

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

Bid Receiving - PWGSC / Réception des
soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage , Phase III
Core OB2 / Noyau OB2
Room 103 / Pièce 103
Gatineau, Québec K1A 0S5

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

Proposal to: Public Works and Government Services Canada

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

Proposition au: Travaux Publics et Services Gouvernementaux Canada

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

de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Services and Innovation Acquisition Sector/ Secteur de la
Gestion de l'Approvisionnement en Services et Achats
Innovateurs
10 Wellington Street/10, rue Wellington
Gatineau, Quebec K1A 0S5

Title-Sujet Quantum Technology Support Services / Services de soutien aux technologies quantiques	
Solicitation No. - N° de l'invitation W7714-227998/B	
Client Reference No. - N° de référence du client W7714-22-7998	Date 17 August 2022
GETS Reference No. - N° de référence de SEAG	
File No. - N° de dossier W7714-227998	CCC No./N° CC – FMS NO. / N° VME
Solicitation Closes – L'invitation prend fin at – à 02 :00 p.m. on – le 2022	Time Zone Fuseau horaire Eastern Daylight Time ET
F.O.B. – F.A.B	
Destination	
Address Enquiries to: - Adresser toutes questions à: April Campbell	Buyer Id – Id de l'acheteur 10sl
Telephone No. - N° de téléphone 613-858-9485	FAX No. - N° de FAX
Destination of Goods, Services and Construction: Destinations des biens, services et construction :	
Specified Herein Précisé dans les présentes	

Instructions : See Herein

Instructions : voir aux présentes

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de telephone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)	
Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

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This bid solicitation cancels and supersedes previous bid solicitation number W7714-227998/A dated 12 April 2022 with a closing of 27 May 2022 at 2:00 p.m. Eastern Daylight Time. A debriefing or feedback session will not be provided to bidders who bid on the previous solicitation.

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 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, the Electronic Payment Instruments, the Federal Contractors Program for Employment Equity - Certification, the DND 626 Task Authorization Form and any other annexes.

1.2 Summary

1.2.1 Requirement

The Tactical Radar (TR) group of the Radar Sensing & Exploitation (RSE) section at Defence Research and Development Canada (DRDC) Ottawa is performing Research and Development (R&D) in five Quantum Technology Areas in support of defence applications. The objective of this requirement is to provide research and development support on an "as and when requested" basis to DRDC Ottawa Research Centre for a period of two years with three option periods of one year each.

Up to five contracts may be awarded as a result of this solicitation.

1.2.2 Estimated Utilization

One Primary contract for each Technology Area and one Secondary contract for two Technology Areas to allocated on the basis of a 65 / 35% ratio of the overall budget for those Technology Areas. The estimated utilization for the initial period, Applicable Taxes extra, of the contract is as follows:

Technology Area		Primary	Secondary
1	Quantum Enhanced Microwave Radar	\$390,000	\$210,000
2	Quantum-Enhanced Lidar or Quantum Enhanced Imager	\$390,000	\$210,000
3	Quantum Communication	\$400,000	
4	Quantum Position, Navigation and Timing	\$200,000	
5	Quantum Magnetometry and Gravimetry	\$200,000	

1.2.3 Canadian Content

The requirement is limited to Canadian services.

1.2.4 Federal Contractors Program (FCP)

The Federal Contractors Program (FCP) for employment equity applies to this procurement; refer to Part 5 – Certifications and Additional Information, Part 7 - Resulting Contract Clauses and the annex titled Federal Contractors Program for Employment Equity - Certification.

1.2.5 Canada Post Corporation (CPC) Connect

This bid solicitation allows bidders to use the Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

1.3 **Debriefings**

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

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

The 2003 (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.2 Submission of Bids

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

Bid Receiving Unit
Place du Portage, Phase III, 0B2
11 Laurier Street
Gatineau, Quebec K1A 0S5
Telephone: 613-420-7200

Note: For bidders choosing to submit using Canada Post Corporation's (CPC) Connect service for bids closing at the Bid Receiving Unit in the National Capital Region (NCR) the email address is:

tpsgc.pareceptiondessomissions-apbidreceiving.pwgsc@tpsgc-pwgsc.gc.ca

Note: Bids will not be accepted if emailed directly to this email address. This email address is to be used to open a CPC Connect conversation, as detailed in Standard Instructions 2003, or to send bids through a CPC Connect message if the bidder is using its own licensing agreement for CPC Connect service.

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

2.3 Former Public Servant

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

Definitions

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

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

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

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

Former Public Servant in Receipt of a Pension

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

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

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.
By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2019-01 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes () No ()**

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;

- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

2.4 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten 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

If the Bidder chooses to submit its bid electronically, Canada requests that the Bidder submits its bid in accordance with section 08 of the 2003 standard instructions. The CPC Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

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

- Section I: Technical Bid
- Section II: Financial Bid
- Section III: Certifications and 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 (4 hard copies and 1 soft copy on USB key)
- Section II: Financial Bid (2 hard copies and 1 soft copy on USB key)
- Section III: Certifications and Additional Information (1 hard copy and 1 soft copy on USB key)

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

If the Bidder is simultaneously providing copies of its bid using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through CPC Connect service, the wording of the electronic copy provided through CPC Connect service will have priority over the wording of the other copies.

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

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

Canada requests that bidders follow the format instructions described below in the preparation of hard copy of their bid:

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). To assist Canada in reaching its objectives, bidders should:

- 1) Include all environmental certification(s) relevant to your organization (e.g. ISO 14001, Leadership in Energy and Environmental Design (LEED), Carbon Disclosure Project, etc.)

- 2) Include all environmental certification(s) or Environmental Product Declaration(s) (EPD) specific to your product/service (e.g. Forest Stewardship Council (FSC), ENERGYSTAR, etc.)
- 3) Unless otherwise noted, bidders are encouraged to submit bids electronically. If hard copies are required, bidders should:
 - a. use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
 - b. use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

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

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

Section II: Financial Bid

3.1.1 Bidders must submit their financial bid in accordance with the following:

- (a) For the Work described in Annex A "Statement of Work", excluding Travel and Living costs, firm, all-inclusive hourly rates including overhead and profit for:
 - i) each labour category; and,
 - ii) each year of the contract; and,
 - iii) each option period of the contract.
- (b) The total amount of Applicable Taxes are to be shown separately, if applicable.
- (c) The information should be provided in accordance with the Financial Bid Presentation Sheet at Attachment 1 to Part 3.
- (d) Prices must be in Canadian funds, Canadian customs duties and excise taxes included, and Applicable Taxes are extra, if applicable.

3.1.2 Electronic Payment of Invoices – Bid

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If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Attachment 2 to Part 3, Electronic Payment Instruments, to identify which ones are accepted.

If Attachment 2 to Part 3, 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.

Section III: Certifications and Additional Information

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

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

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

4.2 Phased Bid Compliance

4.2.1 (2018-07-19) General

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

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE.

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

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.
- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC)

2003 (2020-05-28) Standard Instructions – Goods or Services – Competitive Requirements nor Canada’s right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).

- (e) Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada’s email inbox at Canada’s email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

4.2.2 (2018-03-13) Phase I: Financial Bid

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada’s review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- (b) Canada’s review in Phase I will be performed by officials of the Department of Public Works and Government Services.
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send a written notice to the Bidder (“Notice”) identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the “Remedy Period”) to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.

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

4.2.3 Eligible Mandatory Criteria

The Eligible Mandatory Criteria is limited to the following: 4.3.1 General, and 4.3.2 Mandatory Technical Criteria M2, M3, and M4 for each of the Technology Areas for which the Bidder has submitted a bid.

4.2.4 (2018-03-13) Phase II: Technical Bid

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

or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.

- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid.
- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.
- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid

- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

4.2.5 (2018-03-13) Phase III: Final Evaluation of the Bid

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

4.3 Technical Evaluation

4.3.1 General

Bidders may submit a bid for all five Technology Areas detailed at article 5 of the Statement of Work at Annex A. Responses for both mandatory and point rated evaluation criteria must address only the Technology Areas for which the bidder is submitting a proposal (minimum of three Technology Areas).

Technology Area		Select (✓)
1	Quantum Enhanced Microwave Radar	
2	Quantum-Enhanced Lidar or Quantum Enhanced Imager	
3	Quantum Communication	
4	Quantum Position, Navigation and Timing	
5	Quantum Magnetometry and Gravimetry	

Project information must include the following for both corporate and resource based criteria:

- a) Name and description of client organization.**
- b) Scope, objective, size in dollars and resources, project timeframe (from-to dates month/year).
- c) For **Corporate** Based Criteria projects, , the Bidder must provide a project summary for each submitted project reference, a description of the resource team, including their roles and responsibilities throughout the duration of the project.

For **Proposed Resources** projects, the following is required for each project submitted:

- a) Outcomes of the project;
- b) Description of the roles and responsibilities of the proposed resource in the identified project or activity.

Each project referenced must have been a minimum of three months in duration.

The Bidder must provide the necessary documentation to support compliance with this requirement.

****Project(s) cited must have been for client(s) external to the Bidder's organization. The following project summaries will not be considered: for any organization that is related to the Bidder (e.g.: parent company or subsidiary of the Bidder and the Bidder's internal clients).**

A Project Template is provided at Attachment 2 to Part 4 of the Bid Solicitation.

4.3.2 Mandatory Technical Criteria

Item	Description
Corporate Requirements	
M1	The Bidder must submit a proposal that addresses a minimum of three of the technology areas defined at article 5 of the Statement of Work at Annex A.
M2	The Bidder must demonstrate a maximum of five projects (contracts or grants) totaling in excess of \$1M in total in the past five years in one or more of the technology areas defined at article 5 of the Statement of Work at Annex A. One of the projects must include a component that involves laboratory investigation or outdoor experimental trials.
Resource Requirements	
M3	The proposed Project Manager (PM) or Principle Investigator (PI) must demonstrate 5 years of experience as a Project Manager or Principle Investigator and a minimum of 1 year of experience in the technology areas for which they are proposed. One of the projects must include end-to-end laboratory investigations or prototype systems. More than one PM/PI may be proposed in order to demonstrate capacity.
M4	The proposed PM/PI(s) must have completed a PhD level degree in physics or quantum information or equivalent from a Canadian University or equivalent from a foreign institution as determined by the Canadian Centre for International Credentials (http://www.cicic.ca/en/index.aspx). The Bidder must provide a copy of the degree or evidence to support the determination that the education is equivalent to that of a Canadian University.

4.3.3 Point Rated Technical Criteria

Item	Description	Scoring Methodology / Points
P1	The Bidder's proposed PM/PI(s) should demonstrate up to five projects relevant to the service areas defined at articles 5.1 to 5.6 of the Statement of Work at Annex A, within the last five years from date of bid solicitation. The projects must be within the Technology Areas for which they are submitting a proposal. All of the projects must demonstrate experimentation and data analysis.	0.5 points per month in a project, to a maximum of 10 points for each of the five technology areas.
P2	The Bidder's proposed PM/PI(s) should demonstrate authorship of articles either published or accepted for publication in Peer Reviewed Journals and/or Conferences within the last five years in one or more of the technology areas defined at article 5 of the Statement of Work at Annex A. For each technology area, a maximum of two references to papers for which the PM/PI(s) were the author or co-author can be submitted. A copy of the final papers must be provided or a copy of the final papers and the notification of acceptance for papers accepted but not yet published.	2 points for each paper without an experimental data acquisition and analysis component or that reflect only a component of a system; or, 4 points for each paper with an experimental data acquisition and analysis component that includes either an end-to-end laboratory investigation or prototype system. Maximum of 8 points for each of the five technology areas.
P3	The Bidder should demonstrate a recruitment plan / strategy that ensures the availability of resources relevant to the Technology Areas being bid. Bidders should refer to article 11 of the Statement of Work at Annex A.	0 points: the strategy failed to provide confidence that the bidder could provide the resources 5 points: the strategy provided some indication of being able to provide the resources with the required expertise. 10 points: the strategy provides a very good indication of being able to provide the required expertise in a plan detailing where sources of relevant expertise can be found and how the employment opportunities would be advertised and/or experts solicited for interview.

		Maximum available points: 10	
P4	<p>The Bidder should demonstrate the ability to provide prototypes suitable for data collection in laboratory/short-range and outdoor/long-range settings using a novel approach in each of the Technology Areas being bid.</p> <p>Bidders are requested to address the following for each Technology Area for which they are submitting a bid:</p> <ul style="list-style-type: none"> • an Experimental Design / Plan; • Data Analysis Methodology including metrics used; and, • an extrapolation of results to do performance prediction for long-range applications. <p>Responses for each Technology Area should not exceed 2 pages.</p>	<p>For each Technology Area, the following scoring methodology will be utilized:</p> <p>Experimental Plan and Design 0 points: Unfeasible plan in terms of resources or technical soundness of the plan</p> <p>2 point Some indication that the plan and design is feasible and technically sound</p> <p>4 points: Very good indication provided that the plan and design is feasible and technically sound, as demonstrated by a) past experience; or, b) having the required expertise to carry out all of the components of the plan</p> <p>Data analysis methodology</p>	
	A	<p>Quantum Enhanced Microwave Quantum Radar Technology Area:</p> <p>Investigate the performance of an innovative approach to quantum-enhanced microwave quantum radar transmitter and/or receiver in laboratory.</p>	<p>0 points: Not using techniques towards build systems in the Technology Area</p> <p>1 point: Provided some indication of use of techniques for data analysis in systems in the Technology Area</p>
	B	<p>Quantum-Enhanced Lidar or Quantum-Enhanced Imager Technology Area:</p> <p>Investigate the performance of an innovative approach to quantum-enhanced range finding or imaging at a range greater than 1km</p>	<p>2 points: Provided a very good indication of use of techniques for data analysis in systems in the Technology Area</p> <p>Extrapolation of results</p>
	C	<p>Quantum Communication Technology Area</p> <p>Investigate a Quantum Key Distribution (QKD) or non-QKD quantum communication protocol in long-distance (>10 km) free-space or fiber.</p>	<p>0 points: Insufficient details provided on methodology to extrapolate results for long-range sensing</p> <p>1 point: Some indication of sound methodology to extrapolate results</p>
	D	<p>Quantum Positioning, Navigation and Timing Technology Area:</p>	<p>2 points: Very good indication of the soundness of the methodology to the</p>

		Investigate a quantum navigation solution in the laboratory that enables longer-term navigation in the absence of GPS.	extrapolation of results, as demonstrated by a) past experience; or, b) accepted methodology in system design
	E	Quantum Magnetometry and Quantum Gravimetry Technology Area: Compare the performance of a novel magnetometer / gravimeter with an existing commercial grade product.	A maximum of 8 points is available for each Technology Area.

4.4 Financial Evaluation

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, FOB destination, Canadian customs duties and excise taxes included. The bid will be evaluated in accordance with the information provided at Attachment 1 to Part 3 – Financial Bid Presentation Sheet.

4.5 Basis of Selection - Lowest Price Per Point

4.5.1 To be declared responsive, a bid must:

- a. comply with all the requirements of the bid solicitation;
- b. meet all mandatory technical evaluation criteria; and
- c. obtain the required minimum of 60 percent overall of the points for the technical evaluation criteria which are subject to point rating. The rating is performed based on the total points available for the Technology Areas for which the Bidder submitted a responsive bid.

The Maximum Available points are detailed in Table 1 at 4.5.4 below.

4.5.2 Bids not meeting (a) or (b) or (c) will be declared non-responsive.

4.5.3 The Bidder may be allocated up to 4 additional Strength Points based on the number of Technology Areas for which they have submitted a compliant bid, as follows:

Compliant bid for 2 Technology Areas	1 point
Compliant bid for 3 Technology Areas	2 points
Compliant bid for 4 Technology Areas	3 points
Compliant bid for 5 Technology Areas	4 points

The score achieved will be added to the total points achieved and will be utilized in the calculations to determine the lowest cost per point and ranking for each Technology Area.

4.5.4 The following table defines the Maximum Available Points, Minimum Required Score rounded up or down as appropriate, the Strength Points and the Total Final Available Score.

Table 1 – Maximum Points / Minimum Score / Strength Points

Description	P1	P2	P3	P4	Total	Minimum Score (60%)	Strength Points	Total Final Available Score
1 Technology Area	10	8	10	8	36	22	0	36
2 Technology Areas	20	16	10	16	62	37	1	63
3 Technology Areas	30	24	10	24	88	53	2	90
4 Technology Areas	40	32	10	32	114	68	3	117
5 Technology Areas	50	40	10	40	140	84	4	144

- 4.5.5 Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. The responsive bids will be ranked based on the lowest evaluated price per point achieved by dividing the Total Bid Price achieved in Attachment 1 to Part 3 of the Bid Solicitation, Financial Bid Presentation Sheet by the Total Final Available Score.
- 4.5.6 In the event that two or more responsive bids within a Technology Area have the same lowest price per point, the responsive bid which obtained the highest points will be recommended for contract award.
- 4.5.7 Canada will recommend for award the top ranked bids representing each Technology Areas (Primary Contractor) and the second ranked bid (as applicable) for the Quantum Enhanced Microwave Radar and Quantum Enhanced Lidar or Quantum Enhanced Imager Technology Areas (Secondary Contractor).

Table 2 illustrates the basis of selection based on the following:

Bidder A 5 Technology Areas	Score: 122	Total Evaluated Bid Price: \$510,600
Bidder B 2 Technology Areas	Score: 41	Total Evaluated Bid Price: \$406,857
Bidder C 3 Technology Areas	Score: 64	Total Evaluated Bid Price: \$430,221
Bidder D 3 Technology Areas	Score: 73	Total Evaluated Bid Price: \$482,560
Bidder E 4 Technology Areas	Score: 99	Total Evaluated Bid Price: \$399,158

Table 2 – Illustrative Example of Basis of Selection by Bidder

Bidder	Bid	Technology Area Bid	Mandatory	Point Rated Score / 140	Minimum 60% (84)	Strength Points	Total Final Available Score
A - ABC CO.	X	Quantum-Enhanced Microwave Radar	√	118	√	4	122
	X	Quantum-Enhanced Lidar or Quantum-Enhanced Imager	√				
	X	Quantum Communication	√				
	X	Quantum Position, Navigation and Timing	√				
	X	Quantum Magnetometry and Gravimetry	√				

Bidder	Bid	Technology Area Bid	Mandatory	Point Rated Score / 62	Minimum 60% (37)	Strength Points	Total Final Available Score
B - DEF INC.	X	Quantum-Enhanced Microwave Radar	√	40	√	1	41
	X	Quantum-Enhanced Lidar or Quantum-Enhanced Imager	√				
	X	Quantum Communication	√				
	X	Quantum Position, Navigation and Timing	√				
	X	Quantum Magnetometry and Gravimetry	X				

Bidder	Bid	Technology Area Bid	Mandatory	Point Rated Score / 88	Minimum 60% (53)	Strength Points	Total Final Available Score
C - GHI CORP.	X	Quantum-Enhanced Microwave Radar	√	62	√	2	64
	X	Quantum-Enhanced Lidar or Quantum-Enhanced Imager	√				
	X	Quantum Communication	√				
	X	Quantum Position, Navigation and Timing	X				
	X	Quantum Magnetometry and Gravimetry	√				

Bidder	Bid	Technology Area Bid	Mandatory	Point Rated Score / 88	Minimum 60% (53)	Strength Points	Total Final Available Score
D - JKL JV	X	Quantum-Enhanced Microwave Radar	√	71	√	2	73
	X	Quantum-Enhanced Lidar or Quantum-Enhanced Imager	√				
		Quantum Communication					
	X	Quantum Position, Navigation and Timing					
	X	Quantum Magnetometry and Gravimetry	√				

Bidder	Bid	Technology Area Bid	Mandatory	Point Rated Score / 114	Minimum 60% (68)	Strength Points	Total Final Available Score
E - MNO LTD.	X	Quantum-Enhanced Microwave Radar	√	96	√	3	99
	X	Quantum-Enhanced Lidar or Quantum-Enhanced Imager	√				
	X	Quantum Communication	√				
		Quantum Position, Navigation and Timing					
	X	Quantum Magnetometry and Gravimetry	√				

Bidder A would be recommended for award of a contract for three Technology Areas. As the Primary Contractor for:
Quantum Position, Navigation and Timing
and as the Secondary Contractor for
Quantum-Enhanced Microwave Radar
Quantum-Enhanced Lidar or Quantum-Enhanced Imager

Bidder E would be recommended for award of a contract as the Primary Contractor for four Technology Areas:
Quantum-Enhanced Microwave Radar
Quantum-Enhanced Lidar or Quantum-Enhanced Imager
Quantum Communication
Quantum Magnetometry and Gravimetry

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 website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.1.2 Canadian Content Certification

5.1.2.1 *SACC Manual* clause A3050T (2020-07-01) Canadian Content Definition

5.1.2.2 Canadian Content Certification

This procurement is limited to Canadian services.

The Bidder certifies that:

() the services offered are Canadian services as defined in paragraph 4 of clause A3050T.

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

Bidders should submit this certification completed with their bid. If the certification is not completed and submitted with the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to submit this completed certification. Failure to comply with the request of the Contracting Authority and submit the completed certification will render the bid non-responsive.

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>), 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 (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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

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

The Bidder must provide the Contracting Authority with a completed annex titled Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

5.2.3 Procurement Business Number

Canadian suppliers are required to have a Procurement Business Number (PBN) prior to contract award in order to receive a PWGSC contract. Suppliers may register for a PBN online at Supplier Registration Information (<https://srisupplier.contractsCanada.gc.ca>). For non-Internet registration, suppliers may contact the InfoLine at 1-800-811-1148 to obtain the telephone number of the nearest Supplier Registration Agent.

PBN: _____

5.2.4 Applicable Laws

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

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

Applicable laws: _____

5.2.5 Board of Directors / Board of Governors

_____	_____
Name	Title
_____	_____
Name	Title
_____	_____
Name	Title
_____	_____
Name	Title

5.2.6 Contractor's Representative

The contractor's representative must be able to sign the contract and legally bind the entity.

_____	_____
Name	Title
_____	_____
Legal Name of Entity	Operating As
_____	_____
Street Address	Province, Postal Code
_____	_____
Telephone	Email

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 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex "____" and the Contractor's technical bid entitled _____, dated _____.

6.1.1 Task Authorization

The Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

As more than one contract has been awarded for this requirement, a request to perform a task will be sent to the first ranked contractor. If that contractor confirms in writing that it is unable to perform the task as a result of previous commitments under a TA, the request to perform a task will then be forwarded to the contractor ranked second. This process will continue until the task can be performed by another contractor. If no contractor can perform the task, Canada reserves the right to acquire the required Work by other means.

A contractor may advise the Procurement Authority and the Contracting Authority in writing that it is unable to carry out additional tasks as a result of previous commitments under a TA and no request to perform a task will be sent to that contractor until that contractor has given notice in writing to the Procurement Authority and the Contracting Authority that it is available to perform additional tasks.

6.1.1.1 *Task Authorization Process*

1. The Procurement Authority will provide the Contractor with a description of the task using the DND 626, Task Authorization Form.
2. The Task Authorization (TA) will contain the details of the activities to be performed, a description of the deliverables, and a schedule indicating completion dates for the major activities or submission dates for the deliverables. The TA will also include the applicable basis(bases) and methods of payment as specified in the Contract.
3. The Contractor must provide the Procurement Authority, within five calendar days of its receipt, the proposed total estimated cost for performing the task and a breakdown of that cost, established in accordance with the Basis of Payment specified in the Contract.
4. The Contractor must not commence work until a TA authorized by the Procurement Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

6.1.1.2 Task Authorization Limit

The Procurement Authority may authorize individual task authorizations up to the following limits per Technology Area, Applicable Taxes included, inclusive of any revisions.

Technology Area		TA Limits	
		Primary (v)	Secondary (v)
1	Quantum Enhanced Microwave Radar	\$200,000	\$100,000
2	Quantum-Enhanced Lidar or Quantum Enhanced Imager	\$200,000	\$100,000
3	Quantum Communication	\$200,000	
4	Quantum Position, Navigation and Timing	\$100,000	
5	Quantum Magnetometry and Gravimetry	\$100,000	

Any task authorization to be issued in excess of that limit must be authorized by the Contracting Authority before issuance.

6.1.1.3 Task Authorization – Order of Ranking

Multiple contracts were awarded as a result of Public Works and Government Services Canada bid solicitation number: W7714-227998/B. The Contractors' order of ranking is as follows:

Technology Area		Primary (v)	Secondary (v)
1	Quantum Enhanced Microwave Radar		
2	Quantum-Enhanced Lidar or Quantum Enhanced Imager		
3	Quantum Communication		
4	Quantum Position, Navigation and Timing		
5	Quantum Magnetometry and Gravimetry		

6.1.1.4 Minimum Work Guarantee - All the Work - Task Authorizations

- In this clause,
"Maximum Contract Value" means the amount specified in the "Limitation of Expenditure" clause set out in the Contract; and

"Minimum Contract Value" means 10%.
- Canada's obligation under the Contract is to request Work in the amount of the Minimum Contract Value or, at Canada's option, to pay the Contractor at the end of the Contract in accordance with paragraph 3. In consideration of such obligation, the Contractor agrees to stand in readiness throughout the Contract period to perform the Work described in the Contract. Canada's maximum liability for work performed under the Contract must not exceed the Maximum Contract Value, unless an increase is authorized in writing by the Contracting Authority.
- In the event that Canada does not request work in the amount of the Minimum Contract Value during the period of the Contract, Canada must pay the Contractor the difference between the Minimum Contract Value and the total cost of the Work requested.

4. Canada will have no obligation to the Contractor under this clause if Canada terminates the Contract in whole or in part for default.

6.1.1.5 Periodic Usage Reports - Contracts with Task Authorizations

The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under the Contract.

The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "nil" report.

The data must be submitted on a quarterly basis to the Contracting Authority.

The quarterly periods are defined as follows:

- 1st quarter: April 1 to June 30;
- 2nd quarter: July 1 to September 30;
- 3rd quarter: October 1 to December 31; and
- 4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than 15 calendar days after the end of the reporting period.

Reporting Requirement- Details

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

For each authorized task:

- i. the authorized task number or task revision number(s);
- ii. a title or a brief description of each authorized task;
- iii. the total estimated cost specified in the authorized Task Authorization (TA) of each task, exclusive of Applicable Taxes;
- iv. the total amount, exclusive of Applicable Taxes, expended to date against each authorized task;
- v. the start and completion date for each authorized task; and
- vi. the active status of each authorized task, as applicable.

For all authorized tasks:

- i. the amount (exclusive of Applicable Taxes) specified in the contract (as last amended, as applicable) as Canada's total liability to the contractor for all authorized TAs; and
- ii. the total amount, exclusive of Applicable Taxes, expended to date against all authorized TAs.

6.1.1.6 Task Authorization - Department of National Defence

The administration of the Task Authorization process will be carried out by the Procurement Authority. This process includes monitoring, controlling and reporting on expenditures of the contract with task authorizations to the Contracting Authority.

6.2 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>) issued by Public Works and Government Services Canada.

6.2.1 General Conditions

2040 (2021-12-02), General Conditions - Research & Development, apply to and form part of the Contract.

6.3 Security Requirements

6.3.1 There is no security requirement applicable to the Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from date of Contract to 30 July 2024, inclusive.

6.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to 3 additional 1 year period(s) 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 10 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.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

April Campbell
Supply Specialist
Public Services and Procurement Canada
Acquisitions Program

ADM – Procurement Branch
Services and Innovation Acquisition Sector
Research and Development Procurement Directorate
10 Wellington Street
Gatineau, Quebec K1A 0S5

Telephone: 613-858-9485
E-mail address: April.campbell@pwgsc-tpsgc.gc.ca

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

6.5.2 Technical Authority

The Technical Authority for the Contract will be determined.

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

6.5.3 Procurement Authority

The Procurement Authority for the Contract will be determined.

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

6.5.4 Contractor's Representative

Le contractor's representative will be determined.

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

The Contractor will be paid for the Work specified in the authorized task authorization, in accordance with the Basis of payment at Annex B.

Canada's liability to the Contractor under the authorized task authorization must not exceed the limitation of expenditure OR the ceiling price specified in the authorized task authorization. Custom duties are included and Applicable Taxes are extra.

No increase in the liability of Canada or in the price of the Work specified in the authorized task authorization 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 authorized, in writing, by the Contracting Authority before their incorporation into the Work.

6.7.2 Limitation of Expenditure - Cumulative Total of all Task Authorizations

1. Canada's total liability to the Contractor under the Contract for all authorized Task Authorizations (TAs), inclusive of any revisions, must not exceed the sum of \$ _____. Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada will be authorized or paid to the Contractor unless an increase has been approved, in writing, by the Contracting Authority.
3. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
4.
 - a. when it is 75 percent committed, or
 - b. four (4) months before the contract expiry date, or
 - c. as soon as the Contractor considers that the sum is inadequate for the completion of the Work required in all authorized TAs, inclusive of any revisions, whichever comes first.
4. 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.

6.7.3 Method of Payment - Progress Payments

1. Canada will make progress payments in accordance with the payment provisions of the Contract, no more than once a month, for cost incurred in the performance of the Work, up to 90 percent of the amount claimed and approved by Canada if:

- a. an accurate and complete claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
 - b. the amount claimed is in accordance with the basis of payment of the Task Authorization;
 - c. the total amount for all progress payments paid by Canada does not exceed 90 percent of the total amount to be paid under the Task Authorization;
 - d. all certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives.
2. The balance of the amount payable will be paid in accordance with the payment provisions of the Contract upon completion and delivery of all work required under the Task Authorization if the Work has been accepted by Canada and a final claim for the payment is submitted.
 3. Progress payments are interim payments only. Canada may conduct a government audit and interim time and cost verifications and reserves the rights to make adjustments to the Contract from time to time during the performance of the Work. Any overpayment resulting from progress payments or otherwise must be refunded promptly to Canada.

6.7.4 SACC Manual Clauses

A9117C (2007-11-30) T1204 – Direct Request by Customer Department
C0305C (2014-06-26) Cost Submission – Limitation of Expenditure or Ceiling Price
H4500C (2010-01-11) Lien – Section 427 of the Bank Act

6.7.5 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)

6.7.6 Time Verification

Time charged and the accuracy of the Contractor's time recording system are subject to verification by Canada, before or after payment is made to the Contractor. If verification is done after payment, the Contractor must repay any overpayment, at Canada's request.

6.8 **Invoicing Instructions**

1. The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment. Each claim must show:

- a. all information required on form PWGSC-TPSGC 1111;
- b. all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- c. the Task Authorization (TA) number.

Each claim must be supported by:

- a. a copy of time sheets to support the time claimed;
 - b. a copy of the invoices, receipts, vouchers for all direct expenses, travel and living expenses;
 - c. copy of the invoices and receipts for consumable item(s) having an aggregate value of \$1,000.00 CAD or more, Applicable Taxes included;
 - d. a copy of the monthly progress report.
2. Applicable Taxes must be calculated on the total amount of the claim before the holdback is applied. At the time the holdback is claimed, there will be no Applicable Taxes payable as it was claimed and payable under the previous claims for progress payments.
 3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the Procurement Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.
 4. The Procurement Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for certification and onward submission to the Payment Office for the remaining certification and payment action.
 4. The Contractor must not submit claims until all work identified in the claim is completed.

6.9 Certifications and Additional Information

6.9.1 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.

6.9.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

6.9.3 Canadian Content Certification

1. The Contractor warrants that the certification of Canadian Content submitted by the Contractor is accurate and complete, and that the goods, services or both to be provided under the Contract are in accordance with the definition contained in clause A3050T.
2. The Contractor must keep proper records and documentation relating to the origin of the goods, services or both provided to Canada. The Contractor must not, without obtaining before the written consent of the Contracting Authority, dispose of any such records or documentation until the expiration of six (6) years after final payment under the Contract, or until settlement of all outstanding claims and disputes under the Contract, whichever is later. All such records and documentation must at all times during the retention period be open to audit, inspection and examination by the representatives of Canada, who may make copies and take extracts. The Contractor must provide all facilities for such audits, inspections and examinations, and must furnish all such information as the representatives of Canada may from time to time require with respect to such records and documentation.
3. Nothing in this clause must be interpreted as limiting the rights and remedies which Canada may otherwise have pursuant to the Contract.

6.10 **Applicable Laws**

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

6.11 **Priority of Documents**

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

- (a) the Articles of Agreement;
- (b) the general conditions 2040 (2021-12-02), Research & Development;
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) the signed Task Authorizations (including all of its annexes, if any) (*if applicable*);
- (f) the Contractor's bid dated _____, (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award:*" as clarified on _____ " *or* ", as amended on _____ " *and insert date(s) of clarification(s) or amendment(s)*).

6.12 **Defence Contract**

The Contract is a defence contract within the meaning of the Defence Production Act, R.S.C. 1985, c. D-1, and must be governed accordingly.

Title to the Work or to any materials, parts, work-in-process or finished work must belong to Canada free and clear of all claims, liens, attachments, charges or encumbrances. Canada is entitled, at any time, to remove, sell or dispose of the Work or any part of the Work in accordance with section 20 of the Defence Production Act.

6.13 SACC Manual Clauses

A9062C (2011-05-16) Canadian Forces Site Regulations
A2000C (2006-06016) Foreign Nationals (Canadian Contractor)
G1005C (2016-01-28) Insurance - No Specific Requirement

6.14 Dispute Resolution

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

1. INTRODUCTION

The Tactical Radar (TR) group of the Radar Sensing & Exploitation (RSE) section at Defence Research and Development Canada (DRDC) Ottawa is performing Research and Development (R&D) in the area of quantum technologies in support of defence applications.

This requirement will provide technical and scientific support to R&D which enables the development of quantum science and technology to allow advice to be provided to the Department of National Defence.

2. BACKGROUND

The R&D is related to quantum sensing and related areas (specifically, quantum-enhanced and novel quantum-inspired classical sensing) to support the Canadian Armed Forces (CAF)/Department of National Defence (DND) in concept development and the specification of future systems/fleets in terms of equipment modernization and recapitalization.

To date, the R&D has been very active in the areas of quantum sensing; however, most of the work has been done using metrics that are not relevant for sensor performance in practice. In particular, little guidance is provided in terms of credible performance prediction theory for a sensor based on a quantum-enhanced protocol backed by real experimental data collected in laboratory or outdoor field trials.

3. OBJECTIVE / REQUIREMENT

The objective of this requirement is to provide research and development support on an “as and when requested” basis to DRDC Ottawa Research Centre in the

- a) investigation of novel quantum sensing protocols and related areas;
- b) development of credible performance prediction theory for potential quantum sensor design that is validated with experimental data; and,
- c) the generation and processing of real data.

4. ACRONYMS

CAF	Canadian Armed Forces
DND	Department of National Defence
DRDC	Defence Research and Development Canada
GFE	Government Furnished Equipment
GoC	Government of Canada
GFI	Government Furnished Information
GPS	Global Positioning System
GSM	Government Supplied Material

NCR	National Capital Region
PI	Principal Investigator
PM	Project Manager
QR	Quantum Radar
RSE	Radar Sensing & Exploitation
R&D	Research and Development
SDD	Software Design Document
SOW	Statement of Work
SUM	Software or System User's Manual
TA	Technical Authority
TR	Tactical Radar

5. SCOPE OF WORK

The Work to be performed must be in accordance with this Requirement and as described in each Task Authorization.

The technical requirements include, but are not limited to: tasks requiring experimental design, and analysis of system performance, where a system can consist of hardware (standalone sensor systems), software to analyze data or do performance prediction, or all of the above. Project administration and project management services are also required.

The work is also organized into the following Technology Areas:

- 1) Quantum-enhanced microwave radar
- 2) Quantum-enhanced lidar or quantum-enhanced imager
- 3) Quantum communication
- 4) Quantum position, navigation and timing
- 5) Quantum magnetometry and Gravimetry

Multiple resources may be required to perform the tasks in any one of the technology areas. A representative example of the work to be conducted in each of the service areas is provided below. All services will utilize the resource categories defined at Section 12, Resource Requirements. The service areas are detailed below.

5.1 Scientific Studies and Investigations

The Contractor must provide a range of scientific studies and investigation services in one or more of the technology areas to deliver studies directed towards the development, experimentation with, and the generation and processing of simulated and real data in support of:

- a) Assessing and documenting the state-of-the-art of quantum sensors and related systems;
- b) Updating or integrating new capabilities for novel quantum sensing and related applications;
- c) Assessing and documenting the cost and level of effort of these upgrades or integration efforts;
- d) Generating system requirements specifications and system designs (hardware and software) for these upgrades and integration efforts; and
- e) Delivering custom R&D quantum sensing prototypes.

Deliverables for this service area may include, but not be limited to, the creation and delivery of written reports.

5.1.1 Software Design Document (SDD)

The SDD must include detailed descriptions of the:

- a) Functional specifications of the software design,
- b) Module specifications, and
- c) Directory structure with respect to the location of the source code, how to compile the source code, the location of the executable code, and the location of the output log files. The SDD must also provide information needed by a programmer to understand, interpret, check out, troubleshoot, or modify the existing software on a PC, using the appropriate software development tools. The source code developed for the processors must be included in their respective SDDs.

5.1.2 Software and System User's Manual (SUM)

The SUM must document the steps for executing the software and system, the required input, the expected output, and the measures to be taken if error messages appear.

5.1.3 Technical Report

The Technical report must:

- a) Summarize the objectives of the tasking,
- b) Provide references to any external source material,
- c) Provide a detailed and concise record of the work generated by the tasking, and
- d) Provide a summary of the findings and provide conclusions and further recommendations where required.

The deliverables to be created and submitted by the Contractor, will be detailed in each task authorization and must be provided to the TA in accordance with the provisions of the task authorization and in accordance with the schedule therein. Additional conditions may be detailed in each task authorization, which will take precedence.

Although this is not an exhaustive list, the Contractor will create and submit deliverables of the following types:

- a) A draft hard copy of any of the documents listed under REPORTS;
- b) Final copies (3 bound hard copies) of any of the documents listed under REPORTS;
- c) The complete source code and executable code and all reports for the delivered software applications on DVD or digital USB drive (3 copies); and
- d) Any hardware or software purchased or developed.

Documentation must be provided in Microsoft Word 2013 or later format. All deliverables must be provided in English.

Deliverables will be defined in each Task Authorization.

5.2 Experimental Trials

The Contractor may be required to participate in the collection of sensor and related data. This may include, but is not limited to:

- a) Arranging laboratory or field trials, deploying and adjusting targets for field trials (such as radar reflectors and other targets);
- b) Documenting ground truth for field trials (GPS and photographs);
- c) Assisting with the collection of sensor and related data; and
- d) Assisting with the post-experiment backup of these data.

Deliverables will be defined in each Task Authorization.

5.3 Technical Studies

The Contractor may be required to perform studies directed at improving the performance of quantum sensor and/or communication systems. This may include, but is not limited to studying quantum sensor and/or communication systems operating in concert with other systems such as conventional radar, ElectroOptic/InfraRed (EO/IR) and communications systems as described in the open-literature (books or journal papers on the topics) with a view towards generating new capabilities. The studies can be theoretical, simulation, literature or use real sensor data. They can cover areas such as signal processing, information management, information fusion, performance prediction and operator/system interaction.

Deliverables will be defined in each Task Authorization.

5.4 Software Development and Integration

The Contractor may be required to develop, integrate and document computer code for stand-alone applications in C, C++, or higher-level scientific programming languages such as Matlab, Mathematica and/or Python to support research into quantum sensor data signal processing. This may include, but is not limited to:

- a) Developing applications which provide for signal processing, data manipulation, data display and information management capabilities, and can be either new or additions to existing systems; and
- b) Development environments such as UNIX, Linux or Microsoft Windows.

Deliverables will be defined in each Task Authorization.

5.5 Post Experimental Processing and Data Management

The Contractor may be required to process quantum sensors and/or communications data after it has been collected and manage/archive the data. This may include, but is not limited to the preparation, transcription, formatting of data, which has been previously collected during experimental trials, and the preparation of the corresponding necessary software for dissemination to third parties. Additional copies of all DVDs and digital USB drives prepared for distribution must be prepared and archived at DRDC for future reference.

Deliverables will be defined in each Task Authorization.

5.6 Quantum Technology R&D Prototype

The Contractor may be required to develop a custom R&D quantum sensor and/or communication prototype that is based on successful demonstration of the concept in a laboratory investigation. This may include, but is not limited to, the preparation of:

- a) Single-photon range finder;
- b) Quantum imager based on a single photon avalanche diode detector array;
- c) Quantum key distribution prototype;
- d) Super-cooled quantum-enhanced radar receivers.

Deliverables will be defined in each Task Authorization.

6. DELIVERABLES

6.1 Task Deliverables

The deliverables identified in each individual Task Authorization must be submitted in accordance with the Task Authorization and the Contract.

6.2 Monthly Progress Reports

Monthly progress reports that document all of the tasks the contractor is working on must be provided to the Technical Authority (TA) within ten days after the end of each month and must document completed activities, current activities, planned activities, issues that may impact planned schedule and cost, recommendations and level of effort spent on each activity (examples include writing of software for each individual task, development of documentation for each individual task).

7. LANGUAGE OF DELIVERABLES

Where work involves meetings with the Technical Authority or his/her designated representative, the language of the work must be in English and all deliverables must be in English.

8. LOCATION OF WORK

The work must be performed at the Contractor's facilities.

9. TRAVEL

The Contractor may be required to travel. All travel must have prior written authorization of the Technical Authority.

10. MEETINGS

A kick off teleconference meeting must be held within two (2) weeks of Contract award.

A kick off teleconference meeting must be held prior to each Task Authorization being issued. An interim review meeting may be held during the middle of the Task to inform the TA of the progress.

11. RESOURCE REQUIREMENTS

For each Task Authorization submitted to the Contractor, the Contractor's proposed resources must demonstrate the minimum level of expertise for each category of work.

For all educational requirements, the degree must be from a Canadian University or equivalent from a foreign institution as determined by the Canadian Centre for International Credentials (<http://www.cicic.ca/en/index.aspx>) in any one or more of the following disciplines: electrical engineering, computer engineering, computer science, mathematics or physics. The Contractor must provide a copy of the degree or evidence to support the determination that the education is equivalent to that of a Canadian University.

11.1 Principal Investigator (PI)/Project Manager (PM)

Each contract will have one PI/PM overseeing the service areas in each task whether the contract is addressing one or more of the technology areas: The PI/PM must:

- Select the researchers qualified to perform the task;
- Guide the experimental data acquisition activities, if any;
- Validate the analysis carried out by the researchers on any experimental data;
- Validate the theoretical analysis, if any;
- Test the software developed in simulated and/or real data.

11.2 Junior, Intermediate and Senior Researchers Experience

The goal of the required experience is to demonstrate a thorough understanding of the theory, concepts, principles and design techniques for quantum sensors and related technologies. This could include the design, analysis and evaluation of systems for commercial or military applications.

Each individual must demonstrate one or more of the following three areas as applied to quantum sensors and/or communication systems:

- a) Knowledge of theory and principles, as evidenced by coursework in related areas, peer reviewed journal or conference papers;

- b) Experience working in a quantum laboratory designing and conducting experiments;
- c) Experience analyzing experimental quantum data in the microwave or optical regime.

11.2.1 Junior Researcher

The Junior Researcher resource must have a Bachelor level University degree or higher.

The Junior Researcher resource must demonstrate a minimum of 12 months experience within the last 24 months in the technology areas being bid.

At least 1 of the 3 areas defined at 11.1 above as applied to quantum sensors and/or communication systems must be addressed within the stipulated 24 month timeframe.

11.2.2 Intermediate Researcher

The Intermediate Researcher resource must have a Master's level University degree.

The Intermediate Researcher resource must demonstrate a minimum of 24 months experience within the last 48 months in the technology areas being bid.

At least 2 of the 3 areas defined at 11.1 above as applied to quantum sensors and/or communication systems must be addressed within the stipulated 48 month timeframe.

11.2.3 Senior Researcher

The Senior Researcher resource must have a Ph.D. level University degree or higher.

The Senior Researcher resource must demonstrate a minimum of 48 months experience within the last 60 months.

At least 2 of the 3 areas defined at 11.1 above as applied to quantum sensors and/or communications systems must be addressed within the stipulated 60 month timeframe.

12. GOVERNMENT SUPPLIED MATERIAL (GSM)

Canada may provide the Contractor with access to Government Furnished Equipment and Government Furnished Information (GFI). Examples include sensors as a baseline for comparison (e.g., short-range commercial radars of different frequency bands), antennas, and data recorders. As required, all GFE and GFI will be identified within task authorizations and provided to the Contractor on an as needed basis. The Contractor must track all provided GFE and GFI and must return all items upon completion of the task. This includes any hardware, software or software licenses purchased through and in support of an authorized task.

Government property (GFE/GFI) must be used only for the purpose of performing the Contract and must be provided on a need to know basis. All government property must be maintained in working condition and returned to Canada as detailed in each Task Authorization, as appropriate.

**ANNEX B
BASIS OF PAYMENT**

1. LABOUR

The Contractor will be paid the following firm, all-inclusive hourly rates for work performed in accordance with the contract. Customs duties are included and Applicable Taxes are extra, if applicable.

Labour Category	Initial Period Date of contract to 31 July 2024		Option Period 1	Option Period 2	Option Period 3
	Year 1	Year 2			
Principle Investigator / Project Manager	\$	\$	\$	\$	\$
Senior Researcher	\$	\$	\$	\$	\$
Intermediate Researcher	\$	\$	\$	\$	\$
Junior Researcher	\$	\$	\$	\$	\$

Total Estimated Labour to a Limitation of Expenditure: \$_____ (Applicable Taxes extra)

2. SUPPORTING COSTS

For each Task Authorization, the Contractor must submit the following information for all costs not identified under 1. Labour above. Such costs will reflect non-consumable elements required in the performance of the work and will become the property of Canada upon completion of the Task or Contract, as determined by the Technical Authority.

Only those costs submitted in accordance with item 4, Price Breakdown for Task Authorizations, and reviewed and approved in writing by the Technical Authority will be accepted.

2.1 Equipment

The Contractor will be reimbursed its costs incurred without provision for mark up.

Estimated Cost to a Limitation of Expenditure: \$_____ (Applicable Taxes Extra)

2.2 Materials & Supplies

The Contractor will be reimbursed its costs incurred without provision for mark up.

Estimated Cost to a Limitation of Expenditure: \$ _____ (Applicable Taxes Extra)

2.3 Subcontracts

The Contractor will be reimbursed its costs incurred without provision for mark up.

Estimated Cost to a Limitation of Expenditure: \$ _____ (Applicable Taxes Extra)

3. TRAVEL & LIVING EXPENSES

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, and private vehicle allowances specified in Appendices B, C and D of the National Joint Council Travel Directive, and with the other provisions of the directive referring to "travellers", rather than those referring to "employees". Canada will not pay the Contractor any incidental expense allowance for authorized travel.

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

All payments are subject to government audit.

Estimated Cost to a Limitation of Expenditure: \$ _____ (Applicable Taxes Extra)

4. PRICE BREAKDOWN FOR TASK AUTHORIZATIONS

Bidders must detail the following elements for each task authorization, if applicable, for all non-consumable equipment, materials and supplies required in the performance of the work:

- (a) Equipment: Specify each item required to complete the Work and provide the pricing basis of each one, Canadian customs duty and excise taxes included, as applicable. These items will be deliverable to Canada upon completion of the contract.
- (b) Materials and Supplies: Identify each material and supply required to complete the Work and provide the pricing basis.
- (c) Subcontracts: Identify any proposed subcontractor and provide for each one the same price breakdown information as contained in this article.
- (d) Travel and Living Expenses: Indicate the number of trips and the number of days for each trip, the cost, destination and purpose of each journey, together with the basis of these costs.

(e) Applicable Taxes: Identify any Applicable Taxes separately.

5. PRICE SUPPORT

The Contractor must competitively source the elements identified at item 4, Price Breakdown, above and provide accept price support for each of the cost elements above. Acceptable price support could include one or more of the following for the same or similar work:

- Existing or previous contract / agreement
- Prior invoice
- Responses to competitive tender
- Other evidence to support competitive pricing
- Justification if no support provided

Solicitation No. - N° de l'invitation
W7714-227998/B
Client Ref. No. - N° de réf. du client
W7714-227998

Amd. No. - N° de la modif.
File No. - N° du dossier
010sl.W7714-227998

Buyer ID - Id de l'acheteur
010sl
CCC No./N° CCC - FMS No./N° VME

**ANNEX C
DND 626 TASK AUTHORIZATION FORM**

<p align="center">All invoices/progress claims must show the reference Contract and Task numbers. Toutes les factures doivent indiquer les numéros du contrat et de la tâche.</p>		Contract no. – N° du contrat
		Task no. – N° de la tâche
Amendment no. – N° de la modification	Increase/Decrease – Augmentation/Réduction	Previous value – Valeur précédente
To – À	<p>TO THE CONTRACTOR</p> <p>You are requested to supply the following services in accordance with the terms of the above reference contract. Only services included in the contract shall be supplied against this task.</p> <p>Please advise the undersigned if the completion date cannot be met. Invoices/progress claims shall be prepared in accordance with the instructions set out in the contract.</p> <p>À L'ENTREPRENEUR</p> <p>Vous êtes prié de fournir les services suivants en conformité des termes du contrat mentionné ci-dessus. Seuls les services mentionnés dans le contrat doivent être fournis à l'appui de cette demande.</p> <p>Prière d'aviser le signataire si la livraison ne peut se faire dans les délais prescrits. Les factures doivent être établies selon les instructions énoncées dans le contrat.</p>	
Delivery location – Expédiez à		
Delivery/Completion date – Date de livraison/d'achèvement	Date for the Department of National Defence pour le ministère de la Défense nationale	
Contract item no. N° d'article du contrat	Services	Cost Prix

Solicitation No. - N° de l'invitation
W7714-227998/B
Client Ref. No. - N° de réf. du client
W7714-227998

Amd. No. - N° de la modif.
File No. - N° du dossier
010sl.W7714-227998

Buyer ID - Id de l'acheteur
010sl
CCC No./N° CCC - FMS No./N° VME

		GST/HST TPS/TVH
		Total

APPLICABLE ONLY TO PWGSC CONTRACTS: The Contract Authority signature is required when the total value of the DND 626 exceeds the threshold specified in the contract.

NE S'APPLIQUE QU'AUX CONTRATS DE TPSGC : La signature de l'autorité contractante est requise lorsque la valeur totale du formulaire DND 626 est supérieure au seuil précisé dans le contrat.

for the Department of Public Works and Government Services
pour le ministère des Travaux publics et services gouvernementaux

**ATTACHMENT 1 to PART 3 OF THE BID SOLICITATION
FINANCIAL BID PRESENTATION SHEET**

1. LABOUR – Initial Period

The Bidder must complete the following table. For each labour category, identify the firm all-inclusive hourly rate. Customs duties are included and Applicable Taxes are extra, if applicable. The estimated level of effort (hours) is provided for evaluation purposes only and is not a representation of the work required under the contract.

A Labour Category	INITIAL PERIOD (2 YEARS)				
	B Year 1 Firm All Inclusive Hourly Rate	C Year 2 Firm All Inclusive Hourly Rate	D Total (B + C)	E Estimated Level of Effort (Hours)	F Total Bid Initial Period D x E
Principle Investigator / Project Manager	\$	\$	\$	264	\$
Senior Researcher	\$	\$	\$	440	\$
Intermediate Researcher	\$	\$	\$	704	\$
Junior Researcher	\$	\$	\$	352	\$
G					
Total - All Labour Categories Bid - Initial Period					\$

2. LABOUR – Option Periods

The Bidder must complete the following table. For each labour category, identify the firm all-inclusive hourly rate. Customs duties are included and Applicable Taxes are extra, if applicable. The estimated level of effort (hours) is provided for evaluation purposes only and is not a representation of the work required under the contract.

A Labour Category	OPTION PERIODS (3 YEARS)					
	H Year 3 Firm All Inclusive Hourly Rate	J Year 4 Firm All Inclusive Hourly Rate	K Year 5 Firm All Inclusive Hourly Rate	L Total	M Estimated Level of Effort (Hours)	N Total Bid Option Periods L x M
Principle Investigator / Project Manager	\$	\$	\$	\$	264	\$
Senior Researcher	\$	\$	\$	\$	440	\$

Intermediate Researcher	\$	\$	\$	\$	704	\$
Junior Researcher	\$	\$	\$	\$	352	\$
P						
Total - All Labour Categories Bid - Option Periods						\$

3. TOTAL EVALUATED BID PRICE:

G - Total – All Labour Categories Bid – Initial Period	\$
P – Total – All Labour Categories Bid – Option Periods	\$
Q – Total Evaluated Bid Price	\$

4. FINANCIAL EVALUATION

The Bidder will be evaluated as follows:

- a) For each Labour Category (A), the firm, all-inclusive hourly rate for Year 1 (B) and the firm, all-inclusive hourly rate for Year 2 (C) will be summed to achieve the Total (D).
- b) The Total (D) will be multiplied by the Level of Effort in Hours (E) to achieve the Total Bid Initial Period (F) for that Labour Category.
- c) The Total Bid Initial Period (F) for each Labour Category (A) will be totaled to achieve the Total – All Labour Categories Bid – Initial Period (G).
- d) For each Labour Category (A), the firm, all-inclusive hourly rate for Year 3 (H) and the firm, all-inclusive hourly rate for Year 4 (J) and the firm, all-inclusive hourly rate for Year 5 (K) will be summed to achieve the Total (L).
- e) The Total (L) for each Labour Category (A) will be multiplied by the Level of Effort in Hours (M) to achieve the Total Bid Initial Period (N) for that Labour Category.
- f) The Total Bid Initial Period (N) for each Labour Category (A) will be totaled to achieve the Total – All Labour Categories Bid – Option Periods (P).
- g) The sum of the Total – All Labour Categories Bid – Initial Period (G) and Total– All Labour Categories Bid – Option Periods (P) is the Total Evaluated Bid Price.
- h) Total Evaluated Bid Price (Q) = the sum of (G) Total – All Labour Categories Bid – Initial Period and (P) Total– All Labour Categories Bid – Option Periods.

Solicitation No. - N° de l'invitation
W7714-227998/B
Client Ref. No. - N° de réf. du client
W7714-227998

Amd. No. - N° de la modif.
File No. - N° du dossier
010sl.W7714-227998

Buyer ID - Id de l'acheteur
010sl
CCC No./N° CCC - FMS No./N° VME

ATTACHMENT 2 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)

**ATTACHMENT 1 to PART 4 OF THE BID SOLICITATION
PROJECT TEMPLATE**

For each project submitted, it is recommended that bidders use the following template as a guide. Additional rows may be added, as appropriate. Bidders may also reference projects elsewhere in their proposal. A project may be cited more than once IF it addresses more than one Technology Area.

Project Title			
Organization			
Reference Name Phone/email)			
Start Date (MM/YYYY)		End Date (MM/YYYY:	Value \$
Project Summary			
Resource Role		Responsibility(ies)	
Resource Role		Responsibility(ies)	
Resource Role		Responsibility(ies)	
Resource Role		Responsibility(ies)	
Resource Role		Responsibility(ies)	
<i>For proposed resource criteria only:</i>			
Resource Role		Responsibility(ies)	
Project Outcome and Deliverables			
Resource Role		Responsibility(ies)	
Project Outcome and Deliverables:			
Resource Role		Responsibility(ies)	
Project Outcome and Deliverables			

**ATTACHMENT 1 to PART 5 OF THE BID SOLICITATION
FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION**

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

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

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

Complete both A and B.

A. Check only one of the following:

- A1. The Bidder certifies having no work force in Canada.
- A2. The Bidder certifies being a public sector employer.
- A3. The Bidder certifies being a federally regulated employer being subject to the Employment Equity Act.
- A4. The Bidder certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

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

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

OR

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

B. Check only one of the following:

- B1. The Bidder is not a Joint Venture.

OR

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