



## 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

Quebec

K1A 0S5

## 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

Defence Science Projects Division/Division des projets des sciences de la défense

Les Terrasses de la Chaudière

10, rue Wellington, 4e étage

Gatineau

Quebec

K1A 0S5

<b>Title - Sujet</b> Cooperative Truck Platooning System	
<b>Solicitation No. - N° de l'invitation</b> T8009-190376/A	<b>Date</b> 2020-10-07
<b>Client Reference No. - N° de référence du client</b> T8009-190376	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$\$SL-009-38519	
<b>File No. - N° de dossier</b> 009sl.T8009-190376	<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 2020-11-18</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Standard Time EST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Duffy, Laura	<b>Buyer Id - Id de l'acheteur</b> 009sl
<b>Telephone No. - N° de téléphone</b> (613) 859-0462 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF TRANSPORT ENVIRONMENTAL AFFAIRS (AHE) 18TH FL PROGRAMS GROUP 330 SPARKS ST T8009 OTTAWA Ontario K1A0N5 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/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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Solicitation No. - N° de l'invitation  
T8009-190376/A  
Client Ref. No. - N° de réf. du client  
T8009-190376

Amd. No. - N° de la modif.  
File No. - N° du dossier  
009sl. T8009-190376

Buyer ID - Id de l'acheteur  
009sl  
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 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, the Pricing Schedule, the Electronic Payment Instruments, the Technical Evaluation Criteria, and the Federal Contractors Program for Employment Equity – Certification.

### **1.2 Summary**

- 1.2.1 Transport Canada has a requirement for a Cooperative Truck Platooning Systems (CTPS) Trial. The Contractor will be responsible for the development and organization of a Canadian on-road trial with supplemental on-track testing for specific dynamic tests and a potential driver fatigue investigation. The trial will include at least 6 months of on-road operation on Canadian highways. The data collected from the operation of the CTPS equipped trucks during the trial will help better understand the operational impacts, benefits and limitations of platooning technology and higher levels of vehicle automation.

The period of the Contract will be from contract award to March 31, 2022.

- 1.2.2 There are no security requirements associated with this requirement.
- 1.2.3 The Federal Contractors Program (FCP) for employment equity applies to this procurement; refer to Part 5 – Certifications and Additional Information, Part 7 - Resulting Contract Clauses and the Annex F entitled Federal Contractors Program for Employment Equity - Certification.
- 1.2.4 This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

#### 1.2.5 The Phased Bid Compliance Process applies to this requirement

### 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.

## 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) (<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](#) (2020-05-28) 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 calendar days

#### 2.1.1 SACC Manual Clauses

SACC *Manual* clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)

SACC *Manual* clause [A2001C](#) (2006-06-16) Foreign Nationals (Foreign Contractor)

### 2.2 Submission of Bids

- (a) Bids must be submitted only to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit **via e-post Connect** by the date and time indicated on page one of the bid solicitation.

**Note:** For bidders needing to register with epost Connect the email address is: [tpsgc.dgareceptiondessoumissions-abbidreceiving.pwgsc@tpsgc-pwgsc.gc.ca](mailto:tpsgc.dgareceptiondessoumissions-abbidreceiving.pwgsc@tpsgc-pwgsc.gc.ca). Interested Bidders must register a few days prior to solicitation closing date.

**Note:** Bids will not be accepted if emailed directly to this email address. This email address is to be used to open an epost Connect conversation, as detailed in Standard Instructions [2003](#), or to send bids through an epost Connect message if the bidder is using its own licensing agreement for epost Connect.

- (b) Due to the nature of the bid solicitation, bids transmitted by facsimile or electronic mail to PWGSC will not be accepted.

## 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: 2019-01](#) 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.

## 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

Transport Canada 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 Bid Challenge and Recourse Mechanisms

(a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.

(b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:

- Office of the Procurement Ombudsman (OPO)
- Canadian International Trade Tribunal (CITT)

(c) Suppliers should note that there are strict deadlines for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

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

### **3.1 Bid Preparation Instructions**

#### **Epost Connect Bid Submission**

Canada requires that the Bidder submit their electronic bid in accordance with section 08 of the 2003 Standard Instructions. The epost Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

The bid must be gathered per section and separated as follows:

Section I: Technical Bid  
Section II: Financial Bid  
Section III: Certifications

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid. For further information please refer to section 08 - Transmission by facsimile or by epost Connect at <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/1/2003/25#transmission-by-facsimile>

#### **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**

**3.1.1** Bidders must submit their financial bid in accordance with the Pricing Schedule in Annex C.

#### **3.1.2 Electronic Payment of Invoices – Bid**

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex D Electronic Payment Instruments, to identify which ones are accepted.

If Annex D Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.



Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

### 3.1.3 Exchange Rate Fluctuation

*SACC Manual* Clause C3011T (2013-11-06), Exchange Rate Fluctuation

### 3.1.4 SACC Manual Clauses

## Section III: Certifications

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

## 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 Phased Bid Compliance Process

##### 4.1.1.1 (2018-07-19) General

- (a) Canada is conducting the PBCP described below for this requirement.
- (b) Notwithstanding any review by Canada at Phase I or II of the PBCP, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada.

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY

REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE.

THE BIDDER ALSO ACKNOWLEDGES THAT ITS RESPONSE TO A NOTICE OR A COMPLIANCE ASSESSMENT REPORT (CAR) (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark

a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.

- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2020-05-28) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).
- (e) Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

#### **4.1.1.2 (2018-03-13) Phase I: Financial Bid**

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- (b) Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services.
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.

- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.
- (f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.
- (g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- (h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

#### **4.1.1.3 (2018-03-13) Phase II: Technical Bid**

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- (b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.

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- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.
- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.
- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid
- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

#### **4.1.1.4 (2018-03-13) Phase III: Final Evaluation of the Bid**

- (a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

#### 4.1.2 Technical Evaluation

Mandatory and point rated technical evaluation criteria are included in Annex E to Part 4.

#### 4.1.3 Financial Evaluation

SACC Manual Clause [A0220T](#) (2014-06-26), Evaluation of Price - Bid

### 4.2 Basis of Selection

#### 4.2.1 Basis of Selection – Highest Combined Rating of Technical Merit and Price

1. To be declared responsive, a bid must:
  - a. comply with all the requirements of the bid solicitation; and
  - b. meet all mandatory technical evaluation criteria; and
  - c. obtain the required minimum of 150 points overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 250 points.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 70% for the technical merit and 30% 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 / maximum number of points available multiplied by the ratio of 70%.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 70/30 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 (70%) and Price (30%)				
		Bidder 1	Bidder 2	Bidder 3
Overall Technical Score		115/135	89/135	92/135
Bid Evaluated Price		\$55,000.00	\$50,000.00	\$45,000.00
Calculations	Technical Merit Score	115/135 x 70 = 59.63	89/135 x 70 = 46.15	92/135 x 70 = 47.70
	Pricing Score	45/55 x 30 = 24.55	45/50 x 30 = 27	45/45 x 30 = 30
Combined Rating		84.18	73.15	77.7
Overall Rating		1st	3rd	2nd

## 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 Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the Integrity declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

### 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 section titled Information to be provided when bidding, contracting or entering into a real property agreement of 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](https://www.canada.ca/en/employment-social-development/canada/esdc/labour's) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed Annex F to Part 5 entitled Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed Annex F to Part 5 entitled Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

### **5.2.3 Status and Availability of Resources**

SACC Manual clause [A3005T](#) (2010-08-16) Status and Availability of Resources

### **5.2.4 Education and Experience**

SACC Manual clause [A3010T](#) (2010-08-16) Education and Experience

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

### **6.1 Security Requirements**

There are no security requirements associated with this requirement.



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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 and the Contractor's technical bid entitled \_\_\_\_\_, dated \_\_\_\_\_.

### 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

[2035](#) (2020-05-28), General Conditions - Higher Complexity - Services, apply to and form part of the Contract.

### 7.3 Security Requirements

There is no security requirement applicable to the Contract.

### 7.4 Term of Contract

#### 7.4.1 Period of the Contract

The period of the Contract is from date of Contract to March 31, 2022 inclusive.

### 7.5 Authorities

#### 7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Laura Duffy  
Supply Specialist  
Research & Development Procurement  
Acquisitions Branch  
Public Works and Government Services Canada

Telephone: (613) 859-0462  
E-mail address: [laura.duffy@tpsgc-pwgsc.gc.ca](mailto:laura.duffy@tpsgc-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.

#### 7.5.2 Project Authority

The Project Authority for the Contract is: *To be completed at contract award.*

Name: \_\_\_\_\_



Solicitation No. - N° de l'invitation  
T8009-190376/A  
Client Ref. No. - N° de réf. du client  
T8009-190376

Amd. No. - N° de la modif.  
File No. - N° du dossier  
009sl. T8009-190376

Buyer ID - Id de l'acheteur  
009sl  
CCC No./N° CCC - FMS No./N° VME

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

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

The Project 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 Project Authority; however, the Project 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

*To be completed at contract award.*

### 7.6 Proactive Disclosure of Contracts with Former Public Servants *(included only if applicable)*

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: 2019-01 of the Treasury Board Secretariat of Canada.

### 7.7 Payment

#### 7.7.1 Basis of Payment

##### 7.7.1.1 Firm Prices

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract excluding articles 6.3.3 and 6.4.2 of the Statement of Work at Annex A, the Contractor will be paid the firm prices as specified in Annex B to a total 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.

##### 7.7.1.2 Cost reimbursable – Limitation of Expenditure

- a) For the Work described in 6.3.3 of the Statement of Work at Annex A, the Contractor will be paid for its costs reasonably and properly incurred in the performance of the Work, in accordance with the Basis of payment in Annex B, to a Limitation of Expenditure of \$ \_\_\_\_\_ *(insert amount at contract award)*. Customs duties are included and Applicable Taxes are extra.
- b) For the Work described in 6.4.2 of the Statement of Work at Annex A, the Contractor will be paid for its costs reasonably and properly incurred in the performance of the Work, in accordance with the Basis of payment in Annex B, to a Limitation of Expenditure of \$ \_\_\_\_\_ *(insert amount at contract award)*. Customs duties are included and Applicable Taxes are extra.

c) Travel and Living Expenses - National Joint Council Travel Directive

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, and private vehicle allowances specified in Appendices B, C and D of the [National Joint Council Travel Directive](#), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees". Canada will not pay the Contractor any incidental expense allowance for authorized travel.

All travel must have the prior authorization of the Project Authority.

All payments are subject to government audit.

Estimated Cost: \$70,000.00

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 Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$ \_\_\_\_\_. (*insert amount 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% committed, or
  - b. four 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,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.

#### 7.7.3 Milestone Payments – Not subject to holdback

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in Annex B of the Contract and the payment provisions of the Contract if:

- a. an accurate and complete claim for payment using [PWGSC-TPSGC 1111](#), Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all the certificates appearing on form [PWGSC-TPSGC 1111](#) have been signed by the respective authorized representatives;

- c. all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.

#### **7.7.4 Electronic Payment of Invoices – Contract** (*complete at contract award*)

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Direct Deposit (Domestic and International);
- b. Electronic Data Interchange (EDI);
- c. Wire Transfer (International Only);

### **7.8 Invoicing Instructions**

1. The Contractor must submit a claim for payment using form [PWGSC-TPSGC 1111](#), Claim for Progress Payment.

Each claim must show:

- a. all information required on form [PWGSC-TPSGC 1111](#);
- b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- c. a list of all expenses;
- d. the description and value of the milestone claimed as detailed in the Contract.

Each claim must be supported by a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;

2. Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
3. The Contractor must prepare and certify an electronic copy of the claim on form [PWGSC-TPSGC 1111](#), and forward it to the Project Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

The Project Authority will then forward the claim to the Contracting Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.

4. The Contractor must not submit claims until all work identified in the claim is completed.

### **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.

#### **7.9.2 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.

## 7.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_ (*insert the name of the province or territory as specified by the Bidder in its bid, if applicable*).

## 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 [2035](#) (2020-05-28), General Conditions - Higher Complexity - Services;
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated \_\_\_\_\_, as clarified on \_\_\_\_\_ " **or** ", as amended on \_\_\_\_\_.

## 7.12 Foreign Nationals (Canadian Contractor **OR** Foreign Contractor)

SACC Manual clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)

**OR**

SACC Manual clause [A2001C](#) (2006-06-16) Foreign Nationals (Foreign Contractor)

## 7.13 Insurance

SACC Manual clause [G1005C](#) (2016-01-28) Insurance - No Specific Requirement

## 7.14 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.

Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "[Dispute Resolution](#)".

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## ANNEX A - STATEMENT OF WORK

### PROJECT NAME:

Cooperative Truck Platooning Systems (CTPS) Trial

## 1. Terminology

A glossary of acronyms and definitions of frequently used words contained in the SOW.

AV	Automated Vehicle
AVSC	Automated Vehicle Safety Consortium
CTPS	Cooperative Truck Platoon System
CTP	Cooperative Truck Platoon
CV	Connected Vehicle
HMI	Human-Machine Interface
HDV	Heavy-Duty Vehicle
MVTC	Motor Vehicle Test Centre – Transport Canada test facility, located in Blainville, QC
ODD	Operational Design Domain
TC	Transport Canada
V2V	Vehicle-to-Vehicle

## 2. Background

Transport Canada's (TC) Innovation Centre undertakes testing and evaluation of current and emerging vehicle technologies to help inform various stakeholders that are engaged in the development of regulations, codes and standards for the next generation of advanced light and heavy-duty vehicles. Results help in the development of environmental and safety regulations, policies, and programs to ensure that new technologies can be introduced in Canada in a safe and timely manner.

In the 2018 Fall Economic Statement, the Government of Canada expressed interest in working with industry to develop new regulatory approaches in support of innovation. One approach includes the use of "a truck platooning system test bed (sandbox) to support the development and adoption of platooning technologies (the act of electronically hitching two or more heavy vehicles together to form a 'road train')."

The trucks use Vehicle-to-vehicle (V2V) communication in addition to forward sensors to help maintain constant following distance, allowing the potential for shorter gaps between the vehicles. These trucks are at least Level 1 automated vehicles according to SAE J3016 defined levels of vehicle automation. Cooperative truck platooning systems (CTPS) are in development and approaching commercialization. However, there is a knowledge gap in terms of the safety, reliability and resiliency of these systems. Further testing and evaluation is required to help qualify and quantify their overall operational safety and environmental performance.

Platooning technology has the potential to reduce greenhouse gas emissions and fuel consumption of long haul heavy-duty trucks, contributing to a more efficient transportation network. Despite comprising a small portion of Canada's on-road fleet, they emit almost 10% of the country's total annual greenhouse gas emissions. While greenhouse gas regulations are expected to help address this, platooning has the potential to accelerate Canada's efforts to meet its 2030 greenhouse reduction commitments, as presented in the 2017-2020 Departmental Sustainable Development Strategy, while increasing the trucking industry's competitiveness as the technology will decrease fuel costs. Platooning technology could also help address labour shortages as advanced technology could enhance the appeal of the trucking profession for new drivers.

### 3. Objective

The objective of this work is to support innovation, more specifically higher automation and connectivity of vehicles. The work will gather evidence to inform the potential development of regulations, policies, and programs that provide a modernized approach for addressing this technology.

This proposed truck platooning pilot project will also increase evidence to inform the potential policies and regulations on motor carrier operations and automated vehicle (AV) and connected vehicle (CV) technology of Canadian jurisdictions. Additionally, vehicle platooning could reduce greenhouse gas emissions, promote automated vehicle and connected vehicle technologies and inform Transport Canada's policies on automated vehicles and connected vehicles.

### 4. Scope

The Contractor is responsible for the development and organization of a Canadian on-road trial with supplemental on-track testing (for specific dynamic tests and a potential driver fatigue investigation). The trial will include at least 6 months of on-road operation on Canadian highways. The data collected from the operation of the CTPS equipped trucks during the trial will help better understand the operational impacts, benefits and limitations of platooning technology and higher levels of vehicle automation. The CTPS to be assessed must be a minimum Level 1 automated vehicle according to SAE J3016 defined levels of vehicle automation.

The Contractor must follow the most recent guidelines regarding automated and connected vehicle safety published by TC<sup>1</sup>:

- Canada's Safety Framework for Automated and Connected Vehicles
- Testing Highly Automated Vehicles in Canada: Guidelines for Trial Organizations
- Canadian Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles
- Safety Assessment for Automated Driving Systems in Canada
- Canada's Vehicle Cyber Security Guidance

Although, these resources are intended for level 3 or higher AVs, the CTPS used for this project is likely to be a level 1 or 2 automated vehicle system. However truck platooning is a relatively challenging application for this rated AV level, as a high degree of system integrity is required to safely demonstrate shorter following distances and maximize benefits. The AV system used for this project and the on-road trial must follow these guidelines, accounting for the driver's intended role in operating the vehicle.

The on-road trial will be a duration of 6 months and is intended to operate through a variety of seasons, including summer and winter conditions. During this trial the Contractor will establish a collaboration with

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<sup>1</sup> Documents are available at <https://www.tc.gc.ca/en/services/road/innovative-technologies/automated-connected-vehicles/what-you-need-to-know.html>

several parties: TC, CTPS supplier/integrator, carrier, representatives of jurisdictional authorities, and TC advisors, to coordinate track testing and an on-road trial.

The Contractor must have access to a CTPS that is developed to a technology-readiness level of at least 7<sup>2</sup>, which represents a prototype ready for demonstration in an appropriate operational environment. Given the limited availability of CTPS, which is not yet commercially available, access to CTPS must be negotiated with platoon technology developers. TC prefers to use a CTPS that is developed with intent to be commercialized and operated on public roads.

TC will engage with Provincial and Territorial contacts to explore potential allowable location options for the trial, but the Contractor is responsible for ensuring appropriate permissions are attained to operate the trial (with TC's support). TC will also solicit candidate Canadian carriers through its contacts for the trial.

A key focus of the human factors component is the assessment of driver experience, and especially the potential for passive fatigue for the driver of following vehicles in the platoon. These drivers will become less involved in the driving task than in a normal conditions and will now assume more of a monitoring function. Driver fatigue and vigilance science suggest that the monotony associated with monitoring automated or partially automated systems can lead to fatigue-related inattention (hypovigilance) and potentially to drowsiness. Laboratory studies conducted on simulators tend to confirm this notion. There is however a need to gather data in naturalistic driving conditions to assess if and to what extent this issue materializes in platooning situations. This study therefore will need to satisfy the requirements of an experimental human factors investigation (clearly established independent and dependent variables, extra vs within-subject comparisons, number of experimental conditions, power analysis for sample size calculations, experimental control, etc.). An ideal strategy for this project would be to conduct the driver experience assessment in the highly controlled environment of Transport Canada's track testing facility as well as in the naturalistic environment of the on-road trial. This hybrid, complementary approach will benefit from the strength of both research strategies.

TC will develop a performance validation plan to assess safety-related performance of the CTPS on a test track prior to the trial, including assessment of platoon braking and interactions with vehicles cutting into the platoon. This testing will take place at Transport Canada's Motor Vehicle Test Centre (MVTC) in Blainville, QC. The Contractor will provide input for the test plan and coordinate the delivery and availability of CTPS-equipped trucks, trailers, and truck drivers for the tests. This testing must be performed in temperate weather conditions, so cannot be scheduled to occur when snow may be anticipated. TC will undertake the costs of this testing, including track rental, track services, instrumentation, data collection and analysis.

## 4.1 Project Participants

TC's Innovation Centre will engage other project partners, including but not limited to: TC's Motor Vehicle Safety group to guide safety aspects of project; and the National Research Council, to provide expert input on fuel consumption and aerodynamic assessment and CTPS technology. TC will be responsible for managing of project participants other than the CTPS supplier, jurisdictional authority (Province or Territory), and motor carrier operator. TC will be the point of contact for communications between the Contractor and any other parties participating in the project.

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<sup>2</sup> Technology Readiness Levels defined here: <https://www.ic.gc.ca/eic/site/080.nsf/eng/00002.html>



TC will liaise with stakeholders such as other federal government departments, provincial and territorial governments, industry, and academia. In order to appropriately address concerns and capture valuable input from these stakeholders, the Contractor will be expected to provide presentation material to share information on the project plan prior to the on-road trial, and on the results at the conclusion of the trial. TC may propose modifications to the project plan based on stakeholder input.

TC and the project partners may, in coordination with the Contractor, perform tests supplemental to that of the Contractor during the on-road trial. The Contractor will make every reasonable effort to accommodate the supplemental testing requested by TC. Any additional effort, equipment and costs for this supplemental testing is not the responsibility of the Contractor.

## 4.2 Support Provided by Transport Canada

TC offers the following support for the successful implementation of the project:

- Technical expertise and guidance with planning, including: soliciting participation from provincial/territorial authorities or Canadian commercial vehicle operators.
- May provide advice on import/export process for vehicles.
- Help identify testing methods, equipment, or other resources to achieve optimal results.
- Engaging stakeholders for input and disseminating information regarding CTPS trial.

## 5. On-Road Trial Rationale (Areas of study)

### 5.1 Fuel Consumption of Platooning Trucks

During on-road trial operation of platooning trucks, the Contractor will take reliable measurements of fuel consumption and related factors (i.e., weather, average speed and speed variability, weight, etc.) for each trip. Specific factors to be investigated in relation to fuel consumption include:

- 5.1.1 Various separation times/distances of the platoon;
- 5.1.2 Investigating the effects of speed variations during a measurement run;
- 5.1.3 Investigating the effects of other-vehicle cut-ins and mixed traffic scenarios;
- 5.1.4 Investigating the effects of road grade and curvature;
- 5.1.5 Investigating the effects of vehicle configuration (cargo weight and, if feasible, trailer type).

### 5.2 Safety and Dynamic Performance of Platoons

The Contractor will provide input and support in Transport Canada's on-track dynamic test plan development and testing. This track testing will be intended to assess whether the CTPS is appropriate for operation on Canadian roads, and to determine certain operational design domain parameters (e.g.,



minimum following distance). During the on-road trial, data will be collected to observe platoon safety and dynamics performance. This will focus on the following:

#### 5.2.1 Braking performance and reaction to vehicle cut-in of a platoon system:

- a. Platoon interactions with vehicles that enter the gap between platooning trucks (i.e. vehicle cut-ins, cut-offs and cut-outs); and
- b. Platoon responses to gradual and hard braking (during acceleration, deceleration, and same speed maneuvers).

#### 5.2.2 Identify system limitations, faults, and abnormal or unintended system behavior, including system disengagement events or failure of system function or components.

### 5.3 Traffic Implications

The Contractor will analyse the effect of CTPS on traffic flow. This includes:

- 5.3.1 Estimated impact on roadway mobility (bandwidth, throughput, and latency); and
- 5.3.2 Impact on other road users' ability to pass, merge or access on/off ramps.

### 5.4 Human Factor Evaluation

The Contractor will gather data to assess human factors on the use of CTPS regarding the following:

#### 5.4.1 Assessment of driver experience, including:

- a. Passive fatigue (related to task underload, monotony) for driver of following truck in platoon;
- b. Stress;
- c. Workload;
- d. Trust in the system/user acceptance;
- e. Risk perception.

#### 5.4.2 Human Machine Interface (HMI) design and driver-vehicle interaction;

#### 5.4.3 Behaviour of other road users in the vicinity of the platoon; and

#### 5.4.4 Driver training and knowledge of system capabilities and limitations.

### 5.5 Operations

The Contractor will work with project partners, particularly the carrier who will operate the trucks, to observe operational impacts of using a CTPS, including the following:

- 5.5.1 Scheduling and logistic considerations;
- 5.5.2 Cargo weight;
- 5.5.3 Traffic congestion;
- 5.5.4 Positioning (leader vs follower trucks);
- 5.5.5 Lane changes (merging, off- and on-ramps); and
- 5.5.6 Speed variations.

## 5.6 Operational Design Domain (ODD) and Key Factors of Influence

Working with the CTPS supplier and Transport Canada, the Contractor will help assess the operational design domain of the CTPS for the operations of the on-road trial. The Contractor will also identify key factors of influence that determine limitations to the ODD for a particular CTPS. This will include determining restrictions on engaging the CTPS during the on-road trial based on parameters of the following conditions:

- 5.6.1 Weather;
- 5.6.2 Road types and road conditions (appropriate lanes, hills, grades, uneven terrain, curvatures, etc.);
- 5.6.3 Construction; and,
- 5.6.4 Times of day.

## 5.7 Regulatory/Operational Observations

The Contractor and project partners will identify and describe regulations, policies, and operational factors that relate to using CTPS, including the following:

- 5.7.1 Following distance;
- 5.7.2 Speed;
- 5.7.3 Hours of service;
- 5.7.4 Inspection or reporting requirements; and
- 5.7.5 Load on infrastructure.

## 6. Services to be Provided

Project Phases are described in the headings below. Phases will be executed sequentially, except 6.3

Phase 3 – Driver Experience Assessment Track **Testing** may be executed before or after (or potentially during) 6.4 Phase 4 - On-Road **Trial**. The identified tasks detailed in the headers within each phase are not necessarily dependent on each other and many will be performed in parallel.

### 6.1 Phase 1 - Trial Planning

The trial planning phase encompasses all the planning elements that must take place prior to the on-road trial, and prior to any track testing to verify the CTPS performance prior to the trial.

#### 6.1.1 Identify a CTPS Supplier

The Contractor will identify a CTPS supplier to supply the cooperative truck platoon system to enable platooning of two or three trucks (preferably trucks are supplied with the CTPS already installed) for the trial. This task consists of the following requirements:

- a. The Contractor will provide a letter of engagement from the supplier demonstrating their commitment to provide the platooning system, preferably already installed on existing trucks. The supplier must also provide support related to training, diagnostics, calibration, troubleshooting, data collection or other technical procedures specific to the CTP system supplied.

#### 6.1.2 Identify Trial Location Options

The Contractor must identify viable option(s) for the trial location and meet the following obligations:

- a. The trial location must be on Canadian multi-lane divided highways with a prolonged stretch road;
- b. The contract must engage regulators in a dialogue and demonstrate the jurisdiction's (Province or Territory) willingness to enter discussions for allowing a CTPS trial at the selected location (if the location is interprovincial, special authorization from all jurisdictions is required);
- c. The Contractor must also adhere to the rules and regulations put forth by said Province or Territory, including, but not limited to those regarding hours of service, weights and dimensions requirements, truck speed limiter requirement, vehicle safety inspection requirements, proper cargo securement, and any necessary permits for platoon operation.

#### 6.1.3 Identify a Canadian Truck Operator Partner

The Contractor must identify a partnership with a Canadian motor carrier to participate in the project. It is anticipated this motor carrier will accommodate the platoon in its normal operation (commercial route) and meet the following requirements:

- a. The Contractor must provide a letter of engagement from the carrier identifying their commitment to providing payload (can consist of commercial goods), route, as well as carrier participation and support (e.g. training, logistics and scheduling) where needed.
- b. The platoon must not be carrying any dangerous goods as per Transport Canada's Transportation of Dangerous Goods Regulations<sup>3</sup>.
- c. The carrier must have a valid safety fitness certificate in good standing (i.e. satisfactory safety rating), and meet all National Safety Code safety standards. The carrier must meet

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<sup>3</sup> <https://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>

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all legal operating requirements, including Motor Vehicle Fitness Certificate Regulations and Commercial Vehicle Drivers Hours of Service Regulations.

#### 6.1.4 Provide Trucks, Trailers, Drivers and Equipment for Testing and Trial

The Contractor must provide the class 8 trucks, drivers, flatbed trailers for CTPS performance validation track tests, and trailers (type not prescribed) for the duration of the on-road CTPS trial. This includes two to three CTPS equipped class 8 trucks (may be supplied by CTPS supplier) as well as a comparable non-CTPS equipped truck to serve as a baseline vehicle for experimental control (this control truck may operate for only a portion of the trial period).

- a. The baseline control truck does not have to participate during the entire trial duration. This vehicle may only undergo the first two weeks of testing, subject to test plan.
- b. The platooning trucks must be equipped with disk brakes on the tractors.
- c. Demonstrate drivers' qualification for the trial according to criteria to be agreed upon with TC.

#### 6.1.5 Trial Planning and Logistics Administration

The Contractor is responsible for planning the logistics and administration for the operational platooning trial which includes:

- a. Participating in regular project update meetings with TC and other project partners on a bi-weekly basis or as agreed;
- b. Providing a project plan which documents roles and responsibilities, resource requirements and a detailed schedule of milestones and deliverables.
- c. Vehicle maintenance and repairs, including identifying available mechanic services prior to the trial;
- d. Provision of Class-8 vehicle drivers with appropriate qualifications (experience, safe driving record).
- e. Provision of appropriate trailers (to fulfill the carrier's delivery needs).
- f. Ensuring compliance with rules and regulations for commercial vehicle operation.
- g. Importing and exporting of any equipment or vehicle (e.g. If the CTPS/Truck supplier is from outside Canada);
- h. Arranging for travel for themselves and the subcontractors;
- i. Acquiring an appropriate insurance for the trial and testing, as determined by the Contractor and agreed by TC, and considering the requirement of the jurisdiction in which they are operating.
- j. Providing an appropriate human factors expert as a project participant.

#### 6.1.6 Develop Driver Experience Assessment Methodology

The Contractor must present a detailed methodology for the driver experience assessment for TC's approval. The methodology must detail the experimental approaches for both the on-track experiment and the on-road trial, including but not limited to:

- a. List of independent and dependent variables;
- b. List of experimental conditions;
- c. List of controlled variables and approaches to control them;
- d. Extra vs. within-subject comparisons;
- e. Power analysis for sample size calculation;
- f. Experimental protocol;
- g. List of psychometric tools to measure driver experience variables (subjective fatigue, stress, trust in the system, user acceptance, workload, risk perception, etc.);
- h. Technological approach to measure driver fatigue (ideally including both physiological and performance assessment); and
- i. A report format or template for presenting the results, to be approved by TC.

#### 6.1.7 Develop On-Road Test Methodology

The Contractor must present an on-road test plan for TC's approval, presenting the methodology, including a list of measured values, methods and equipment used, and frequency of measurements (some anticipated measurements described in Appendix A). TC reserves the right to provide input to the testing plan.

- a. The test plan must address the subjects described in section 5.
- b. Include potential additional test methodology to be implemented as a "shakedown" testing period during the one or two weeks of on-road platoon trial. This may include additional test equipment (for correlation or calibration); and
- c. Propose a report format or template for presenting the results, to be approved by TC.

#### 6.1.8 Perform Safety Assessment

The Contractor must provide safety assessment documentation for the trial according to TC-published "Safety Assessment for Automated Driving Systems in Canada" published January 2019 (where applicable, as this tool is intended for level 3 to 5 automated driving systems), referenced in section 4. This includes:

- a. Defining the operational design domain (ODD) of the CTPS and measures to ensure the CTPS is not operated outside of this ODD.
- b. Identifying potential hazards of operating the CTPS and the implementation of the trial and proposing mitigations.

- c. Assessing cybersecurity and data management of the CTPS, ensuring appropriate mitigation of risks are implemented.
- d. Establishing an effective process to orient or train new operators on the CTPS.

#### 6.1.9 Develop Risk Management Plan

The Contractor must provide a risk management plan for the execution of phase 2 of the project, which will identify risks affecting the success of the project along with mitigation strategies.

#### 6.1.10 Input into CTPS Performance Validation Plan

The Contractor must provide technical input into development of track-testing plan to evaluate platoon behavior in dynamic scenarios prior to the platoon trial, including braking events and vehicle cut-ins. The testing will take place at the MVTC facility in Blainville, QC. The Contractor will be responsible for coordinating delivery and availability of the CTPS-equipped trucks, trailers, and drivers for the testing. TC may propose modifications to the project plan based on stakeholder input.

#### 6.1.11 Stakeholder Consultation

TC will hold at least one stakeholder consultation event to provide an opportunity for input to refine the trial plan. Stakeholders include federal government departments, provincial and territorial governments, industry, and academia. TC will administer this process, including determining invitees, venue, schedule, and agenda. In order to appropriately address concerns and capture valuable input from these stakeholders, the Contractor must brief TC and provide presentation material on the details of Phase 1 under their responsibility. TC may propose modifications to the project plan based on stakeholder input.

**Decision Gate:** prior to commencing Phase 2, a go/no-go decision will be made based on the acceptance of the deliverables and project participant commitments from Phase 1.

### 6.2 Phase 2 - CTPS Performance Validation

Performance validation of the supplied CTPS to ensure that the system operates in a manner suitable for executing the on-road trial. This process will complement the safety assessment with validation through physical testing of the platoon system's performance during braking and interactions with vehicles cutting into the platoon.

This testing will take place at Transport Canada's Motor Vehicle Test Centre (MVTC) in Blainville, QC. Transport Canada will conduct specific test scenarios simulating braking events and vehicle cut-in events to assess platoon behavior in highly-dynamic maneuvers. Anticipate that the CTPS-enabled trucks will be required for three weeks to complete this track-based testing. This testing must be performed in temperate weather conditions, so cannot be scheduled to occur when snow may be anticipated. TC will undertake the costs of this testing, including track rental, track services, instrumentation, data collection and analysis.

#### 6.2.1 Support CTPS Performance Track Tests

The Contractor will be responsible for the delivery and availability of CTPS-equipped trucks, technical support, flatbed trailers, and truck drivers for the tests.

**Decision Gate:** prior to commencing Phase 3, a go/no-go decision will be made based on the acceptance of the CTPS performance and project participant commitments from Phase 2.

### 6.3 Phase 3 – Driver Experience Assessment Track Testing

This phase may be performed either before or after (or potentially during) Phase 4. Track testing will take place at TC's MVTC facility in Blainville, QC. The on-track component of the driver experience assessment plan is anticipated to require no more than three weeks of track testing (it may be necessary to work outside of normal business hours at the MVTC to accommodate scheduling). TC will undertake any costs of track rental and track services charged by the MVTC facility operator, PMG Technologies.

TC can assist in coordination of resources, helping to identify required test resources such as truck drivers, trailers, or track related equipment.

#### 6.3.1 Coordination of Driver Experience Tests

The Contractor must coordinate the availability of all resources required for the testing, including CTPS-equipped trucks, trailers, truck drivers, technicians and testing equipment.

#### 6.3.2 Implementation of Driver Experience Tests

The Contractor is responsible for the execution of the track testing according to the developed methodology in section 0.

#### 6.3.3 Reporting of Driver Experience Track Test Results

The Contractor must provide TC with the raw data gathered from the track tests. Analysis and reporting of the results will be combined with results from the on-road trial. However, an interim report on observations from the track testing must be provided.

### 6.4 Phase 4 - On-Road Trial

The on-road trial will take place over a 6 month duration. The Contractor must implement the safety and risk mitigation measures established in Phase 1. The Contractor will be responsible for the functional implementation of the on-road trial test methodology developed in section 0.

#### 6.4.1 On-Road Trial Setup

At the start of the on-road trial it is anticipated that additional technicians will be required during preparation for instrumentation, calibration and the testing of data acquisition equipment.

It is anticipated that during this trial setup period, approximately two weeks of more intensive monitoring and instrumentation will occur as a "shakedown" procedure to verify the proper calibration, function, and operational feasibility of the trial and data collection. TC and project partners may be present for the trial setup, and with advance notice and coordination, include additional instrumentation or data collection during this trial setup period.

- a. The Contractor will be responsible for coordinating resource availability for the trial, including transportation of equipment and vehicles to the testing location.
- b. The Contractor is responsible for instrumenting all vehicles and ensuring proper calibration and function of equipment according to the on-road trial test methodology developed in section 0.

#### 6.4.2 Trial Implementation and Telemetry

During the implementation of the on-road trial, the Contractor must continue to participate in regular project update meetings with TC and other project partners on a bi-weekly basis or as agreed.

The Contractor must monitor the progress of the on-road trial, ensuring continued platoon mileage accumulation and data collection according to the on-road trial test methodology developed in section 0. The Contractor is responsible for resolving issues that hinder the progress of the on-road trial.

#### 6.4.3 Dismantlement of trial

The Contractor is responsible for the process of dismantling all elements of the on-road trial, including:

- a. Any final data acquisition (e.g., surveys, retrieve data stored on-board vehicles);
- b. Removal of equipment; and
- c. Returning/exporting the trucks as necessary.

### 6.5 Data Analysis and Reporting

The Contractor must provide all data acquired during the trial to TC.

#### 6.5.1 Results Reporting

The Contractor must produce a report according to the format approved in sections 0 and 0. The report will provide key observations on the subjects indicated in section 5.

The report will identify best practices and lessons learned at the end of the trial to help inform future pilots as well as fleet integration of platooning systems.

## 7. Constraints

The Contractor must:

- Follow applicable guidelines regarding automated and connected vehicle safety published by TC, described in section 4<sup>4</sup>;
- Comply with Automated Vehicle Safety Consortium (AVSC) Best Practice for in-vehicle fallback test drivers;
- Comply with applicable requirements for operating commercial vehicles for the on-road trial, including cabotage requirements in the case of trucks registered in another country;

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<sup>4</sup> Documents are available at <https://www.tc.gc.ca/en/services/road/innovative-technologies/automated-connected-vehicles/what-you-need-to-know.html>



- Follow applicable field operational test and data collection practices detailed in FESTA Handbook Version 7<sup>5</sup>;

The Contractor is responsible for following best practices in data management and cybersecurity, including protection of sensitive data that may contain personal information.

The on-road trial may impose additional restrictions beyond typical Canadian commercial vehicle operator requirements. The following truck/trailer configurations will not be allowed for this CTPS trial:

- Vehicles carrying hazardous materials;
- Vehicles carrying fluids (e.g., tankers, concrete trucks);
- Vehicles carrying pipes, lumber or similar types of loose loads;
- Automobile and boat transporter combinations (i.e., traditional, stinger-steered);
- Truck and pole combinations;
- B-Train combinations;
- Lowboy tractor and trailer combinations (loaded and unloaded).
- Saddle-mount or saddle-mount with full-mount combinations;
- Construction vehicles (e.g., mobile cranes, concrete mixers); and
- Recreational vehicles

## 8. Schedule of Deliverables

The timeline of deliverables below represents the anticipated latest acceptable delivery dates for each defined deliverable. It is TC's preference to find opportunities to advance the schedule to achieve earlier delivery dates where possible.

Item	Task	Description of deliverable	Date Completed
1	0a	Provide regular bi-weekly project status updates during project	Bi-weekly
2	0b	Project plan which documents roles and responsibilities, resource requirements and a detailed schedule of milestones and deliverables	One month after contract award

<sup>5</sup> Available at this URL: <https://fot-net.eu/Documents/festa-handbook-version-7/>

3	0	Draft Driver Experience Methodology	Two months after contract award
4	0	Draft On-Road Trial Test Methodology	Two months after contract award
5	0	Safety Assessment documentation	Two months after contract award
6	0	Draft Risk Management Plan	Two months after contract award
7	0	Materials for stakeholder consultation describing project plan	Two months after contract award
8	0	Final Driver Experience Methodology	Three months after contract award
9	0	Final On-Road Trial Test Methodology	Three months after contract award
10	0	Final Risk Management Plan	Three months after contract award
11	0	Provide CTPS-equipped trucks, flatbed trailers, truck drivers, and technical support for CTPS system for CTPS performance validation track tests	2021-05-03
12	0	Implement Driver Experience Assessment track testing and provide raw data and interim report of results	2021-06-30
13	0	Provide CTPS-equipped trucks, trailers, truck drivers, and test equipment and setup for on-road trial.	2021-07-07
14	0	Implement on-road trial, monitoring execution and data collection according to test methodology.	2022-01-31

15	0	Provide data and briefing upon completion of on-road trial.	2022-01-31
16	0	Provide draft report for Driver Experience Assessment	2022-02-15
17	0	Provide draft report for On-Road Trial	2022-02-15
18	0	Following report review, provide final report for Driver Experience Assessment	2022-03-15
19	0	Following report review, provide final report for On-Road Trial	2022-03-15
20	0	Materials for stakeholder consultation summarizing project results	2022-02-28

## 9. Travel

The Contractor is responsible for arranging travel for its team members, and coordinating any travel with partners including the jurisdictional authority (Province or Territory), and motor carrier operator. Travel costs will be reimbursed by TC according to the National Joint Council Travel Directive<sup>6</sup>.

TC will be responsible for arranging the travel and costs of TC employees and additional project participants.

The table below presents anticipated travel required for the project under the responsibility of the Contractor. It is likely that some of the anticipated people will not need to be present for the entire duration of each event, and it is possible that some modification of this anticipated travel may be required. This estimate may not be comprehensive. For example it may not account for the potential travel required of commercial vehicle drivers for the Driver Experience Assessment testing, which may require numerous different drivers to participate.

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<sup>6</sup> <https://www.njc-cnrm.gc.ca/directive/d10/en>

Solicitation No. - N° de l'invitation  
T8009-190376/A  
Client Ref. No. - N° de réf. du client  
T8009-190376

Amd. No. - N° de la modif.  
File No. - N° du dossier  
009sl. T8009-190376

Buyer ID - Id de l'acheteur  
009sl  
CCC No./N° CCC - FMS No./N° VME

Associated Task (Referenced by section number)	Description	Number of days of travel (per person)	Number of People Anticipated
0	Travel to Blainville, QC, for CTPS performance validation testing	10	3
0	Implementation of Driver Experience track tests at Blainville, QC. Anticipated to last up to three weeks.	20	5
0	On-Road Trial Setup. Location TBD.	10	3
0	Dismantlement of Trial. Location TBD.	7	3

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## Appendix A to Annex A

### Required test instrumentation

Instrumentation and data logging for the following measurements:

- Minimum data sampling rate of 1 Hz, preferably 10 Hz
- Acquire J1939 data from CAN bus (parameters to be confirmed at a later date, and depends on the data broadcast by the selected vehicle)
- Instantaneous fuel rate with an accuracy of  $\pm 0.25$  litres/hr (if using J1939 signals, will need to be verified and possibly calibrated against actual fuel use)
- Precision GPS with speed accuracy of  $\pm 0.5$  km/h and positional accuracy of  $\pm 1$  m horizontal and  $\pm 2$  m vertical.
- Forward-looking radar from all test vehicles, able to track multiple targets with positional accuracy of  $\pm 1$  m or better.
- CTPS performance (distance gap, system engagement, etc.)
- GPS-synchronized forward-looking video from all test vehicles
- Inertial measurement unit for recording linear and angular acceleration of test vehicles
- Local weather, within 1 km of the vehicle location (temperature, barometric pressure, humidity, wind speed, wind direction, precipitation conditions)
- OPTIONAL FOR AERODYNAMIC EVALUATIONS: on-board wind speed and direction (calibrated to freestream conditions), wheel torque (or driveshaft torque).
- Monitoring of human factors, fatigue: this would likely include a method of eye-tracking and/or steering input monitoring.

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## Appendix B to Annex A

### Reference Material

#### **Feasibility Study for the On-Track Testing of User Experience under Truck Platooning Conditions:**

Transport Canada had a feasibility study to assess the driver experience while participating in a platoon. This document is intended to serve as a non-limitative reference document for potential bidders. The feasibility study includes relevant background material with regards to passive fatigue and automation as well as methodological considerations for a potential study (test track approach, naturalistic approach, various options for experimental plan, potential independent and dependent variables, sample size, power calculation, assessment tools, timeline, references, etc.).

<https://tcdocs.ingeniumcanada.org/sites/default/files/2020-09/Feasibility%20Study%20for%20the%20On-Track%20Testing%20of%20User%20Experience%20Under%20Truck%20Platooning%20Conditions.pdf>

#### **Cooperative Truck Platooning (CTP): Considerations for On-Road Trials and Pilot Testing in Canada:**

Transport Canada had a study conducted to review key considerations and approaches to the deployment of cooperative truck platooning systems (CTPS) in Canada. This report provides a foundational understanding of CTP operational concepts, safety, technical, legal and regulatory, operational and infrastructure considerations. It includes a summary of relevant on-road trials and pilot tests.

<https://tcdocs.ingeniumcanada.org/sites/default/files/2020-09/Cooperative%20Truck%20Platooning%20%28CTP%29-Considerations%20for%20On-Road%20Trials%20and%20Pilot%20Testing%20in%20Canada%20-%20Technical%20Report.pdf>

## ANNEX B - BASIS OF PAYMENT

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

Item	Task	Description of Deliverable	Basis of Payment	Price (tax excluded)
1	0a	Provide regular bi-weekly project status updates during project	N/A	N/A
2	0b	Project plan which documents roles and responsibilities, resource requirements and a detailed schedule of milestones and deliverables	Firm Price	\$_____
3	0	Draft Driver Experience Methodology	Firm Price	\$_____
4	0	Draft On-Road Trial Test Methodology	Firm Price	\$_____
5	0	Safety Assessment documentation	Firm Price	\$_____
6	0	Draft Risk Management Plan	Firm Price	\$_____
7	0	Materials for stakeholder consultation describing project plan	Firm Price	\$_____
8	0	Final Driver Experience Methodology	Firm Price	\$_____
9	0	Final On-Road Trial Test Methodology	Firm Price	\$_____
10	0	Final Risk Management Plan	Firm Price	\$_____
11	0	Provide CTPS-equipped trucks, flatbed trailers, truck drivers, and technical support for CTPS system for CTPS performance validation track tests. Include transportation costs for equipment but not travel costs for personnel.	Firm Price	\$_____
12	0	Implement Driver Experience Assessment track testing and provide raw data and interim report of results.	Cost reimbursable at:	\$_____per hour

13	0	Provide CTPS-equipped trucks, trailers, truck drivers, and test equipment and setup for on-road trial. Include transportation costs for equipment but not travel costs for personnel.	Firm Price	\$_____
14	6.4.2	Implement on-road trial, monitoring execution and data collection according to test methodology.	Cost reimbursable at:	\$_____per kilometer
15	0	Provide data and briefing upon completion of on-road trial.	Firm Price	\$_____
16	0	Provide draft report for Driver Experience Assessment	Firm Price	\$_____
17	0	Provide draft report for On-Road Trial	Firm Price	\$_____
18	0	Following report review, provide final report for Driver Experience Assessment	Firm Price	\$_____
19	0	Following report review, provide final report for On-Road Trial	Firm Price	\$_____
20	0	Materials for stakeholder consultation summarizing project results	Firm Price	\$_____

### Travel and Living Expenses - National Joint Council Travel Directive

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, and private vehicle allowances specified in Appendices B, C and D of the [National Joint Council Travel Directive](#), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees". Canada will not pay the Contractor any incidental expense allowance for authorized travel.

All travel must have the prior authorization of the Project Authority.

All payments are subject to government audit.

Estimated Cost: \$ 70,000.00



## ANNEX C to PART 3 OF THE BID SOLICITATION – PRICING SCHEDULE

Item	Task	Description of Deliverable	Basis of Payment	Price (tax excluded)
1	0a	Provide regular bi-weekly project status updates during project	N/A	N/A
2	0b	Project plan which documents roles and responsibilities, resource requirements and a detailed schedule of milestones and deliverables	Firm Price	\$_____
3	0	Draft Driver Experience Methodology	Firm Price	\$_____
4	0	Draft On-Road Trial Test Methodology	Firm Price	\$_____
5	0	Safety Assessment documentation	Firm Price	\$_____
6	0	Draft Risk Management Plan	Firm Price	\$_____
7	0	Materials for stakeholder consultation describing project plan	Firm Price	\$_____
8	0	Final Driver Experience Methodology	Firm Price	\$_____
9	0	Final On-Road Trial Test Methodology	Firm Price	\$_____
10	0	Final Risk Management Plan	Firm Price	\$_____
11	0	Provide CTPS-equipped trucks, flatbed trailers, truck drivers, and technical support for CTPS system for CTPS performance validation track tests. Include transportation costs for equipment but not travel costs for personnel.	Firm Price	\$_____
12	0	Implement Driver Experience Assessment track testing and provide raw data and interim report of results.  Hourly rate of \$_____ multiplied by an estimated 150 hours.	Cost reimbursable at rate stated. Enter total estimate for evaluation.	\$_____

13	0	Provide CTPS-equipped trucks, trailers, truck drivers, and test equipment and setup for on-road trial. Include transportation costs for equipment but not travel costs for personnel.	Firm Price	\$_____
14	6.4.2	Implement on-road trial, monitoring execution and data collection according to test methodology. Price per kilometer \$____ multiplied by an estimated 30,000km for 1 truck.	Cost reimbursable at price stated. Enter total estimate for evaluation	\$_____
15	0	Provide data and briefing upon completion of on-road trial.	Firm Price	\$_____
16	0	Provide draft report for Driver Experience Assessment	Firm Price	\$_____
17	0	Provide draft report for On-Road Trial	Firm Price	\$_____
18	0	Following report review, provide final report for Driver Experience Assessment	Firm Price	\$_____
19	0	Following report review, provide final report for On-Road Trial	Firm Price	\$_____
20	0	Materials for stakeholder consultation summarizing project results	Firm Price	\$_____
<b>Total price for evaluation purposes:</b> (sum of all firm prices and estimated prices for items 12 and 14)				\$_____
<b>Applicable Taxes:</b>				\$_____

### Travel and Living Expenses - National Joint Council Travel Directive

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, and private vehicle allowances specified in Appendices B, C and D of the [National Joint Council Travel Directive](#), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees". Canada will not pay the Contractor any incidental expense allowance for authorized travel.

All travel must have the prior authorization of the Project Authority.

All payments are subject to government audit.

Estimated Cost: \$ 70,000.00

Solicitation No. - N° de l'invitation  
T8009-190376/A  
Client Ref. No. - N° de réf. du client  
T8009-190376

Amd. No. - N° de la modif.  
File No. - N° du dossier  
009sl. T8009-190376

Buyer ID - Id de l'acheteur  
009sl  
CCC No./N° CCC - FMS No./N° VME

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## **ANNEX D to PART 3 OF THE BID SOLICITATION - ELECTRONIC PAYMENT INSTRUMENTS**

The Bidder accepts to be paid by any of the following Electronic Payment Instrument(s):

- ☐ ( ) VISA Acquisition Card;
- ☐ ( ) MasterCard Acquisition Card;
- ☐ ( ) Direct Deposit (Domestic and International);
- ☐ ( ) Electronic Data Interchange (EDI);
- ☐ ( ) Wire Transfer (International Only);

## ANNEX E to PART 4 OF THE BID SOLICITATION - TECHNICAL EVALUATION CRITERIA

"Bidder" means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a bid to perform a contract for goods, services or both. It does not include the parent, subsidiaries or other affiliates of the Bidder, or its subcontractors.

Bidders should write beside each of the criteria the relevant page number(s) from your proposal which address the requirement identified in the criteria.

Where references are required, Bidders should submit the required information with the bid, but may submit it within 48 hours of the Contracting Authority's request.

### Mandatory Criteria

The Phased Bid Compliance Process will apply to all mandatory technical criteria.

The bid must meet the mandatory technical criteria specified below. The Bidder must provide the necessary documentation to support compliance with this requirement.

Bids which fail to meet the mandatory technical criteria will be declared non-responsive. Each mandatory technical criterion should be addressed separately.

Mandatory Requirements are evaluated on a pass or fail basis. Failure on the part of the Bidder to meet any one (1) of the following Mandatory Requirements will result in the proposal being deemed non-responsive and ineligible for any further consideration or evaluation. It is the responsibility of the Bidder to ensure that the proposal meets all of the Mandatory Requirements as indicated.

#	Mandatory Requirement	Met / Not Met	Proposal Reference
M1	The Bidder must provide evidence that they have access to at least two heavy-duty trucks equipped with suitable cooperative truck platoon system that is developed to a technology-readiness level of at least 7 <sup>7</sup> , which represents a prototype ready for demonstration in an appropriate operational environment. At minimum, the system must include: wireless vehicle-to-vehicle data communication, on-board sensors to detect the forward path of the following truck(s) (such as camera or radar), and software that is demonstrated to reliably allow trucks to be electronically linked to form a convoy where trucks automatically maintain a consistent following distance. The system must have a minimum level 1 automated driving system according to SAE J3016 definition of automated driving system levels.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
M2	The Bidder must propose a project manager assigned to this project who has a minimum of 24 months of demonstrated experience in managing projects of similar or greater cost, duration and complexity. The Bidder must demonstrate compliance by providing brief abstracts of the projects undertaken that clearly demonstrate where, the month and year commenced and completed, and how (through what activities, responsibilities and approach) the proposed project manager successfully completed the projects.	<input type="checkbox"/> Yes <input type="checkbox"/> No	

<sup>7</sup> Technology Readiness Levels defined here: <https://www.ic.gc.ca/eic/site/080.nsf/eng/00002.html>

#	Mandatory Requirement	Met / Not Met	Proposal Reference
	<p>The examples must include references with the following required information:</p> <ul style="list-style-type: none"> <li>- Client Name</li> <li>- Client Contact Name</li> <li>- Client Title</li> <li>- Location Serviced</li> <li>- Duration (mm-yyyy to mm-yyyy)</li> </ul> <p>Phone Number and/or Email</p>		
<b>M3</b>	<p>The Bidder must propose a resource who has a minimum of 24 months of demonstrated experience with instrumentation, data collection, and vehicle telematics relevant to that required for this project (i.e. recording data from onboard vehicle sensors). The Bidder must demonstrate compliance by providing brief abstracts of the projects undertaken that clearly demonstrate where, the month and year commenced and completed, and how (through what activities, responsibilities and approach) the proposed resource successfully completed the projects.</p> <p>The examples must include references with the following required information:</p> <ul style="list-style-type: none"> <li>- Client Name</li> <li>- Client Contact Name</li> <li>- Client Title</li> <li>- Location Serviced</li> <li>- Duration (mm-yyyy to mm-yyyy)</li> </ul> <p>Phone Number and/or Email</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>M4</b>	<p>The Bidder must propose a Human Factors Specialist having a PhD in Human Factors Psychology, Human Factors Engineering, Experimental Psychology or an equivalent*. *A copy of the degree must be provided at time of bid submission.</p> <p>Only documents from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service*, if obtained outside Canada, will be considered.</p> <p>*The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: <a href="http://www.cicic.ca/indexe.stm">http://www.cicic.ca/indexe.stm</a></p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>M5</b>	<p>The proposed Human Factors Specialist must have demonstrated experience in conducting studies that include assessing commercial vehicle driver fatigue in naturalistic driving conditions within the last 5 years. The Bidder must demonstrate compliance by providing brief abstracts of the projects undertaken that clearly demonstrate where, the month and year commenced and completed, and how (through what activities, responsibilities and approach) the proposed resource successfully completed the projects.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

## Point Rated Criteria

Only bids that meet the mandatory criteria will be subject to point rating. The Technical Bid will be evaluated and scored in accordance with the following evaluation criteria and point rating scale.

For each of the rated evaluation criteria there is a graduated series of statements that describe the level to which the proposal satisfies that criterion. A score is assigned according to the graduated statement that best fits how the proposal addresses the criterion.

Maximum Rated Points Available: 250 points  
Minimum Overall Pass Mark: 150 points (60%)

Bids which fail to obtain the required minimum number of points specified will be declared non-responsive. Each point rated technical criterion should be addressed separately. Point rated criteria not addressed in the Bidder's proposal will result in a score of zero being assigned against the particular criteria. Each point rated technical criterion should be addressed separately.

Criteria	Scoring	Maximum Points	Proposal Cross-Reference
<b>R1-R6. Technical Proposal</b>			
Bidders should submit a detailed technical proposal that responds to the following criteria (R1-R6). The proposal should refer back to the Request for Proposal and provide input coherent with the objectives and scope of the project.			
<b>R1. Project plan and schedule</b>  The Bidder's proposal should provide an outlined approach for section 6.1.5 of the Statement of Work, <i>Trial Planning and Logistics Administration</i> , as well as an outline addressing section 6.1.9, <i>Risk Management Plan</i> . This should include details on: <ul style="list-style-type: none"> <li>• Roles and responsibilities of project partners;</li> <li>• Deadlines and milestones; and</li> <li>• Key operational limitations for the trial, including regulatory requirements, or limitations to Cooperative Truck Platooning Systems (CTPS) operational domain (such as road type, mileage requirements to achieve successful outcome).</li> </ul>	<b>(20 points):</b> Bidder's technical proposal includes a detailed project plan that identifies all of the necessary management, administrative and engineering tasks required for successful completion of each task outlined in the Statement of Work (SoW), and at a higher level of detail than is described in the SoW. All tasks and sub-tasks are reflected in a comprehensive schedule that includes risks and risk mitigation strategies, required inputs from Transport Canada (if any are identified in the bidder's proposal), identifies critical path activities and presents considerations to anticipate and avoid delays;  <b>(15 points):</b> Bidder's technical proposal includes a project plan that identifies the major management, administrative and engineering tasks required for successful completion of each task outlined in the SoW, and at level of detail that is described in the SoW, or higher. All tasks and sub-tasks are reflected in a comprehensive schedule that includes risks, required inputs from Canada (if any is identified in the bidder's proposal), identifies critical path activities and presents considerations to anticipate and avoid delays.	<b>20</b>	

Criteria	Scoring	Maximum Points	Proposal Cross-Reference
<p>The project plan will be evaluated for its completeness, clarity and achievability.</p>	<p><b>(10 points):</b> Bidder's technical proposal includes a project plan that only includes major management, administrative and engineering tasks required for successful completion of each task outlined in the SoW. Only major tasks are reflected in a schedule; risks and required inputs from Canada, (if any is identified in the bidder's proposal), are not identified; only high-level critical path activities are identified, and there is minimal considerations to anticipate and avoid delays.</p> <p><b>(5 point):</b> Bidder's technical proposal includes a project plan that does not include all major management, administrative and engineering tasks required for successful completion of each task outlined in the SoW. Some major tasks are not reflected in a schedule; risks and required inputs from Canada (if any is identified in the bidder's proposal) are not identified; there are no critical path activities identified, and there is no considerations to anticipate and avoid delays.</p> <p><b>(0 points):</b> Bidder does not provide a project plan.</p>		
<p><b>R2. Proposed Technical Methodology Approach</b></p> <p>The Bidder's technical proposal should include a proposed approach to the areas of study for the CTPS trial described in section 5, <i>Rationale of the Trial (Areas of Study)</i>, of the Statement of Work.</p> <p>The proposal needs to address:</p> <ol style="list-style-type: none"> <li>1) Fuel consumption measurement plan;</li> <li>2) Vehicle dynamics and traffic interaction plan;</li> </ol>	<p><b>(40 points):</b> Bidder provides a comprehensive description of their proposed approach with significant added insights. The Bidder provides a detailed methodology/approach to address each task. All tasks thoroughly addressed.</p> <p><b>(30 points):</b> Bidder provides significant description of their proposed approach with some added insights. The Bidder provides a detailed methodology/approach to address each task. Most tasks thoroughly addressed.</p> <p><b>(20 points):</b> Bidder provides a general description of their proposed approach with a few added insights. The Bidder provides a high-level methodology/approach. Tasks well addressed, some details lacking.</p>	40	

Criteria	Scoring	Maximum Points	Proposal Cross-Reference
3) Human factors evaluation plan (driver experience, driver fatigue);	<p><b>(10 points):</b> Bidder provides an incomplete description of their proposed approach with no added insights. The Bidder provides an incomplete methodology/approach. Lots of details lacking.</p> <p><b>(0 points):</b> Bidder does not provide a proposed approach to complete the Statement of Work.</p>		
<p><b>R3. CTPS Provider/Supplier</b></p> <p>The Bidder should demonstrate a strong level of commitment by the supplier of the CTPS to accommodate the trial.</p> <p>The CTPS supplier has the ability and capacity to provide input relating to specific technical details on the CTPS and its function.</p> <p>The CTPS supplier is able to provide sufficient technical support that may be required for regular on-road operation for the duration of the testing and trial.</p>	<p><b>(20 points):</b> Bidder demonstrates the CTPS supplier is:</p> <ul style="list-style-type: none"> <li>Committed to support the project implementation through regular participation in project planning proceedings; and</li> <li>Capable of providing guidance based on all technical details of the CTPS and its function (including Original Equipment Manufacturer (OEM) components of the truck that may be relevant to the CTPS).</li> </ul> <p><b>(15 points):</b> Bidder demonstrates the CTPS supplier is:</p> <ul style="list-style-type: none"> <li>Committed to support the project implementation through regular participation in project planning proceedings; and</li> <li>Capable of providing guidance based on nearly all technical details of the CTPS and its function, however may have limitations regarding certain components (e.g. OEM component of the truck).</li> </ul> <p><b>(5 points):</b> Bidder is lacking one of the following components:</p> <ul style="list-style-type: none"> <li>The CTPS supplier's commitment to support the project implementation through regular participation in project planning proceedings; or</li> <li>The CTPS supplier's capability to provide guidance based on all technical details of the CTPS and its function (including OEM components of the truck that may be relevant to the CTPS).</li> </ul> <p><b>(0 points):</b> Criterion is not addressed.</p>	20	



Criteria	Scoring	Maximum Points	Proposal Cross-Reference
<b>R4. Trial Location</b>  The Bidder demonstrates engagement from authorities having jurisdiction (AHJ) for the location of the CTPS trial.  A strong bid will have identified candidate routes for the trial with evidence from road authority willing to engage in discussion / planning.	<b>(15 points):</b> Bidder identifies specific route options and demonstrates engagement from AHJ, indicating AHJ's interest to pursue further discussion/planning for trial operations.  <b>(10 points):</b> Bidder demonstrates engagement from AHJ, indicating AHJ's interest to pursue further discussion/planning for trial operations. However, Bidder has not identified specific route options.  <b>(5 points):</b> Bidder demonstrates limited contact or dialogue with AHJ and evidence that AHJ are open to further discussion.  <b>(0 points):</b> No demonstrated engagement from AHJ.	<b>15</b>	
<b>R5. Fleet Operator / Carrier</b>  The Bidder proposes a Canadian motor carrier as a project partner that will operate the trucks on a commercial route within Canada.  How engaged is the carrier in the project?  Does the carrier have a strong safety reputation?  Provide evidence of a good commercial carrier safety performance record.	<b>(15 points):</b> Bidder demonstrates a commitment of participation from a reliable Canadian motor carrier with strong safety reputation, including proposed routes and drivers for the trial.  <b>(10 points):</b> Bidder demonstrates a commitment of participation from a reliable Canadian motor carrier with strong safety reputation, but no significant strategy or detail provided regarding routes and drivers.  <b>(5 points):</b> Bidder demonstrates interest from a reliable Canadian motor carrier with strong safety reputation, but no significant strategy or detail provided regarding their responsibility in the project.  <b>(0 points):</b> No demonstrated engagement from a reliable Canadian motor carrier with strong safety reputation.	<b>15</b>	
<b>R6. CTPS Technology Readiness Level (TRL)</b>  How close is the CTPS to being commercially ready from a technical standpoint (operational, dynamics, and safety performance has been validated).	<b>(45 points):</b> TRL 8-9. Commercially-ready CTPS, demonstrated reliable operation, including during highly dynamic scenarios such as hard braking and vehicle cut-in events. Documentation fulfilling Transport Canada's Automated Vehicle Safety Assessment Guidelines.	<b>45</b>	

Criteria	Scoring	Maximum Points	Proposal Cross-Reference
<p>Evidence provided of system performance and safety. Include documentation on previous testing conducted to validate safety, and include references to relevant standards that were followed.</p> <p><b>TRL reference:</b> <a href="https://www.ic.gc.ca/eic/site/080.nsf/eng/00002.html">https://www.ic.gc.ca/eic/site/080.nsf/eng/00002.html</a></p>	<p><b>(35 points):</b> TRL 7 or above, with comprehensive supporting documentation on performance and significant data and usage (platoon operation mileage). CTPS demonstrated reliable operation in on-road and track scenarios. Demonstrated test results of hard-stop and vehicle cut-in scenarios demonstrating good performance within the operational design domain (ODD) of the CTPS.</p> <p><b>(25 points):</b> TRL 7 or above, with good documentation, but limited data or usage (platoon operation mileage). CTPS demonstrated reliable operation in on-road scenarios. Demonstrated test results of hard-stop and vehicle cut-in scenarios demonstrating good performance within the operational design domain (ODD) of the CTPS.</p> <p><b>(15 points):</b> TRL 7 or above, with good documentation, but limited data or usage (platoon operation mileage). CTPS demonstrated reliable operation in on-road scenarios. Limited evidence of performance during highly dynamic scenarios such as hard braking and vehicle cut-in events.</p> <p><b>(10 points):</b> TRL 7 or above, with some documentation on performance CTPS demonstrated reliable operation. Lacking evidence of performance during highly dynamic scenarios such as hard braking and vehicle cut-in events.</p> <p><b>(0 points):</b> TRL below 7, experimental system has not physically demonstrated suitable performance, even under controlled physical conditions.</p>		

#### R7 – R11. Experience

For each criterion below, the experience of one resource on the Bidder's project team will be evaluated. The same resource may be proposed for more than one criterion.

The same project may be used to demonstrate the experience for one or more criteria.

<p><b>R7. Demonstrates the proposed resource has experience with fuel consumption testing procedures as well as equipment associated with fuel consumption measurement.</b></p> <p>The Bidder should demonstrate knowledge and experience with fuel consumption testing procedures, and the measurement equipment/tools.</p> <p>The Bidder should demonstrate this experience by providing a brief abstract of project(s) the proposed resource has commenced and completed, within the last eight (8) years, measured from the date of bid closing, that clearly demonstrates the month and year commenced and completed, and how (through what activities, responsibilities and approach) they successfully completed each project.</p> <p>The examples must include references with the following required information:</p> <ul style="list-style-type: none"> <li>- Client Name</li> <li>- Client Contact Name</li> <li>- Client Title</li> <li>- Location Served</li> <li>- Duration (mm-yyyy to mm-yyyy)</li> </ul> <p>Phone Number and/or Email</p>	<p><b>(15 points):</b> Bidder demonstrates a minimum of 60 months experience as well as three relevant projects involving fuel consumption testing and measurement equipment. At least one project includes measuring fuel consumption of a class 8 truck.</p> <p><b>(10 points):</b> Bidder demonstrates either a minimum of 60 months experience or three or more CTPS relevant projects involving fuel consumption testing and measurement equipment. At least one project includes measuring fuel consumption of a class 8 truck.</p> <p><b>(5 points):</b> Bidder demonstrates two projects involving fuel consumption testing and measurement equipment. At least one project includes measuring fuel consumption of a class 8 truck.</p> <p><b>(3 points):</b> Bidder demonstrates one project involving fuel consumption testing and measurement equipment.</p> <p><b>(0 points):</b> Bidder demonstrates no relevant projects.</p>	<p><b>15</b></p>	
<p><b>R8. Demonstrates the proposed resource has experience assessing safety performance in naturalistic driving conditions.</b></p> <p>The Bidder should demonstrate experience measuring and analyzing</p>	<p><b>(15 points):</b> Bidder demonstrates a minimum of 60 months experience and two projects involving At least one project involves a class 8 truck.</p> <p><b>(10 points):</b> Bidder demonstrates either a minimum of 60 months experience or two projects measuring and analyzing safety-related metrics, such as braking or following distance, from on-road vehicle operations.</p>	<p><b>15</b></p>	

<p>safety-related metrics, such as braking or following distance, from on-road vehicle operations.</p> <p>The Bidder should demonstrate this experience by providing a brief abstract of project(s) the proposed resource has commenced and completed, within the last eight (8) years, measured from the date of bid closing, that clearly demonstrates the month and year commenced and completed, and how (through what activities, responsibilities and approach) they successfully completed each project.</p> <p>The examples must include references with the following required information:</p> <ul style="list-style-type: none"> <li>- Client Name</li> <li>- Client Contact Name</li> <li>- Client Title</li> <li>- Location Serviced</li> <li>- Duration (mm-yyyy to mm-yyyy)</li> </ul> <p>Phone Number and/or Email</p>	<p><b>(5 points):</b> Bidder demonstrates one project involving relevant vehicle dynamics measurements and analyses.</p> <p><b>(0 points):</b> Bidder demonstrates no relevant projects.</p>		
<p><b>R9. Demonstrates the proposed resource has experience with vehicle telematics.</b></p> <p>The Bidder should demonstrate experience remotely collecting and managing data (telematics) from on-road vehicle operations.</p> <p>The Bidder should demonstrate this experience by providing a brief abstract of project(s) the proposed resource has commenced and completed, within the last eight (8) years, measured from the date of bid closing, that clearly demonstrates the month and year commenced and completed, and how</p>	<p><b>(15 points):</b> Bidder demonstrates a minimum of 60 months experience and two projects demonstrating remote data collection and management from vehicles. At least one project involves a class 8 truck.</p> <p><b>(10 points):</b> Bidder demonstrates either a minimum of 60 months experience or two projects demonstrating remote data collection and management from vehicles.</p> <p><b>(5 points):</b> Bidder demonstrates one project demonstrating remote data collection and management from vehicles.</p> <p><b>(0 points):</b> Bidder demonstrates no relevant projects.</p>	<p><b>15</b></p>	

<p>(through what activities, responsibilities and approach) they successfully completed each project.</p> <p>The examples must include references with the following required information:</p> <ul style="list-style-type: none"> <li>- Client Name</li> <li>- Client Contact Name</li> <li>- Client Title</li> <li>- Location Serviced</li> <li>- Duration (mm-yyyy to mm-yyyy)</li> <li>Phone Number and/or Email</li> </ul>			
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<p><b>R10. Demonstrates the proposed resource has experience with safety and risk analysis.</b></p> <p>The Bidder should demonstrate experience in pre-project risk/safety assessments.</p> <p>The Bidder should demonstrate this experience by providing a brief abstract of project(s) the proposed resource has commenced and completed, within the last eight (8) years, measured from the date of bid closing, that clearly demonstrates the month and year commenced and completed, and how (through what activities, responsibilities and approach) they successfully completed each project.</p> <p>Experience relevant to field operational trial.</p> <p>The examples must include references with the following required information:</p> <ul style="list-style-type: none"> <li>- Client Name</li> <li>- Client Contact Name</li> </ul>	<p><b>(25 points):</b> Bidder demonstrates a minimum of 60 months experience and four projects with a complete and well-defined risk assessment looking at all possible safety requirements.</p> <p><b>(20 points):</b> Bidder demonstrates a minimum of 60 months experience or three projects with a complete and well-defined risk assessment looking at all possible safety requirements. At least one project involves on-road vehicle operations.</p> <p><b>(15 points):</b> Bidder demonstrates two projects with a complete and well-defined risk assessment looking at all possible safety requirements. At least one project involves on-road vehicle operations.</p> <p><b>(10 points):</b> Bidder demonstrates one project with a complete and well-defined risk assessment looking at all possible safety requirements.</p> <p><b>(5 points):</b> Bidder demonstrates one project with an open ended risk assessment looking at all possible safety requirements.</p> <p><b>(0 points):</b> Bidder demonstrates no relevant projects.</p>	<p><b>25</b></p>	
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<ul style="list-style-type: none"> <li>- Client Title</li> <li>- Location Serviced</li> <li>- Duration (mm-yyyy to mm-yyyy)</li> </ul> <p>Phone Number and/or Email</p>			
<p><b>R11. Human Factors Specialist evaluation – driver experience and fatigue</b></p> <p>The Bidder should demonstrate the proposed Human Factors Specialist has experience in assessing driver fatigue, as well as other variables of interest (e.g. trust in system, situation awareness, fatigue detection), in field operational tests, conducted either on track or on road.</p> <p>The Bidder should demonstrate this experience by providing a brief abstract of project(s) the proposed resource has commenced and completed, within the last eight (8) years, measured from the date of bid closing, that clearly demonstrates the month and year commenced and completed, and how (through what activities, responsibilities and approach) they successfully completed each project.</p> <p>The examples must include references with the following required information:</p> <ul style="list-style-type: none"> <li>- Client Name</li> <li>- Client Contact Name</li> <li>- Client Title</li> <li>- Location Serviced</li> <li>- Duration (mm-yyyy to mm-yyyy)</li> </ul> <p>Phone Number and/or Email</p>	<p><b>(25 points):</b> Bidder demonstrates a minimum of 60 months experience and four projects which included assessing driver fatigue, as well as other variables related to driver experience and Human Machine Interface (HMI), in field operational tests conducted either on track or on road.</p> <p><b>(20 points):</b> Bidder demonstrates a minimum of 60 months experience and three projects which include assessing driver fatigue, as well as other variables related to driver experience and HMI, in field operational tests conducted either on track or on road.</p> <p><b>(15 points):</b> Bidder demonstrates a minimum of 60 months experience and two projects which included assessing driver fatigue as well as other variables related to driver experience and HMI, in field operational tests conducted either on track or on road.</p> <p><b>(10 points):</b> Bidder demonstrates a minimum of one project which includes assessing driver fatigue in field operational test conducted either on track or on road.</p> <p><b>(5 points):</b> Bidder demonstrates a minimum of one project which includes assessing driver fatigue, however not in field operational testing (e.g. driving simulation).</p> <p><b>(0 points):</b> Bidder demonstrates no relevant projects.</p>	<p><b>25</b></p>	

Solicitation No. - N° de l'invitation  
T8009-190376/A  
Client Ref. No. - N° de réf. du client  
T8009-190376

Amd. No. - N° de la modif.  
File No. - N° du dossier  
009sl. T8009-190376

Buyer ID - Id de l'acheteur  
009sl  
CCC No./N° CCC - FMS No./N° VME

<b>Total Points</b>	<b>Maximum Rated Points Available:</b>  <b>Overall Minimum Pass Mark:</b>	<b>250 points</b>  <b>150 points (60%)</b>	
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## ANNEX F to PART 5 OF THE BID SOLICITATION - 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 permanent full-time and/or permanent part-time employees.

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 F Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)