

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Réception des soumissions - TPSGC / Bid
Receiving - PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

INVITATION TO TENDER
APPEL D'OFFRES

**Tender 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.

**Soumission aux: Travaux Publics et Services
Gouvernementaux Canada**

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

Comments - Commentaires

Vendor/Firm Name and Address
**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution
TPSGC/PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

Title - Sujet Stabilized mount and GPS-INS system	
Solicitation No. - N° de l'invitation W7701-135550/A	Date 2012-11-29
Client Reference No. - N° de référence du client W7701-13-5550	GETS Ref. No. - N° de réf. de SEAG PW-\$QCL-035-15051
File No. - N° de dossier QCL-2-35468 (035)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-01-09	
Time Zone Fuseau horaire Heure Normale du l'Est HNE	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Lessard, Pascal	Buyer Id - Id de l'acheteur qcl035
Telephone No. - N° de téléphone (418) 649-2819 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: R & D POUR LA DEFENSE CANADA VALCARTIER 2459 BLVD PIE XI NORD QUEBEC Québec G3J1X5 Canada	

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 téléphone 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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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

The requirement is detailed in Annex A of the resulting contract.

3. Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

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 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

1.1 SACC Manual Clauses

B1000T (2007-11-30) Condition of material

2. Submission of Bids

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

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) 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 questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

4. Applicable Laws

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

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.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Technical Bid (1 hard copy)
Section II: Financial Bid (1 hard copy)
Section III: Certifications (1 hard copy)

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

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

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

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

The Bidder must provide the following with its Technical Bid:

- (i) **Mandatory Criteria:** The Bidder must fill in and provide the technical compliance table (section 1.1.1 of Part 4).
- (ii) **Documentation:** The Bidder must provide evidence (product specifications, publication, documented data or discussion points) showing compliance to the mandatory criteria.

Solicitation No. - N° de l'invitation

W7701-135550/A

Amd. No. - N° de la modif.

File No. - N° du dossier

QCL-2-35468

Buyer ID - Id de l'acheteur

qcl035

Client Ref. No. - N° de réf. du client

W7701-13-5550

CCC No./N° CCC - FMS No/ N° VME

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment (Annex B). The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable.

1.1 Exchange Rate Fluctuation

C3011T (2010-01-11), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

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

1.1 Technical Evaluation

- a. The Bidder must indicate, for each mandatory technical criterion, whether the proposed products comply or not, by checking the relevant box. The Bidder must clearly demonstrate how the proposed products comply to each criterion. Simply stating that the criteria is met, is not sufficient. Where it is necessary to refer to other documentation that is included in the Bid, Bidders should include the precise location of the reference material including the title of the document, and the page and paragraph numbers. The bidder must provide an answer for each criterion. The bidder must provide enough details to permit a complete evaluation.

Although bidders must propose products meeting all the specifications and components outlined in Annex A at the bid closing date, bids will be evaluated on the following criteria:

Technical Compliance Table - Mandatory Criteria				
Automated pipetting system				
Automated pipetting system- Mandatory Criteria		Compliant	Non Compliant	Description / References
Gyro-stabilized mounts				
1	• Minimum hole size: 400 mm			
2	• Minimum angular stabilization range in roll: ±6 deg			
3	• Minimum angular stabilization range in yaw (drift): ± 25 deg			
GPS/INS and IMU				
4	• Maximum angular random noise: 0.02 deg/sqrt(hour)			
5	• Maximum drift: 0.1 deg/hour			

1.2 Financial Evaluation

1. The price of the bid will be evaluated as follows:

-
- A. Canadian-based bidders must submit firm prices, Canadian customs duties and excise taxes included, and Goods and Services Tax (GST) or Harmonized Sales Tax (HST) excluded.
- B. foreign-based bidders must submit firm prices, Canadian customs duties, excise taxes and GST or HST excluded. Canadian customs duties and excise taxes payable by Canada will be added, for evaluation purposes only, to the prices submitted by foreign-based bidders.
2. Bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date will be applied as a conversion factor to the bids submitted in foreign currency.
3. Bidders must provide prices DDP (Incoterm 2000) at Defence Research and Development Canada, Valcartier located at 2459 boul. Pie-XI North, Quebec, Quebec, G3J 1X5 (DRDC location). Bids will be assessed on a DDP (Incoterm 2000) basis."
4. For the purpose of the bid solicitation, bidders with an address in Canada are considered Canadian-based bidders and bidders with an address outside of Canada are considered foreign-based bidders.

2. Basis of Selection

2.1 Basis of Selection - Mandatory Technical Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and related documentation to be awarded a contract. Canada will declare a bid non-responsive if the required certifications and related documentation are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications, to provide the related documentation or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies, for himself and his affiliates, to be in compliance with the Code of Conduct and Certifications clause of the Standard instructions. The related documentation hereinafter mentioned will help Canada in confirming that the certifications are true. By submitting a bid, the Bidder certifies that it is aware, and that its affiliates are aware, that Canada may request additional information, certifications, consent forms and other evidentiary elements proving identity or eligibility. Canada may also verify the information provided by the Bidder, including the information relating to the acts or convictions specified herein, through independent research, use of any government resources or by contacting third parties. Canada will declare non-responsive any bid in respect of which the information requested is missing or inaccurate, or in respect of which the information contained in the certifications is found to be untrue, in any respect, by Canada. The Bidder and any of the Bidder's affiliates, will also be required to remain free and clear of any acts or convictions specified herein during the period of any contract arising from this bid solicitation.

Bidders who are incorporated, including those bidding as a joint venture, must provide with their bid or promptly thereafter a complete list of names of all individuals who are currently directors of the Bidder. Bidders bidding as sole proprietorship, including those bidding as a joint venture, must provide the name of the owner with their bid or promptly thereafter. Bidders bidding as societies, firms, partnerships or associations of persons do not need to provide lists of names. If the required names 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 will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Canada may, at any time, request that a Bidder provide properly completed and Signed Consent Forms (Consent to a Criminal Record Verification form- PWGSC-TPSGC 229) (<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>) for any or all individuals aforementioned within the time specified. Failure to provide such Consent Forms within the time period provided will result in the bid being declared non-responsive.

2. Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the

Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

2.1 Federal Contractors Program - Certification

2.1.1 Federal Contractors Program - over \$200,000

The Federal Contractors Program (FCP) requires that some suppliers, including a supplier who is a member of a joint venture, bidding for federal government contracts, valued at \$200,000 or more (including all applicable taxes), make a formal commitment to implement employment equity. This is a condition precedent to contract award. If the Bidder, or, if the Bidder is a joint venture and if any member of the joint venture, is subject to the FCP, evidence of its commitment must be provided before the award of the Contract.

Suppliers who have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any bids from ineligible contractors, including a bid from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

If the Bidder does not fall within the exceptions enumerated in 3.(a) or (b) below, or does not have a valid certificate number confirming its adherence to the FCP, the Bidder must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.

The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

() is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;

() is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;

() is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached;

() is subject to the FCP, and has a valid certificate number as follows: _____ (e.g. has not been declared an ineligible contractor by HRSDC).

Further information on the FCP is available on the HRSDC Web site.

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

The requirement is detailed in Annex "A", requirement.

3. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual*

(<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

3.1 General Conditions

2010A (2012-11-19), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

3.1.1 Insert at the end of **section 08** entitled "**Inspection and Acceptance of the Work**" of General Conditions - Goods (Medium Complexity) **2010A** the following statement :

Canada will have **sixty (60) days** from receipt of the deliverables to perform its inspection and acceptance.

3.2 Supplemental General Conditions

4001, (2010-08-16) - Hardware Purchase, lease and Maintenance

4003, (2010-08-16) - Licensed software

4004, (2010-08-16) - Maintenance and Support Services for Licensed Software

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received on or before March 31st, 2013.

The date of installation on one or more aircraft will be specified at least one month in advance and will be made before March 31st 2014.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Pascal Lessard
Supply specialist
Public Works and Government Services Canada
Acquisitions Branch
1550, D'Estimauville
Québec (Québec)
G1J 0C7

Telephone: (418) 649-2819
Facsimile: (418) 648-2209
E-mail address: pascal.lessard@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.

5.2 Technical Authority (To be completed by Canada at contract award)

The Technical Authority for the Contract is :

Name: _____
Title: _____
Organization: _____

Telephone : _____
Facsimile : _____
Email : _____

The Technical Authority named above 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.

5.3 Contractor's Representative (To be completed by the contractor)

Name : _____

Title : _____

Telephone : _____

Facsimile : _____

E-mail : _____

5.4 Contact at Customer Department (To be completed by Canada at contract award)

For all information related to invoicing and/or payments you may communicate with:

Customer Department : _____

Name : _____

Telephone : _____

Facsimile : _____

Email : _____

6. Payment

6.1 Basis of Payment - Firm Lot Price

For items 2.2 to 2.8 described in Annex A, In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm lot price, as specified in Annex B. Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.2 Basis of Payment - Limitation of Expenditure

For the Work described in section 2.9 in Annex A, requirements :

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work, as determined in accordance with the Basis of Payment in Annex B, to a limitation of expenditure of \$20 000 (insert the amount at contract award.) Customs duties are excluded and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

6.3 SACC Manual Clauses

C2000C (2007-11-30), Taxes - Foreign-based Contractor

6.4 Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and delivered:

Delivered Duty Paid (DDP) Defence Research and Development Canada - Valcartier, 2459 Pie-XI Blvd, Quebec, G3J 1X5, Canada, Incoterms 2000 for shipments from a commercial contractor.

7. Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:

The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

8. Certifications

- 8.1 Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

9. Applicable Laws

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

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.

10. Priority of Documents

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

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 4001, (2010-08-16) - Hardware Purchase, lease and Maintenance;
- (c) the supplemental general conditions 4003, (2010-08-16) - Licensed software;
- (d) the supplemental general conditions 4004, (2010-08-16) - Maintenance and Support Services for Licensed Software;
- (e) the general conditions 2010A (2012-11-19), General Conditions - Goods (Medium Complexity);
- (f) Annex A, Requirement;
- (g) the Contractor's bid dated _____

11. Defence Contract

SACC Manual clause A9006C (2012-07-16) Defence Contract

12. SACC Manual Clauses

G1005C (2008-05-12), Insurance

B1501C (2006-06-16), Electrical equipment

ANNEX "A"

REQUIREMENT

1. General

1.1 Title

Stabilized mount and GPS-INS system acquisition

1.2 Objective

Defence R&D Canada (DRDC) is interested in acquiring a system including stabilized mounts and GPS-INS systems to allow the simultaneous installation of four sensors on board of one or two small aircrafts for real-time positioning of push-broom and frame camera imagery.

1.3 Background

Four sensors (2 push-broom type sensors and 2 camera assembly sensors) could be installed simultaneously into one or two aircrafts.

- One push-broom type sensor will be installed by itself on a gyro-stabilized mount to make sure it points to nadir. The sensor weighs approximately 30 kg and occupies approximately 0.064 m³.
- One push-broom type sensor will be installed with a camera assembly sensor on a gyro-stabilized mount to make sure they point to nadir. The sensors' weight is approximately 40 kg.
- One camera assembly sensor will be installed directly on the aircraft.

With this statement of work, DRDC wants to acquire the stabilized mounts and GPS-INS systems to allow the gyro-stabilization of sensors and real-time geo-localization of images.

1.4 Acronyms

DRDC	Defence Research and Development Canada
IMU	Inertial Measurement Unit
GPS	Global Positioning System
INS	Inertial Navigation System
RMS	Root Mean Square
Max.	Maximum
pps	Pulse Per Second
deg	Degree
ITAR	International Traffic in Arms Regulation
GNSS	Global Navigation Satellite System
FAA	Federal Aviation Administration
TC	Transport Canada
SV	Orbiting GPS satellite, or Space Vehicle in GPS parlance

2. SCOPE OF THE WORK

The contractor must provide the required hardware which allows to gyro-stabilize push-broom type sensors and cameras and provide necessary signals to geo-localized in real-time all the sensor and camera image pixels. The sensors and cameras are described in section 1.3 Background.

2.1 General specifications

- No piece of equipment controlled under U.S. defence regulations (i.e. no ITAR restriction) - equipment can easily be exported and imported.
- Full compatibility and direct interface between items (do not consider the sensors)
- Provide necessary signals for real-time positioning
- Provide necessary signals for Real-time data rate geo-referencing
- Meet airborne environmental operational requirements
- The hardware provided must allow the installation of the sensors described in 1.3 Background except the interface plate with the sensors.

2.2 Gyro-Stabilized mounts

Two gyro-stabilized mounts are required.

All specifications must be achieved for a sensor weights of 20 to 100 kg centered.

- Minimum hole size: 400 mm
- Maximum weight: 40 kg
- Minimum sensor weight capacity range: from 20 to 100 kg
- Automated on/off stabilization control
- Maximum deviation from perpendicular with IMU support: 0.2 degree rms
- Minimum compensable angular rates: 15 deg/s
- Minimum angular stabilization range in roll: ± 6 deg
- Minimum angular stabilization range in pitch: ± 6 deg
- Minimum angular stabilization range in yaw (drift): ± 25 deg
- Maximum width: 60 cm
- Maximum length: 70 cm
- Maximum height: 20 cm
- Maximum typical power consumption: 100 W rms
- Maximum power consumption: 350 W.
- Provide the technical drawings of the mount and necessary information for interfacing with instruments

2.3 GPS/INS and IMU

Three GPS-INS systems are required including 3 IMUs. The performances must be obtained without any subscription (OmniSTAR XP service or others) unless otherwise stated in the following points:

- Control unit including GNSS receiver
- GNSS with inertial technology
- Capable of exploiting correction signal to improve GPS accuracy for real-time differential GNSS solution. However, the system should not stop working if no subscription or if subscription stops
- Adjustable frame-rate: to 200 Hz or higher
- GPS L1 and L2 dual frequency receiver
- Real-time levelling and yaw drift correction of stabilized mounts
- Typical absolute position accuracy: 3 m rms
- Maximum allowed absolute accuracy Roll and pitch: 0.015 degree
- Maximum allowed absolute accuracy true Heading (max. RMS error): 0.07 degree
- Maximum time sync output for Cameras: 1 pps
- Maximum angular random noise: 0.02 deg/sqrt(hour)
- Maximum drift: 0.1 deg/hour
- IMU maximum weight: 5 kg (excluding control unit)
- Considering the sensors, three IMUs are expected
- 1 year software annual maintenance for the GPS-INS system software

2.4 Two GPS antennas

Two (2) fully compatible antennas are required.

- FAA and TC airworthiness certificate
- L1/L2 GNSS
- Fully compatible with GNSS receiver (section 2.3)
- Ability to independently track a minimum of 12 SV's simultaneously

2.5 Flight management system

Two (2) flight management systems are required.

- Automatic control of gyro-stabilized mounts (i.e. blocks the stabilized mount during plane turn around)
- Graphical user interface

2.6 Connecting Cables and power supplies

- Longest cables possible without loss of signal/frames/timestamp
- Minimum length of 5 m.
- Maximum length of 30 m.
- All required connectors and cables
- All required power supplies

2.7 Three (3)-year extended warranty on all material and equipment.

The supplier must provide 3 year extended warranty on all materials and equipment proposed.

2.8 Software maintenance service option:

Five (5) years of Software Annual maintenance on GPS-INS system, on the flight management system and the gyro-stabilized mount.

2.9 On-site installation and training on the installation of the equipment, the usage of components and softwares.

Considering the impossibility to provide more precise information, this part will be with limitation of expenditure for a total amount of \$20 000

- Field engineer to provide installation (excluding GPS antennas), integration, and training services for a period of at least five (5) days in Canada. The exact location will be determined later (Will be specified at least 1 month in advance) due to aircraft availability but will be limited to Quebec city, Ottawa or Suffield areas.

ANNEX "B"**Basis of Payment**

Provide and deliver on Defence Research and Development Canada (DRDC) - Valcartier, Quebec city, Quebec, Canada site the following items :

Items	Description	Qty	Firm Unit Price (GST or HST extra)	Total Price (GST or HST extra)	Currency (ex.: CAD, USD, EURO, etc.)
Provide and deliver on Defence Research and Development Canada (DRDC) - Valcartier, Quebec city, Quebec, Canada site, "DDP delivered Duty Paid" (Incoterms 2000), the following items :					
1	Gyro-Stabilized mounts as described in Annex A - Requirements, item 2.2.	2	_____	_____	_____
2	GPS/INS and IMU, as described in Annex A - Requirements, item 2.3.	3	_____	_____	_____
3	GPS antennas, as described in Annex A - Requirements, item 2.4.	2	_____	_____	_____
4	Flight management system, as described in Annex A - Requirements, item 2.5.	2	_____	_____	_____
5	Set of connecting Cables and power supplies, as described in Annex A - Requirements, item 2.6.			_____	_____
Items	Description	Qty	Firm Unit Price (GST or HST extra)	Total Price (GST or HST extra)	Currency (ex.: CAD, USD, EURO, etc.)
6	Software maintenance service option for 5 years, as described in Annex A - Requirements, item 2.8.			_____	_____
7	On-site installation and training (in Quebec / Ottawa / or Suffield) on the installation of the equipment, the usage of components and softwares, as described in Annex A - Requirements, item 2.9.			Limitation of expenditure \$20 000.00	
(Total price)				_____	_____