

Solicitation No. - N° de l'invitation  
T8080-210615

Amd. No. - N° de la modif.

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION****Proposal To: Transport 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 and services listed herein and on any attached sheets at the price(s) set out therefore.

**Proposition à : Transports 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 et services énumérés ici et sur toute feuille ci-annexée, au(x) prix indique(s).

**Comments - Commentaires****RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS À :**

By e-mail to: - Par courriel au :  
[lisa.martin@tc.gc.ca](mailto:lisa.martin@tc.gc.ca)

Attention: - Attention :  
Lisa Martin

**Solicitation Closes - L'invitation prend fin****At - à :**

2:00 PM - 14:00

**On - le :**

August 15, 2022

**Time Zone - Fuseau Horaire :**

AST

<b>Title – Sujet</b> <b>Research Technologies For Uncontrolled Movements</b>	
<b>Solicitation No. – N° de l'invitation</b> T8080-210615	<b>Date</b> July 14, 2022
<b>Solicitation Closes – L'invitation prend fin</b> <b>at – à 02 :00 PM</b> <b>on – le 2022-08-15</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Atlantic Standard Time (AST)
<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 Inquiries to : - Adresser toutes questions à:</b> Alexander Hmaidan <a href="mailto:lisa.martin@tc.gc.ca">lisa.martin@tc.gc.ca</a>	<b>Buyer Id – Id de l'acheteur</b>
<b>Telephone No. – N° de téléphone :</b>	<b>FAX No. – N° de FAX</b>
<b>Destination – of Goods, Services, and Construction:</b> <b>Destination – des biens, services et construction :</b>	

**Instructions:** Municipal taxes are not applicable. Unless otherwise specified herein all prices quoted must include all applicable Canadian customs duties, GST/HST, excise taxes and are to be delivered Delivery Duty Paid including all delivery charges to destination(s) as indicated. The amount of the Goods and Services Tax/Harmonized Sales Tax is to be shown as a separate item.

**Instructions :** Les taxes municipales ne s'appliquent pas. Sauf indication contraire, les prix indiqués doivent comprendre les droits de douane canadiens, la TPS/TVH et la taxe d'accise. Les biens doivent être livrés « rendu droits acquittés », tous frais de livraison compris, à la ou aux destinations indiquées. Le montant de la taxe sur les produits et services/taxe de vente harmonisée doit être indiqué séparément.

<b>Delivery required</b> <b>Livraison exigée</b> See herein - Voir aux présentes	<b>Delivery offered</b> <b>Livraison proposée</b> Not applicable - Sans objet
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Person authorized to sign on behalf of Vendor/Firm (type or print):</b> <b>La personne autorisée à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie) :</b>	
<b>Name - Nom</b>	<b>Title - Titre</b>
<b>Signature</b>	<b>Date</b>

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Introduction**

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

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications and Additional Information: includes the certifications and additional information to be provided;
- Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by Bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

### **1.2 Summary**

Despite the collaborative effort between government and industry to addressing the issue, uncontrolled movements of railway equipment remains a serious safety concern. The Transportation Safety Board (TSB), in its most recent Watchlist, highlighted the historical significance of these incidents and their potential consequences for employees and communities. TSB expressed renewed concern about the number of uncontrolled movements, noting the existence of an upward trend in their number since 2015, which peaked most recently in 2019 at 78.

Uncontrolled movements can happen for a variety of reasons in many operating scenarios which makes the conducting root cause analysis and establishing mitigating measures more complex. While most uncontrolled movements involve few cars and low speed, they have resulted in serious injuries, fatalities, and environmental damage.

This study aims to evaluate ways to further reduce the number of uncontrolled movements through the assessment human factors, railway operating practices and technologies.

The objective is to identify:

1. Select top technologies (existing and proven as well as emerging) that rail industry could use to mitigate uncontrolled movement (UM), including the potential to automate and reduce human error and the feasibility of retrofitting new technologies to current operating environments
2. Human Factors (HF) considerations/principles that persist in UM occurrences and identify what mitigation measures can be implemented to reduce these occurrences
3. Operational practices, such as Crew Resource Management (CRM), used in other safety critical industries, that could be implemented in a rail operating environment where UM can be a safety risk.

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### **1.3 Debriefings**

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

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## 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](#) (2022-03-29) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days  
Insert: 120 days

### 2.2 Submission of Bids

Bids must be submitted only to Transport Canada by the date and time indicated on page 1 of the bid solicitation.

### 2.3 Former Public Servant

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

#### Definitions

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

- a. an individual;
2. an individual who has incorporated;
3. a partnership made of former public servants; or
4. 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;
2. 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;
2. conditions of the lump sum payment incentive;
3. date of termination of employment;
4. amount of lump sum payment;
5. rate of pay on which lump sum payment is based;
6. period of lump sum payment including start date, end date and number of weeks;
7. 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 5 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.

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## 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 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.

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

### **3.1.0 Bid Preparation Instructions**

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

Section I: Technical Bid  
Section II: Financial Bid  
Section III: Certifications  
Section IV: Additional Information

If the Bidder chooses to submit its bid in hard copies, Canada requests that the Bidder submits its bid in separately bound sections as follows:

Section I: Technical Bid - one (1) soft copy  
Section II: Financial Bid - one (1) soft copy  
Section III: Certifications - one (1) soft copy  
Section IV: Additional Information - one (1) soft copy

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

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

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

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

#### **Section II: Financial Bid**

**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 "E" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "E" 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 SACC *Manual* Clauses**

#### **Section III: Certifications**

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

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**PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION****4.1 Evaluation Procedures**

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

**4.1.1 Technical Evaluation**

Mandatory and point rated technical evaluation criteria are included in Annex D.

**4.1.2 Financial Evaluation**

For bid evaluation and Contractor selection purposes only, the evaluated price of a bid will be determined in accordance with the Pricing Schedule detailed in Annex C.

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

**4.2 Basis of Selection****4.2.1 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 criteria.
2. Bids not meeting (a) or (b) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60% for the technical merit and 40% for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 60%.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.

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 60/40 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

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

		Bidder 1	Bidder 2	Bidder 3
<b>Overall Technical Score</b>		115/135	89/135	92/135
<b>Bid Evaluated Price</b>		\$55,000.00	\$50,000.00	\$45,000.00
<b>Calculations</b>	<b>Technical Merit Score</b>	$115/135 \times 60 = 51.11$	$89/135 \times 60 = 39.56$	$92/135 \times 60 = 40.89$
	<b>Pricing Score</b>	$45/55 \times 40 = 32.73$	$45/50 \times 40 = 36.00$	$45/45 \times 40 = 40.00$
<b>Combined Rating</b>		83.84	75.56	80.89
<b>Overall Rating</b>		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](#) website.

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.

#### **5.2.3 Additional Certifications Precedent to Contract Award**

##### **5.2.3.1 Status and Availability of Resources**

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at

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the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

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

### **5.2.3.2 Education and Experience**

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

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

There is no security requirement applicable to the Contract.

## 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 in Annex "A".

### 7.2 Standard Clauses and Conditions

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

#### 7.2.1 General Conditions

[2035 \(2022-05-12\)](#), General Conditions - Higher Complexity - Services, apply to and form part of the Contract.

### 7.3 Security Requirements

7.3.1 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 will be from the date of Contract Award to March 31, 2023

#### 7.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to One (1) additional One (1) year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least Fifteen (15) calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

### 7.5 Authorities

#### 7.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Alexander Hmaidan  
Title: Procurement Specialist  
Organization: Transport Canada  
Address: 330 Sparks Street, K1A 0N5  
E-mail address: [Alexander.Hmaidan@tc.gc.ca](mailto:Alexander.Hmaidan@tc.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.

## 7.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2019-01 of the Treasury Board Secretariat of Canada.

## 7.7 Payment

### 7.7.1 Basis of Payment

### 7.7.2 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$ 120,354. Customs duties are included (*insert "included", "excluded" or "subject to exemption"*) 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 Multiple Payments

Canada will pay the Contractor upon completion and delivery of units in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

### 7.7.4 Electronic Payment of Invoices – Contract

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

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)



### **7.7.5 Discretionary Audit**

C0705C (2010-01-11) , Discretionary Audit

### **7.8 Invoicing Instructions**

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

Each invoice must be supported by:

- (i) A copy of the invoices, receipts, vouchers for all direct expenses;
- (ii) A description of the Work delivered; and
- (iii) A breakdown of the cost elements.

Invoices must be distributed as follows:

- (i) The original and 1 copy must be forwarded to the address shown on page 1 of the Contract for certification and payment;
- (ii) Upon request, 1 copy must be forwarded to the Contracting Authority identified under the section titled "Authorities" of the Contract;

### **7.9 Certifications and Additional Information**

#### **7.9.1 Compliance**

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

#### **7.10 Applicable Laws**

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

#### **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 (2022-05-12);
- c) Annex A, Statement of Work;
- d) Annex B, Basis of Payment;
- e) the Contractor's proposal

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**7.12 Insurance – Specific Requirements**

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

**7.13 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.
- (d) 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****1.1. Objective:**

The objective is to identify:

1. Select top technologies (existing and proven as well as emerging) that rail industry could use to mitigate uncontrolled movement (UM), including the potential to automate and reduce human error and the feasibility of retrofitting new technologies to current operating environments
2. Human Factors (HF) considerations/principles that persist in UM occurrences and identify what mitigation measures can be implemented to reduce these occurrences
3. Operational practices, such as Crew Resource Management (CRM), used in other safety critical industries, that could be implemented in a rail operating environment where UM can be a safety risk.

**1.2. Background:**

Despite the collaborative effort between government and industry to addressing the issue, uncontrolled movements of railway equipment remains a serious safety concern. The Transportation Safety Board (TSB), in its most recent Watchlist, highlighted the historical significance of these incidents and their potential consequences for employees and communities. TSB expressed renewed concern about the number of uncontrolled movements, noting the existence of an upward trend in their number since 2015, which peaked most recently in 2019 at 78.

Uncontrolled movements can happen for a variety of reasons in many operating scenarios which makes the conducting root cause analysis and establishing mitigating measures more complex. While most uncontrolled movements involve few cars and low speed, they have resulted in serious injuries, fatalities, and environmental damage.

This study aims to evaluate ways to further reduce the number of uncontrolled movements through the assessment human factors, railway operating practices and technologies.

**2.0 Reference Documents:**

1. TSB reports and recommendations
2. Secondary Means of Train Securement, Abe Aronian
3. Literature Review on Cognitive Impacts of In Cab Warning Systems, Mona Ahmadi Rad, Michael Hendry & Lianne Lefsrud.
4. Draft Report for the Viability Study of the Opportunities for Wearable Technology to Increase the Safety of Rail Sector Workers (Task 6), FactorSafe Solutions.

**3.0 Requirements:****3.1 Scope of Work:**

The Contract must perform the following :

**3.1.1** Research technologies (existing and proven as well as emerging) that rail industry could use to mitigate UM of railway equipment and alerts if/when UM takes place, including potential to automate and reduce human error.

- A.** By Most Widely Used Technical Solution for:
  - i.** Situational awareness of the rail worker
  - ii.** Mechanical movement prevention (track)
  - iii.** Brake technical advancements/ traditional handbrake alternatives
- B.** By Emerging Technologies such as (but not limited to):
  - i.** Remote Movement Control
  - ii.** Wearables technology that could improve situational awareness
  - iii.** Sensor that could detect uncontrolled movement coupled with notifications, warning or alarms
- C.** Understand the Operational Impacts of integrating a select number of Most Widely Used Technical Solution(s) and Emerging Technologies identified above for commercial feasibility. Number of technologies not to exceed 8, but to be considered and defined by the Project Steering Committee.

**3.1.2** Identify Human Factors considerations/principles that persist in UM occurrences and suggest possible mitigation measures which can be implemented to reduce these occurrences.

- D.** Examples of Human Factor consideration/principles must include, but not limited to:
  - i.** Awareness and adequate communication during safety critical maneuvers
  - ii.** Effective supervision
  - iii.** Level of experience and competency (including training, OJT, and experience level of individuals who are paired to work together)
  - iv.** Risk assessment and mitigation
  - v.** Clarity of job aids (e.g. procedures, checklists etc.)
  - vi.** Fatigue/Impairment
  - vii.** Other Human Factor issues/performance influencing factors (e.g.: characteristics of the job, the individual and the organization that influence human performance)

**3.1.3** Identify possible organizational and behavioral practices, used in other safety critical industries that could be implemented in a rail operating environment where UM can be a safety risk. Identify how these measures can be used to reduce risk.

- E.** Examples of organizational and behavioural practices to improve safety must include, but not be limited to:

- i. Crew Resource Management
- ii. Improved Safety Culture
  - a) Normalization of deviance
  - b) Complacency
  - c) Production pressures
  - d) Tolerance of inadequate systems and resources

### **3.2 Tasks:**

The Contract must perform the following tasks:

**3.2.1** Investigate current and emerging practices related to risk mitigation in the rail industry, or other safety critical operating environments (such as mining) where injury or death can result due to uncontrolled movement of heavy equipment. Perform an international scan of such practices, focusing on areas/locations where the operating environment is similar to that of Canada's. The scan should describe the findings, focusing on the widely used and emerging UM technologies, Human Factors and Safety Culture solutions.

**3.2.2** Use the knowledge generated by the activities described above to create a Guidance Document that can be shared with the Canadian railway operators as best practices in mitigating the risk of injury and death in UM.

**3.2.3** Identify possible impacts on operating rules Canadian Rail Operating Rules.

**3.2.4** Manage all project parameters, such as, but not limited to:

- Set up Steering Committee (SC) to guide the progress of this project with the assistance of TC.
- Identify relevant members of the SC of key stakeholders
- Establish meeting schedule and agenda as required
- Record and take action on SC recommendations
- Report and present findings - regular update on a monthly basis or at a frequency deemed necessary by the project steering committee on project developments.

### **3.3 Deliverables and Acceptance Criteria:**

**3.3.1** Produce a Final Report to address Task 3.2.1 and 3.2.3

**3.3.2** Produce a Guidance Document to share with industry to address Task 3.2.2

**3.3.3** Provide monthly status reports on the evolution of the project

**3.3.4** Produce a PowerPoint presentation to present the findings on the final report or when deemed necessary to communicate project findings in a concise manner to potential internal and external audiences

### **3.4 Constraints:**

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Any issues or constraints that may affect the cost, time or performance of a task must be identified in this section. Examples of some constraints are:

- Milestone dates, distance, type of equipment;
- Interdependencies with other projects;
- Access to client's premises and systems, or access restrictions;
  - Occupational health and safety constraints; and
  - Travel and living requirements.

### **3.5 Support Provided by Canada:**

- Transport Canada will participate in Steering Committee and Working Groups which will include internal Subject Matter Experts
- Provide input to Task 3.2.3 from TC Tail Safety subject matter experts
- Transport Canada will review all deliverables
- Transport Canada will require 2 weeks for the review and comment on draft reports

**ANNEX "B"****BASIS OF PAYMENT (TO BE COMPLETED BEFORE CONTRACT AWARD)**

All prices are in Canadian dollars, Applicable Taxes excluded, Canadian customs duties and excise taxes included.

Canada will not reimburse any travel or living travel or living expenses associated with performing the Work.

Canada will pay the Contractor upon completion and delivery of units in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

**Table 1. Schedule of Payments**

<b>Milestone No.</b>	<b>Description of Deliverable</b>	<b>Completion Date/Due Date</b>	<b>Firm Amount</b>
1	<b>Project Methodology</b> – detailed methodology completed in consultation with contractor.  Format: Microsoft Word, PPT	2 weeks after kick-off meeting	\$ _____
2	<b>Key findings report</b> – Initial report summarizing work to date, key baseline data analyzed and key findings of relevance.  Format: Microsoft Word, PPT, Excel	Oct 1, 2022	\$ _____
3	<b>Draft Report</b> – A draft final report responding to project statement of work that follows methodology, Contractor will review and provide comments.  Format: Microsoft Word, PPT, Excel	Feb 1, 2023	\$ _____
4	<b>Final Report</b> – Contractor will provide comments and sign off once completed.  Format: Microsoft Word, PPT, Excel	March 1, 2023	\$ _____
<b>Total Firm Cost (Applicable Taxes Extra)</b>			\$ _____

**ANNEX "C"****PRICING SCHEDULE**

Bidders must complete the table below and must submit the Pricing Schedule in accordance with the details in the RFP. Bidders must include a price for all items. The information in this Annex will form part of the resulting contract.

All prices are in Canadian dollars, Applicable Taxes excluded, Canadian customs duties and excise taxes included.

Canada will not reimburse any travel or living travel or living expenses associated with performing the Work.

<b>Milestone No.</b>	<b>Description of Deliverable</b>	<b>Completion Date/Due Date</b>	<b>Firm Amount</b>
1	<b>Project Methodology</b> – detailed methodology completed in consultation with contractor.  Format: Microsoft Word, PPT	2 weeks after kick-off meeting	\$ _____ <i>amount to be inserted by Bidder</i>
2	<b>Key findings report</b> – Initial report summarizing work to date, key baseline data analyzed and key findings of relevance.  Format: Microsoft Word, PPT, Excel	Oct 1, 2022	\$ _____ <i>amount to be inserted by Bidder</i>
3	<b>Draft Report</b> – A draft final report responding to project statement of work that follows methodology, Contractor will review and provide comments.  Format: Microsoft Word, PPT, Excel	Feb 1, 2023	\$ _____ <i>amount to be inserted by Bidder</i>
4	<b>Final Report</b> – Contractor will provide comments and sign off once completed.  Format: Microsoft Word, PPT, Excel	March 1, 2023	\$ _____ <i>amount to be inserted by Bidder</i>
<b>Total Evaluated Cost (Applicable Taxes Extra)</b>			\$ _____



**ANNEX "D"****BID EVALUATION CRITERIA****Uncontrolled Movements – Human Factors**

Proposal compliance will be evaluated based on the following mandatory and rated requirements. Bidders must provide necessary documentations to support compliance.

Bidders are advised that the month(s) of experience listed for a project or experience whose timeframe overlaps that of another referenced project or experience will only be counted once. For example: Project 1 timeframe is July 2019 to December 2019; Project 2 timeframe is October 2019 to January 2020; the total months of experience for these two project references is seven (7) months.

**Table A: Required Format for Demonstrating Experience**

When requested in a technical evaluation criterion to demonstrate either Work experience or Project experience, the Bidder must provide (at a minimum) the following information below in order to demonstrate compliance (in addition to any other required information identified in the criterion):
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- |   |
|---|
| <ol style="list-style-type: none"> <li>a. The name of the client organization.</li> <li>b. Title of the proposed resource</li> <li>c. A description of the project, including the scope and elements of the framework, and the results/outcomes of the work undertaken by the proposed resource.</li> <li>d. The dates/-duration of the work/project indicating the years and months of engagement by the proposed resource</li> <li>e. Title, name and email address of an individual at the organization which may be contacted to validate the information provided</li> </ol> |
|---|

1. These are the steps for the technical evaluation:
  - I. Part 1: Mandatory Criteria
  - II. Part 2 : Point-Rated Technical Criteria

**Part 1: Mandatory Criteria**

At bid closing time, the Bidder must comply with the following mandatory technical criteria and provide the necessary documentation to support compliance. The Bidder must specify where the information can be found in their Proposal. Canada reserves the right to verify any and all information. Bids that fail to meet the following mandatory technical criteria will be declared non-responsive. Each criterion must be addressed separately. By submitting a bid, the Bidder certifies it meets all the mandatory requirements of the Statement of Work including those that are not part of this mandatory technical criteria bid evaluation.

Criteria	Mandatory Criteria (M)	Provide a cross reference to the proposal/CV where substantiating information can be found.	Met / Not Met
M1	<p><b>BIDDER TEAM</b></p> <p>The Bidder <b>must</b> propose a team and provide the list of proposed resources within the team.</p> <p>A) The Bidder <b>must</b> propose a team and provide the names, titles, and responsibilities of each proposed resource within the team. The bidder must indicate which proposed resource will be the Project manager/Contractor representative for this project.</p> <p>B) For each proposed resource, the bidder <b>must</b> provide a current Curriculum Vitae (CV), and it must include the following information:</p> <ul style="list-style-type: none"> <li>-education (institution name and year of graduation and specialization i.e., certificate obtained) for example Bachelor of Applied Science, 2010, Carleton University</li> <li>-work history of the proposed resources which includes the information in Table A, to demonstrate compliance.</li> </ul>		
M2	<p>The Bidder <b>must</b> include at least one proposed resource that has worked cumulatively <b>as a licensed professional human factors expert in a *safety critical industry and/or as a licensed professional engineer in the safety critical industry</b> within the last ten (10) years.</p>		

	The bidder <b>must</b> submit current and up-to date documents in accordance with Table A demonstrating the resource's certification as a Professional Engineer in Canada.		
M3	<p>The Bidder <b>must</b> include at least one proposed resource that has a cumulatively of five (5) years of experience in the last eight (8) years working with a safety critical industry in Canada.</p> <p>To demonstrate compliance, the bidder <b>must</b> provide a description of the proposed resource(s) work experience in accordance with the format outlines in Table A.</p>		

*\*Safety critical industries comprises of industries in which a failure or malfunction may result in a significant increase in safety risk for the public and environment. These failures may have one of the following outcomes such as death or serious injury to people, loss or severe damage to equipment/property or environmental harm. Safety critical industries may include Railway, Aviation, Nuclear, Medicine, Spaceflight related industries etc...*

*\*\*A licensed professional human factors expert should be supported by degrees, or diplomas, and certification, or eligible for certification, by a human factors accreditation body (e.g. Human Factors Association of Canada (HFAC)). A copy of the degree, diploma, or certification must be included in the bidder's proposal.*

**Table 2: Point-Rated Technical Criteria**

Only bids that meet the mandatory criteria will be subject to point rating. The criteria listed below will be used to evaluate each bid that meets the mandatory requirements. Contractors are advised to address these requirements in order and in sufficient depth in their bid to enable a full assessment. The evaluation will be based exclusively on the information contained in the bid. Any points obtained in the point rated criteria will determine the technical score.

Number	Rated Criterion	Scoring Instructions	Referenced Section/Page in Bidder's proposal and/or CV	Max Points	Bidder Score
R1	<p>The Bidder should include one proposed resource that has at least three (3) years of experience in the last seven (7) years, as a project lead for at least one project in human factors in a <b>*Safety Critical Industry</b>.</p> <p>To demonstrate compliance, the bidder <b>must</b> provide a description of the proposed resource(s) work experience in accordance with the format outlines in Table A.</p>	<p>Points awarded based on years of experience.</p> <p>Rating:            ≥3 yrs. and &lt;4 yrs.= 5pts,            ≥4 yrs. and &lt;5 yrs.= 10pts,            ≥5 yrs. = 15 pts.</p>		15	
R2	<p>The Bidder should include at least one proposed resource that has at least three (3) years of experience in the last seven (7) years related to human factors in a safety critical industry including identification and mitigation against human errors.</p> <p>To demonstrate compliance, the bidder <b>must</b> provide a description of the proposed resource(s) work experience in accordance with the format outlines in Table A.</p>	<p>Points awarded based on years of experience.</p> <p>Rating:            ≥3 yrs. and &lt;4 yrs.= 5pts,            ≥4 yrs. and &lt;5 yrs.= 10pts,            ≥5 yrs. = 15 pts.</p>		15	
R3	<p>The Bidder should include at least one proposed resource that has a minimum of six (6) years of experience in the last eight (8) years in the rail industry.</p> <p>To demonstrate compliance, the bidder <b>must</b> provide a description of the proposed resource(s) work experience in accordance with the format outlines in Table A.</p>	<p>Points awarded based on years of experience.</p> <p>Rating:            ≥3 yrs. and &lt;4 yrs.= 3pts,            ≥4 yrs. and &lt;5 yrs.= 5pts,            ≥5 yrs. = 10 pts.</p>		10	

R4	<p>The Bidder should include at least one proposed resource that has a minimum of six (6) years of experience in the last eight (8) years in the <b>Canadian</b> rail industry.</p> <p>To demonstrate compliance, the bidder <b>must</b> provide a description of the proposed resource(s) work experience in accordance with the format outlines in Table A.</p>	<p>Points awarded based on years of experience.</p> <p>Rating:  <math>\geq 3</math> yrs. and <math>&lt; 4</math> yrs. = 3pts,  <math>\geq 4</math> yrs. and <math>&lt; 5</math> yrs. = 5pts,  <math>\geq 5</math> yrs. = 10 pts.</p>		10	
R5	<p>The Bidder should include at least one proposed resource that has at least three (3) years of experience in the last seven (7) years related to rail technology or uncontrolled movements of railway vehicles.</p> <p>To demonstrate compliance, the bidder <b>must</b> provide a description of the proposed resource(s) work experience in accordance with the format outlines in Table A.</p>	<p>Points awarded based on years of experience.</p> <p>Rating:  <math>\geq 3</math> yrs. and <math>&lt; 4</math> yrs. = 5pts,  <math>\geq 4</math> yrs. and <math>&lt; 5</math> yrs. = 10pts,  <math>\geq 5</math> yrs. = 15 pts.</p>		15	
R6	<p>The Bidder should include at least one proposed resource that has at least three (3) years of cumulative experience in the last eight (8) years related to train securement technology (i.e. braking systems, derails, alert systems, etc.).</p> <p>To demonstrate compliance, the bidder <b>must</b> provide a description of the proposed resource(s) work experience in accordance with the format outlines in Table A.</p>	<p>Points awarded based on years of experience.</p> <p>Rating:  <math>\geq 3</math> yrs. and <math>&lt; 4</math> yrs. = 5pts,  <math>\geq 4</math> yrs. and <math>&lt; 5</math> yrs. = 10pts,  <math>\geq 5</math> yrs. = 15 pts.</p>		15	
<b>Total Score (80 Max)</b>					

*\*Safety critical industries comprises of industries in which a failure or malfunction may result in a significant increase in safety risk for the public and environment. These failures may have one of the following outcomes such as death or serious injury to people, loss or severe damage to equipment/property or environmental harm. Safety critical industries may include Railway, Aviation, Nuclear, Medicine, Spaceflight related industries etc...*

*\*\*A licensed professional human factors expert should be supported by degrees, or diplomas, and certification, or eligible for certification, by a human factors accreditation body (e.g. Human Factors Association of Canada (HFAC)). A copy of the degree, diploma, or certification must be included in the bidder's proposal.*

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**ANNEX "E" 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);
- Large Value Transfer System (LVTS) (Over \$25M)