



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

**Bid Receiving  
PWGSC  
33 City Centre Drive  
Suite 480C  
Mississauga  
Ontario  
L5B 2N5  
Bid Fax: (905) 615-2095**

**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**

Public Works and Government Services Canada  
Ontario Region  
33 City Centre Drive  
Suite 480  
Mississauga  
Ontario  
L5B 2N5

<b>Title - Sujet</b> Navy Crew Automation Study	
<b>Solicitation No. - N° de l'invitation</b> W7719-165325/A	<b>Date</b> 2016-09-20
<b>Client Reference No. - N° de référence du client</b> W7719-165325	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$TOR-302-7179	
<b>File No. - N° de dossier</b> TOR-5-38183 (302)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2016-10-18</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Berends, Robert	<b>Buyer Id - Id de l'acheteur</b> tor302
<b>Telephone No. - N° de téléphone</b> (905) 615-2465 ( )	<b>FAX No. - N° de FAX</b> (905) 615-2060
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF NATIONAL DEFENCE 1133 Sheppard Ave W. Toronto Ontario M3K2C9 Canada	

**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</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(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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W7719-165325  
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File No. - N° du dossier

Buyer ID - Id de l'acheteur  
TOR302  
CCC No./N° CCC - FMS No./N° VME

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## **PART 1 - GENERAL INFORMATION**

### **1.1 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 and Additional Information: includes the certifications and additional information to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by Bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, and the Security Requirements Checklist.

### **1.2 Summary**

Defence Research and Development Canada (DRDC), Toronto, Ontario, has a requirement for a Navy Crew Automation Study. Specifically, DRDC is investigating the impact of automation on crew performance, as part of a multi-year research project on crewing and human factors for the Navy.

The period of the Contract is for 2 years. The selection methodology is highest rated within a maximum budget of \$120,000.00, before tax, for the entire Contract period.

There is a security requirement associated with this requirement. For additional information, consult Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. Bidders should consult the "Security Requirements for PWGSC Bid Solicitations - Instructions for Bidders" (<http://www.tpsgc-pwgsc.gc.ca/app-acq/lc-pl/lc-pl-eng.html#a31>) document on the Departmental Standard Procurement Documents website.

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 in article 3 of Part 2 of the bid solicitation.

The requirement is limited to Canadian goods and/or services.

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### **1.3 Debriefings**

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 from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

### **1.4 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.

### **1.5 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 subcontractor(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

### 2.1 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>) 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 (2016-04-04) 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: 90 days

### 2.2 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.

### 2.3 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 below 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.

#### **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 FPSs 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 Adjustment Directive**

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **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 adjustment 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 Applicable Taxes.

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## 2.4 Enquiries - Bid Solicitation

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 question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

## 2.5 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.

## 2.6 Basis for Canada's Ownership of Intellectual Property

The DRDC has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, for the following reasons, as set out in the [Policy on Title to Intellectual Property Arising Under Crown Procurement Contracts](#): the main purpose of the Contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination.

## 2.7 Maximum Funding

The maximum funding available for the Contract resulting from the bid solicitation is \$120,000.00 (Applicable Taxes extra). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.



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

### **3.1 Bid Preparation Instructions**

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

Section I: Technical Bid (4 hard copies)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard 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 and describe their approach 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** Bidders must submit their financial bid in accordance with the following:

- (a) A firm, all inclusive lot price for the Work, which must not exceed the maximum funding specified in Part 2. The total amount of Applicable Tax is to be shown separately, if applicable.
- (b) For Canadian-based bidders, prices must be in Canadian funds, Applicable Taxes excluded and Canadian customs duties and excise taxes included.

For foreign-based bidders, prices must be in Canadian funds, Applicable Taxes, Canadian customs duties and excise taxes excluded. Canadian customs duties and excise taxes payable by Canada will be added, for evaluation purposes only, to the prices submitted by foreign-based bidders.

For the purpose of the bid solicitation, bidders with an address in Canada are considered Canadian-based bidders and bidders with an address outside of Canada are considered foreign-based bidders.

#### 1.1.1 Price Breakdown

Bidders are requested to detail the following elements for the performance of the Work, as applicable:

- (a) Labour: For each individual and (or) labour category to be assigned to the Work, indicate: i) the hourly rate, inclusive of overhead and profit; and ii) the estimated number of hours.
- (b) Materials and Supplies: Identify each category of materials and supplies required to complete the Work and provide the pricing basis.
- (c) Travel and Living Expenses: Indicate the number of trips and the number of days for each trip, the cost, destination and purpose of each journey, together with the basis of these costs: "which must not exceed the limits of the Treasury Board (TB) Travel Directive. With respect to the TB Directive, only the meal, private vehicle and incidental allowances specified in Appendices B, C and D of the Directive <http://www.njc-cnm.gc.ca/directive/travel-voyage/index-eng.php> , and the other provisions of the Directive referring to "travellers", rather than those referring to "employees", are applicable. The Treasury Board Secretariat's Special Travel Authorities, [http://www.tbs-sct.gc.ca/pubs\\_pol/hrpubs/tbm\\_113/statb-eng.asp](http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/tbm_113/statb-eng.asp), also apply.")
- (e) Subcontracts: Identify any proposed subcontractor and provide for each one the same price breakdown information as contained in this article.
- (f) Other Direct Charges: Identify any other direct charges anticipated, such as long distance communications and rentals, and provide the pricing basis.
- (g) Applicable Taxes: Identify any Applicable Taxes separately.

#### Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

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## PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

### 4.1 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.

#### 4.1.1 Technical Evaluation

##### 4.1.1.1 Bidder Experience

Except where expressly provided otherwise, the experience described in the bid must be the experience of the Bidder itself (which includes the experience of any companies that formed the Bidder by way of a merger but does not include any experience acquired through a purchase of assets or an assignment of contract). The experience of the Bidder's affiliates (i.e. parent, subsidiary or sister corporations), subcontractors, or suppliers will not be considered.

##### 4.1.1.2 Supporting Information

In the event that the Bidder fails to submit any supporting information pursuant to mandatory and point rated technical criteria, the Contracting Authority 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.

##### 4.1.1.3 Mandatory Technical Criteria

<b>M1</b>	The Principal Investigator must have a Ph.D. in Psychology, Industrial or Systems Engineering, or Computer Science. A Curriculum Vitae including education and a list of peer-reviewed publications must be provided.
<b>M2</b>	The bidder must have facility and equipment to conduct computer-based experiments with human subjects. A description of the facility and equipment must be provided.
<b>M3</b>	The bidder must propose two or more resources in addition to the Principal Investigator. These resources must each have a minimum of a Bachelor's degree in Psychology, Engineering, or Computer Science. A resume must be provided for each proposed resource.

#### 4.1.1.4 Point Rated Technical Criteria

POINT-RATED EVALUATION CRITERIA		Minimum	Maximum
P1	<p>Scientific knowledge: The Principal Investigator should have experience conducting research on human factors and automation, as evidenced by peer-reviewed publications. The bidder must identify specific publications in response to this criterion.</p> <ul style="list-style-type: none"> <li>2 points for each journal paper or book chapter on human factors and automation (Note: more than one book chapter from the same book can receive a maximum of 10 points in total).</li> <li>1 point for each conference paper on human factors and automation</li> <li>1 point for each journal paper on automation only where the research involves no human factors intervention (e.g., technology, interface, training, work design, etc.)</li> </ul>	6	20
P2	<p>Scientific knowledge: The Principal Investigator should have experience conducting human factors research on teams, as evidenced by peer-reviewed publications. The bidder must identify specific publications in response to this criterion.</p> <ul style="list-style-type: none"> <li>2 points for each journal paper or book chapter on human factors and teams (Note: more than one book chapter from the same book can receive a maximum of 10 points in total).</li> <li>1 point for each conference paper on human factors and teams</li> <li>1 point for each journal paper on teams only where the research involves no human factors intervention (e.g., technology, interface, training, work design, etc.)</li> </ul>	2	15
P3	<p>Scientific knowledge: The Principal Investigator should have experience conducting human factors research on worker characteristics (e.g., knowledge, skills, abilities, etc.) or work processes (e.g., task schedule, task roles and responsibilities, etc.), as evidenced by peer-reviewed publications. The bidder must identify specific publications in response to this criterion.</p> <ul style="list-style-type: none"> <li>2 points for each journal paper or book chapter on human factors and worker characteristics (Note: more than one book chapter from the same book can receive a maximum of 10 points in total).</li> <li>2 points for each journal paper on human factors and work processes</li> </ul>	2	15

	<ul style="list-style-type: none"> <li>• 1 point for each conference paper on human factors and worker characteristics</li> <li>• 1 point for each conference paper on human factors and work processes</li> <li>• 1 point for each journal paper on worker characteristics or work processes only where the research involves no human factors intervention (e.g., technology, interface, training, work design, etc.)</li> </ul>		
<b>P4</b>	<p>Domain knowledge: The Principal Investigator should have experience conducting research in support of the military or a government defence department. The bidder must provide a summary for each project in response to this criterion, up to a maximum of four summaries. Each summary must be maximum of one page and must describe the objective, scope, deliverables, and the role(s) of the Principal Investigator or proposed resources.</p> <p>Up to four points for each project, up to four projects:</p> <ul style="list-style-type: none"> <li>• 1 point if project includes literature review</li> <li>• 1 point if project includes development of experimental platform</li> <li>• 1 point if project includes a human experiment</li> <li>• 1 point if project includes a second human experiment</li> </ul> <p>(e.g., a project that includes a literature review and two experiments will score three points; a second project that includes an experimental platform and one experiment will score two points; these two projects together will score five points out of ten).</p>	<b>0</b>	<b>10</b>
<b>P5</b>	<p>Domain knowledge: The Principal Investigator should have experience conducting research in the Maritime domain. The bidder must provide a summary of each project in response to this criterion in the same format identified in P4, up to a maximum four summaries. The bidder may use some or all of the same summaries to address P4 and P5, or the bidder may use new summaries for P5.</p> <p>Up to three points for each project, up to four projects:</p> <ul style="list-style-type: none"> <li>• points if project is in support of the Royal Canadian Navy</li> <li>• points if project is in support of an allied Navy (e.g., Five Eyes, NATO)</li> <li>• 1 point if project is in support of civilian maritime applications</li> </ul>	<b>0</b>	<b>10</b>

P6	<p>Qualifications of Personnel: The bidder should have sufficient qualified personnel resources to perform the work in the Statement of Work, including backup capability in case one or more proposed resource becomes unavailable during the execution of the contract. The resumes provided in M3 will be used to assess this criterion. The top 4 candidates will be considered.</p> <p>This criterion will not evaluate the Principal Investigator. Up to five points for each qualified resource:</p> <ul style="list-style-type: none"> <li>• 5 points for a PhD in Engineering, Psychology, or Computer Science, and either one human factors course or one peer-reviewed human factors publication</li> <li>• 5 points for a Master's degree in Engineering, Psychology, or Computer Science, and one human factors course and one peer-reviewed human factors publication</li> <li>• 4 points for a Master's degree in Engineering, Psychology, or Computer Science, and one human factors course or one peer-reviewed human factors publication</li> <li>• points for a Bachelor's degree in Engineering, Psychology, or Computer Science, and two human factors courses</li> <li>• points for a Bachelor's degree in Engineering, Psychology, or Computer Science, and one human factors course</li> <li>• 1 point for a Bachelor's degree in Engineering, Psychology, or Computer Science, and no human factors course</li> </ul> <p>Acceptable human factors course titles may include: Human-centred, User-centered, or Work-centered design, analysis, or evaluation; Theoretical methods, analytical methods, or empirical methods, or case studies in human factors or ergonomics; Engineering psychology; Human-computer interaction or usability.</p>	5	20
P7	<p>Facility and Equipment: The bidder should have facility and equipment to support human factors experiments involving multiple operators and the use of automation. The facility description in M2 will be used to evaluate this criterion.</p> <p>Under this criterion the following terms are defined:  <b>Separate areas</b> – are defined such that person(s) in each area are unable to see each other from a standing position, and are unable to communicate verbally without a phone or other technological support.  <b>Distributed Teams</b> – are defined such that at least two members are located in separate areas.</p> <ul style="list-style-type: none"> <li>• 10 points if the facility includes four or more networked computers and a server for human experiments, and two or more separate areas for these networked computers to support distributed teams, and hardware and software for data collection and analysis.</li> </ul>	4	10

	<ul style="list-style-type: none"> <li>• 9 points if the facility includes three or more networked computers and a server for human experiments, and two or more separate areas for these networked computers to support distributed teams, and hardware and software for data collection and analysis.</li> <li>• 8 points if the facility includes three or more networked computers and a server for human experiments, and hardware and software for data collection and analysis</li> <li>• 7 points if the facility has four or more standalone computers for human experiments, and hardware and software for data collection and analysis</li> <li>• 6 points if the facility includes two or more networked computers for human experiments, and hardware and software for data collection and analysis</li> <li>• 5 points if the facility has three or more standalone computers for human experiments, and hardware and software for data collection and analysis</li> <li>• 4 points if the facility has two or more standalone computers for human experiments, and hardware and software for data collection and analysis</li> <li>• points if the facility has two or more standalone computers for human experiments, and no hardware or software for data collection and analysis</li> <li>• 0 points if the facility has less than two computers, and no hardware or software for data collection and analysis</li> </ul>		
P8	<p>Facility and Equipment: The bidder must have access to library services to conduct literature review. The bidder should provide a description of the library resources. This description should be maximum of one page.</p> <ul style="list-style-type: none"> <li>• 5 points if bidder has access to a subscription-based bibliographic databases on human sciences and engineering, and access to professional librarians for support</li> <li>• points if bidder has access to subscription-based bibliographic databases on human sciences and engineering</li> <li>• 1 point if bidder has access subscription-based databases on human sciences only or on engineering only</li> </ul>	1	5

	<ul style="list-style-type: none"> <li>0 point if bidder has no access to subscription-based bibliographic databases on human sciences or on engineering</li> </ul>		
P9	<p>Research Methodology: The bidder must have experience making and defending submissions to a Human Research Ethics Committee. The bidder should provide copies of up to two Ethics protocols approved in the last 48 months that were submitted by the Principal Investigator or one of the proposed resources.</p> <ul style="list-style-type: none"> <li>5 points for each protocol that involved at least twenty human subjects, and at least three experimental conditions, and that was approved in the last 24 months</li> <li>4 points for each protocol that involved at least twenty human subjects, and at least two experimental conditions, and that was approved in the last 24 months</li> <li>points for each protocol that involved at least twenty human subjects, and at least three experimental conditions, and that was approved in the last 48 months</li> <li>points for each protocol that involved at least twenty human subjects, and at least two experimental conditions, and that was approved in the last 48 months</li> <li>1 point for each protocol that involved less than twenty human subjects, that was approved in the last 48 months</li> </ul>	2	10
P10	<p>Research Methodology: The bidder should have experience designing and implementing experimental platforms for human factors research. An experimental platform must include hardware and software to provide and manipulate experimental stimuli for human tasks and to collect and analyze human performance data. The bidder must provide a summary of each experimental platform in response to this criterion, up to a maximum of three summaries. Each summary must be maximum of one page and includes the objective and key capabilities of the platform, and the role(s) of the Principal Investigator and proposed resources in its development.</p> <ul style="list-style-type: none"> <li>5 points for a platform that supports all of the following: team research, and automation research, and military research, and that has been used for at least one experiment in the past 36 months</li> <li>4 points for a platform that supports at least two of the following: team research, or automation research, or military research, and that has been used for at least two experiments in the past 36 months</li> <li>points for a platform that supports at least two of the following: team research, or automation research, or</li> </ul>	2	10



	<p>military research, and that has been used for at least one experiment in the past 36 months</p> <ul style="list-style-type: none"> <li>• points for a platform that supports one of the following: team research, or automation research, or military research, and that has been used for at least two experiments in the past 36 months</li> <li>• 1 point for a platform that supports one of the following: team research, or automation research, or military research, and that has been used for at least one experiment in the past 36 months</li> </ul>		
<b>TOTAL</b>		<b>Minimum score 65</b>	<b>Maximum score 125</b>

#### 4.1.2 Financial Evaluation

##### 4.1.2.1 Evaluation of Price

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

##### 4.1.2.2 Maximum Funding

The maximum funding available for the Contract resulting from the bid solicitation is \$120,000.00 (Applicable Taxes extra). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.

#### 4.2 Basis of Selection

##### 4.2.1 Basis of Selection - Highest Rated Within Budget

1. To be declared responsive, a bid must:
  - a. comply with all the requirements of the bid solicitation;
  - b. meet all mandatory technical evaluation criteria; and;
  - c. obtain the required minimum points 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. The responsive bid with the highest number of points will be recommended for award of a contract, provided that the total evaluated price does not exceed the budget available for this requirement.

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## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, 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 will render the bid non-responsive or constitute a default under the Contract.

### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

#### 5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be

### 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<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.

#### 5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969#afed) website ([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?&\\_ga=1.229006812.1158694905.1413548969#afed](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969#afed)).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

## **PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS**

### **6.1 Security Requirements**

1. Before award of a contract, the following conditions must be met:
  - (a) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;
  - (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work sites must meet the security requirements as indicated in Part 7 - Resulting Contract Clauses;
  - (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;
2. Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.
3. For additional information on security requirements, Bidders should refer to the [Industrial Security Program \(ISP\)](http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html) of Public Works and Government Services Canada (<http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>) website.

### **6.2 Controlled Goods Requirement**

SACC *Manual* clause [A9130T](#) (2014-11-27), Controlled Goods Program.

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## PART 7 - RESULTING CONTRACT CLAUSES

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

### 7.1 Statement of Work

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

### 7.2 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.

#### 7.2.1 General Conditions

[2040](#) (2016-04-04), General Conditions - Research & Development, apply to and form part of the Contract.

#### 7.2.2 Canada to Own Intellectual Property Rights in Foreground Information

SACC *Manual* clause [K3410C](#) (2015-02-25), Canada to Own Intellectual Property Rights in Foreground Information.

### 7.3 Security Requirements

**7.3.1** The following security requirements (*SRCL and related clauses provided by ISP*) apply and form part of the Contract.

The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

1. This contract includes access to controlled goods. Prior to access, the contractor must be registered in the Controlled Goods Program of Public Works and Government Services Canada.
2. The Contractor/Offeror personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.
3. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
4. The Contractor/Offeror must comply with the provisions of the:
  - (a) Security Requirements Check List and security guide (if applicable), attached at Annex
  - (b) Industrial Security Manual (Latest Edition).

### 7.4 Term of Contract

#### 7.4.1 Period of the Contract

The Period of the Contract is from the date of the Contract for a 2-year period.

### 7.5 Authorities

#### 7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

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Robert Berends  
Supply Specialist  
Public Works and Government Services Canada  
Acquisitions Branch  
33 City Centre Drive, Suite 480C  
Mississauga, Ontario  
L5B 2N5

Telephone: 905-615-2465  
E-mail address: robert.berends@pwgsc-tpsgc.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.

### 7.5.2 Technical Authority

The Project Authority for the Contract is:

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.

### 7.5.3 Contractor's Representative

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
  
Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
E-mail address: \_\_\_\_\_

### 7.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2012-2](#) of the Treasury Board Secretariat of Canada.

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## **7.7 Payment**

### **7.7.1 Basis of Payment**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, as specified in Annex A for a cost of \$ \_\_\_\_\_. 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.

### **7.7.2 Limitation of Price**

SACC Manual clause C6000C (2011-05-16) Limitation of Price

## **7.8 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.
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.

## **7.9 Certifications and Additional Information**

### **7.9.1 Compliance**

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

## **7.10 Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_.

### **7.11 Priority of Documents**

If there is a discrepancy between the wording 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.

- (a) the Articles of Agreement;
- (b) the general conditions 2040 (2016-04-04), General Conditions - Research & Development;
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) Annex C, Security Requirements Check List;
- (f) the Contractor's bid dated \_\_\_\_\_.

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## 7.12 Insurance

SACC Manual clause [G1005C](#) (2016-01-28) Insurance

## 7.13 Controlled Goods Program

SACC Manual clause [A9131C](#) (2014-11-27), Controlled Goods Program.

SACC Manual clause [B4060C](#) (2011-05-16), Controlled Goods.

## 7.14 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.

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## ATTACHMENT 1

### ADDITIONAL CERTIFICATIONS PRECEDENT TO CONTRACT AWARD

#### 1. Canadian Content Certification

This procurement is limited to Canadian services.

The Bidder certifies that:

( ) the service(s) offered is(are) a Canadian service as defined in paragraph 2 of clause A3050T.

#### 1.1 SACC Manual clause A3050T (2014-11-27), Canadian Content Definition

#### 2. 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. 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.

#### 3. 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.

#### 4. Language Capability

The Bidder certifies that it has the language capability required to perform the Work, as stipulated in the Statement of Work.



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## ANNEX A

### STATEMENT OF WORK

#### 1. TITLE

Impact of Automation on Navy Crew Performance

#### 2. BACKGROUND

As part of a multi-year research project on crewing and human factors for the Navy, Defence Research & Development Canada (DRDC) is investigating the impact of automation on crew performance. Specifically, as automation in the forms of data fusion, Threat Evaluation and Weapon Assignment (TEWA) are introduced to support combat operations, questions arise as to how the size and structure of the combat team, the attributes (including knowledge, skills, and abilities) of team members, and how the design of work (e.g., scheduling of shifts) should be evolved to support effective and appropriate exploitation of the automation. DRDC's current research (conducted in-house and with existing contracted support) includes analyses of the capabilities and properties of the new automation, descriptive analyses of how current operators employ the new automation, and will eventually include at-sea or simulator trials of new operating concepts. This contract is intended to fill an identified gap in the research by conducting literature reviews, and empirical experiments in laboratory and/or low-fidelity simulator environments to inform the development and evaluation of new operating concepts that would warrant further investigation in the field.

Specifically, this contract will investigate the effects of team and operator characteristics, and/or work processes on human performance in navy environments with automation. This investigation will be based on the type and level of automation introduced to the Canadian Patrol Frigate (CPF) through the Halifax Class Modernization (HCM) program, specifically in the Operations Room to support combat functions. This contract will not investigate the design of new interfaces for human interaction with automation. Instead, this contract will investigate how new team sizes or structures or compositions, or new processes for individual or team work, when combined with the given automation, can achieve improved overall system performance. Research questions include the following, but only a subset will be selected in consultation with the TA for experimentation:

- Given new automation, what are the effects of an increased / decreased team size on performance?
- Given new automation, what are the effects of a different team structure (e.g. 2 vs. 3-level hierarchy) on performance?
- Given new automation, what are the effects of different operator characteristics (e.g., cognitive style, cognitive abilities) on performance?
- Given new automation, what are the effects of different work processes on performance (e.g., more frequent but shorter shifts, vs. less frequent but longer shifts) on performance?

#### 3. ACRONYMS

CPF	Canadian Patrol Frigate
DND	Department of National Defence
DRDC	Defence Research and Development Canada

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HCM Halifax Class Modernization  
IP Intellectual Property  
SOW Statement of Work  
TA Technical Authority  
TEWA Threat Evaluation and Weapon Assessment

#### 4. APPLICABLE DOCUMENTS & REFERENCES

None

#### 5. TASKS

##### 5.1 Project Management

- 5.1.1 The Contractor must conduct a kick-off meeting with the TA. During this meeting, the TA will transfer relevant reports and data on HCM automation and from the DRDC crewing and human factors research project to the Contractor. The Contractor must produce minutes from the kick-off meeting.
- 5.1.2 Once every three months, the Contractor must draft a quarterly progress report (maximum of one page), conduct a teleconference with the TA to discuss the reported progress, and produce a final progress report (maximum of two pages) that documents key feedback, decisions, and/or action items from the teleconference.

##### 5.2 Automation and Literature Review

- 5.2.1 The Contractor must develop an understanding of the types of automation introduced in HCM by reading literature on data fusion and threat evaluation and weapon assignment, including but not limited to Department of National Defence (DND) or DRDC reports, and by visiting one or more DND or DRDC facilities to consult with subject matter experts.
- 5.2.2 The Contractor must conduct a literature review on the relationships between team size, team structure, team characteristics and/or team processes and human performance with automated systems. To the extent possible, this literature review must emphasize automation used in the naval environment and/or automation that are similar in level or nature to the HCM automation. This literature review must not be a generic literature review on team research and must emphasize teams working with and affected by automation.
- 5.2.3 The Contractor must conduct a literature review on the relationships between operator characteristics (e.g., knowledge, skills, or abilities) and/or work processes (e.g., shift lengths) and human performance with automated systems. To the extent possible, this literature review

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must emphasize automation used in the naval environment and/or automation that are similar in level or nature to the HCM automation.

5.2.4 The Contractor must produce a partial draft of the Year 1 contract report based on 5.2.1-5.2.3.

### 5.3 Design of Experiments

5.3.1 Based on 5.2, the Contractor must identify specific team interventions (e.g., different team sizes or team structures) that are relevant to HCM automation and feasible to investigate in a laboratory setting over the course of the contract. The Contractor must propose one or more experiment(s) to investigate the identified interventions, to improve understanding of the relationship between these specific interventions and human performance in environments with new automation. The proposal must include specific research questions to be investigated, and a high level description of the necessary experimental testbed.

5.3.2 Based on 5.2, the Contractor must identify specific operator-level or process interventions (e.g., specific knowledge, skills or abilities for operators, specific shift lengths) that are relevant to HCM automation and feasible to investigate in a laboratory setting over the course of the contract. Propose one or more experiment(s) to investigate the identified interventions, to improve understanding of the relationship between these specific interventions and human performance in environments with new automation. The proposal must include specific research questions to be investigated, and a high level description of the necessary experimental testbed.

5.3.3 The Contractor must conduct a meeting with the TA to review the proposed experiments. This meeting can coincide with a quarterly progress review meeting. The Contractor must produce a Record of Discussion (1-2 pages) to summarize the key decisions on the proposed experiments. This Record of Discussion can be an annex to one of the quarterly progress reports in 5.1.2. The Contractor must revise the proposed experiments (5.3.1, 5.3.2) as required based on this Record of Discussion.

### 5.4 Development of Experimental Testbed

5.4.1 The Contractor must design an experimental testbed to investigate human performance in environments with new automation. This experimental testbed must support the approved experiment(s) on both team interventions (5.3.1) and operator-level or process interventions (5.3.2). This experimental testbed can be an integration, extension, and/or modification of existing hardware and software that the Contractor already owns, or that are commercially available, or that have been custom-built to support research, training or other related applications. This testbed must provide the capabilities for manipulating and presenting experimental stimuli and for collecting data on human behavior and performance.

5.4.2 The Contractor must design specific extensions or customizations (e.g., user interfaces, scenarios, data recording capability) of the experimental testbed in 5.4.1 to enable the specific approved experiment(s) on team interventions (5.3.1).

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- 5.4.3 The Contractor must design specific extensions or customizations (e.g., user interfaces, scenarios, data recording capability) of the experimental testbed in 5.4.1 to enable the specific approved experiment(s) on operator-level or process interventions (5.3.2).
- 5.4.4 The Contractor must conduct a meeting with the TA to review the proposed testbed. This meeting can coincide with a quarterly progress review meeting. The Contractor must produce a Record of Discussion (1-2 pages) to summarize the key decisions on the proposed testbed. This Record of Discussion can be an annex to one of the quarterly progress reports in 5.1.2. The Contractor must modify or refine the proposed testbed (5.4.1-5.4.3) as required based on this Record of Discussion.
- 5.4.5 The Contractor must implement the experimental testbed based on the approved design in 5.4.4.
- 5.4.6 The Contractor must give a demonstration to the TA of the implemented testbed (5.4.5), and produce a Record of Discussion (1-2 pages) to document TA feedback and action items on the testbeds. This Record of Discussion can be an annex to one of the quarterly progress reports in 5.1.2. The Contractor must modify or refine the testbed as required based on this Record of Discussion.

#### 5.5 Conduct and Analysis of Experiments

- 5.5.1 Upon approval by the TA, the Contractor must plan, prepare for, and conduct the team intervention experiment(s) corresponding to 5.4.1 using the testbed developed in 5.4.1. This includes preparing for and submitting for ethics approval, recruiting, scheduling, and compensating experiment participants.
- 5.5.2 Upon approval by the TA, the Contractor must plan, prepare for, and conduct the operator or process intervention experiment(s) in 5.4.2. This includes preparing for and submitting for ethics approval, recruiting, scheduling, and compensating experiment participants.
- 5.5.3 The Contractor must produce a partial draft of the Year 2 report that includes a full description of the experimental testbed (5.4), and the experiment plans for 5.5.1 and 5.5.2 including specific hypotheses, method, and participants.
- 5.5.4 The Contractor must analyze and report on the results of all the experiment(s) in 5.5.1-5.5.2.

#### 5.6 End-of-Year Reports and Presentations

- 5.6.1 The Contractor must produce a full draft of the Year 1 report by extending the partial draft in 5.2.4 to report fully on 5.3 and the progress made on 5.4.
- 5.6.2 The Contractor must give an oral presentation on 5.6.1 to the TA and DRDC stakeholders.
- 5.6.3 The Contractor must revise the draft Year 1 report based on TA feedback to produce the final Year 1 report.
- 5.6.4 The Contractor must produce a full draft of the Year 2 report by extending the partial draft in 5.5.3 to report fully on 5.5 including experiment results and analyses (5.5.4). The full Year 2

report must include, as annexes, all data collected in 5.5.1 and 5.5.2 with necessary measures taken to ensure anonymity of the experiment participants.

5.6.5 The Contractor must give an oral presentation on 5.6.4 to the TA and DRDC stakeholders.

5.6.6 The Contractor must revise the draft Year 2 report based on TA feedback to produce the final Year 2 report.

## 6. Deliverables

Number	Task Reference	Description of the Deliverables	Quantity and Format
6.1.1	5.1.1	Kick-off meeting minutes	Email
6.1.2	5.1.2	Quarterly progress reports	Email
6.2	5.2	Partial draft of Year 1 report: Automation and Literature Review	MS Word, sent by Email
6.3	5.3	Record of Discussion: Design of Experiments	MS Word, sent by Email
6.4.4	5.4.4	Record of Discussion: Design of Testbed	MS Word, sent by Email
6.4.5	5.4.5	Experimental Testbed: Software and Data Files	DVD, 2 copies
6.4.6	6.4.6	Record of Discussion: Demonstration of Testbed	MS Word, sent by Email
6.5	5.5	Partial draft of Year 2 report: Testbed Description and Experiment Plans	MS Word, sent by Email
6.6.1	5.6.1	Full draft of Year 1 Report	MS Word, sent by Email
6.6.2	5.6.2	Final presentation on Year 1	MS Powerpoint, sent by Email and presented in person
6.6.3	5.6.3	Final Year 1 Report	MS Word and PDF, sent by Email
6.6.4	5.6.4	Full draft of Year 2 Report	MS Word, sent by Email
6.6.5	5.6.5	Final presentation on Year 2	MS Powerpoint, sent by Email and presented in person
6.6.6	5.6.6	Final Year 2 Report	MS Word and PDF, sent by Email

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## 7. DATE OF DELIVERY

Deliverable	Delivery date
6.1.1	Within two weeks after contract award
6.1.2	Every three months during contract
6.2	On or before 2016-12-31
6.3	On or before 2016-12-31
6.4.4	On or before 2017-03-31
6.4.5	On or before 2018-03-31
6.4.6	On or before 2017-09-30
6.5	On or before 2017-09-30
6.6.1	On or before 2017-02-28
6.6.2	On or before 2017-03-31
6.6.3	On or before 2017-03-31
6.6.4	On or before 2018-02-28
6.6.5	On or before 2018-03-31
6.6.6	On or before 2018-03-31

## 8. Language of Work

English.

## 9. Location of Work

The work must be performed on Contractor site, except for travel to DRDC facilities listed in 10.

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## 10.Travel

The Contractor is required to travel to the following locations under the following tasks:

### Task: 5.2.1

**Location:** Quebec City, QC or Halifax, NS

**Address:**

DRDC Valcartier Research Centre	or	DRDC Atlantic Research Centre
2459 de la Bravoure Road		9 Grove St,
Québec, Québec		Dartmouth, NS
G3J 1X5		B2Y 3Z7

**Duration:** 2 days

**Frequency:** once

**Tasks:** 5.1.1, 5.3.3, 5.4.4, 5.6.2, 5.6.5

**Location:** Toronto, ON

**Address:**

DRDC Toronto Research Centre  
1133 Sheppard Ave West  
Toronto, ON  
M3K 2C9

**Duration:** one day

**Frequency:** once for each listed task, five times during contract

The Treasury Board Travel Directive will apply for any travel, accommodation and living expenses.

## 11.MEETINGS

A kick-off meeting (5.1.1) will be held at DRDC Toronto Research Centre. Quarterly progress review meetings (5.1.2) will held by teleconference.

Five other meetings will be held at DRDC Toronto Research Centre including: Review of Experimental Design (5.3.3), Review of Testbed Design (5.4.4), Year 1 Final Presentation (5.6.2), and Year 2 Final Presentation (5.6.5).

## 12.SPECIAL CONSIDERATIONS

The Contractor will have rights to publish on data collected during this contract.

## 13.SECURITY

THERE IS A SECURITY REQUIREMENT, SEE SECURITY REQUIREMENTS CHECKLIST (SRCL) FOR ALL DETAILS.

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## ANNEX B

### BASIS OF PAYMENT

The prices are inclusive in Canadian dollars. Transportation charges, Customs duties and Excise taxes are included, and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

1. To complete the work listed in Annex A, Statement of Work.

Firm Price (not including tax): \$\_\_\_\_\_

Note: Canada's maximum funding available for the contract resulting from the bid solicitation is \$120,000.00 (Applicable Taxes extra, as appropriate), not including travel.

Contract amount will be paid in 2 payments. Payment periods will be from date of award to March 31, 2017 and April 1, 2017 to March 31, 2018.



Solicitation No. - N° de l'invitation  
W7719-165325  
Client Ref. No. - N° de réf. du client

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

Buyer ID - Id de l'acheteur  
TOR302  
CCC No./N° CCC - FMS No./N° VME

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## **ANNEX C**

### **SECURITY REQUIREMENTS CHECK LIST**

See attached.



Government  
of Canada

Gouvernement  
du Canada

Contract Number / Numéro du contrat

W7719-165325

Security Classification / Classification de sécurité  
UNCLASSIFIED

PART A (continued) / PARTIE A (suite)

8 Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?  
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes  
Non Oui

If Yes, indicate the level of sensitivity:

Dans l'affirmative, indiquer le niveau de sensibilité :

9 Will the supplier require access to extremely sensitive INFOSEC information or assets?  
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate? ☒ No ☐ Yes  
Non Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :

Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10 a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis



RELIABILITY STATUS  
COTE DE FIABILITÉ



CONFIDENTIAL  
CONFIDENTIEL



SECRET  
SECRET



TOP SECRET  
TRÈS SECRET



TOP SECRET - SIGINT  
TRÈS SECRET - SIGINT



NATO CONFIDENTIAL  
NATO CONFIDENTIEL



NATO SECRET  
NATO SECRET



COSMIC TOP SECRET  
COSMIC TRÈS SECRET



SITE ACCESS  
ACCÈS AUX EMPLACEMENTS

Special comments:

Commentaires spéciaux :

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.

REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10 b) May unscreened personnel be used for portions of the work?  
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail? ☒ No ☐ Yes  
Non Oui  
If Yes, will unscreened personnel be escorted?  
Dans l'affirmative, le personnel en question sera-t-il escorté? ☐ No ☐ Yes  
Non Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11 a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?  
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes  
Non Oui

11 b) Will the supplier be required to safeguard COMSEC information or assets?  
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC? ☒ No ☐ Yes  
Non Oui

PRODUCTION

11 c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?  
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ? ☒ No ☐ Yes  
Non Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11 d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?  
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS? ☒ No ☐ Yes  
Non Oui

11 e) Will there be an electronic link between the supplier's IT systems and the government department or agency?  
Existera-t-il un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale? ☒ No ☐ Yes  
Non Oui

TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité  
UNCLASSIFIED

Canada



Government  
of Canada

Gouvernement  
du Canada

Contract Number / Numéro du contrat

W7719-186325

Security Classification / Classification de sécurité  
UNCLASSIFIED

**PART C - (continued) / PARTIE C - (suite)**

For users completing the form manually use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.

Les utilisateurs qui remplissent le formulaire manuellement doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form online (via the Internet), the summary chart is automatically populated by your responses to previous questions.

Dans le cas des utilisateurs qui remplissent le formulaire en ligne (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

**SUMMARY CHART / TABLEAU RÉCAPITULATIF**

Category Catégorie	PROTECTED PROTÉGÉ			CLASSIFIED CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET	NATO RESTRICTED NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP SECRET COSMIC TRÈS SECRET	PROTECTED PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET TRÈS SECRET
											A	B	C			
Information / Assets Renseignements / Biens Production																
IT Media / Support TI																
IT Link / Lien électronique																

- 12 a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?  
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☒ No  
Non

☐ Yes  
Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".  
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée  
« Classification de sécurité » au haut et au bas du formulaire.

- 12 b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?  
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☒ No  
Non

☐ Yes  
Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).  
Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée  
« Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec  
des pièces jointes).



Government of Canada  
Gouvernement du Canada

Contract Number / Numéro du contrat

W7718-165325

Security Classification / Classification de sécurité  
UNCLASSIFIED

PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)

RENEE CHOW

Title - Titre

DEFENCE SCIENTIST

Signature

Telephone No. - N° de téléphone

416-835-2000 X3015

Facsimile No. - N° de télécopieur

416-835-2104

E-mail address - Adresse courriel

RENEE.CHOW@DRDC-RDDC.GC.CA

Date

JULY 14, 2015

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)

Sasa Medjovic - DSD - Industrial Security  
Senior Security Analyst  
Tel: 613-995-0228

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

E-mail: sasa.medjovic@drdc.gc.ca

Date

2015-Oct-28

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?

Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?

☒ Yes  
☐ No

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

17. Contracting Security Authority / Autorité contractante en matière de sécurité

Name (print) - Nom (en lettres moulées)

Title - Titre

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

November 3, 2015

Maria Mendoza

Contract Security Officer, Contract Security Division

Maria.Mendoza@tpsgc-pwgsc.gc.ca

Tel/Tél - 613-948-1618 / Fax/Téléc - 613-954-4171

