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Title - Sujet NVSM Project RFI	
Solicitation No. - N° de l'invitation W8476-216347/A	Date 2020-06-15
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PART 1 – PURPOSE AND NATURE OF THE REQUEST FOR INFORMATION (RFI)

1 PURPOSE AND NATURE OF THE RFI

1.1 Purpose of the RFI

Public Services and Procurement Canada (PSPC) is requesting Industry information and feedback regarding the Night Vision System Modernization (NVSM) project (see Attachments 1 and 2).

Attachment 3 “Questions to Industry” is attached to this RFI. Industry is requested to review these questions and provide answers and comments to the PSPC Contracting Authority identified at Article 2.6.

Please note that the published RFI closing date **is not** the deadline for comments or input.

THIS IS THE FIRST OF MULTIPLE POTENTIAL ENGAGEMENT ACTIVITIES PLANNED UNDER THIS RFI PROCESS.

The purpose of this Request for Information (RFI) is:

- a) Provide a continuous single point of official project communication with industry;
- b) Fully understand potential NVSM solutions the market has to offer and leverage Industry expertise to develop an efficient and effective procurement strategy that achieves the project's objectives and best value to Canada;
- c) Ensure Canada's expectations for engagement are clear and easy for Industry to understand;
- d) Answer questions from industry to ensure all interested participants receive the same information;
- e) Obtain industry feedback on any issues that would impact their ability to bid on a resulting solicitation and/or deliver on the department's requirements;
- f) Gather industry knowledge, expertise and recommendations with regard to best practices that would increase the success of the solicitation and/or identify any risks that would impact the solicitation;
- g) Enhance competition, access and fairness of the resulting solicitation;
- h) Inform industry and the government to ensure that the formal RFP process moves forward efficiently and has a high probability of success;
- i) Advise Industry of potential engagement activities such as Industry Day events, site visits one-on-one meetings and other potential engagement activities; and
- j) Inform Canada of opportunities to leverage economic benefits, such as the Industrial and Technological Benefits (ITB) Policy.

Respondents are requested to provide answers and feedback.

1.2 Nature of the RFI

The intent is for this RFI to remain open until a formal solicitation process is released in the future. PSPC intends to release future engagement activities through amendments to this RFI

process. Each subsequent amendment will clearly identify the information Canada is requesting and the requested Industry response date.

This is not a bid solicitation. This RFI will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list. Therefore, whether or not any potential supplier responds to this RFI, this will not preclude that supplier from participating in any future procurement. Also, the procurement of any of the goods and services described in this RFI will not necessarily follow this RFI. This RFI is simply intended to solicit information and feedback from industry with respect to the matters described in this RFI.

Participation in this RFI process is encouraged, but is not mandatory. There will be no short-listing of potential suppliers for the purposes of undertaking any future work as a result of this RFI. Similarly, participation in this RFI is not a condition or prerequisite for the participation in any potential subsequent solicitation.

Nothing in this RFI will be construed as a commitment from PSPC to issue a solicitation for this requirement. PSPC may use non-proprietary information provided in this review and/or in the preparation of any formal solicitation document.

PSPC will not be bound by anything stated herein and reserves the right to change at any time, any or all parts of the requirement, as it deems necessary. PSPC also reserves the right to revise its procurement approach, as it considers appropriate, either based upon information submitted in response to this RFI or for any other reason it deems appropriate.

PART 2 – RESPONSE INSTRUCTIONS AND INFORMATION

2 RESPONSE INSTRUCTIONS AND INFORMATION

2.1 Nature and Format of Responses Requested

PSPC is seeking input and responses covering important elements of the requirement prior to determining a procurement strategy.

Respondents are invited to provide comments regarding the content of Attachments 1, 2 and 3 and related requirements included in this RFI. Respondents should explain any assumptions they make in their interpretation of the requirements.

2.2 Response Costs

PSPC will not reimburse any respondent for expenses incurred in responding to this RFI.

2.3 Treatment of Responses

2.3.1 Use of Responses

Responses will not be formally evaluated. The responses received may be used by PSPC to develop or modify procurement strategies or any draft documents. PSPC will review all responses received by the RFI closing date. PSPC may, in its discretion, review responses received after the RFI closing date.

2.3.2 Review Team

A review team composed of representatives of PSPC, ISEDC, and the Department of National Defence (DND) will review the responses. PSPC reserves the right to hire any independent consultant, or use any Government resources that it considers necessary to review any response. Not all members of the review team will necessarily review all responses.

2.3.3 Confidentiality

Respondents should indicate and mark any portions of their response that they consider proprietary or confidential. PSPC will handle these portions in a confidential manner in accordance with the Access to Information Act of Canada.

Although the information collected may be provided as commercial-in-confidence (and, if identified as such, will be treated accordingly by Canada), Canada may use the information to assist in drafting performance specifications (which are subject to change) and for budgetary purposes.

Respondents are encouraged to identify, in the information they share with Canada, any information that they feel is proprietary, third party or personal information. Please note that Canada may be obligated by law (e.g. in response to a request under the Access of Information and Privacy Act) to disclose proprietary or commercially-sensitive information concerning a respondent (for more information: <http://laws-lois.justice.gc.ca/eng/acts/a-1/>).

2.3.4 Follow-up Activity

PSPC may, at its discretion, contact any respondents to follow up with additional questions or for clarification of any aspect of a response. PSPC may, at its discretion agree to meet with

respondents to provide respondents with the opportunity to present and/or demonstrate their capabilities in relation to this RFI.

Respondents' presentations are at no obligation to PSPC and respondents will be responsible for all costs associated with PSPC's invitation to make a presentation.

2.4 Contents of this RFI

This RFI contains specific questions (Attachment 3 "Questions to Industry") addressed to the industry. Comments regarding any aspect of this RFI are requested

2.4.1 Historical & Volumetric Data

The data contained within this RFI is being provided to respondents purely for information purposes. Although it represents the best information currently available, there is no guarantee that the data is complete or free from error.

2.5 Format of Responses

2.5.1 Response preparation

PSPC requests that respondents submit their responses electronically in MS Word, PDF or compatible formats. Responses are to be submitted by email to the Contracting Authority identified in section 2.6 below.

2.5.2 Response content

The first page of each document of the response provided should contain:

- a) The RFI number
- b) The name of the company that the respondent is representing;
- c) The title, the name and the contact information of the respondent; and,
- d) The date of submission of the documents.
- e) All pages should be identified with the company's name along with page numbers.

2.6 Enquiries

PSPC will not necessarily respond to enquiries in writing or by circulating answers to all potential suppliers as this is not a solicitation process. However, respondents with questions regarding this RFI may direct their enquiries to the Contracting Authority named below:

Jackie Vallée
Supply Team Leader
Defence and Marine Procurement Branch
Public Service and Procurement Canada / Government of Canada
[Email: Jackie.vallee@tpsgc-pwgsc.gc.ca](mailto:Jackie.vallee@tpsgc-pwgsc.gc.ca)
Phone: 873-355-4975

2.7 Submission of Responses

2.7.1 Location for Submission of Responses

Suppliers interested in providing a response should deliver it electronically to the attention of the Contracting Authority indicated in Section 2.6.

2.8 Security Requirements

There are no security requirements associated with responding to this RFI.

2.9 Schedule

The following is the tentative schedule associated with the RFI process:

- a) Release of Request for Information: 16 June 2020
- b) Preferred response time: 13 July 2020 (Comments, responses and questions will be accepted throughout the RFI period)
- c) Request for Information Closing date: 31 August 2020

Any changes to the tentative schedule will be communicated on <https://BuyandSell.gc.ca/> as they become available throughout the period of this RFI.

2.10 Official Languages

Responses to this RFI are requested to be presented in either of the Official Languages of Canada.

2.11 Attached Documents

Attachment 1 – Project Background, Scope and Preliminary Requirements

Attachment 2 – Industrial and Technological Benefits (ITB) Policy

Attachment 3 – Questions to Industry

Attachment # 1

Project Background, Scope and Preliminary Requirements

3 Project Background, Scope and Preliminary Requirements

3.1 Introduction

The Canadian Armed Forces (CAF) has an enduring responsibility to defend Canada and North America while contributing to the security of our allies through allied and coalition operations abroad. To provide flexible options to the Government of Canada (GoC) in fulfilling these core responsibilities, the CAF must maintain agile, multi-role capabilities that are deployable across the spectrum of operations.

The *Strong, Secure, Engaged* (SSE) policy provides clear direction on Canadian defence priorities over a 20 year horizon. The objectives identified in SSE cannot be fulfilled without an investment in the Canadian Armed Forces' (CAF) core capabilities. With respect to the Canadian Army (CA) and Royal Canadian Navy (RCN), one such area for investment that is explicitly mentioned in SSE is to recapitalize night vision systems (NVS).

Night Vision performance is about the ability to have greater situational awareness at night or in situations of low light/visibility. NVS enable personnel to carry out operations under conditions that would not otherwise be possible. This capability allows Canada a strategic advantage, and is critical to the safety of dismounted soldiers.

Technology in the field of NVE performance has been steadily improving. There are some key areas of improvement that NVSM will address:

- a. Improved resolution allowing longer ranges for target detection, recognition and identification;
- b. Emerging technologies like Thermal Fusion devices that view several wavelength frequencies simultaneously for a better image and Augmented Reality devices that display battle management information from a soldier system; and
- c. Fleet flexibility by providing a number of variants of equipment types to allow the right level of performance for the mission.

3.2 Project Overview

The objective of the Night Vision System Modernization (NVSM) project is to enable our forces to operate at night, closing the gap with our daylight capability.

To address this, NVSM will procure sufficient night vision systems to meet the operational and training requirements of both the Regular and Reserve forces of the Canadian Army (CA) and Royal Canadian Navy (RCN). NVSM project will be procuring systems for use by dismounted soldiers and sailors only.

The three core capabilities delivered are: Night Vision Devices (NVD) including monocular NVDs, binocular NVDs, thermal fusion NVDs, and augmented reality NVDs; Hand Held Thermal

Imagers (HHTI) with long range and medium range; and Laser Aiming Devices (LAD). NVSM intends to procure high performing COTS/MOTS devices across all systems.

A big focus of NVSM is ensuring that all systems can be used by all military members. The systems will be designed to be flexible or adaptable to physical differences that may exist due to gender, variance in physical abilities like eyesight, the wearing of religious garments etc.

3.2.1 NVD

The NVDs allow individual soldiers and sailors to see in low light conditions and complete all the tasks they are expected to complete during the day without the use of an external light source.

The NVDs will be a lightweight, hands free device that allows soldiers and sailors to see in low and no light conditions, which will require a built-in infrared illuminator. This device will be functional for the soldiers and sailors while wearing any CAF issued equipment including FFO and CBRN protective equipment. It will be designed to minimize the weight and torque placed on the users head and neck reducing their fatigue when operating for extended periods with the device.

NVSM intends to procure both binocular and monocular NVDs.

3.2.1.1 Thermal Fusion NVD

Thermal fusion is the use of a small thermal imager to augment the image of a night vision device. It allows the user to see through obscurants such as fog and also see other objects and targets that may not be visible with a standard night vision device.

NVSM may procure fusion NVDs as independent devices, or may procure thermal imager clip-on units that augment existing infrared NVDs.

3.2.1.2 Augmented Reality NVD

The Augmented Reality NVD is a device where the augmented reality is an overlay added to the image from the night vision device that displays data to the user. Examples of this data are your location, direction to a waypoint, blue force tracking, bearing, etc.

NVSM may procure Augmented Reality NVDs as independent devices, or may procure thermal imager clip-on units that augment existing infrared NVDs.

The Augmented Reality NVDs will be integrated with the already in-service Integrated Soldier System (ISS). NVSM will not be procuring separate battle management and navigation devices or software.

3.2.2 HHTI

The HHTIs allow select soldiers and sailors to use the heat signature of an object for identification at long range using the long rang HHTI and at medium range using the medium range HHTI in low and no light conditions, allowing for early target detection and engagement (similar to binoculars).

The HHTI will be a light handheld device that allows soldiers and sailors to see at long range in low and no light conditions. The HHTI will enable and assist soldiers and sailors to detect, recognize and identify person-sized and vehicle-sized target 24-hours a day, under all conditions of visibility. It will need to have a range finding and target acquisition capability. It will need to have integrated Digital Magnetic Compass and Global Positioning System (GPS) interface. It will have the ability to take pictures and video for use in intelligence products. It will integrate with ISS and other battle and ship management systems to allow passage of information (videos, pictures, target data, etc.) from the user to upper command. The HHTI will also be mounted on a tripod when used for extended periods.

NVSM intends to procure long range HHTIs that use cooled technology, and medium range HHTIs that use un-cooled technology. The medium range HHTIs should be light-weight and quiet.

Power management is a key element of the HHTI procurement. HHTIs should be able to connect to external power sources, and should have long lasting life on a single battery.

3.2.3 LAD

The LADs allow individual soldiers and sailors to identify and target with their personal weapons when there is not enough light to use their weapon sights.

The LAD will be a small weapon mounted laser that will allow soldiers and sailors to engage targets without relying on their weapon sight. The LAD will be as light as possible and attach to a rifle rail. The LAD will have both visible and invisible lasers and the ability to change the laser setting to identify the commander's laser. The LAD will also have an infrared illuminator.

There is a possibility that some LADs will be hand held rather than rifle mounted.

3.3 Project Scope

The scope of the NVSM Project is to provide the following capabilities and quantities.

- Night Vision Device (NVD):
 - Monocular NVDs (7000 to 7500 units)
 - Binocular NVDs (3000 to 10000 units)
 - Fusion and Augmented Reality NVDs (Possibly from 900 to 2600 units)
- Hand Held Thermal imaging (HHTI):
 - Long Range/Cooled HHTIs (500 to 750 units)
 - Medium Range/Uncooled HHTIs (200 to 750 units); and
- Laser aiming Device (LAD):
 - Weapon Mounted LAD (17,000 to 25,000 units)

- Hand Held LAD (50 to 250 units).

In addition, the project will be procuring Integrated Logistics Support, Training and putting in place a sustainment solution to maintain the systems over their lifetimes.

3.4 Preliminary Requirements

Military personnel, typically, rely on their visual sense during most operations and rely on depth perception to execute detailed tasks. Visual acuity is important in many aspects such as situational awareness (SA) and detection, recognition and identification targeting tasks while driving, maneuvering, engaging the enemy, and performing trade specific tasks.

3.4.1 Detection, Recognition and Identification:

Detection is the ability to distinguish that an artifact within the Field of Vision (FOV) is of military interest, either a person of interest, a vehicle of interest or a vessel of interest.

Recognition is having enough information to be able to categorize target into a subgroup. For recognition of people, being able to recognize an armed assailant from unarmed. For recognition of vehicle, being able to distinguish between tank, truck, APC, etc. For recognition of vessel, being able to distinguish between military vessel and a civilian vessel.

Identification is being able to tell what specific member of a subgroup the target is. For identification of people, being able to distinguish what weapons are used, what forces they are with and their level of hostility. For identification of vehicles, being able to distinguish what type, model and hostility intent of that vehicle. For identification of vessels, being able to distinguish what type of vessel, what armaments it has and its hostility intent.

For NVDs and HHTIs, NVSM will be targeting high performing devices in detection, recognition and identification.

3.4.2 Maneuvering:

The ability for soldiers and sailors to maneuver in low and no light conditions without the use of external light sources is vital to maintaining a tactical posture. This ability allows our forces to walk, run, and move tactically across all terrain types, and on board vessels at sea while remaining covert to the enemy.

For NVDs, HHTIs and LADs, NVSM will seek to minimize the weight and maximize the comfort and ability to sustain operations for all users.

3.4.3 Driving:

Similar to maneuvering, soldiers and sailors will be able to drive their vehicles and vessels without any external light. Soldier will be able to safely achieve speeds, over all terrain and water types, similar to those achieved during daylight conditions. This includes driving when there are dismounted soldiers or overboard sailors in close proximity.

For NVDs, NVSM will seek binoculars that provides a sufficiently wide field of view to ensure the safety to the vehicle driver and occupants.

3.4.4 Engaging the Enemy:

Soldiers and sailors require the ability to engage the enemy in low and no light conditions without external light sources. This will allow them to defend themselves and to close proximity with the enemy and engage with the enemy while minimizing their signature.

For NVDs, HHTIs and LADs, NVSM will seek to minimize any electronic and heat emissions, light reflections and sound generation.

3.4.5 Trade Specific Tasks:

The NVS will also allow, to the maximum extent possible, all the tasks that soldiers and sailors routinely conduct during the day. Some of these tasks include: first aid, vehicle and weapon maintenance, and map reading.

For the NVDs, HHTIs and LADs, NVSM will seek equipment that is adaptable and easy to use no matter the mission requirements.

3.5 Environment

All devices will be ruggedized for military use. The device will be designed to sustain being dropped inside and outside of a carrying case, vibration from vehicle transportation and heavy usage without breaking.

3.5.1 Climatic Conditions

The NVS will be capable of meeting a full range of climate conditions specified in AECTP 230 (NATO STANAG 4370).

3.5.2 Environmental Conditions

Sand and Dust: The NVS will be capable of withstanding blowing dust and sand experienced in desert environments when operating dismounted in close proximity to rotary aircraft.

Rain and Snow: The NVS will be capable of withstanding rain and snow experienced in the most extreme environments on the globe as well as in close proximity to rotary aircraft, to the maximum extend practical.

Immersion: The NVS will be capable of withstanding immersion up to a depth of 5 feet for five minutes.

Sea/Salt Spray: The NVS will be designed for and capable of withstanding without preparation or any degradation in performance or reliability, sea and salt spray as would be encountered by naval boarding parties during harsh ocean weather, to the maximum extend practical.

Altitude: The NVS will be designed for and capable of withstanding without preparation or any degradation in performance or reliability, the pressure changes associated with use on aircraft during rapid ascension and descent.

Attachment # 2

Industrial and Technological Benefits / Value Proposition

4 Industrial and Technological Benefits (ITB) Policy

4.1 Application of the Industrial and Technological Benefits (ITB) Policy

The Industrial and Technological Benefits (ITB) Policy will apply to the **Night Vision System Modernization (NVSM)** project. Engagement with industry through the Request for Information (RFI) will help determine the application of the ITB Policy and how Canada could leverage opportunities for economic benefit through this procurement.

4.2 The ITB Policy including Value Proposition

- 4.2.1 The ITB Policy is a powerful investment attraction tool and companies awarded defence procurement contracts are required to undertake business activities in Canada equal to the value of the contract. The ITB Policy encourages companies to establish or grow their presence in Canada, strengthen Canada's supply chains, and develop Canadian industrial capabilities.
- 4.2.2 The goal of the ITB Policy is to support the long-term sustainability and growth of Canada's defence sector, including small and medium-sized enterprises in all regions of the country, to enhance innovation through R&D in Canada, to support skills development and training, and to increase the export potential of Canadian-based firms. The ITB Policy includes the Value Proposition (VP), which requires bidders to compete on the basis of the economic benefits to Canada associated with its bid. Winning bidders are selected on the basis of price, technical merit and their VP. VP commitments made by the winning bidder become contractual obligations in the ensuing contract.

For more information about the ITB Policy, please visit www.canada.ca/itb.

4.3 Key Industrial Capabilities:

- 4.3.1 To maximize the economic impact that can be leveraged through the VP, Canada will look to use the ITB Policy to motivate defence contractors to invest in [Key Industrial Capabilities](#) (KICs). KICs align with Canada's defence policy, [Strong, Secure, Engaged](#), and the [Innovation and Skills Plan](#) by supporting the development of skills and fostering innovation in Canada's defence sector. The KICs represent areas of emerging technology with the potential for rapid growth and significant opportunities, established capabilities where Canada is globally competitive, and areas where domestic capacity is essential to national security.
- 4.3.2 Based on initial analysis of the NVSM project, this procurement encompasses the KIC of **Electro-Optical / Infrared (EO/IR) Systems** where Canada has world leading capabilities. Canada will be seeking to motivate high value economic opportunities and partnerships to support the growth of Canada's defence sector, as well as enhance supply chain participation and skills development opportunities for Canadian industry.

4.4 The definition for the relevant KIC for this project is:

a) Electro-Optical / Infrared (EO/IR) Systems

- i. Design, manufacture and integration of electro-optical and infrared systems for surveillance, reconnaissance, night vision, and targeting. This category also includes components and assemblies that significantly drive system capability, as well as software that enhances system performance or contributes to superior exploitation of collected sensor information. Applications of these systems are either military or civil, and feature in multiple media, including airborne platforms, satellites, ground vehicles, ships and submarines, or in fixed infrastructure.

Attachment # 3 Questions to Industry

5 NVSM High Level Questions

5.1 General

5.1.1 Respondents are requested to provide answers to the below questions as well as any and all information describing how their proposed system could meet preliminary requirements put forth in this document package.

5.1.2 Question 1. General

5.1.3 Respondents are encouraged to pick range of systems that meets the preliminary system descriptions provided in Attachment # 1.

- 1) Please state which system(s) you are capable of supplying, and include the equipment specifications with your response. If you have more than one system, please include them all.
- 2) Are you an OEM?
- 3) Please describe your relationship with OEMs (integrator, distributor, exclusivity etc.).
- 4) What is the current capability for each system types?
- 5) What is your standard warranty period for each system types?
- 6) Will your system be subject to CTAT / ITAR restriction?
- 7) Does your company currently satisfy any of the three possible application of the Canadian content policy (Sole, Conditional, or Open) as outlined on <https://buyandsell.gc.ca website? Please explain.>
Link: <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/section/3/130>

Table 1: System Types

System	Are you capable of supplying the following system? (Yes/No)	What is your standard offered warranty period?	Are your system subject to CTAT/ITAR restriction? (Yes/No)	Can your company satisfy the Canadian content policy as outlined herein Para 1.1.2? (Yes/No)	Comments
NVD					
- Monocular NVDs					

- Binocular NVDs					
- Fusion NVDs					
- Augmented Reality NVDs					
HHTI					
- Long Range/Cooled HHTIs					
- Medium Range/Uncooled HHTIs					
LAD					
- LADs					

5.1.4 **Question 2. Technology Outlook**

5.1.5 The NVSM project is looking for the information related to system advancements in term of technology road map for each proposed systems and future upcoming families of systems type for each system.

- 1) What is the technology outlook for your proposed system for each system?
- 2) Is your system capable of communicating via wireless technology?

5.1.6 **Question 3. Qualification**

5.1.7 The NVSM project is seeking existing information on proposed systems that have undergone qualification testing for each system, such as shock and vibration test, temperature test, humidity test, electromagnetic interference (EMI) / Electromagnetic compatibility (EMC) test, and altitude test in accordance with MIL standards for military use. The NVSM project intent to use minimum of these standards MIL-STD-810G, MIL-STD-461(1999-8-20), MIL-STD 1275 (2004-3-20), and MIL-STD-1686 (1995-10-25).

5.1.8 For each system for which specification sheets can be submitted, please provide the following information:

- 1) Has some or all qualification testing been done?
- 2) To what extent / standard has the testing been done for this specific system?
- 3) Has this system been certified as Safe and Suitable for Service use by a NATO or Five Eyes Alliance country?

5.1.9 **Question 4. Usage**

5.1.10 For each system specification sheet you are submitting, please provide the following information:

- 1) Is one or more of your proposed systems currently in use by any NATO or Five Eyes Alliance countries?
- 2) If so, can you offer approximate quantities that have been procured and used by other NATO or Five Eyes Alliance countries thus far? Please include a list of which countries they are being used by.

5.1.11 **Question 5. Production Capacity / Strength of Design**

5.1.12 For each system specification sheet you are submitting, please provide the following information:

- 1) Do you produce proposed system?
- 2) How many proposed systems have you produced in last 10 years?
- 3) How long has your system been in production?
- 4) How long do you expect to support the proposed system?
- 5) How long do you plan on producing your proposed system?
- 6) What is the mean production rate(s) units per year/quarter/month for any given systems of technology?

5.2 **Cost Estimate**

5.2.1 Initial Acquisition Cost

5.2.2 The purpose of the Night Vision Systems Modernization (NVSM) costing is to request estimated indicative initial acquisition costing information from suppliers in order to allow Canada to understand what level of equipment performance may be expected at certain price points.

5.2.3 Respondents are asked to provide indicative costing for all systems types that they are capable of providing and that meet descriptions in Attachment # 1. This information will provide better understanding of cost related to system performance for defining the performance range.

5.2.4 **Question 6. Indicative Costs**

5.2.5 For each system specification sheet you are submitting, please provide the following information. Please indicate in the table which system the estimate is for:

- 1) What is the estimated price for systems based on the number of units requested (see table below)?
- 2) Are there any potential cost savings to ordering larger quantities? Please feel free to add rows to the table if there is potential cost saving at specific intervals.

Table 2: Indicative Costs

System	Number of units	Cost (\$CAD) per number of units	Comments
Long Range/Cooled HHTIs	100		
	500		
Medium Range/Uncooled HHTIs	100		
	500		
Monocular NVDs	1,000		
	5,000		
Binocular NVDs	1,000		
	5,000		
Fusion NVDs	100		
	500		
Augmented Reality NVDs	100		
	500		
Weapon Mounted LAD	5,000		
	10,000		
Hand Held LAD	100		

5.3 Project Schedule and Sequencing Options

5.3.1 NVSM in the process of developing a project schedule and is investigating sequencing and bundling of equipment types. It is highly likely that NVSM will include multiple sub-projects.

5.3.2 The intent for each sub-project would be to follow a procurement process that may contain the following high level activities:

- 1) DND will develop a specification for that/those system(s). This will include consultation with industry.
- 2) A draft request for proposal will be shared with industry followed by a formal RFP.
- 3) Evaluation may include a paper evaluation, system testing and a user trial.
- 4) Verification and validation may be conducted, using a variety of methods such as testing, analysis, and demonstration.

- 5.3.3 In order to determine the preferred way forward, NVSM would like feedback from the perspective of suppliers on each of the sequencing options. Some general questions across all options will follow.
- 5.3.4 Five possible options currently under consideration, are as follows:
- 5.3.4.1 **Option 1: Individual Contracts.** DND will contract for each system individually except the LADs. Under this option, it is anticipated that the following RFPs would be released as sub-projects:
- 1) Long range HHTIs
 - 2) Medium range HHTIs
 - 3) Monocular NVDs
 - 4) Binocular NVDs
 - 5) Fusion NVDs
 - 6) Augmented Reality NVDs
 - 7) LADs (weapon mounted and hand held)
- 5.3.4.2 **Option 2: Basic NVD bundling.** DND will contract for each system individually except MNVDs and BNVDs. Under this option, it is anticipated that the following RFPs would be released as sub-projects:
- 1) Long range HHTIs
 - 2) Medium range HHTIs
 - 3) NVD Contract bundle (includes Monocular NVDs and Binocular NVDs)
 - 4) Advanced NVD Contract Bundle (Fusion NVDs and Augmented Reality NVDs)
 - 5) LADs (weapon mounted and hand held)
- 5.3.4.3 **Option 3: Single contract for all NVDs.** DND will issue a separate contract for each system except NVDs, which will be combined into a single contract. Under this option, it is anticipated that the following RFPs would be released as sub-projects:
- 1) Long range HHTIs
 - 2) Medium range HHTIs
 - 3) Single NVD Contract (includes Monocular NVDs, Binocular NVDs, Fusion NVDs and Augmented Reality NVDs)
 - 4) LADs (weapon mounted and hand held)
- 5.3.4.4 **Option 4: Contracts by System Types.** DND will issue a separate contract for each system type: one for HHTIs, one for LADs, and one for all NVD variants.
- 1) Single NVD Contract (includes Long range HHTIs and Medium range HHTIs)
 - 2) Single NVD Contract (includes Monocular NVDs, Binocular NVDs, Fusion NVDs and Augmented Reality NVDs)
 - 3) LADs (weapon mounted and hand held)
- 5.3.4.5 **Option 5: Single Prime Contractor.** DND will issue two separate contracts: one for only long range HHTIs (due to immediate need) and one for all other systems.
- 1) Long range HHTIs
 - 2) Prime Contract (includes Medium range HHTIs, Monocular NVDs, Binocular NVDs, Fusion NVDs and Augmented Reality NVDs, weapon mounted LADs and hand held LADs)

5.3.5 **Question 7. Preference of options**

5.3.6 Please note the level of detail provided in your response, will assist the DND in structuring the project.

- 1) Which option(s) would you prefer and why?
- 2) Is there any option that would preclude you from responding to an RFP, which and why?
- 3) Is your company capable of supporting bundled contracts?
- 4) Please comment on any issues/difficulties/comments with bundled contract approach.

5.3.7 **Question 8. Industry equipment development timelines for the future RFP release**

5.3.8 NVSM acknowledges that industry may be in the process of developing some systems. The intent is to sequence the sub-projects in a way that allows industry the production time to bring equipment to the COTS/MOTS stage.

5.3.9 In addition, NVSM would like to know whether the bundled contracts will have an effect on Industry's time needed to respond to the future RFP. If some bundles require more time, what causes the need for more time?

5.3.10 Please indicate below the earliest date (month and year), that you would be able to respond to the future RFP with the following equipment bundles, and your preferred bid solicitation period.

Contract by system type	Earliest preferred future RFP Date (Month and Year)	Preferred solicitation period (# days)	Comments
Single: Long Range/Cooled HHTIs			
Single: Medium Range/Uncooled HHTIs			
Single: Monocular NVDs			
Single: Binocular NVDs			
Single: Fusion NVDs			
Single: Augmented Reality NVDs			
Bundle: LADs (weapon mounted and hand held)			

Bundle: NVDs (monocular NVDs and Binocular NVDs)			
Bundle: Advanced NVDs (Fusion NVDs and Augmented Reality NVDs)			
Bundle: NVDs (monocular NVDs, Binocular NVDs, fusion NVDs and Augmented Reality NVDs)			
Bundle: HHTIs (long range/cooled HHTIs and medium range/uncooled HHTIs)			
Bundle: Medium range HHTIs, monocular NVDs, Binocular NVDs, fusion NVDs and Augmented Reality NVDs, weapon mounted LADs, hand held LADs			

5.4 Industrial and Technological Benefits (ITB) Policy

5.4.1 Question 9. Defence Sector

5.4.2 The ITB Policy seeks to promote economic development and long-term sustainment of Canadian businesses engaged in the manufacturing and delivery of products and services used in government defence and security applications.

5.4.3 Based on the high level requirements put forward by the Department of National Defence, describe what Direct Work activities your company would foresee undertaking in Canada for the production and sustainment of the NVSM project?

5.4.4 Please specify which of the NVSM deliverables your company may provide (monocular or binocular night vision device, medium or long range hand held thermal imager, laser aiming device).

- a. What percentage of direct work could be completed in Canada in the KIC identified above?

5.4.5 Question 10. Supplier Development

5.4.6 The ITB Policy seeks to improve the competitiveness of Canadian industry by encouraging Canadian industrial participation and the scaling up of Canadian companies including small and medium-sized enterprises (SMEs).

5.4.7 The ITB Policy requires that at least 15 percent of the contractor's ITB obligation (equal to the value of the contract) be represented by work with Canadian SMEs with less than 250 employees.

5.4.8 To what extent can you commit to a SME requirement of over 15 percent in order to nurture the development of Canadian SMEs within the defence sector (includes both direct work on this procurement and indirect work in other business areas)?

5.4.9 What new supply chain opportunities could be made available to Canadian suppliers within the KIC identified above. For the supplier development opportunities identified, please specify the direct and indirect activities that could be performed with Canadian SMEs. Please include in your response information on:

- a. What activities should be perceived as providing the highest value to Canada.
- b. Which opportunities could be specifically targeted at Canadian SMEs.
- c. Supplier development opportunities that could be performed in the KIC identified above.

5.4.10 Question 11. Skills Development and Training

5.4.11 The ITB Policy fosters the development and sustainment of a diverse, talented, and innovative Canadian workforce through access to training, education, opportunities and programs.

5.4.12 What types of Skills Development and Training investments would produce the maximum benefit for Canadians (defence or commercial sector)?

- a. What Skills Development and Training opportunities are available in the KIC identified above?

5.4.13 Examples

- i. Work integrated learning programs (e.g., co-operative education; work placements);
- ii. Apprenticeship programs;
- iii. A new or existing skills development program at or through a post-secondary institution;
- iv. Support for security certifications (e.g.: Top Secret, ITAR) or cybersecurity compliance certifications for Canadian companies, especially small and medium-sized businesses.

5.4.14 **Question 12. Research and Development (R&D)**

5.4.15 The ITB Policy promotes scientific investigation that explores the development of new goods and services, new inputs into production, new methods of producing goods and services, or new ways of operating and managing organizations.

5.4.16 What direct or indirect R&D investments could Canada motivate bidders to make as a result of this procurement?

5.4.17 Is there potential to develop research consortia or centres of excellence in partnership with Canadian post-secondary or publicly-funded research institutions, and if so, what research areas might your company pursue?

- a. If not, what other research or development partnerships could be formed to support technology development related to the KIC identified above?

5.4.18 What should the minimum R&D requirement be (as a percentage of anticipated bid price) in order to motivate bidders to invest in high-value innovation within Canada?

- a. Please identify to what extent R&D investments could be performed in the KIC identified above.

5.4.19 To what extent are you able to support the licencing or transfer of IP to Canada related to your NVSM platform?

5.4.20 **Question 13. Export**

5.4.21 The ITB Policy promotes the ability of Canadian companies, including SMEs, to successfully tap into export markets, thereby increasing their productivity, and competitiveness in the global market.

- 5.4.22 Please describe any export opportunities from Canada directly related to this procurement.
- a. To what extent do export opportunities exist in the KIC identified above?
- 5.4.23 Is it feasible to secure sufficient intellectual property rights and an exclusive global product mandate to export from your Canadian-based operations, including subsidiaries and supply chain partners?
- 5.4.24 Please describe any other high value export opportunities from Canada, whether commercial or defence sector, which could be leveraged as a result of this procurement.
- 5.4.25 **Question 14. Other questions**
- 5.4.26 Are there other relevant KICs which align with the work to be conducted for the NVSM project? If yes, please indicate which KICs should be considered and why. As part of your response, please describe how the proposed KICs would enhance the opportunities that could be leveraged through the Value Proposition for Canadian Industry.
- 5.4.27 Comparatively to price and technical merit, Value Proposition typically has a weight of at least 10% of the overall bid evaluation. What is your view on the weighting of the Value Proposition for the NVSM procurement?
- 5.4.28 Within the Value Proposition, what are your recommended minimum percentages of weighting for each of the Value Proposition pillars (i.e. defence, supplier development, R&D, export, and skills development and training).