

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 :
Cory.lajoie@tc.gc.ca

Attention: - Attention :
Cory Lajoie

Title - Sujet Scenario development for Automated Driving System (ADS) safety validation in Canada	
Solicitation No. N° de l'invitation T8080-220112	Date of Solicitation Date de l'invitation July 29, 2022
Address enquiries to: - Adresser toute demande de renseignements à : Cory Lajoie – Procurement Officer	
Telephone No. - N° de telephone 204-228-2267	E-Mail Address - Courriel cory.lajoie@tc.gc.ca
Destination See herein - Voir aux présentes	

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.

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

Solicitation Closes - L'invitation prend fin

At - à :
2:00 PM - 14:00

On - le :
September 7, 2022

Time Zone - Fuseau Horaire :
Central Daylight Time (CDT)

TABLE OF CONTENTS

TABLE OF CONTENTS 1

PART 1 – GENERAL INFORMATION 2

1.1 SECURITY REQUIREMENTS2

1.2 STATEMENT OF WORK.....2

1.3 COMPREHENSIVE LAND CLAIMS AGREEMENT(S)2

1.4 DEBRIEFINGS2

PART 2 - BIDDER INSTRUCTIONS 3

2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS3

2.2 SUBMISSION OF BIDS.....3

2.3 FORMER PUBLIC SERVANT.....3

2.4 ENQUIRIES - BID SOLICITATION.....4

2.5 APPLICABLE LAWS.....5

2.6 BID CHALLENGE AND RECOURSE MECHANISMS.....5

PART 3 - BID PREPARATION INSTRUCTIONS 6

3.1 BID PREPARATION INSTRUCTIONS6

ATTACHMENT 1 TO PART 3 – PRICING SCHEDULE 7

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION 8

4.1 EVALUATION PROCEDURES.....8

4.2 BASIS OF SELECTION.....8

ATTACHMENT 1 TO PART 4 – TECHNICAL CRITERIA 10

ATTACHMENT 2 TO PART 4 – RFP PROPOSAL ORGANIZATION/TEMPLATES 19

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION 23

5.1 CERTIFICATIONS REQUIRED WITH THE BID23

5.2 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION23

PART 6 - RESULTING CONTRACT CLAUSES 24

6.1 SECURITY REQUIREMENTS24

6.2 STATEMENT OF WORK.....24

6.3 STANDARD CLAUSES AND CONDITIONS24

6.4 TERM OF CONTRACT24

6.5 AUTHORITIES24

6.6 PROACTIVE DISCLOSURE OF CONTRACTS WITH FORMER PUBLIC SERVANTS25

6.7 PAYMENT25

6.8 COMPLIANCE.....26

6.9 APPLICABLE LAWS.....26

6.10 PRIORITY OF DOCUMENTS26

6.11 DISPUTE RESOLUTION.....26

ANNEX A - STATEMENT OF WORK 27

ANNEX B – BASIS OF PAYMENT 33

PART 1 – GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement applicable to this Contract.

1.2 Statement of Work

The Work to be performed is detailed under ANNEX A of the resulting contract clauses.

1.3 Comprehensive Land Claims Agreement(s)

This requirement is not subject to any Comprehensive Land Claims Agreement(s).

1.4 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](#) (2022-03-29) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.2 Submission of Bids

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

2.3 Former Public Servant

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

Definitions

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

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

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

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension](#)

Continuation Act, 1970, c. D-3, the Royal Canadian Mounted Police Pension Continuation Act, 1970, c. R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c. R-11, the Members of Parliament Retiring Allowances Act, R.S. 1985, c. M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c. C-8.
Former Public Servant in Receipt of a Pension

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

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

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

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

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.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that the Bidder submits its bid in separately bound sections as follows:

- Section I: Technical Bid
- Section II: Financial Bid
- Section III: Certifications and Additional Information

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

Bidders must submit their financial bid in Canadian Funds and in accordance with the Pricing Schedule detailed in Attachment 1 to Part 3. The total amount of Applicable Taxes must be shown separately.

Section III: Certifications and Additional Information

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

ATTACHMENT 1 TO PART 3 – PRICING SCHEDULE

The Bidder should complete this pricing schedule and include it in its financial bid. As a minimum, the Bidder must respond to this pricing schedule by inserting in its financial bid for each of the deliverables specified below its quoted all-inclusive fixed rate (in Can \$) for each of the deliverables identified.

Under any resulting contract, Canada will not accept travel and living expenses that may need to be incurred by the contract for any relocation of resources required to satisfy its contractual obligations.

Deliverables	Timeline	Milestone %	Total \$
Completion of Literature Review	6 weeks following Contract Award	Once approved by the Department Representative, the Contractor is to receive 25% of the total value of the contract.	\$
Scenario Framework and Catalogue Draft	7 months following Contract Award	Once approved by the Department Representative, the Contractor is to receive 25% of the total value of the contract.	\$
Final Draft	10 months following Contract Award	Once approved by the Department Representative, the Contractor is to receive 50% of the total value of the contract.	\$
Total Evaluated Price (Applicable Taxes excluded):			\$

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

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

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

Refer to Attachment 1 to Part 4

4.1.1.2 Point Rated Technical Criteria

Refer to Attachment 1 to Part 4

4.1.1.3 RFP Proposal Organization/Templates

Refer to Attachment 2 to Part 4

4.1.2 Financial Evaluation

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

4.2 Basis of Selection

4.2.1 To be declared responsive, a bid must:

- a) comply with all the requirements of the bid solicitation;
- b) meet all the mandatory evaluation criteria; and
- c) obtain the required minimum pass mark specified in Attachment 1 to Part 4 for the point rated technical criteria.

4.2.2 Bids not meeting 4.2.1.1 (a) or (b) or (c) will be declared non-responsive. Neither the responsive bid obtaining the highest number of points nor the one with the lowest evaluated price will necessarily be accepted.

4.2.3 The lowest evaluated price (LP) of all responsive bids will be identified and a pricing score (PS), determined as follows, will be allocated to each responsive bid (i): $PS_i = LP / P_i \times 40$. P_i is the evaluated price (P) of each responsive bid (i).

4.2.4 A technical merit score (TMS), determined as follows, will be allocated to each responsive bid (i): $TMS_i = OS_i \times 60$. OS_i is the overall score (OS) obtained by each responsive bid (i) for all the point rated technical criteria specified in Attachment 1 to Part 4, determined as follows: total number of points obtained / maximum number of points available.

4.2.5 The combined rating (CR) of technical merit and price of each responsive bid (i) will be determined as follows: $CR_i = PS_i + TMS_i$.

4.2.6 The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract. In the event two or more responsive bids have the same highest combined rating of technical merit and price, the responsive bid that obtained the highest overall score for all the point rated technical criteria detailed in Attachment 1 to Part 4 will be recommended for award of a contract.

4.2.7 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 the technical merit and price, respectively.

Basis of Selection - Highest Combined Rating of Technical Merit (60%) and Price (40%)			
Bidder	Bidder 1	Bidder 2	Bidder 3
Overall Score for All the Point Rated Technical Criteria	OS1: 120/135	OS2: 98/135	OS3: 82/135
Bid Evaluated Price	P1: C\$60,000	P2: C\$55,000	LP and P3: C\$50,000
Calculations	Technical Merit Score (OSi x 60)	Pricing Score (LP/Pi x 40)	Combined Rating
Bidder 1	120/135 x 60 = 53.33	50/60 x 40 = 33.33	86.66
Bidder 2	98/135 x 60 = 43.56	50/55 x 40 = 36.36	79.92
Bidder 3	82/135 x 60 = 36.44	50/50 x 40 = 40	76.44

ATTACHMENT 1 TO PART 4 – TECHNICAL CRITERIA

Mandatory Technical Criteria

The mandatory requirements below will be evaluated on a meets / does not meet basis. Proposals that do not meet the requirements will be deemed non-responsive and given no further consideration. Proposals **MUST** give evidence of the following compliance to the mandatory requirements, and present supporting documentation.

Each mandatory technical criterion should be addressed separately.

Mandatory Criteria (MC)

For the purpose of the mandatory criteria specified below, the experience of the Bidder, its employees and sub-contractors will be considered.

No.	Requirement	Pass/Fail	Cross reference to Proposal
M1	The Bidder must demonstrate that the proposed Project Manager has a minimum of 5 years' experience at a senior level managing research and development (R&D) projects. <i>*A copy of the CV must be provided with the bidder's technical proposal at time of bid submission.</i>		
M2	The Bidder's proposed Senior Engineer resources must each have, as a minimum, a bachelor's degree in mechanical, electrical, or aerospace engineering or a equivalent. <i>*A copy of the CVs and degrees must be provided with the bidder's technical proposal at time of bid submission.</i>		
M3	The Bidder's proposed Software Engineer resource must have, as a minimum, a bachelor's degree in computer science or an equivalent. <i>*A copy of the CV and degree(s) must be provided with the bidder's technical proposal at time of bid submission.</i>		
M4	The Bidder's proposed Engineer resources must each have experience in R&D projects related to road safety. These projects must have had a value greater than \$100K and duration of at least 3 months (within the last 5 years). The roles and experience of these resources with respect to these projects must be clearly identified by the Bidder.		
M5	The Bidder must demonstrate that the proposed team has significant and recent (within last 5 years) experience and expertise in safety verification and performance testing of ADAS and/or ADS using scenario based verification techniques.		
M6	The Bidder must demonstrate that the proposed team has significant and recent (within last 5 years) experience and expertise in scenario development to facilitate ADAS and/or ADS testing.		
M7	The Bidder must demonstrate that they have access to the necessary equipment (software and hardware, etc. as applicable) to conduct scenario development research and development.		

No.	Requirement	Pass/Fail	Cross reference to Proposal
M8	The bidder must demonstrate that the team understands the regulatory oversight of the Canadian motor vehicle industry including the demonstration of compliance and certification testing. <i>*Examples of past work can be used as one method to communicate this understanding.</i>		
M9	All additional team members must have BA, BSc or equivalent. University Credential (Degree, Diploma, etc.) <i>*A copy of the CVs and degrees must be provided with the bidder's technical proposal at the time of submission.</i>		

Point Rated Criteria

Bids which meet all the mandatory technical criteria will be evaluated and scored as specified below. Bids which fail to obtain the required minimum number of points specified will be declared nonresponsive. Each point rated technical criterion should be addressed separately. We advise tenderers to respond in the order that follows and in detail, to allow for a complete evaluation. The evaluation will be based solely on the information provided in the proposal. The following will be used to evaluate the Point Rated Technical Criteria.

No.	Requirement	Substantiating Detail	Point Distribution	Score
R1	The Bidder should demonstrate that the proposed Project Manager has experience for successfully managing (on time and on budget) R&D projects. These projects must have had a value greater than \$100K and duration of at least 3 months (within the last 5 years).		<i>Maximum 5 pts</i> 1 pt for each project to max of 5 pts	/ 5
R2	The Bidder must demonstrate that the proposed Project Manager has recognized professional accreditation as demonstrated by CPM (Certified Project Manager), PMP (Project Management Professional Certification PMP - PMI) or equivalent. <i>*A copy of the certificate must be provided at time of bid submission.</i>		<i>Maximum 5 pts</i> 0 pt: Not evident 5 pts: CPM, PMP, or equivalent accreditation	/ 5

No.	Requirement	Substantiating Detail	Point Distribution	Score
R3	Education qualifications of the Project Manager. Proof of education must be provided in the proposal package.		<p><i>Maximum 5 pts</i></p> <p>0 pt: Not evident</p> <p>2 pts: Bachelor degree or equivalent in engineering, or business administration, or project management or related field</p> <p>5 pts: MSc degree or equivalent in engineering or business administration or project management or related field</p>	/ 5
R4	The Bidder should demonstrate that the proposed Senior Engineer, expert in ADS/ADAS safety verification has recent and significant experience in validation of hardware and software using automotive industry's best practices. This is demonstrated by the number of months experience with the last five years and projects, publications, technical reports in the last 5 years.		<p><i>Maximum 10 pts</i></p> <p>(a) >12 months = 0 pts</p> <p>≥ 12 months and < 24 months = 2 pts</p> <p>≥ 24 months and < 36 months = 4 pts</p> <p>≤ 36 months = 5 pts</p> <p>(b) Productivity last 5 years: 1 pt each for projects, technical reports and/or publications to max of 5 pts</p>	/ 5
R5	Education qualifications of the Senior Engineer, expert in ADS/ADAS safety verification. Proof of education must be provided in the proposal package.		<p><i>Maximum 5 pts</i></p> <p>0 pt: Not evident</p> <p>2 pts: Bachelor degree in mechanical, electrical, or aerospace engineering or related field</p> <p>3 pts: Master degree in mechanical, electrical, or aerospace engineering or related field</p> <p>5 pts: PhD in mechanical, electrical, or aerospace engineering or related field</p>	/ 5
R6	The Bidder should demonstrate that the proposed Senior Engineer, expert in ADS/ADAS performance testing has recent and significant experience in evaluating ADS/ADAS with accepted test standards using multiple testing methodologies such as simulation, track and		<p><i>Maximum 10 pts</i></p> <p>(a) >12 months = 0 pts</p> <p>≥ 12 months and < 24 months = 2 pts</p> <p>≥ 24 months and < 36 months = 4 pts</p> <p>≤ 36 months = 5 pts</p>	/ 5

No.	Requirement	Substantiating Detail	Point Distribution	Score
	real-world testing. This is demonstrated by the number of months of experience within the last five years and projects, publications, technical reports in the last 5 years.		(b) Productivity last 5 years: 1 pt each for projects, technical reports and/or publications to max of 5 pts	/ 5
R7	Education qualifications of the Senior Engineer, expert in ADS/ADAS performance testing. Proof of education must be provided in the proposal package.		<i>Maximum 5 pts</i> 0 pt: Not evident 2 pts: Bachelor degree in mechanical, electrical, or aerospace engineering or related field 3 pts: Master degree in mechanical, electrical, or aerospace engineering or related field 5 pts: PhD in mechanical, electrical, or aerospace engineering or related field	/ 5
R8	The Bidder should demonstrate that the proposed Software Engineer, expert in scenario development has recent and significant experience in developing scenarios to test ADS/ADAS performance as well as experience with scenario databases and scenario definition language. This is demonstrated by the number of months of experience within the last five years and projects, publications, technical reports in the last 5 years.		<i>Maximum 10 pts</i> (a) >12 months = 0 pts ≥ 12 months and < 24 months = 2 pts ≥ 24 months and < 36 months = 4 pts ≤ 36 months = 5 pts (b) Productivity last 5 years: 1 pt each for projects, technical reports and/or publications to max of 5 pts	/ 5
R9	Education qualifications of the Software Engineer, expert in scenario development. Proof of education must be provided in the proposal package.		<i>Maximum 5 pts</i> 0 pt: Not evident 2 pts: Bachelor degree in computer science or related field 3 pts: Master degree in computer science or related field; 5 pts: PhD in computer science or related field	/ 5

No.	Requirement	Substantiating Detail	Point Distribution	Score
R12	<p>The bidder's proposal should outline relevant experience and competence in safety verification of ADS/ADAS and scenario development in the domain of vehicle safety as well as experience with scenario databases and scenario definition language. Experience should be proven by similar or related work. Please include examples of previous work in this realm.</p>		<p><i>Maximum 10 pts</i> 1 pt per R&D project to a maximum of 10</p>	/ 10
R13	<p>The Bidder's proposal should demonstrate an understanding of the requirements of the Statement of Work. Sufficient detail should be provided to allow a complete demonstration of the Bidder's understanding of the project requirements and proposed approach, which should include the following:</p> <p>a) Demonstrating an understanding of the scope, background, rationale and context of the project as well as knowledge of the Transport Canada's motor vehicle safety oversight program and self-certification regulatory regime.</p>		<p><i>Maximum 100 points</i></p> <p>0 pt: Not evident: poor and incorrect understanding of scope 5 pts: Inadequate: poor understanding of scope. Incomplete, sketchy or lacking any evidence of understanding 10 pts: Adequate: complete and correct understanding of scope but without any additional insights 15 pts: Good: complete and correct understanding of scope with possible additions to scope proposed or a more complete understanding 20 pts: Excellent: complete and correct understanding of scope combined with significant added insights that demonstrate the completeness of understanding</p>	/ 20

No.	Requirement	Substantiating Detail	Point Distribution	Score
b)	<p>Demonstrating an understanding of the considerations and knowledge needed to produce the deliverables. Clear articulation of how scenarios can be used to test ADS vehicles in Canada based on the specificity of the Canadian road environment using established best practices by industry or through other means identified by the bidder. Demonstrating added value that the bidder will bring to the project:</p> <p>(i) an overview of existing work related to the topics described in the tasks 1, 2, and 3.</p> <p>(ii) how the results of the project can be used for future testing and scenario development.</p>		<p>0 pt: Not evident: poor and incorrect understanding of considerations and knowledge</p> <p>5 pts: Inadequate: poor understanding of considerations and knowledge. Incomplete, sketchy or lacking any evidence of understanding</p> <p>10 pts: Adequate: complete and correct understanding of knowledge and considerations but without any additional insights</p> <p>15 pts: Good: complete and correct understanding of knowledge and considerations with possible additions to scope proposed or a more complete understanding of the industry</p> <p>20 pts: Excellent: complete and correct understanding of knowledge and considerations combined with significant added insights that demonstrate the completeness of understanding</p>	/ 20
c)	<p>Demonstrating a well-developed work plan. The work plan will be scored based on how the Bidder will ensure the tasks and allocation of resources will meet the project delivery date. To include:</p> <p>(i) key tasks (5 pts)</p>		<p>0 pt: Unsatisfactory: Information is unreasonable and unlikely to achieve the final delivery date</p> <p>2.5 pts: Satisfactory: Information is provided and reasonably supports project achievement in time for final delivery date</p> <p>5 pts: Exceeded: Information is provided and strongly supports bidders ability to meet the delivery dates</p>	/ 5

No.	Requirement	Substantiating Detail	Point Distribution	Score
	<p>(ii) milestones (5 pts)</p> <p>(iii) allocation of proposed resources by role, task, and the associated level of effort, availability of team members, backup capability, reporting structure etc. (30 pts)</p> <p>(iv) Project management tools or methodology. Adequacy of management support systems, tools or methodology and project management process demonstrating how the project will be kept on time and on budget (10 pts)</p>		<p>0 pt: Unsatisfactory: Information is unreasonable and unlikely to achieve the final delivery date 2.5 pts: Satisfactory: Information is provided and reasonably supports project achievement in time for final delivery date 5 pts: Exceeded: Information is provided and strongly supports bidders ability to meet the delivery dates</p> <p>0 pt: Unsatisfactory: Information is unreasonable and unlikely to achieve the final delivery date 15 pts: Satisfactory: Information is provided and reasonably supports project achievement in time for final delivery date 30 pts: Exceeded: Information is provided and strongly supports bidders ability to meet the delivery dates</p> <p>0 pt: Unsatisfactory: Information is unreasonable and unlikely to achieve the final delivery date 5 pts: Satisfactory: Information is provided and reasonably supports project achievement in time for final delivery date 10 pts: Exceeded: Information is provided and strongly supports bidders ability to meet the delivery dates</p>	<p>/ 5</p> <p>/ 30</p> <p>/ 10</p>

No.	Requirement	Substantiating Detail	Point Distribution	Score
d)	Demonstrating an understanding of project challenges, and strategies to overcome them.		0 pt: Not evident: poor and incorrect recognition of problems and solutions 2.5 pts: Inadequate: poor recognition of problems and solutions. Incomplete, sketchy or lacking any evidence of understanding 5 pts: Adequate: complete and correct recognition of problems and solutions but without any additional insights 7.5 pts: Good: complete and correct recognition of problems and solutions or a more complete understanding of the industry 10 pts: Excellent: complete and correct recognition of problems and solutions combined with significant added insights that demonstrate the completeness of understanding	/ 10
Total points				/ 200
70% Pass mark				140

ATTACHMENT 2 TO PART 4 – RFP PROPOSAL ORGANIZATION/TEMPLATES

It is strongly recommended to present the information requested in a format that allows reviewers to compare directly with the evaluation criteria. Do not expect the reviewers to estimate an answer based on incomplete and unsubstantiated information (e.g., years of experience based on dates from graduation). Any attachments or links to publications, reports, etc. that can be shared to substantiate answers are recommended.¹

Table 1: Mandatory Criteria

No.	Requirement	Answer (add cross-reference in proposal)
M1	Project Manager's experience	
M2	Senior Engineers' education	
M3	Software Engineer's education	
M4	Engineers' experience	
M5	Team's experience and expertise in safety verification and performance testing of ADAS and/or ADS using scenario based verification techniques.	
M6	Team's experience and expertise in scenario development to facilitate ADAS and/or ADS testing.	
M7	Bidder's equipment	
M8	Bidder's understanding of the Canadian motor vehicle regulatory oversight	
M9	Additional team members' education	

Table 2: Point Rated Criteria

No.	Requirement	Answer (add cross-reference in proposal)
R1	Project Manager's experience	
R2	Project Manager's accreditation	
R3	Project Manager's education	
R4	Senior Engineer's experience (expert in ADS/ADAS safety verification)	
R5	Senior Engineer's education (expert in ADS/ADAS safety verification)	
R6	Senior Engineer's experience (expert in ADS/ADAS performance testing)	
R7	Senior Engineer's education (expert in ADS/ADAS performance testing)	
R8	Software Engineer' experience	

¹ These templates are meant only as a guide for bidders.

No.	Requirement	Answer (add cross-reference in proposal)
R9	Software Engineer' education	
R10	Participation in regulatory and standardization groups	
R11	Additional team members	
R12	Team's experience in safety verification of ADS/ADAS and scenario development	
R13	Understanding of the Statement of Work	

Team Members/Experience and Education

Table 3: Scenario Activities Related to this Project

Experience	Team Members						
	Project manager	Sr. Engineer Safety verification	Sr. Engineer Performance testing	Software Engineer	Other	Other	Other
	[name]	[name]	[name]	[name]	[name]	[name]	[name]
Description of related work/research activities							
Validation of hardware and software							
Evaluating ADS/ADAS with accepted test standards							
Developing scenarios							
Participation in regulatory and standardization groups							
Human factors research							
Safety verification and performance testing of ADS/ADAS using scenario-based verification							

Scenario databases and scenario definition							
Participation in regulatory and standardization groups							
Understanding of the regulatory oversight of the Canadian motor vehicle industry							
Other relevant experience							

Table 4*: Summary of Experience to Related Projects

Projects	Team Members						
	Project manager	Sr. Engineer Safety verification	Sr. Engineer Performance testing	Software Engineer	Other	Other	Other
	[name]	[name]	[name]	[name]	[name]	[name]	[name]
Project 1							
Project 2							
Project 3							
Project 4							
Project 5							
Project 6							
Project 7							

*Please add a brief description of each project including project title, client name, start and end dates, budget, and description of the work as well as overall achievements, publications, reports, etc.

Table 5: Risk Mitigation Strategies

Task	Description	Due Date

Table 6: Project Timeline

Risk Category	Description	Risk Rating	Risk Mitigation Strategy

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 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 provided 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 Status and Availability of Resources

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

5.2.3 Education and Experience

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

PART 6 - RESULTING CONTRACT CLAUSES

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

6.1 Security Requirements

There is no security requirement applicable to the Contract.

6.2 Statement of Work

The Work to be performed is detailed under ANNEX A of the resulting contract clauses.

6.3 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.

6.3.1 General Conditions

[2010B](#) (2022-01-28), General Conditions - Professional Services (Medium Complexity) apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from date of Contract Award to October 31, 2023, inclusive.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Cory Lajoie
Title: A/Procurement Specialist
Transport Canada
Address: 344 Edmonton St, Winnipeg, MB, R3B 2L4

Telephone: 204-228-2267
E-mail address: cory.lajoie@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.

6.5.2 Project Authority

The Project Authority for the Contract is:
(inserted at Contract Award)

Name: _____

Title: _____
Organization: _____
Address: _____

Telephone: _____
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.

6.5.3 Contractor's Representative

(inserted at Contract Award)

6.6 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.

6.7 Payment

6.7.1 Basis of Payment – Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of the total estimated cost identified on page one (1) of this contract. Customs duties are included and Applicable Taxes are extra.

6.7.2 Limitation of Price

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.

6.7.3 Method of Payment – Milestone Payments

Canada will make milestone payments in accordance with the Schedule of Milestones detailed in the Statement of Work and 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.

6.7.4 Electronic Payment of Invoices – Contract

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

- a. Direct Deposit (Domestic and International);

6.8 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.

6.9 Applicable Laws

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

6.10 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 2010B (2022-01-28), General Conditions - Professional Services (Medium Complexity);
- c) Annex A, Statement of Work;
- d) Annex B, Basis of Payment;
- e) the Contractor's bid dated _____

6.11 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](#)".

ANNEX A - STATEMENT OF WORK

Scenario development for Automated Driving System (ADS) safety validation in Canada

1. Scope

As automated vehicle technologies continue to advance, new tools and testing methodologies are being developed by industry to validate their safety, and scenarios are a fundamental part of this work.

TC is seeking the assistance of external researchers to examine how scenarios are being used to assess Automated Driving System (ADS) safety globally and how validating ADS safety using scenarios can be adapted and applied to Canada's driving environment and regulatory regime.²

2. Objectives

The objectives of the project are to:

- 1) better understand scenario generation frameworks that have been developed by the international community to identify safety critical driving scenarios for ADS safety validation.³
- 2) develop or apply an existing framework that can be used to create scenarios for testing ADS equipped vehicles in Canada and identify scenarios that are relevant to Canada's unique driving environments, including different factors such as environmental conditions, roadway infrastructure, distinct road user behaviours, etc.
- 3) develop a catalogue of scenarios that can be used to inform the validation of ADS-equipped vehicles for use on Canadian roadways based on one or more of the use cases described in requirement number four.⁴

3. Background

Validating the safety of automated driving systems is a vital and highly complex task, which should involve the use of multiple testing methodologies such as simulation, track, real-world testing etc.⁵

A scenario-based approach can help to systematically organize validation testing activities in an efficient, objective, repeatable, and scalable manner. Scenarios-based validation, as it applies to ADS, consists of reproducing numerous specific real-world driving situations that exercise and challenge the capabilities of an ADS-equipped vehicle to operate safely.

Scenarios can be used as evidence to verify that ADS equipped vehicles demonstrate safe driving behavioural competencies ranging from routine path following to safety critical functions such as avoiding collisions in common crash situations.⁶ Furthermore, scenarios should be developed to test ADS safety in relation to a specific Operational Design Domain (ODD) as well as vehicle use case.

² Bidders are encouraged to refer to Annex I when drafting their submissions.

³ Examples of key concepts to consider by the researcher(s) include whether there is a consensus by experts on scenario generation, examine data sources that are used to generate scenarios, and pass/fail criteria.

⁴ The scenario catalogue is not meant to be exhaustive. Scenarios should cover at least one component of the ODD described in requirement four and use the outcomes from objectives one and two to capture scenarios keeping in mind which ones pose the highest risk in terms of severity/consequences.

⁵ See [VMAD-26-03-rev3 NATM Guidelines](#)

⁶ See: [Pre-Crash Scenario Typology for Crash Avoidance Research. Washington, DC: US Department of Transportation](#)

A scenario involves a description of one or more real-world driving situations that may occur during a given trip.⁷ A scenario can involve many elements, such as roadway layout, types of road users, objects exhibiting static or diverse dynamic behaviours, and diverse environmental conditions (among other factors).⁸

As ADS technology continues to evolve, significant work is underway by the international community to identify relevant scenarios that should be used to validate the safety of ADS-equipped vehicles.⁹ Early work is also underway within the World Forum for the Harmonization of Vehicle Regulations to assess the feasibility of a common international database of safety relevant scenarios that can be used by ADS developers and the international regulatory community to validate ADS safety.¹⁰

Transport Canada hopes to use this research to inform ongoing work within the department to develop guidance and eventually, as appropriate, regulations pertaining to ADS safety and validation methods for assessing automated driving systems. Furthermore, Transport Canada is interested in contributing to international research efforts on scenario development to support ADS safety and the safe deployment of ADS equipped vehicles on Canadian roadways.

4. **Requirements**

1. Transport Canada is seeking research proposals identify key scenarios that may help to inform the validation of ADS-equipped vehicles for use on Canadian roadways.
2. Proposals for scenarios research can consider both common real-world driving situations that an ADS-equipped vehicle can be expected to encounter globally¹¹ and on Canadian roadways. Unknown critical scenarios as well as less-common, or unique “edge case” scenarios¹² that may manifest themselves much less frequently but are still important to consider as part of the overall safety validation of an ADS should also be considered. Consideration should be given to how scenarios in a Canadian context may differ between provinces/territories and urban/rural driving environments due to unique factors such as, but not limited to, weather (ie., heavy rain, snow, ice), wildlife, other road users, duration, frequency, and severity. Scenarios identified in other international jurisdictions that could be applied in a Canadian context should also be identified. Scenarios that are identified should provide adequate coverage of situations that an ADS equipped vehicle operating in Canada would have to navigate.¹³ Consideration should also be given to situations where humans excel while an ADS may be challenged. For example, the ability of a human to decipher a stop sign that is partially obstructed.

⁷ A trip is a traversal of an entire travel pathway by a vehicle from the point of origin to a destination.

⁸ See: [ISO/TR 21934-1:2021 Road vehicles — Prospective safety performance assessment of pre-crash technology by virtual simulation — Part 1: State-of-the-art and general method overview](#)

⁹ See: [Waymo Safety Report, Waymo Simulated Driving Behavior in Reconstructed Fatal Crashes within an Autonomous Vehicle Operating Domain, NHTSA’s “A Framework for Automated Driving System Testable Cases and Scenarios”, PEGASUS Research Project, Advanced Vehicle Technology \(AVT\) Consortium, Japan Automobile Standards Internationalization Centre.](#)

¹⁰ See [VMAD-26-03-rev3 NATM Guidelines](#)

¹¹ See: S. Feng, Y. Feng, H. Sun, Y. Zhang, and H. X. Liu, ‘Testing Scenario Library Generation for Connected and Automated Vehicles: An Adaptive Framework’, *IEEE Transactions on Intelligent Transportation Systems*, vol. 23, no. 2, pp. 1213–1222, Feb. 2022, doi: [10.1109/tits.2020.3023668](#).

¹² “Edge Case” is a rare situation that still requires specific design attention for it to be dealt with by the AV in a reasonable and safe way. See NATM.

¹³ See: Draft International Standard ISO/DIS 34502 Road vehicles — Scenario-based safety evaluation framework for Automated Driving Systems and F. Hauer, T. Schmidt, B. Holzmüller, and A. Pretschner, ‘Did We Test All Scenarios for Automated and Autonomous Driving Systems?’, in *2019 IEEE Intelligent Transportation Systems Conference, ITSC 2019*, Oct. 2019, pp. 2950–2955. doi: [10.1109/ITSC.2019.8917326](#).

3. Proposals for developing scenarios may include frameworks involving a diverse range of research methods, such as analysis of collision data for conventional vehicles¹⁴, analysis of human driver behaviour, analysing traffic patterns in a specific ODD, knowledge acquired during ADS development, data collected from vehicle sensors etc.¹⁵ Local traffic rules (e.g., highway traffic legislation, municipal bylaws, etc.) and legislation should also be considered. Scenarios should be fully described to allow for valid, precise replication as well as quantification of vehicle performance.
4. Proposals should consider scenarios for at least one of the following use cases: L3 driving features, L4 low speed automated shuttles, L4 ride sharing vehicles and delivery vehicles in urban settings, as well as L4 automated trucking operations on highways.
5. Proposals may consider partnerships with relevant entities (e.g. municipalities, provincial, municipal governments, insurance companies, etc.) to obtain necessary traffic data and identify safety critical scenarios.
6. Scenarios should be developed using a structured approach and a uniform language, taking into consideration ongoing work in international standard development organizations to categorize and describe scenarios in a human and/or machine-readable format.¹⁶

5. **Tasks**

Task 1. Literature review on scenario generation

Various papers have been published recently on scenario generation and standards have been developed to evaluate ADS equipped vehicles using scenarios as noted above. A literature review should be completed to inform the work of this project. The literature review should examine state-of-the-art best practices for developing a scenario development framework and scenario generation, how scenarios can be used to test against edge cases, as well as development of scenarios in cold/winter climates.

The literature review should be summarized in a report. The report should include:

- A description of the review methodology used, key words, and the resources consulted;
- Best practices/guidelines for using scenarios to test ADS equipped vehicles; and
- Recommendations for developing scenarios using a structured approach

Task 2. Development of a scenario generation framework for testing in Canada

After the literature review the researcher should develop or as appropriate, identify an existing framework for scenario generation in a Canadian context.

The framework should take into consideration the following:

¹⁴ Transport Canada can facilitate access to the National Collision Database as required. Proposals may want to consider how scenario development is envisioned by other organizations, for example: [Safety Pool](#)TM, [Foretellix](#), and J. (Jason) So, I. Park, J. Wee, S. Park, and I. Yun, 'Generating Traffic Safety Test Scenarios for Automated Vehicles using a Big Data Technique', *KSCE Journal of Civil Engineering*, 2019, doi: [10.1007/s12205-019-1287-4](#).

¹⁵ See; E. de Gelder and J. P. Paardekooper, 'Assessment of Automated Driving Systems using real-life scenarios', in *IEEE Intelligent Vehicles Symposium, Proceedings*, Jul. 2017, pp. 589–594. doi: [10.1109/IVS.2017.7995782](#).

¹⁶ See University of Warwick's work on [Scenarios Description Language \(SDL\)](#) and see categorization approach proposed by UNECE VMAD's working group [Scenarios for Development, Test and Validation of Automated Vehicles as examples](#).

- The ODD and use cases described in the requirements section.
- Environmental factors such as heavy snow/rain, fog, cut-ins, merging vehicles.
- A description of the steps required for generating scenarios.
- How to format scenarios in a human/machine readable format.

Task 3. Development of a catalogue of essential scenarios for testing in Canada

- The scenario framework should be used to generate a catalogue that provides examples of scenarios that can be used to validate ADS safety in Canada (see footnote number two).
- The catalogue should be developed in a manner that would allow Transport Canada to further develop, maintain and edit the catalogue for future use based on the use cases identified in requirement number 4.

6. Progress Report

Each month, the contractor will submit to the Project Authority a 1-page progress report briefly describing 1) the work accomplished, 2) the support requirements from the Project Authority, 3) the project schedule, and 4) the financial status. The contractor will be available for meeting (telephone or in-person) monthly to track progress of this project.

7. Acceptance criteria

All the material resulting from this project must be prepared in English and provided electronically to Transport Canada. The reports shall be in a format consistent with a high-quality, technical report and must be provided in Microsoft Word (DOCX) format.

The Project Authority will review the accuracy and completeness of the material submitted as deliverables and determine the quality of the submission and if the collection, analysis and interpretation of data/information has been done in such a way as to deem the work acceptable. The Project Authority will have two weeks to review the deliverables and either accept or request changes to any material submitted.

Once a change is requested, the contractor will have two weeks to make appropriate changes and submit the final deliverables for acceptance.

8. Responsibility of the Contractor

The Contractor is responsible for carrying out all aspects of the project work as herein indicated. The Contractor will perform the work using the Contractor's own information, research, facilities, and equipment.

It is the responsibility of the Contractor to facilitate and maintain regular communication with the Department. Communication is defined as all reasonable efforts to inform the Project Authority of plans, decisions, proposed approaches, implementation, and results of work, to ensure that the project is progressing well and in accordance with expectations. Communication may include: phone calls, electronic mail, and meetings. In addition, the Contractor is to immediately notify the Project Authority of any issues, problems, or areas of concern in relation to any work completed under the contract, as they arise.

Furthermore, research proposals that require approvals from municipal/provincial/territorial orders of government (e.g. for on road testing, use of local infrastructure etc.) must be accompanied by a letter of support from the relevant jurisdiction(s).

9. Language

The researcher must be able to write and communicate orally in English.

10. Travel and Living

The Contractor is not required to travel.

11. Support provided by Canada

The Transport Canada Project Authority will be responsible for providing, as required, direction and guidance to the Contractor, and accepting and approving Contractor deliverables on behalf of the department. Additionally, as required for the completion of the work, the Project Authority will:

- a) Ensure that appropriate subject matter experts and stakeholders from within the department are available to the Contractor, as required, to provide input, answer questions, evaluate deliverables and participate in meetings.
- b) Provide available references and supporting documentation to the contractor.
- c) Review and provide comments on draft reports and all submitted deliverables. The Project Authority will provide a written response addressing any issues promptly.

12. Location of Work

All work will be conducted offsite with the exception of the possible attendance of any in-person meetings at the TC-MRSP offices in accordance with public health COVID-19 guidelines.

13. Timeframe and delivery dates

The researcher will be responsible for providing the following deliverables as identified by TC:

Task #	Task Description	Date Due
1	Literature review draft	3 weeks following signing of contract
1	Completion of literature review	6 weeks following signing of contract
2 and 3	Submit scenario framework and catalogue draft for review by TC	7 months following signing of contract
1, 2, and 3	Provide Final Report including the literature review, scenario development framework and catalogue (to be published)	10 months following signing of contract
3	Presentation of report	Within 3 weeks of PA accepting final report

All Deliverables are to be submitted electronically to TC in a compatible version of MS Windows 2013 and MS Office 2013.

14. Contractor qualifications

The Contractor will provide a project team that will be led by a Senior Project Manager and consist at a minimum of the following members and other staff who are required to support their work:

- 1) Project manager;
- 2) Senior engineer with expertise in ADS/ADAS **safety verification**.
- 3) Senior engineer with expertise in ADS/ADAS **performance testing**.

4) Software engineer with expertise in **scenario development** for ADS and/or ADAS.

Each senior engineer resource must have at least a bachelor's degree in mechanical, electrical, or aerospace engineering or an equivalent. The software engineer must have at least a bachelor's degree in computer science or an equivalent. The expert in safety verification must have demonstrated experience in validation of hardware and software using automotive industry's best practices. The expert in performance testing must have demonstrated experience in scenario-based verification of ADS/ADAS. Overall, the team also needs to demonstrate an understanding of the regulatory oversight of the Canadian motor vehicle industry including the demonstration of compliance and certification testing. CVs for all personnel should be provided with the proposal.

ANNEX B – BASIS OF PAYMENT

1.0 Professional Services

The contractor will be paid for the Work performed in accordance with the Basis of Payment to the maximum ceiling price listed in Table 1 below.

1.1 Table 1 – Contract Period

Deliverables	Timeline	Milestone %	Total \$
Completion of Literature Review	6 weeks following Contract Award	Once approved by the Department Representative, the Contractor is to receive 25% of the total value of the contract.	\$
Scenario Framework and Catalogue Draft	7 months following Contract Award	Once approved by the Department Representative, the Contractor is to receive 25% of the total value of the contract.	\$
Final Draft	10 months following Contract Award	Once approved by the Department Representative, the Contractor is to receive 50% of the total value of the contract.	\$
Total Price not to be exceeded:			\$