) Licensed Software

4004 (2010-08-16) Maintenance and Support Services for Licensed Software

### **3. Security Requirement**

No Security Requirement

### **4. Term of Contract**

#### **4.1 Period of the Contract**

The Contract is from date of contract award until March 31, 2019.

### **5. Authorities**

#### **5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Joseph Hulse  
Defence Sciences Division  
Public Works and Government Services Canada  
Place du Portage, Phase III, 11C1  
11 Laurier Street  
Gatineau, Quebec  
K1A 0S5

Telephone: (873) 469-4832



Facsimile: (819) 997-2229  
E-mail address: [Joseph.Hulse@pwgsc.gc.ca](mailto:Joseph.Hulse@pwgsc.gc.ca)

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

**5.2 Technical Authority**

The Technical Authority for the Contract is:

(To be entered at contract award)

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
E-mail address: \_\_\_\_\_

The Technical Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority; however, the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

**5.3 Procurement Authority**

The Procurement Authority for the Contract is:

(To be entered at contract award)

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

**5.4 Contractor's Representative**

(To be entered at contract award)

**6. Proactive Disclosure of Contracts with Former Public Servants**

[SACC Manual Clause A3025C \(2013-03-21\)](#)





## 7. Payment

### 7.1 Basis of Payment

#### 7.1.1 Firm Price – Labour and Equipment

For the Work described in Statement of Work in Annex A :

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of \$ \_\_\_\_\_ (*insert amount at contract award*). Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

#### 7.1.2 Limitation of Expenditure – Travel and Living Expenses

The Contractor will be reimbursed for the authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for overhead or profit, in accordance with the meal, private vehicle and incidental expense allowances specified in Appendices B, C and D of the [Treasury Board Travel Directive](#), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".

All travel must have the prior authorization of the Technical. All payments are subject to government audit.

Total Price \$5000.00

### 7.2 Limitation of Expenditure – All the Work

1. The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, if applicable, as determined in accordance with the Basis of Payment in Annex B , to a limitation of expenditure of \$\_\_\_\_\_ (amount to be inserted at contract award). Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum;
  - (a) when it is 75 percent committed, or
  - (b) four (4) months before the Contract expiry date, or
  - (c) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work, inclusive of any revisions,whichever comes first.



3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

### **7.3 Method of Payment**

H1001C (2008-05-12) Multiple Payment

### **7.4 SACC Manual Clauses**

A9117C (2007-11-30), T1204 - Direct Request by Customer Department

C2000C (2007-11-30), Taxes - Foreign-based Contractor

C2605C (2008-05-12), Canadian Customs Duties and Sales Tax - Foreign-based Contractor

### **7.5 Discretionary Audit (may be deleted by the Contracting Authority, at its sole discretion, at contract award)**

C0705C (2012-01-11), Discretionary Audit - Commercial Goods and/or Services

## **8. Invoicing Instructions**

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Each invoice must be supported by:

- a. a copy of time sheets to support the time claimed;
  - c. a copy of the invoices, receipts, vouchers for pre-approved all travel and living expenses;
2. Invoices must be distributed as follows:
    - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
    - b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

## **9. Certifications**

### **9.1 Compliance**

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the entire contract period. If the Contractor does not comply with any certification, provide the related documentation or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

### **9.2 Federal Contractors Program for Employment Equity - Default by the Contractor**

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be



added to the "[FCP Limited Eligibility to Bid](#)" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

## 10. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in (to be inserted at contract award).

## 11. Priority of Documents

If there is a discrepancy between the wordings of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

1. the Articles of Agreement;
2. supplemental general conditions:
  - a) [4001 \(2015-04-01\) Hardware Purchase, Lease and Maintenance](#);
  - b) [4002 \(2010-08-16\) Software Development or Modification Services](#);
  - c) [4003 \(2010-08-16\) Licensed Software](#);
  - d) [4004 \(2010-08-16\) Maintenance and Support Services for Licensed Software](#)
3. the general conditions 2040 ([2016-04-04](#)), General Conditions - Research & Development;
4. Annex A, Statement of Work;
5. [Annex B, Basis of Payment](#); and,
6. the Contractor's bid dated \_\_\_\_\_.

## 12. Insurance

SACC Manual clause G1005C (2008-05-12), Insurance

## 13. Foreign Nationals (Canadian Contractor)

SACC Manual clause A2000C (2006-06-16), Foreign Nationals (Canadian Contractor)

## 14. Canadian Forces Site Regulations

The Contractor must comply with all standing orders or other regulations, instructions and directives in force on the site where the Work is performed.



## ANNEX A Statement of Work

### 1. TITLE

EMERGENCY OPERATIONS AIRSPACE MANAGEMENT SYSTEM (EOAMS)

### 2. BACKGROUND

Unmanned Aerial Systems (UAS) are being used with increasing frequency for emergency operations by first responders. Their ability to provide critical information to responders can improve speed and safety of operations in many situations. However, a significant limitation to fully exploiting UAS capabilities is that they must be operated within sight of the pilot. Transport Canada regulates the use of UAS, including permission to operate Beyond Visual Line of Sight (BVLOS).

Defence R&D Canada Centre for Security Science project **CSSP-2016-TI-2241** Emergency Operations Airspace Management System (EOAMS) will create a situation awareness capability to allow safe BLVOS operation of UAS. EOAMS will ingest data from a range of sensors, including a portable ground-based radar system and aircraft and UAV mounted sensors, and present the data visually on a detailed mapping interface. This system will allow awareness of aircraft location and of manned aircraft intrusion, and will provide evidence to Transport Canada of a means of ensuring safe BVLOS operations. Figure 1 - EOAMS provides an overview of the planned EOAMS architecture. A contract is required for provision of the situation awareness display and integration of components and inputs into the overall EOAMS system.

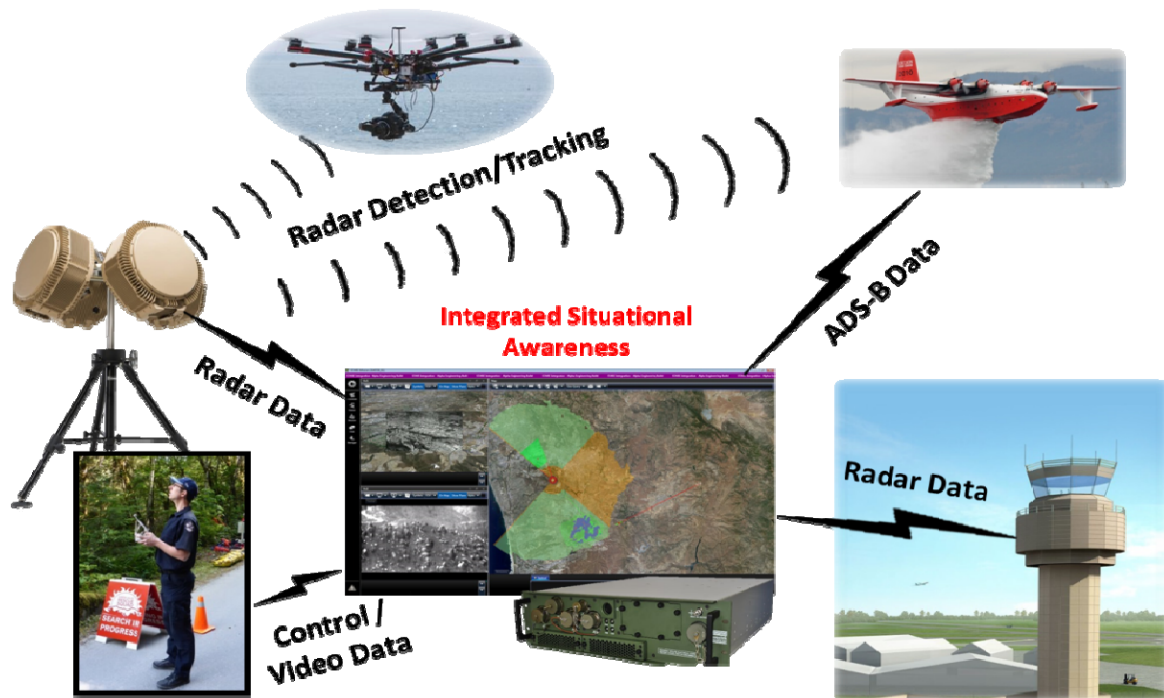


Figure 1 - EOAMS Architecture



### 3. ACRONYMS

ADS-B	Automatic Dependent Surveillance – Broadcast
AFF	Automated Flight Following
BVLOS	Beyond Visual Line of Sight
CSS	Centre for Security Science
DRDC	Defence Research and Development Canada
EOAMS	Emergency Operations Airspace Management System
RCMP	Royal Canadian Mounted Police
RSO	Range Safety Officer
SOR	Statement of Requirement
TA	Technical Authority
TC	Transport Canada
UAS	Unmanned Aerial System
UAV	Unmanned Aerial Vehicle
VLOS	Visual Line of Sight

### 4. AIM

The aim of this contract is to create and demonstrate an Emergency Operations Airspace Management System for supporting the safety of UAS flight in BVLOS operations.

### 5. SCOPE ELEMENTS

The EOAMS contract consists of the following main elements:

- a) Conduct of a trial to evaluate and select a portable ground based radar system for the EOAMS;
- b) Provision and necessary modification of a situation awareness display (SAD);
- c) Integration of sensors and associated information with the SAD; and
- d) Conduct of a demonstration of the EOAMS.

These elements will be completed by completion of the following contract tasks.

### 6. TASKS

The Contractor must complete all the tasks below. All resulting task deliverables are subject to review and approval by the TA

#### **6.1 Radar Evaluation**

A central capability of the EOAMS is the ability to detect and track UAS and manned aircraft in the airspace; this capability will primarily be provided by radar. To select a radar system for integration in the EOAMS, a detailed evaluation of vendor radar solutions is needed. The Contractor must organize and manage a solicitation process, whereby qualified potential radar vendors will be selected and invited to demonstrate their equipment's technical and operational specifications via live demonstrations to the TA. Radar vendors are considered as subcontractors to the Contractor.

**The Contractor must carry out a radar evaluation by completing the following tasks:**



- a) Determine radar vendors for trial participation by conduct of a solicitation. Radar systems must have, at a minimum, the following claimed capabilities:
  - a. Minimum detection range of 1 km for small consumer UAS, e.g. DJI Phantom;
  - b. Minimum detection range of 5 km for small manned aircraft, eg, Cessna 172;
  - c. Ability to detect and track multiple targets at once;
  - d. Ability to output the track of detected targets;
  - e. Output format that is compatible with the Contractor's situation awareness display (Task 6.2); and
  - f. Man-portable and capable of being set up within 30 minutes by 1 or 2 people without the assistance of lifting equipment.
  
- b) Create an Evaluation Plan to include trial layout, trial location, evaluation methodology and criteria, and trial execution strategy, for approval of the TA prior to detailed evaluation planning. Evaluation criteria must include, but are not limited to:
  - a. Minimum UAS detection size;
  - b. Detection range of UAS and manned aircraft;
  - c. Ability to classify a detection as a UAS;
  - d. Physical characteristics of the radar system (length, width, height, weight);
  - e. Overall radar system costs;
  - f. Power requirements;
  - g. Ease of operation and other human factors aspects of the display and controls; and
  - h. Ability to export radar data to other processing equipment generally and to the Contractor's SAD system specifically.
  
- c) Conduct the radar evaluation according to the Evaluation Plan created in 5(b) not later than 30 November 2017; and
  
- d) Create a Radar Evaluation Report, including recommendations on radar system(s) to integrate into the EOAMS. This will lead to the selection by the TA of a single (or multiple, if appropriate) radar vendor(s), and their portable radar system(s), for the Contractor to work with for the remainder of the EOAMS project.
  
- e) The Contractor must establish an subcontracting agreement(s) with the selected radar vendor(s) to ensure the portable radar system(s) are available for use for the remainder of the Contract, under the terms of the Contract, at no additional cost to Canada.

## **6.2 Provide a Situation Awareness Display**

As seen in Figure 1 - EOAMS , the primary component of the EOAMS is the Situation Awareness Display (SAD), which will integrate and display sensor data in a visual format, connect with and transmit data to external displays, and facilitate operator interaction with the EOAMS. It is expected that the SAD will be a commercial off-the-shelf (COTS) system from the Contractor, suitable for limited modification as required by the project.

### **The Contractor must provide a Situation Awareness Display by completing the following tasks:**

- a) Supply a COTS SAD capable of, in real time, inputting sensor information and displaying a range of data simultaneously, or in combinations as selected by a user;
  
- b) Supply multi-site, multi-user software licences as required for operation during the entire Contract duration;



- c) Supply all related system hardware;
- d) Submit a SAD System and User Interface Design Document for approval by the Technical Authority, detailing modifications to the system to integrate all required sensors and data, and to present information and allow interaction with the system. At a minimum, the system must be capable of integrating:
  - a. Radar data;
  - b. Sensors/transponders (minimum 5 sensors) that are attached to UAS and other civilian aircraft, such as Automatic Dependent Surveillance – Broadcast (ADS-B) and Automated Flight Following (AFF) units;
  - c. Geographic information from standard GIS databases;
  - d. Air traffic control information as provided by NavCanada. The specific format and content will be determined during the contract in consultation with NavCanada; and,
  - e. Real time video feed(s) from at least one UAS, including the ability to record and play back the video; and
- e) Modify the SAD per the System and User Interface Design Document and conduct testing to ensure compliance with the design.

### **6.3 Modify/Source Ancillary Capabilities**

Outside this Contract, the TA will be conducting evaluations of sensors and other capabilities or threats which may support or impact BVLOS operations; some of these capabilities may be deemed essential to include in the EOAMS field demonstration under this Contract. Possible items may include the following;

- sensors mounted on UASs or manned aircraft
- external communications
- manned aircraft threats

As a result of these evaluations, the TA will determine which items should be incorporated in the EOAMS. The TA will advise the Contractor of the selected items, and, the Contractor must create an Ancillary Support Plan to incorporate these items in Task 6.4.

### **6.4 Create the Emergency Operations Airspace Management System**

The SAD, once appropriately modified by the Contractor and approved by the TA, must be integrated with various sub-systems to create the EOAMS.

#### **The Contractor must create the EOAMS by completing the following tasks:**

- a) Create an EOAMS System Design Document for approval of the TA, detailing the design for integration of sensors and other data with the SAD, to include both electronic and physical integration into a deployable prototype, including at least:
  - a. Selected portable radar system(s);
  - b. Air traffic control data (as applicable);
  - c. Sensors/transponders for UAS and manned aircraft;
  - d. Integration of capabilities identified in Task 6.3;
  - e. Geomatics-related information; and
  - f. Communications components including radio and video links;
- b) Carry out ancillary support tasks/modifications per Task 6.3 according to the Ancillary Support Plan. Purchase of any required components, as specified in the Ancillary Support Plan, subject to TA's approval, and, without causing timeline delays, will be



acquired outside this Contract and supplied by the TA.

- c) Integrate the EOAMS according to the System Design Document.
- d) Provide User Documentation package including operator manual, and service and maintenance instructions.

### **6.5 Field Demonstration of EOAMS**

#### **The Contractor must demonstrate and evaluate the EOAMS by completing the following tasks:**

- a) Create a Demonstration Plan which includes, at a minimum, demonstration/evaluation scenarios, evaluation criteria, demonstration timetable and protocols, trial location, administrative and operational support requirements, etc. Scenarios will be determined in collaboration with the TA prior to completion of the Demonstration Plan;
- b) Obtain approval from Transport Canada of a Special Flight Operations Certificate (SFOC) for the trial location and UASs, according to the Demonstration Plan;
- c) Execute the Demonstration Plan, including operation of the EOAMS, UASs, and all system components, data gathering, EOAMS parameter recording, etc; and
- d) Create and submit a Final Report detailing the results of the EOAMS demonstration and overall conclusions and recommendations of the contracted activities.

### **6.6 Training and Support**

Following the filed demonstration, the EOAMS prototype will be available for follow-on evaluations and operational use, for which help and maintenance support will be required and must be provided by the Contractor.

#### **The Contractor must support deployment of the EOAMS by completing the following tasks:**

- a) As and when requested by the TA, the Contractor must provide one on-site training course within the National Capital Region (NCR) for up to 10 government participants in English, at the Contractor facilities (if within the NCR) or a site arranged by the Contractor. The Contractor must provide training material for all participants, and a training overview document. No more than one day in duration, between regular federal government business hours. Training must include at least the following topics:
  - a. EOAMS setup and connection with sensors;
  - b. SAD overview and available functions;
  - c. Data input procedures;
  - d. Modification of information being displayed (custom views, etc.);
  - e. Interpretation of data presented;
  - f. Commands and parameters (setting warnings, changing colours, etc.); and
  - g. Extending data to external displays;
- b) Provide on-call general help, system diagnostic, trouble shooting, and maintenance support as required during regular federal government business hours, statutory holidays excluded, at the TA location for the EOAMS system to the end of the





Contract period. This does not include support for the radar sub-component.

## 7. DELIVERABLES

All documents must be submitted to the Technical Authority via email. All deliverables are subject to review and approval by the TA.

Number	Task Reference	Deliverable	Format	Delivery Date
7.1	6.1b	Radar Evaluation Plan	MS Word	30 Sep 17
7.2	6.1d	Radar Evaluation Report	MS Word	15 Dec 17
7.3	6.2b	Software licences for SAD	Contractor determined	31 Mar 19
7.4	6.2c	SAD System and User Interface Design Document	MS Word	31 Jan 18
7.5	6.2d	SAD Verification Document	MS Word	30 Jun 18
7.6	6.3	Ancillary Support Plan	MS Word	31 Oct 17
7.7	6.4a	EOAMS System Design Document	MS Word	31 Jan 18
7.8	6.4d	User and Maintenance Manual	MS Word	31 Jul 18
7.9	6.2a, 6.4b, 6.4c	EOAMS System including SAD	Hardware/software per Contractor	31 Jul 18
7.10	6.5a	Demonstration Plan	MS Word	30 Apr 18
7.11	6.5d	Final Report	MS Word	31 Mar 19
7.12	6.6a	Training Plan and Materials	Contractor determined	31 Jul 18
7.13	6.6a	Training Course for 10 Persons	Contractor determined	30 Sep 18
7.14	6.6b	Help and Maintenance Support	As per Task 6.6b	30 Sep 17 - 31 Mar 19

## 8. LANGUAGE OF WORK

English

## 9. LOCATION OF WORK

Location will be determined between the Contractor and Technical Authority within Canada.

## 10. Travel

The Contractor is required to travel to the following location under the following tasks. All other travel requests must be approved by the TA:

**Task:** 6.1

**Location:** Radar Trial Location



**Address:** Final location will be in Canada and determined jointly between the Contractor and Technical Authority.

**Duration:** 3-5 days

**Frequency:** Once

**Task:** 6.5

**Location:** Final EOAMS Prototype Demonstration

**Address:** Final location will be in Canada and determined jointly between the Contractor and Technical Authority.

**Duration:** 5 days

**Frequency:** Once

## 11. MEETINGS

All meetings will take place in the National Capital Region or Via Teleconference.

A kickoff meeting must occur within 2 weeks after Contract award, at which the TA will initiate the project and review all of the project components with the Contractor. Other progress meetings or may be required as agreed by the TA and the Contractor.

## 12. GOVERNMENT SUPPLIED MATERIAL (GSM)

None

## 13. GOVERNMENT FURNISHED EQUIPMENT (GFE)

UASs and ancillary equipment required under Task 6.4(b), and UAS under 6.5, will be supplied by Canada.

## 14. SECURITY

All work is unclassified and the Contractor will not have access to any classified information.



**ANNEX B  
BASIS OF PAYMENT**

**1. Firm Price - Labour and Equipment:**

The Contractor will be paid firm price for work performed in accordance with the Contract.

Number	Task Reference	Deliverable	Format	Delivery Date	Firm Price
7.1	6.1b	Radar Evaluation Plan	MS Word	30 Sep 17	
7.2	6.1d	Radar Evaluation Report	MS Word	15 Dec 17	
7.3	6.2b	Software licences for SAD	Contractor	31 Mar 19	
7.4	6.2c	SAD System and User Interface Design Document	MS Word	31 Jan 18	
7.5	6.2d	SAD Verification Document	MS Word	30 Jun 18	
7.6	6.3	Ancillary Support Plan	MS Word	31 Oct 17	
7.7	6.4a	EOAMS System Design Document	MS Word	31 Jan 18	
7.8	6.4d	User and Maintenance Manual	MS Word	31 Jul 18	
7.9	6.2a, 6.4b, 6.4c	EOAMS System including SAD	Hardware/software per contractor	31 Jul 18	
7.10	6.5a	Demonstration Plan	MS Word	30 Apr 18	
7.11	6.6a	Training Plan and Materials	Contractor	31 Jul 18	
7.12	6.6a	Training Course for 10 Persons	Contractor	30 Sep 18	
7.13	6.5d	Final Report	MS Word	31 Mar 19	
7.14	6.6b	Help and Maintenance Support	As per Task 6.6b	30 Sep 17 - 31 Mar 19	

**TOTAL Firm Price \$ \_\_\_\_\_  
(Applicable Taxes extra)**

**2. Limitation of Expenditure - TRAVEL AND LIVING EXPENSES:**

- (a) The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the Treasury Board Travel Directive (<http://www.njc-cnm.gc.ca/directive/travel-voyage/s-td-dv-a3-eng.php>), and with the other provisions of the directive referring to “travellers”, rather than those referring to “employees”.



- (b) Canada will not accept any travel and living expenses incurred by the Contractor as a consequence of any relocation of personnel required to satisfy the terms of this Contract.
- (c) All travel must have prior authorization of the Technical Authority. All payments are subject to government audit.

**Total price to a Limitation of Expenditure: \$5000.00**  
**(Applicable Taxes extra)**

**Canada's Total Contract Cost to a Limitation of Expenditure.**  
**\$ \_\_\_\_\_**  
**(Applicable Taxes extra)**