



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Réception des soumissions - TPSGC / Bid Receiving
- PWGSC

Voir dans le document/

See herein

NA

Québec

NA

REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

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

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

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

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du

fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

TPSGC/PWGSC

601-1550, Avenue d'Estimauville

Québec

Québec

G1J 0C7

Title - Sujet CAD Vehicule mobile camouflage CAD Vehicule mobile camouflage	
Solicitation No. - N° de l'invitation W7701-227466/A	Date 2022-01-20
Client Reference No. - N° de référence du client W7701-22-7466	
GETS Reference No. - N° de référence de SEAG PW-\$QCL-057-18274	
File No. - N° de dossier QCL-1-44098 (057)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Eastern Standard Time EST on - le 2022-02-24 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: Lussier, Marie-Claude	Buyer Id - Id de l'acheteur qcl057
Telephone No. - N° de téléphone (418) 576-3709 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: MINISTERE DE LA DEFENSE NATIONALE RDDC CENTRE DE RECHERCHES DE VALCARTIER 2459 ROUTE DE LA BRAVOURE QUEBEC Québec G3J1X5 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée .	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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N° de réf. du client - Client Ref. No.
W7701-227466

N° de la modif - Amd. No.
File No. - N° du dossier
QCL-1-44098

Id de l'acheteur - Buyer ID
QCL057
N° CCC / CCC No./ N° VME - FMS

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PART 1 – GENERAL INFORMATION

1.1 Introduction

The solicitation contains seven parts, as well as attachments and appendices, and is divided as follows:

- | | |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part 1 | General Information: contains a general description of the need; |
| Part 2 | Instructions for Bidders: contains the instructions, clauses and conditions relating to the solicitation of tenders; |
| Part 3 | Instructions for the preparation of tenders: instructs bidders to prepare their bid; |
| Part 4 | Evaluation procedures and selection method: describes how the evaluation will be conducted and presents the evaluation criteria to be met in the submission, as well as the selection method; |
| Part 5 | Attestations and supplementary information: includes attestations and additional information to be provided; |
| Part 6 | Clauses of the Resulting Contract: contains the terms and conditions that will apply to any subsequent contract. |

The Annexes include:

Appendix A: Statement of Work

Appendix B: Basis of Payment

Appendix C: Disclosure by the Contractor of Intellectual Property on Foreground Information

Attachments include:

Attachment 1: Mandatory and rated technical criteria

Attachment 2: Electronic payment instruments

1.2 Summary

1.2.1 Title:

Development of physical computer-aided design(CAD) models of mobile camouflage on armored vehicles

1.2.2 Description of work:

The purpose of this contract is to obtain the services of a contractor to modify and adapt physical CAD models of armored vehicles used by the CAF by covering them with virtual mobile camouflage kits. The contractor will have to realize, from real samples of camouflage fabrics, physical models of armored vehicles "dressed" with mobile camouflage as visually realistic as possible in a given CAD environment.

1. Generation of CAD models of camouflage fabrics and heat shield component
2. Generating CAD models of mechanical components for mobile camouflage kits
3. Generation of camouflage net CAD models and support structures
4. Adaptation of camouflage fabric models to SPECIFIC ARMoured VEHICLE CAD models for basic mobile camouflage kits
5. Adaptation of camouflage fabric models on SPECIFIC ARMoured VEHICLE CAD models for intermediate mobile camouflage kits
6. Adaptation of camouflage fabric models on CAD models of specific armored vehicles for complete and advanced mobile camouflage kits
7. Realistic rendering generation for engagement simulation
8. Technical support during the conduct of engagement simulation exercises
9. Writing of the technical report

1.2.3 Customer Department:

The organization for which these services are rendered is Defence Research and Development Canada, Valcartier Research Centre.

1.2.4 Contract Period:

The contract period is from the date of the contract and ends 6 months following the award.

1.2.5 Important information

- 1 Defence Research and Development Canada, Valcartier Research Centre has determined that any intellectual property rights arising from the performance of the work under the subsequent contract will belong to Canada because the contract entered into with the State or the products to be delivered to the main purpose of the latter is to increase certain achievements of the state in terms of intellectual property rights before transferring them to the private sector, by licensing or transfer of ownership (not necessarily to the original entrepreneur) for the purpose of commercial exploitation as well as to deliver a component developed only in part or a subsystem that will be integrated into a complete system

at a later date, before it is transferred to the private sector, by licensing or transfer of ownership for commercial exploitation.

- 2 This requirement is subject to the provisions of the Agreement on Government Procurement of the Canadian Free Trade Agreement (CFTA), the Canada-Chile Free Trade Agreement, the Canada-Honduras Free Trade Agreement, the Canada-Colombia Free Trade Agreement, the Canada-Korea Free Trade Agreement and the Canada-Panama Free Trade Agreement.
- 3 The work must be carried out on the contractor's site.
- 4 No CAD or visual rendering software licenses will be provided or loaned by DRDC for the duration of this agreement. In addition, no computer, monitor or internet connection link will be provided or loaned by DRDC for the duration of this contract.
- 5 The Federal Contractors Program for Employment Equity applies to this need; please refer to Part 5 – Attestations and Supplementary Information, Part 6 – Subsequent Contract Clauses and the Annex entitled Federal Contracts Program for Employment Equity – Certification.
- 6 This solicitation allows bidders to use the epost Connection service offered by Canada Post Corporation for the electronic transmission of their bid. Bidders should refer to Part 2, Instructions for Bidders, and Part 3, Instructions for The Preparation of Bids, of the Solicitation for more information.

1.3 Debriefing

Bidders may request a report on the results of the solicitation process. Bidders should request this from the contracting authority within 15 business days of receiving the results of the solicitation process. The report may be provided in writing, by telephone or in person.

PART 2 – INSTRUCTIONS FOR BIDDERS

2.1 Uniform Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the solicitation by a number, date and title are reproduced in the [Guide to Standard Purchase Clauses and Conditions](https://achatsetventes.gc.ca/politiques-et-lignes-directrices/guide-des-clauses-et-conditions-of-purchase) (<https://achatsetventes.gc.ca/politiques-et-lignes-directrices/guide-des-clauses-et-conditions-of-purchase>) published by Public Works and Government Services Canada.

Bidders submitting a bid agree to abide by the instructions, terms and conditions of the solicitation, and accept the terms and conditions of the subsequent contract.

Document [2003](#) (2020-05-28) Standard Instructions - Goods or Services - Competitive Needs, is incorporated by reference into and an integral part of the solicitation.

Paragraph 5.4 of [2003](#), Standard Instructions – Goods or Services – Competitive Needs, is amended as follows:

Delete: 60 days
Insert: 180 days

2.2 Submission of bids

Bids must be submitted only to the Quebec Region Bid Intake Unit of Public Works and Government Services Canada (PWGSC) no later than the date and time indicated on page 1 of the solicitation.

2.2.1 epost connection

Bidders who choose to submit their bid using epost Connection must send an email requesting to open an epost Connect conversation to the following address:

TPSGC.RQReceptionSoumissions-QRSupplyTendersReception.PWGSC@tpsgc-pwgsc.gc.ca

Note: Submissions will not be accepted if sent directly to this email address. This email address must be used to open an epost Connection conversation, as outlined in the [Standard Instructions 2003](#) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/1/2003/active>), or to send submissions

using an epost Connection message if the bidder is using their own epost Connect user license.

It is the Bidder's responsibility to ensure that the epost Connect conversation opening request is sent to the above email address at least six days prior to the solicitation closing date.

[Steps to follow for the Bid Submission to Bid Receiving Unit \(BRU\) Using Connect - Buyandsell.gc.ca](#)

2.2.2 Facsimile

Fax number: 418-566-6168.

2.2.3 Paper submissions 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 [Defense 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) the name of the former public servant;
- b) the terms of the incentive paid in the form of a lump sum payment;
- c) the date of termination of employment;
- d) the amount of the lump sum payment;
- e) the rate of pay used to calculate the lump sum payment;
- f) the period corresponding to the lump sum payment, including the start date, completion date and number of weeks;
- g) number and amount (professional fees) of other contracts subject to the terms of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that can be paid to a former public servant who has received a lump sum payment is limited to \$5,000, including applicable taxes.

2.4 Inquiries – during the submission period

All requests for information must be submitted in writing to the Contracting Authority at the address marie-claude.lussier@tpsgc-pwgsc.gc.ca **at least eight (8) calendar days prior to the closing date of the bids.** For inquiries received after this time, they may not be able to be answered.

Bidders should quote as accurately as possible the number of the section of the solicitation to which the question relates and take care to state each question in sufficient detail so that Canada can answer it accurately. Requests for technical information which are of an exclusive nature must be clearly marked "exclusive" in relation to each relevant article. Items marked "exclusive" will be subject to absolute discretion, except in cases where Canada considers that the request for information is not exclusive. In such a case, Canada may revise the questions or may request the Bidder to do so, in order to eliminate their exclusivity, and allow the responses to be forwarded to all Bidders. Canada may not respond to requests for information that are not intended to be circulated to all bidders.

2.5 Applicable Laws

Any subsequent contract will be interpreted and governed by the laws in force in Quebec and the relationship between the parties will be determined by these laws.

At their discretion, Bidders may indicate the applicable laws of a Canadian province or territory of their choice, without the validity of their bid being questioned, by deleting the name of the specified Canadian province or territory and inserting the name of the Canadian province or territory of their choice. If no changes are indicated, it means that the bidders accept the applicable laws indicated.

2.6 Basis for Canada's Title to Intellectual Property Rights

Defence Research and Development Canada, Valcartier Research Centre has determined that any intellectual property rights arising from the performance of the work under the subsequent contract will belong to Canada, for the following reasons, as defined in the Policy on Intellectual Property Rights [*Arising from Contracts with the Crown:*](#)

1. to increase certain State gains in intellectual property rights before transferring them to the private sector, by licensing or transfer of ownership (not necessarily to the original entrepreneur), for the purpose of commercial exploitation.
2. To deliver only a partly developed component or a subsystem that will later be integrated into a complete system, before it is transferred to the private sector, by licensing or transfer of ownership, for commercial exploitation.

2.7 Bid Challenge Process and Redress Mechanisms

(a) Potential suppliers have access to several mechanisms to challenge aspects of the procurement process up to and including the award of the contract.

(b) Canada invites suppliers to first bring their concerns to the attention of the contracting authority. [Canada's Buy and Sell](#) website, under the heading "Bid Challenge Process and Recourse Mechanisms," provides information on possible complaint-handling bodies, including:

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

(c) Suppliers should be aware that **strict deadlines** are set for filing complaints and that they vary depending on the organization involved. Suppliers should therefore act quickly if they wish to challenge any aspect of the procurement process.

PART 3 – BID PREPARATION INSTRUCTIONS

3.1 Bid preparation Instructions

1. If the Bidder chooses to send its bid electronically, Canada requires it to comply with section 08 of the Standard Instructions 2003. The epost Connection system has a limit of 1 GB per individual message displayed and a limit of 20 GB per conversation.

The submission must be presented in separate sections as follows:

Section I: Technical bid
Section II: Financial bid
Section III: Attestations and Additional Information

2. If the Bidder simultaneously provides multiple copies of its bid using acceptable delivery methods, and in the event of an inconsistency between the wording of the electronic copy transmitted by epost Connect and that of the paper copy, the wording of the electronic copy transmitted by epost Connect will take precedence over the wording of the other copies.
3. Due to the nature of the solicitation, paper bids will not be accepted.
4. Prizes must be included in the financial submission only. No price must be indicated in any other section of the quote.

3.2 Section I: Technical bid

- a) In their technical bid, bidders should demonstrate their understanding of the requirements contained in the solicitation and explain how they will meet those requirements. Bidders should demonstrate their capacity and describe the approach they will take in a complete, concise and clear manner to carry out the work.

The technical submission should deal clearly and in sufficient depth with the points covered by the evaluation criteria against which the submission will be evaluated. It is not enough to simply repeat the statements contained in the solicitation. In order to facilitate the evaluation of the bid, Canada requests that bidders include the topics in the order of the evaluation criteria, under the same headings. To avoid duplication, bidders may refer to different sections of their submission by indicating the number of the paragraph and page where the subject matter is already covered.

- b) The technical submission includes the following:
- (i) All information required to demonstrate compliance with the mandatory and rated technical criteria described in Attachment 1.
 - (ii) Each criteria should be treated separately.

3.3 Section II: Financial Bid

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

- (a) The information must be provided in accordance with Annex B, basis of payment
- (b) No travel and living expenses will be paid for services rendered in the Quebec City area (including the DRDC - Valcartier site), nor for any travel between the contractor's place of business and the Quebec City region (including the DRDC – Valcartier site). All of these costs are to be included in the firm all-inclusive rates of pay listed above.
- (c) Prices must be in Canadian dollars, excluding applicable taxes, including Customs duties and Canadian excise taxes.

3.3.2 Electronic payment of invoices – bid

If you are willing to accept the payment of invoices using electronic payment instruments, complete Attachment 2 "Electronic Payment Instruments", in order to identify which ones are accepted.

If Attachment 2 "Electronic Payment Instruments" has not been completed, then it will be agreed that the payment of invoices by means of electronic payment instruments will not be accepted.

Acceptance of electronic payment instruments will not be considered an evaluation criteria.

3.4 Section III : Certificates and Additional Information

- a) Bidders must submit the attestations and additional information required in Part 5.
- b) Bidders must provide a list of names or any other related documentation, as required, in accordance with section 01 of the Standard Instructions 2003.

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1. For service purposes, bidders must provide the requested information, as described in section 2.3 of this document, in order to comply with Treasury Board policies and directives on contracts awarded to former public servants.

c) Canada Requests Suppliers To Submit the following Information :

Administrative Representative:

Name :

Phone :

Facsimile:

Email:

Technical Representative :

Name :

Phone :

Facsimile:

Email :

PART 4 – EVALUATION PROCEDURES AND SELECTION METHOD

4.1 Evaluation procedures

- a. Bids will be evaluated against all the requirements of the solicitation, including technical and financial evaluation criteria. The evaluation methodology consists of several phases, which are described below. Even if the evaluation and selection are carried out in phases, it is not because Canada moves to a later phase that it will mean that it has decided that the bidder has passed all the previous phases. Canada reserves the right to conduct certain phases of the assessment in parallel.
- b. A team of client and PWGSC representatives will evaluate bids on behalf of Canada. Canada may use independent consultants or any government contacts to evaluate bids. Not every member of the evaluation team will necessarily be involved in all aspects of the evaluation.
- c. In addition to the other deadlines prescribed in the solicitation:
 - i. **Requests for clarification:** If Canada requests clarification from the Bidder on its Bid or wishes to verify the Bid, the Bidder will have two (2) business days (or a longer period specified in writing by the Contracting Authority) to provide the necessary information to Canada. Failure to meet this deadline will be deemed inadmissible.
 - ii. **Requests for additional information:** If Canada requests further information for any of the following reasons (as per the section entitled "Assessment Process" of the 2003 Standard Instructions – Goods or Services – Competitive Needs) :
 - A. verify any information provided by the bidder in its bid; or
 - B. communicate with one or more of the references cited by the Bidder (references cited in the resumes of individual resources) for the purpose of validating the information provided by the Bidder,The tenderer must provide the requested information within two(2) working days of the request by the contracting authority.
 - iii. **Extension of time:** If the Bidder requires more time, the Contracting Authority, in its sole discretion, may grant an extension of time.

4.2 Technical evaluation

a. Evaluation of mandatory technical criteriaes:

Each bid will be reviewed for compliance with the mandatory requirements of the solicitation. All elements of the solicitation that are specifically referred to as "shall", "shall" or "mandatory" are mandatory requirements. Bids that do not meet each of the mandatory requirements will be declared inadmissible and rejected. Mandatory criteria are described in attachment #1 - Evaluation criteria.

b. Rated technical criteria:

Each bid will be rated by assigning a score to the rated requirements, which are specified in the solicitation by the term "rated" or by reference to a rating. Bids that are not complete and do not contain all the information required in the solicitation will be rated accordingly. The rated criteria are described in attached document #1 - Evaluation criteria.

4.3 Financial evaluation

Bidders must submit their financial bid in accordance with Article 3.3 Division II: Financial Bid of Part 3 of the Solicitation.

4.4 Selection method

Selection Method – Highest combined score in terms of technical merit (50%) and price (50%)

1. To be declared admissible, a tender must :
 - (a) meet all requirements of the solicitation;
 - (b) meet all mandatory technical evaluation criteria;
 - (c) obtain the minimum number of points required for each criterion and group of criteria with a passing score; and
 - (d) obtain the minimum number of points required for all technical evaluation criteria that are rated.
2. Bids that do not meet the requirements "a) or b) or c) or d)" will be declared inadmissible.
3. Selection will be based on the best overall result in terms of technical merit and price. A proportion of 50% will be awarded to technical merit and a proportion of 50% will be awarded to the prize.

4. In order to determine the score for technical merit, the technical score of each eligible bid will be calculated as follows: the total number of points obtained will be divided by the total number of points that can be awarded, and then multiplied by 50%.
5. In order to determine the score for the prize, each eligible bid will be evaluated in proportion to the lowest average evaluated hourly rate and according to the 50% ratio..
6. For each eligible bid, the technical merit rating and the price quote will be added to determine the combined score.
7. The eligible bid with the most points or the one with the lowest average hourly rate will not necessarily be chosen. The eligible bid that will receive the highest combined score for technical merit and price will be recommended for contract award.

The table below provides an example where all three bids are eligible and the contractor is selected based on a 50:50 ratio for technical merit and award, respectively. The total number of points that can be awarded is 90, and the lowest evaluated price is \$142,500.00

Selection method – Highest combined score in terms of technical merit (50%) and price (50%)

		Tenderers		
		Bidder A	Bidder B	Bidder C
Overall technical note		50/90	65/90	70/85
Evaluated bid price		145 000.00\$	142 500.00\$	143 000.00\$
Calculations	rating for technical merit	$50/90 \times 50 = 27.78$	$65/90 \times 50 = 36.11$	$70/90 \times 50 = 38.88$
	rating for price	$142\,500.00\$ / 145\,000.00\$ \times 50 = 49.14$	$142\,500.00\$ / 142\,500.00\$ \times 50 = 50$	$142\,500.00\$ / 143\,000.00\$ \times 50 = 49.83$
Combined rating		76.92	86.11	88.71
Overall assessment		3^e	2^e	1^{er}

PART 5 – ATTESTATIONS AND ADDITIONAL INFORMATION

Bidders must provide the additional attestations and information required for a contract to be awarded.

The attestations that bidders submit to Canada may be verified at any time by Canada. Unless otherwise specified, Canada will declare a bid inadmissible, or a breach by the Contractor if it is established that a Bidder's attestation is false, knowingly or unknowingly, either during the Bid Evaluation Period or during the term of the Contract.

The contracting authority will have the right to request additional information to verify the bidder's attestations. Failure to respond and cooperate with any request or requirement imposed by the Contracting Authority will result in the Submission being declared inadmissible, or will constitute a breach of the Terms of the Contract.

5.1 Certificates required with submission

Bidders must provide the following duly completed attestations with their bid.

5.1.1 Integrity provisions – exemption from conviction to an offence

In accordance with the integrity provisions of the Standard Instructions, all bidders must submit with their bid, **if applicable**, the Declaration of Integrity form available on the [Integrity – Declaration Form](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-fra.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-fra.html>), so that their bid is not rejected from the procurement process.

5.2 Pre-contract attestations and additional information

The attestations and additional information listed below should be completed and provided with the submission but may be provided at a later date. If any of these attestations or additional information is not completed and provided as requested, the contracting authority will inform the bidder of the time limit within which the information must be provided. Failure to provide the certificates or additional information listed below within the prescribed time limit will be declared inadmissible.

5.2.1 Integrity provisions – documentation required

In accordance with the section entitled 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-fra.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-fra.html>), the Bidder must submit the required documentation, if applicable, so that their bid is not rejected from the procurement process.

5.2.2 Federal Contractors Program for Employment Equity – Submission Certificate

By submitting a bid, the Bidder certifies that the Bidder, and any member of the joint venture if the Bidder is a joint venture, is not named to the list of "FCP Limited Eligibility Bidders" of the Employment Equity Federal Contractors Program (FCP) available at the bottom of the website page.

[Employment and Social Development Canada \(ESDC\) – Labour
\(https://www.canada.ca/fr/emploi-developpement-social/programmes/equite-emploi/programme-contrats-federaux.html#s4\)](https://www.canada.ca/fr/emploi-developpement-social/programmes/equite-emploi/programme-contrats-federaux.html#s4)

Canada will have the right to declare a bid inadmissible if the Bidder, or any member of the joint venture if the Bidder is a joint venture, is on the list of "FCP Limited Eligibility Bidders" at the time the contract is awarded.

5.2.3 Language skills

The bidder certifies that it has the language skills required to perform the work in accordance with the statement of work.

PART 6 – CLAUSES OF THE RESULTING CONTRACT

6.1 Requirements

- a. [] (will be completed upon award of the contract)
(«the entrepreneur») agrees to provide the Client with the services described in the Contract, including the Statement of Work, in accordance with the Contract and the prices set out therein.
- b. **Client(s)** : Under the contract, the "client" is Defence Research and Development Canada – Valcartier Research Centre.
- c. **Reorganization of the client**: A client's name change, reorganization, reorganization or restructuring will not affect the contractor's obligations (nor will it result in the payment of additional fees). The reorganization, reorganization or restructuring of the client also includes its privatization, merger with another entity and dissolution, where such dissolution is followed by the creation of one or more other entities whose mission is similar to that of the original client. Regardless of the type of reorganization, Canada may designate another government department or agency as a contracting authority or technical lead, in accordance with the new roles and responsibilities resulting from the reorganization.
- d. **Definitions**: The terms and expressions defined in the Terms and Conditions and in the Additional Terms and Conditions and used in this contract have the meanings ascribed to them in these Terms and Conditions or in these Additional Terms and Conditions. In addition, the following words and phrases have the following meanings:
 - (i) The term "designated user" in the supply arrangement refers to the customer.
 - (ii) In addition, "Deliverable" or "Deliverables" includes all documentation described in this Agreement.
 - (iii) A reference to a contractor's "local office" means an office with at least one full-time employee who is not a shared resource working there.

6.2 Standard clauses and conditions

All clauses and conditions identified in the contract by a number, date and title are reproduced in the [Guide to Standard Purchase Clauses and Conditions \(https://achatsetventes.gc.ca/politiques-et-lignes-directrices/guide-des-clauses-et-conditions-standardized-purchase\)](https://achatsetventes.gc.ca/politiques-et-lignes-directrices/guide-des-clauses-et-conditions-standardized-purchase) published by Public Works and Government Services Canada.

6.2.1 General Conditions

2035 (2021-12-02), Terms and Conditions - Services (medium complexity) apply to the contract and form an integral part of it.

6.2.2 Supplemental Clauses and Conditions

[4002](#) (2010-08-16) apply to the contract and form an integral part of it.

[4007](#) (2010-08-16) apply to the contract and form an integral part of it.

6.2.3 SACC Guide Clauses

[K3305C](#) (2008-05-12), apply to the contract and form an integral part of it.

6.3 Security Requirements

6.3.1 There are no security requirements in the contract.

6.4 Duration of the contract

6.4.1 Contract period

The contract period is from the date of the contract award until six (6) months after award.

6.4.2 Delivery date

All deliverables must be received as specified in section 7 of Appendix A, Statement of Work.

6.5 Authorities

6.5.1 Contracting Authority

The contracting authority for the contract is:

Name : Marie-Claude Lussier
Title : Spécialiste en approvisionnement
Organization: Recherche et Développement- Services professionnels , bureau de Québec
Address : 1550 avenue d'Estimauville, 6^e étage, Québec (Québec) G1J 0C7
Telephone : 418-576-3709
Email : marie-claude.lussier@tpsgc-pwgsc.gc.ca

The contracting authority is responsible for the management of the contract, and any modification must be authorized in writing by the contracting authority. The Contractor shall not perform work beyond the scope of the Contract or work not

provided for therein as a result of verbal or written requests or instructions from any person other than the Contracting Authority.

6.5.2 DRDC Technical authority (will be completed upon award of the contract)

The technical authority for the contract is:

Name : _____
Title : _____
Organization : _____
Address : _____

Telephone : ____ - ____ - _____
Facsimile : ____ - ____ - _____
Email : _____

The technical authority represents the department or agency for which the work is being performed under the contract. He is responsible for all matters related to the technical content of the work provided for in the contract. Technical issues can be discussed with the project manager; however, it cannot authorize changes to the Statement of Work. Such changes may be made only by means of an amendment to the contract issued by the contracting authority.

6.5.3 DRDC Procurement authority (will be completed upon contract award)

The purchasing authority for the contract is :

Name : _____
Title : _____
Organization : _____
Address : _____
Telephone: ____ - ____ - _____
Facsimile : ____ - ____ - _____
Email : _____

The DRDC Procurement authority represents the department or agency for which the work is being performed under the contract. He is responsible for the implementation of tools and procedures required for the administration of the contract. The contractor may discuss administrative matters identified in the contract with the DND Procurement Officer; however, it cannot authorize changes to the Statement of Work. Changes to the Statement of Work may be made only through an amendment to the contract issued by the contracting authority.

6.5.4 Contractor's representative (will be completed at contract award)

Administrative Representative

Name : _____
Title : _____
Organization : _____
Address : _____
Telephone: _____
Facsimile : _____
Email : _____

Technical Representative

Name : _____
Title : _____
Organization : _____
Address : _____
Telephone: _____
Facsimile : _____
Email : _____

6.6 Proactive disclosure of contracts with former public servants

In providing information on his status as a former public servant receiving a pension under [the Public Service Superannuation Act](#) (PSSA), the contractor agreed to have this information published on departmental websites as part of the proactive disclosure of contracts reports, in accordance with the Contracting Policy [Notice: 2012-2](#) treasury board of Canada Secretariat.

6.7 Payment

6.7.1 Basis of payment

firm price:

Provided that all of its obligations under the Contract are satisfactorily fulfilled, the Contractor will be paid a firm price specified in Annex B . the total amount of \$_____ (*the amount will be entered at the time of the award of the contract*). Customs duties included and applicable taxes are extra.

Canada will not pay the Contractor for any design change, modification or interpretation of the Work, unless such design changes, modifications or interpretations have been approved in writing by the Contracting Authority prior to being incorporated into the Work.

6.7.2 Terms of payment

6.7.2.1 Multiple payment

Canada will pay the Contractor when units have been completed and delivered in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the contract have been submitted;
- b. all of these documents have been verified by Canada;
- c. the work delivered has been accepted by Canada.

6.7.3 Electronic payment of invoices – contract (will be completed at the contract award)

The Contractor agrees to be paid using one of the following electronic payment instruments:

- a. Visa Acquisition Card ;
- b. MasterCard acquisition card ;
- c. Direct deposit (national and international) ;
- d. Electronic Data Interchange (EDI) ;
- e. Wire transfer (international only) ;
- f. Large Value Transfer System (over \$25M)

6.8 Billing instructions

6.8.1 The entrepreneur must submit his invoices in accordance with the article entitled "Presentation of invoices" of the general conditions. Invoices should not be submitted until all work identified on the invoice has been completed.

6.8.2 Each invoice must be supported by a copy of the timesheets to corroborate the time requested;

6.8.3 Invoices should be distributed as follows:

- i. The original and one (1) copy must be sent to the address that appears on page 1 of the contract for attestation and payment.
- ii. An electronic copy should be sent to PWGSC's Supply and Support Clerk – Claims group at QueReclamation.QueClaim@tpsgc-pwgsc.gc.ca

6.8.4 By submitting invoices, the entrepreneur certifies that the products and services have been delivered and that all fees comply with the provisions of the Basis of Payment of the contract, including any cost for work carried out by subcontractors.

6.9 Attestations and additional information

6.9.1 Compliance

Unless otherwise specified, continued compliance with the attestations provided by the Contractor with its bid or prior to the award of the Contract, as well as continued cooperation with additional information, are conditions of the Contract and their non-compliance will constitute a breach on the part of the Contractor. Attestations may be subject to verification by Canada for the duration of the contract.

6.10 Applicable Laws

The contract must be interpreted and governed by the laws in force in Quebec and the relations between the parties will be determined by these laws.

6.11 Order of priority of documents

In the event of incompatibility between the wording of the texts listed in the list, the wording of the document that appears first on the list takes precedence over that of any other document that appears further down the list.

- a) the articles of the Convention;
- b) general terms and conditions [2035](#) (2021-12-02);
- c) The additional Terms and Conditions, in order :
 - i. [4002](#) (2010-08-16), Additional Terms and Conditions – Software Development or Modification Services;
 - ii. [4007](#) (2010-08-16), Additional Terms and Conditions — Canada owns the intellectual property rights to the Foreground Information;
- d) Annex A, Statement of Work;
- e) Annex B, Basis of payment;
- f) Annex C, Divulgence by the entrepreneur of the intellectual property on the foreground information
- g) The contractor's bid dated _____ (will be completed upon award of the contract)

6.12 Defence contract

SACC Guide Clause [A9006C](#) (2012-07-16) Defence Contract

6.13 Dispute Resolution

- (a) The parties agree to maintain open and honest communication regarding the works throughout the duration of the performance of the contract and thereafter..
- (b) The parties agree to consult and cooperate in the performance of the contract, to promptly inform any other party of any problems or disputes that may arise and to attempt to resolve them..
- (c) If the parties are unable to resolve a dispute through consultation and cooperation, the parties agree to consult with a neutral third party offering alternative dispute resolution services to attempt to resolve the issue..
- (d) Alternative Dispute Resolution options can be found on the Buying and Selling Canada website under the heading "[Dispute Resolution](#)" .

6.14 Foreign nationals (Canadian contractor)

SACC Guide Clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian contractor)

6.15 Foreign nationals (foreign contractor)

SACC Guide Clause [A2001C](#) (2006-06-16) Foreign Nationals (Foreign contractor)

6.16 Declarations and Warranties

In its bid, the contractor made statements about its experience and expertise, and those of the personnel it proposes, which resulted in the award of the contract *[and the award of the TAs.]* The Contractor represents and warrants that all such statements are true and acknowledges that Canada relied on these statements to award the Contract to contractor [and to assign work to the Contractor through the TAs]. In addition, the Contractor represents and warrants that it has and will have during the term of the Contract, as well as all personnel and subcontractors who will perform the Work, Skills, Experience and Expertise necessary to carry out the Work in accordance with the Contract and that it has (as well as staff and subcontractors) already rendered such services to other clients.

6.17 Access to Canada's Property and Facilities

Canadian assets, facilities, equipment, documentation and personnel are not necessarily automatically made available to the contractor. If he wants to have access to it, he must make a request to the technical manager. Unless otherwise specified in the Contract, Canada is not required to provide the Contractor with any of the above resources. If Canada chooses, at its discretion, to make its facilities, equipment, documentation and personnel available to the Contractor to perform the Work, it may require a change to the Basis of Payment, and additional security requirements may apply.

6.18 Government property

Canada agrees to provide the Contractor with the items listed in Appendix A ("Government-Supplied Equipment"). The section of the Terms and Conditions entitled "Government Facilities" also applies to the use of these goods by the contractor.

6.19 Insurance

SACC *Guide* Clause [G1005C](#) (2016-01-28) Insurance – No Specific Requirements

6.20 Preservation of electronic media

- a. Before using them on Canadian equipment or sending them to Canada, the Contractor must use a regularly updated product to scan the electronic media used to perform the Work to ensure that they do not contain any computer viruses or malicious code. The Contractor must immediately inform Canada if any electronic medium used for the Work contains computer viruses or other malicious code.
- b. If electronic information or documents are damaged or lost while in the Contractor's custody or at any time before they are handed over to Canada in accordance with the Contract, the Contractor shall replace them immediately at the Contractor's expense.

ANNEX A – STATEMENT OF WORK

1. TITLE

DEVELOPMENT OF PHYSICAL COMPUTER-AIDED DESIGN (CAD) MODELS OF MOBILE CAMOUFLAGE FOR ARMoured VEHICLES

2. BACKGROUND

The capabilities and variety of sensors deployed on the battlefield have grown considerably in the last few decades. Concealment on the battlefield is becoming increasingly difficult, and only countermeasures such as camouflage, concealment and deception can increase chances of survival during operations. In recent years, Defence Research and Development Canada (DRDC) has developed several prototypes of technologies called “mobile camouflage.” Textiles specially designed to reduce signature in several spectral bands are placed on the chassis and turret of armoured vehicles. Various techniques are also used to manage the thermal emissions and radar reflections of mobile platforms. Different types of textiles and various levels of camouflage can be applied to a vehicle depending on the mission, the threat level and the environment in which the armoured vehicle will be deployed.

With such a wide range of camouflage textiles and various levels of signature reduction available, it is difficult to arbitrarily assess the operational effectiveness of a specific mobile camouflage kit against a certain threat level versus acquisition and maintenance costs. The use of advanced engagement simulation techniques with various “virtual” mobile camouflage kits is probably the only realistic approach for estimating the operational performance of different means of mobile camouflage. The Canadian Armed Forces (CAF) currently use various engagement simulation technologies to train armoured vehicle crews and estimate their chances of success and survival in different simulated combat scenarios. Modifying the various physical armoured vehicle models by “virtually dressing” them using different camouflage kits will make it possible to assess the effects of the kits on operational performance and survival in the face of simulated threats.

DRDC requires the services of a contractor to modify and adapt the physical CAD models of armoured vehicles used by the CAF by covering them with virtual mobile camouflage kits. Using samples of real camouflage textiles, the contractor will prepare physical models of armoured vehicles covered in mobile camouflage, as visually realistic as possible in a CAD environment. The contractor will then model several camouflage kits based on various approaches and on different mobile platforms currently used by the CAF. The contractor will generate visual models modified with camouflage to make them compatible with the simulation environment used by the CAF. Finally, the contractor will create a virtual library of camouflage textiles and translate them to a virtual design and rendering environment to enable users to view camouflaged vehicles as close as possible to the operational reality.

3. ACRONYMS

CAD	Computer Aided Design
CAF	Canadian Armed Forces
DRDC	Defence Research and Development Canada
M	Metres
MM	Millimetres
PVC	Polyvinyl chloride
TA	Technical Authority

4. APPLICABLE DOCUMENTS AND REFERENCES

AD1: <https://www.saab.com/products/mcs-mobile-camouflage-system>

AD2: <https://solidedge.siemens.com/en/>

AD3: <https://www.keyshot.com/>

AD4: <https://www.saab.com/products/land/camouflage-systems>

AD5: https://en.wikipedia.org/wiki/Federal_Standard_595_camouflage_colors

AD6: https://commons.wikimedia.org/wiki/Category:NATO_camouflage_pattern

5. TASKS

5.1 Generating CAD models of camouflage textiles with thermal shield component

Using real samples of existing camouflage textiles, including a thermal shield component, the contractor must generate CAD models of camouflage, replicating as closely as possible all the physical layers of the textiles, with the incisions, seams and curves present in the original sample. Particular attention should be paid to modeling surface texture in combination with colour and brightness. The contractor will generate different camouflages in “native” mode in Solid Edge version 2020 (or a more recent version) with a minimum accuracy and spatial resolution of 1 mm in each of the three dimensions. The surface colour of the camouflage textiles must be forest green, black and brown, in accordance with the SCAPP standard (Standardized Camouflage Painted Pattern), also called NATO 3-colour camouflage (AD5 and AD6), from the Microsoft Windows standard palette, and must be designed to be changed as needed by the user.

The contractor must model the following camouflage textiles:

- 1 Conventional PVC (polyvinyl chloride) camouflage textile composed of nylon cords attached with a plastic clip to a precisely cut PVC coated textile. (Figure 1)

- 2 Three-dimensional (3D) convective camouflage textile composed of two layers of woven polyester. The interior layer is composed of a polyester textile coated with a black anti-radar substance. The exterior layer is also composed of a precisely cut and formed polyester textile. The two layers are sewn together precisely with polyester thread. (Figure 2)
- 3 Two-dimensional (2D) reversible convective camouflage textile composed of three layers of woven polyester. The interior layer is composed of a polyester textile coated with a black anti-radar substance. The middle layer consists of a polyester textile in a wave shape to give a precise three-dimensional structure. The exterior layer is also composed of a precisely formed polyester textile. The three layers are sewn together precisely with polyester thread. (Figure 3)
- 4 PVC mobile camouflage textile composed of an insulated PVC laminate sewn to a precisely cut PVC laminate textile. (Figure 4)
- 5 3D convective mobile camouflage textile composed of two layers of separate woven textile. The interior layer is composed of a polyester textile coated with a black anti-radar substance. The exterior layer is composed of a thin, precisely cut and formed laminated polyethylene textile. The two layers are sewn together precisely with polyester thread. (Figure 5)
- 6 3D thermal low-emissivity mobile camouflage textile made up of two separate layers of textile. The interior layer is composed of a polyethylene laminate. The exterior layer is composed of a thin, precisely cut and formed laminated polyethylene textile. The two layers are sewn together precisely with polyester thread. (Figure 6)
- 7 Convective mobile camouflage textile with thermal shield component included. The interior layer is composed of a polyester textile coated with a layer of PVC and a black anti-radar substance, with a Kevlar-based insulating membrane. The middle layer consists of a polyester textile in a wave shape to give a precise three-dimensional structure. The exterior layer is composed of a 2D convective camouflage textile made up of three layers of woven polyester textile. The exterior layer is also composed of a precisely formed polyester textile. The three layers are sewn together precisely with polyester thread. (Figure 7a and 7b)



Figure 1 – Example of a conventional PVC camouflage textile composed of nylon cords attached with a plastic clip to a PVC coated textile



Figure 2 – Example of a 3D convective camouflage textile composed of two layers of woven polyester sewn together precisely. Front on the left and back on the right.



Figure 3 – Example of 2D reversible convective camouflage textile composed of three layers of woven polyester



Figure 4 – Example of PVC mobile camouflage textile composed of a PVC laminate sewn to a PVC laminate textile with polyester mesh



Figure 5 – Example of 3D convective mobile camouflage textile composed of two layers of separate woven textile (forest version on the left and desert on the right)



Figure 6 – Example of 3D thermal low-emissivity mobile camouflage textile made up of two separate layers of textile



Figure 7a) – Example of the exterior layer (left) and middle layers (right) of convective mobile camouflage textile



Figure 7b) – Interior layer of thermal shield with insulation and separating layer (thermal shield component)

Samples will be provided to the contractor as Government Supplied Material (GSM) so that it can complete the modeling as realistically as possible (GSM 1). A CAD model of a camouflage textile will also be provided to the contractor so that it can understand the complexity thereof (GSM 2).

5.2 Generating CAD models of mechanical components for mobile camouflage kits

Based on CAD models of military vehicles (LAV 6, TAPV and Leopard 2A6) used by the CAF, the contractor must generate various mechanical components to apply CAD models of camouflage textiles developed in Task 5.1. The contractor must generate mechanical components for all designated military vehicles

(LAV 6, TAPV and Leopard 2A6). The contractor must generate CAD models as single mechanical parts (PART file) so that they can be individually modified for the needs of other projects. The contractor must create a complete library for each designated military vehicle (LAV 6, TAPV and Leopard 2A6).

The contractor must generate the following mechanical components:

1. Draper-type mechanical component to cover the wheels and/or (depending on the vehicle) tracks of military vehicles with a skirt (LAV 6, TAPV and Leopard 2A6) on all four sides (left, right, front and back) to limit shadows and thermal emissions (Figure 8). There should be a space of 40 cm between the ground and the textile, as shown in Figure 8 on the right.
2. Mechanical component to cover the cooling fans of various military vehicles (LAV 6, TAPV and Leopard 2A6) to block emissions from the vehicle's engine compartment. (Figure 9 – number 2)
3. Mechanical component to divert air from the cooling fans of various military vehicles (LAV 6, TAPV and Leopard 2A6). (Figure 9 – number 3)
4. Mechanical component to cover thermal emissions from the exhaust systems of various military vehicles (LAV 6, TAPV and Leopard 2A6). This mechanical component is normally located at a certain distance from the hot part, and is covered with camouflage textiles to block direct emissions. (Figure 9 – number 4)
5. Mechanical component to divert hot gases from the exhaust systems of various military vehicles (LAV 6, TAPV and Leopard 2A6) to reduce the surface thermal signature. (Figure 9 – number 5)



Figure 8 – Example of a Coyote armoured vehicle covered with a thermal shield and draper over the wheels of the vehicle



Figure 9 – Examples of mechanical components to divert air from cooling fans (3), cover thermal emissions from exhaust systems (4) and divert hot gases from exhaust systems (5)

The contractor will be provided with images (in JPEG format) of real mechanical components for mobile camouflage systems (as GSM) so that it can complete the modeling as realistically as possible (GSM 3). A CAD model of a mechanical component (native Solid Edge format) will also be provided as an example of the work to be completed (GSM 4). High-resolution CAD models (.OBJ format) of the TAPV, Leopard 2A6 and LAV 6 will be provided to the contractor for the purpose of modeling the mechanical components on the appropriate vehicle (GSM 5). These military vehicles, while different in principle, have the same characteristics in terms of exhaust systems, cooling fans and track and wheel wells.

5.3 Generating CAD models of camouflage nets and support structures

Using the CAD models of camouflage textiles generated in Task 5.1, the contractor must generate CAD models of complete camouflage nets in accordance with the mechanical specifications for camouflage nets in service in the CAF (GSM 7). The contractor must adapt the CAD models of textiles numbered 1 to 4 in Task 5.1 to create 6.8 m by 6.8 m camouflage nets (full screen net) and 6.8 m by 3.4 m nets (half

net) with cords and reinforcement band in accordance with technical specifications (GSM 7). Figures 10 and 11 show detailed diagrams for the full and half screen nets. The cords shown in Figure 11 are made of woven nylon, assorted colours, with a 3 mm diameter.

The CAD models generated must be “flexible” to be able to follow the contours of the vehicles when applied.

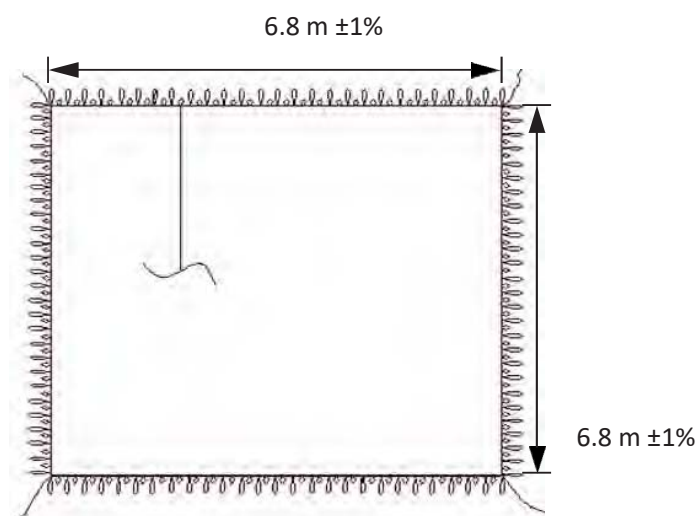


Diagram of main 6.8 m by 6.8 m screen nets

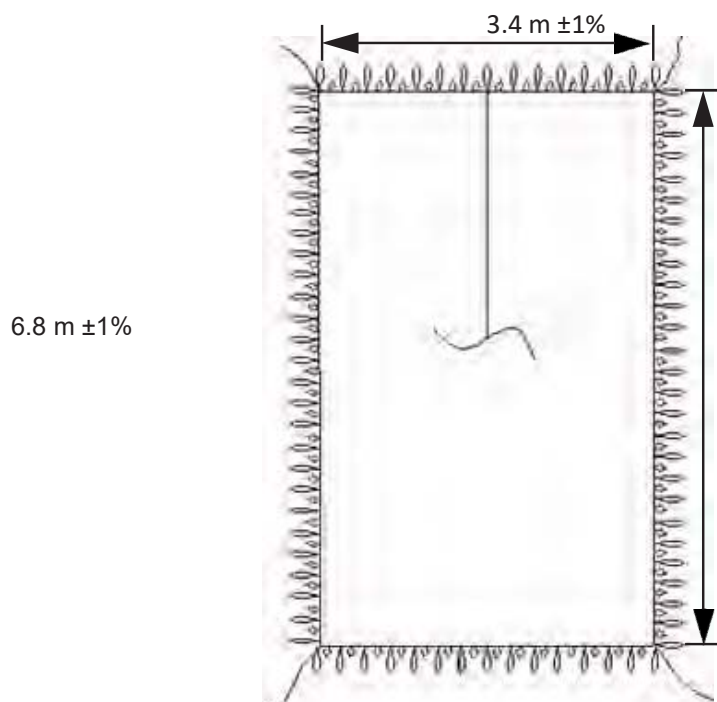


Diagram of additional 6.8 m by 3.4 m screen nets

Figure 10 – Diagram of full (6.8 m by 6.8 m) and half (6.8 m by 3.4 m) camouflage nets

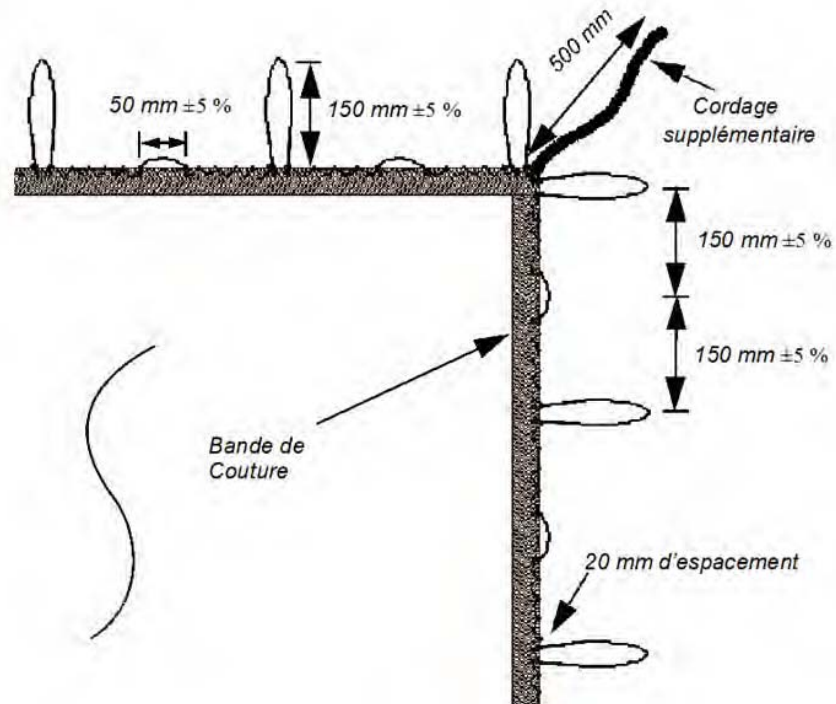


Figure 11 – Detailed diagram of cord and reinforcement band placement for camouflage nets

5.4 Adapting camouflage textile models on CAD models of armoured vehicles for basic mobile camouflage kits

Based on the various CAD models of camouflage textiles generated in Task 5.1, the contractor must generate CAD models of camouflage textiles applied directly to the hulls and turrets, if applicable, of TAPV, LAV 6, and Leopard 2A6 vehicles currently in service in the CAF. No mechanical components are to be used on the vehicles.

5.5 Adapting camouflage textile models on CAD models of armoured vehicles for intermediate mobile camouflage kits

Based on the various CAD models of camouflage textiles generated in Task 5.1, the contractor must generate CAD models of camouflage textiles applied directly with the skirts and cooling fan covers generated in Task 5.2 (mechanical components 1 to 3), and to the hulls and turrets, if applicable, of TAPV, LAV 6, and Leopard 2A6 vehicles currently in service in the CAF. The camouflage added to the skirts and fan covers must substantially reduce shadows break up the shape of each vehicle.

5.6 Adapting camouflage textile models on CAD models of armoured vehicles for complete, advanced mobile camouflage kits

Based on the various CAD models of camouflage textiles generated in Task 5.1, the contractor must generate CAD models of camouflage textiles applied directly with the complete mechanical components generated in Task 5.2 (mechanical components 1 to 5), and to the hulls and turrets, if applicable, of TAPV, LAV 6, and Leopard 2A6 vehicles currently in service in the CAF. The camouflage added to the skirts and fan covers must substantially reduce shadows break up the shape of each vehicle.

5.7 Generating realistic renderings for engagement simulations

In accordance with instructions from the Canadian Armed Forces Land Simulation Centre (GSM 8), the contractor must adapt all models developed in tasks 5.4, 5.5 and 5.6 for Virtual Battle Simulations, version VBS III or VBS IV, by Australian company Bohemia Interactive Solutions. The TA will specify the version within a month after the beginning of the contract. The contractor must modify the format of all the models to parasolid and solid CAD versions (OBJ or IGES format) to obtain the most realistic rendering possible with the constraints and limitations of the simulation environment.

The time required for the contractor to carry out this task is estimated at 80 to 120 hours of work, depending on the experience of the mechanical designer assigned to the task.

5.8 Technical support during engagement simulation exercises

In accordance with instructions from the Canadian Armed Forces Land Simulation Centre (GSM 8), the contractor must provide virtual technical support to the technical authority for the preparation of engagement simulation exercises. The exercises will be held at Canadian Forces Base Valcartier, date to be confirmed. The contractor will receive four weeks of notice for the exact period during which technical support will be required.

The time required for the contractor to carry out this task is estimated at 80 to 120 hours for model preparation and participation in engagement simulation exercises. This represents the technical support required before and during engagement simulation exercises for final adjustments to the CAD models prepared in the previous tasks.

The contractor must modify the CAD models generated to make them usable in the engagement simulation exercises, and take note of the modifications made. The contractor must prepare a report explaining the methods used to adapt the CAD models developed in the context of this contract to the Canadian Armed Forces Land Simulation Centre engagement simulation systems. Currently, the software used is VBS III (Virtual Battle Simulator) by Australian company Bohemia Interactive Simulations.

5.9 Preparing the technical report

The contractor must prepare a technical report (MS-Word and PDF format) showing the CAD solutions used to model the various camouflage textiles and mechanical components, as well as integration for different mobile camouflage kits. The contractor must also provide all CAD models generated in the context of this contract in digital format on a CD. CAD models must all be available in native Solid Edge 2020 format (or the most recent version).

6. DELIVERABLES

All deliverables must be submitted with a file description in French on a CD, except for deliverables 6.7 and 6.8, which must be submitted by email.

6.1 Deliverables for Task 5.1

The contractor must deliver, in digital format, the seven (7) models of camouflage textiles described in Task 5.1, including the thermal shield component in Figure 7b). The file must be in native Solid Edge 2020 format (or the most recent version).

6.2 Deliverables for Task 5.2

The contractor must deliver, in digital format, the five (5) models of mechanical components for each vehicle described in Task 5.2. The file must be in native Solid Edge 2020 format (or the most recent version).

6.3 Deliverables for Task 5.3

The contractor must deliver, in digital format, the eight (8) models of camouflage nets (one full net, 6.8 metres by 6.8 metres, and one half net, 6.8 metres by 3.4 metres, for each of the 4 camouflage textiles identified). The file must be in native Solid Edge 2020 format (or the most recent version).

6.4 Deliverables for Task 5.4

The contractor must deliver, in digital format, the seven (7) models of camouflage textiles described in Task 5.1, including the thermal shield component in Figure 7b), applied directly to TAPV, LAV 6, and Leopard 2A6 modeled platforms. Overall, the contractor must generate 21 models. The file must be in native Solid Edge 2020 format (or the most recent version).

6.5 Deliverables for Task 5.5

The contractor must deliver, in digital format, the seven (7) models of camouflage textiles described in Task 5.1, including the thermal shield component in Figure 7b), applied with mechanical components 1 to 3 in Task 5.2, and to the hulls and turrets, if applicable, of TAPV, LAV 6, and Leopard 2A6 vehicles. Overall, the contractor must generate 21 models. The file must be in native Solid Edge 2020 format (or the most recent version).

6.6 Deliverables for Task 5.6

The contractor must deliver, in digital format, the seven (7) models of camouflage textiles described in Task 5.1, including the thermal shield component in Figure 7b), applied with mechanical components 1 to 5 in Task 5.2, and to the hulls and turrets, if applicable, of TAPV, LAV 6, and Leopard 2A6 vehicles. Overall, the contractor must generate 21 models. The file must be in native Solid Edge 2020 format (or the most recent version).

6.7 Deliverables for Task 5.7

The contractor must deliver to the TA a detailed report explaining the modifications made to the models developed in the context of this contract to adapt them to the Canadian Armed Forces Land Simulation Centre simulation system. The report must be in MS Word 2020 format (or the most recent version). The report must be delivered to the TA by email.

6.8 Deliverables for Task 5.8

The contractor must deliver a detailed report of the lessons learned during the engagement simulation exercises carried out at the Canadian Armed Forces Land Simulation Centre. The contractor must include the details of the modification and adaptation of the various models for the execution of different engagement simulations. The report must be in MS Word 2020 format (or the most recent version). The report must be delivered to the TA by email.

6.9 Deliverables for Task 5.9

The contractor must deliver a technical report in MS Word 2020 format (or the most recent version), as well as in PDF format, showing the CAD solutions used to model the various camouflage textiles and mechanical components, as well as integration for different mobile camouflage kits. The contractor must also provide all CAD models generated in the context of this contract in digital format on a CD. The CAD models must be in native Solid Edge 2020 format (or the most recent version).

7. DELIVERY DATE

Proposed format #1

Deliverable 6.1: Within 2 months after contract award.

Deliverable 6.2: Within 3 months after contract award.

Deliverable 6.3: Within 3 months after contract award.

Deliverable 6.4: Within 4 months after contract award.

Deliverable 6.5: Within 5 months after contract award.

Deliverable 6.6: Within 5 months after contract award.

Deliverable 6.7: Within 6 months after contract award.

Deliverable 6.8: Within 1 month after the end of the simulation event.

Deliverable 6.9: Within 6 months after contract award.

8. LANGUAGE OF WORK

French

9. LOCATION OF WORK

Work must be performed on the contractor's site.

10. TRAVEL

The contractor is not required to travel.

11. MEETINGS

A meeting to coordinate and exchange information to start the contract must be held virtually within two weeks after contract award.

A virtual meeting of at least one hour must be held every four weeks to discuss the progress of the work. As needed, additional virtual meetings may be held upon request by one of the two parties.

Unless otherwise indicated, all virtual meetings will be held on MS Teams or another appropriate platform. The contractor will call the meetings.

12. GOVERNMENT SUPPLIED MATERIAL (GSM)

GSM 1: Samples of camouflage textiles, including a thermal shield component.

Total quantity: 7

Description:

- 1- Conventional PVC (polyvinyl chloride) camouflage textile. (Figure 1)
- 2- 3D convective camouflage textile composed of two layers of woven polyester. (Figure 2)
- 3- 2D reversible convective camouflage textile composed of three layers of woven polyester. (Figure 3)
- 4- PVC mobile camouflage textile composed of an insulated PVC laminate sewn to a precisely cut PVC laminate textile. (Figure 4)
- 5- 3D convective mobile camouflage textile composed of two layers of separate woven textile. (Figure 5)
- 6- 3D thermal low-emissivity mobile camouflage textile made up of two separate layers of textile. (Figure 6)
- 7- Convective mobile camouflage textile with thermal shield component included. (Figures 7a) and 7 b))

GSM 2: CAD model of a camouflage textile.

Quantity: 1

Description: CAD model (.OBJ) of a generic camouflage textile purchased on the internet with modification rights.

GSM 3: Visual images of mechanical components for armoured vehicles.

Quantity: 10

Description: In-house images (JPEG format) showing different mechanical components created at the Valcartier Research Centre in the past.

GSM 4: CAD model of mechanical components for mobile camouflage kits.

Quantity: 1

Description: In-house CAD model of a mobile camouflage prototype mounted on a LAV vehicle, MGS (Mobile Gun System) type. This model will serve as an example for generating mechanical components.

GSM 5: CAD models of CAF armoured vehicles.

Quantity: 3

Description: CAD models (.OBJ) of three CAF armoured vehicles: TAPV, Leopard 2A6 and LAV 6. These commercial models were legally purchased from Hum3D with modification rights.

GSM 6: CAD models of CAF armoured vehicles with high-resolution rendering.

Quantity: 3

Description: High-resolution CAD models with high-definition rendering of three CAF armoured vehicles: TAPV, Leopard 2A6 and LAV 6. These commercial models were legally purchased from Hum3D with modification rights.

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GSM 7: Mechanical specifications for CAF camouflage nets.

Quantity: 1

Description: Manufacturing document for temperate forest nets written by DRDC (bilingual version).

GSM 8: Reference document for incorporating new models into the Canadian Armed Forces Land Simulation Centre VBS III or IV software.

Quantity: 1

Description: Electronic document explaining the process for incorporating new models into the Canadian Armed Forces Land Simulation Centre VBS III or IV simulation environment.

13. GOVERNMENT FURNISHED EQUIPMENT (GFE)

None

14. SPECIAL CONSIDERATIONS

No CAD or visual rendering software licence will be provided or loaned by DRDC for the duration of this contract. Furthermore, no computers, monitors or internet connections will be provided or loaned by DRDC for the duration of this contract.

ANNEX B – BASIS OF PAYMENT

1.

*Firm prices, all fees included, DDP destination. Prices include applicable customs fees and taxes are extra.

*All according to the terms and characteristics mentioned in Appendix A "Statement of Work"

	Deliverable	Delivery date	Fixed price
1	Deliverable for Task 5.1 <u>Generating CAD models of camouflage textiles with thermal shield component</u>	Maximum 2 months following the award of the contract	_____ \$
2	Deliverable for Task 5.2 <u>Generating CAD models of mechanical components for mobile camouflage kits</u>	Maximum 3 months following the award of the contract	_____ \$
3	Deliverable for Task 5.3 <u>Generating CAD models of camouflage nets and support structures</u>	Maximum 3 months following the award of the contract	_____ \$
4	Deliverable for Task 5.4 <u>Adapting camouflage textile models on CAD models of armoured vehicles for basic mobile camouflage kits</u>	Maximum 4 months following the award of the contract	_____ \$
5	Deliverable for Task 5.5 <u>Adapting camouflage textile models on CAD models of armoured vehicles for intermediate mobile camouflage kits</u>	Maximum 5 months following the award of the contract	_____ \$
6	Deliverable for Task 5.6 <u>Adapting camouflage textile models on CAD models of armoured vehicles for</u>	Maximum 5 months following the award of the contract	_____ \$

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	<u>complete, advanced mobile camouflage kits</u>		
7	Deliverable for Task 5.7 <u>Generating realistic renderings for engagement simulations</u>	Maximum 6 months following the award of the contract	_____ \$
8	Deliverable for Task 5.8 <u>Technical support during engagement simulation exercises</u>	1 month after the completion of simulation.	_____ \$
9	Deliverable for Task 5.9 <u>Preparing the technical report</u>	Maximum 6 months following the award of the contract	_____ \$
total			_____ \$

ANNEX C - DISCLOSURE BY THE CONTRACTOR OF THE INTELLECTUAL PROPERTY ON THE FOREGROUND INFORMATION

"Foreground Information" means any intellectual property first designed, developed, produced or applied in connection with the work provided for in the Contract;

The contractor must provide the following information :

1. Contract No. :
2. What is the Descriptive Title of Intellectual Property on Foreground Information (PFI)?
3. Summary description of the PFI and, if applicable, of the different systems and subsystems
4. What is or was the objective of the project?
5. Explain how and to what extent the PFI meets the objective of the project (e.g. advantageous solution on what currently exists, solves problems or offers benefits).
6. Which category(ies) would you think the PFI would belong to in the most appropriate way and why: patent, invention, trade secret, copyright, industrial design, rights in topographies of integrated circuits, know-how, other?
7. What features or aspects of PFI are innovative, useful and out of the ordinary?
8. Has PFI been tested or demonstrated? If yes, please summarize the results.
9. Has there been publication or disclosure? If so, to whom, when, where and how?
10. What are the names and addresses of the inventors?
11. Provide an explicit and detailed description of the FIP developed during the performance of the contract (refer to the relevant section of the technical report if applicable).

Please specify the name and position of the person who approves or authorizes the disclosure. This person will have to sign the disclosure and enter the date.

Signature

Date

Name

Title

(Interne au RDDC Valcartier)

Signature

Date

Name

Title (Technical Manager)

ATTACHMENT #1- MANDATORY AND RATED TECHNICAL CRITERIA

In its proposal, the bidder must demonstrate how the proposal meets the mandatory technical criteria provided in Table 1 below and the rated technical criteria provided in Table 2 below. Proposals omitting this demonstration requirement for the mandatory technical criterion and the minimum score on the rated technical criteria will not be considered.

For the evaluation of the criterias, the following information must be provided:

1. description of the nature of the project or experience;
2. exact dates of completion of the project or experiment (month and year of start and end);
3. A description of the tasks performed by the resource during the project or experiment.

1. Mandatory criteria

MANDATORY CRITERIA		YES	NO
CO1	The Bidder must demonstrate experience of at least of a) a minimum of 24 months of part time experience, or b) a minimum de 12 months of full time experience in the use of one or many commercial 3D CAD software such as Solid Edge or Solid Works or AutoCAD. The experience must have been acquired in the last 24 months. To be considered as a part time month experience, the Bidder must have accounted a minimum of 50 work hours during the month. To be considered as a full time month experience, the Bidder must have accounted a minimum of 120 work hours during the month.		
CO2	The Bidder must demonstrate experience of at least of a) a minimum of 12 months of part time experience, or b) a minimum de 6 months of full time experience in the use of one or many commercial 3D Graphic Rendering software such as KeyShot 3DS Max, Blender, Maya. The experience must have been acquired in the last 24 months. To be considered as a part time month experience, the Bidder must have accounted a minimum of 50 work hours during the month. To be considered as a full time month experience, the Bidder must have accounted a minimum of 120 work hours during the month.		

2. Point-rated evaluation criteria

	POINT-RATED EVALUATION CRITERIA	Minimum	Maximum
CC1	<p>The Bidder has completed a minimum of 3 mechanical design and drawing or graphic rendering projects in the past 24 months.</p> <p>More than 6 : 20 points 4 to 6: 15points 3 : 10 points Less than 3 : 0 point</p>	10	20
CC2	<p>The Bidder has completed a minimum of 1 complex* design and mechanical design or graphic rendering project in the last 24 months.</p> <p>*Complex Project: To be considered a complex project, the project must have a minimum of 100 hours of mechanical design and drawing or graphic rendering under the project. A combination of hours in mechanical design and drawing as well as graphic rendering is acceptable.</p> <p>More than 4 : 20 points 2 to 4: 15 points 1 : 10 points Less than 1 : 0 point</p>	10	20
CC3	<p>The Bidder has completed a minimum of 1 complex project* in the design and mechanical design or graphic rendering of soft materials such as textiles, plastic, thin metal sheet, rubber or other soft materials.</p> <p>*Complex Project: To be considered a complex project, the project must have a minimum of 100 hours of mechanical design and drawing or graphic rendering of flexible materials such as textiles, plastic, thin metal plate, rubber or other soft materials under the project. A combination of hours in mechanical design and drawing as well as graphic rendering is acceptable.</p> <p>More than 4 : 20 points 2 to 4: 15 points 1 : 10 points Less than 1 : 0 point</p>	10	20
CC4	<p>The bidder has completed a minimum of 1 complex* project in mechanical design and drawing or graphic rendering in the field of mechanical design for vehicles such as automobiles, trucks, motorcycles, armoured vehicles or any other mobile platform.</p> <p>*Complex project: To be considered a complex project, the project must have a minimum of 100 hours of mechanical design and drawing or graphic rendering in the field of mechanical design for vehicles such as automobiles, trucks, motorcycle, armoured vehicles or any other mobile platform under the project. A combination of hours in mechanical design and drawing as well as graphic rendering is acceptable.</p> <p>More than 4 : 10 points 2 to 4: 7 points 1 : 5 points Less than 1 : 0 point</p>	5	10

POINT-RATED EVALUATION CRITERIA		Minimum	Maximum
CC5	<p>The bidder has completed complex* mechanical design projects with realistic visual 3D rendering over the past 24 months. The Bidder must provide a workbook to demonstrate these mechanical design projects with realistic visual 3D rendering, including the start and end date of the project.</p> <p>*Complex Projects: To be considered a complex project, the project must have a minimum of 100 hours of mechanical design, drawing and graphic rendering. A combination of hours in mechanical design and drawing as well as graphic rendering is acceptable.</p> <p>More than 10: 10 points From 5 to 10 : 8 points From 1 to 4 : 4 points Nothing: 0 point</p>	4	10
CC6	<p>The Bidder has completed a minimum of 2 complex* mechanical design projects that have been successfully printed on 3D printers in the past 12 months. The Bidder must provide a workbook to demonstrate these projects.</p> <p>*Complex Projects: To be considered a complex project, the project must have a minimum of 100 hours of mechanical design.</p> <p>More than 2 : 10 points 2 : 5 points Less than 2 : 0 point</p>	5	10
TOTAL		44	90

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ATTACHMENT #2- ELECTRONIC PAYMENT INSTRUMENTS

The Bidder agrees to be paid from one of the following electronic means of payment:

- () Visa Acquisition Card;
- () MasterCard acquisition card ;
- () Direct deposit (national and international);
- () Electronic Data Interchange (EDI);
- () Wire transfer (international only) ;
- () Large Value Transfer System (over \$25M)