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**LETTER OF INTEREST
LETTRE D'INTÉRÊT**

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
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Issuing Office - Bureau de distribution
Detection, Simulation and Optical Systems Division
Place du Portage III, 8C2
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Title - Sujet Night Vision Devices (NVDs)	
Solicitation No. - N° de l'invitation W8476-236722/A	Date 2023-06-08
Client Reference No. - N° de référence du client W8476-236722	GETS Ref. No. - N° de réf. de SEAG PW-\$\$QT-005-29091
File No. - N° de dossier 005qt.W8476-236722	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 2023-11-30 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: Green (QT Div), Dave	Buyer Id - Id de l'acheteur 005qt
Telephone No. - N° de téléphone (613) 482-9687 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

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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

The purpose of this RFI is:

- a) Provide a continuous single point of official project communication with Industry.
- b) Fully understand potential Night Vision Device (NVD) solutions the market has to offer and leverage Industry expertise to develop an efficient and effective procurement strategy that achieves the NVD procurement objectives and best value to Canada.
- c) Ensure Canada's expectations for engagement are clear and easy for Industry to understand.
- d) Provide industry with a "Draft System Requirements Specifications", Attachment 5, and request industry to provide details of the most technically advanced solution available that could potentially satisfy this specification.
- e) Answer questions from industry and ensure that all interested participants receive the same information.
- f) 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.
- g) 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.
- h) Enhance competition, access and fairness of the resulting solicitation.
- i) Ensure that the RFP process moves forward efficiently.
- j) Advise Industry of potential engagement activities such as Industry Day events, site visits one-on-one meetings and other potential engagement activities; and
- k) Inform Canada of opportunities to leverage economic benefits.

Therefore, Public Services and Procurement Canada (PSPC) is requesting Industry information and feedback for the NVD procurement. This procurement is one of the five procurements within the Night Vision System Modernization (NVSM) project.

Industry is requested to review the following documents and provide answers and comments to the PSPC Contracting Authority identified in Section 2.6 (Enquiries) on Page 4 of this document.:

- Attachment 1: NVSM Project & NVD Procurement Background, Scope and Preliminary Requirements

- Attachment 2: Industrial and Technological Benefits / Value Proposition
- Attachment 3: Current Sustainment Approach
- Attachment 4: Questions to Industry
- Attachment 5: Draft System Requirements Specifications

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.

Respondents are requested to provide feedback.

1.2. Nature of the RFI

This RFI will 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 should 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.

1.3. Linkage to NVSM Project RFI – W8476-216347

1.3.1. The requirement for the Monocular Night Vision Devices (MNVDs) and Binocular Night Vision Devices (BNVDs) was initially communicated to industry within the scope of the NVSM Project RFI, Solicitation No. W8476-216347. At that time, the systems to be procured were two of seven discrete systems to be procured within the scope of the NVSM Project.

1.3.2. As a result of the industry responses to the NVSM Project RFI, it was determined that the systems to be procured for the project would be split into bundles of like technology. This RFI #W8476-236722 is specific to the MNVD and BNVD bundle, although any information submitted related to the MNVDs and BNVDs by industry in response to the NVSM Project RFI is deemed to be valid, unless Canada is informed otherwise by industry.

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 contents of Attachments 1 to 5, included in this RFI. Respondents should explain any assumptions they make in their interpretation of the requirements.

All information, communication or correspondence must be directed to the Contracting Authority ONLY, in writing via email and in either official language of Canada to the PSPC Contract Authority identified below. No other member or representative of the Government of Canada can be informed, challenged, or otherwise communicated with, including carbon copy or blind carbon copy on any verbal, emails or written correspondence regarding this RFI.

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, Innovation, Science and Economic Development Canada (ISED), 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 4: Questions to Industry) addressed to the industry. In addition, 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:

Dave Green
Supply Team Leader
Defence and Marine Procurement Branch
Public Service and Procurement Canada / Government of Canada
Email: Dave.Green@tpsgc-pwgsc.gc.ca
Phone: 613-482-9687

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 1.6.

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: June 8 2023
- b) Posting of Bilingual Industry Day Presentation: July 2023 (TBC)
- c) Virtual One-on-One Meetings: August 2-3, 2023 (TBC)
- d) Preferred response time: 30 September 2023 (Comments, responses and questions will be accepted throughout the RFI period)
- e) Request for Information Closing date: 30 November 2023

Any changes to the tentative schedule will be communicated on <https://canadabuys.canada.ca/en/tender-opportunities> as they become available throughout the period of this RFI.

2.10. Official Languages

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

Attachment # 1

NVSM Project & NVD Procurement Background, Scope and Preliminary Requirements

3. NVSM 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 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.

Night vision performance is about the ability to have greater situational awareness at night or in low light situations. Night vision systems 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 night vision system performance has been steadily improving. There are some key areas of improvement that the NVSM Project 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.

The objective of the NVSM project is to enable CAF to operate at night or in low visibility situations, closing the gap with its daylight capability.

To address this, the NVSM Project will procure different types of night vision capabilities to meet the operational and training requirements of both the dismounted Regular and Reserve forces of the CA and the RCN.

3.2. NVD Procurement Overview

A key core capability to be procured by the NVSM Project is 3 types of high performing COTS/MOTS NVDs:

- Basic monocular & binocular NVDs:
 - The Basic 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 Basic NVD is 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 Full Fighting Order (FFO) and Chemical Biological Radiological Nuclear warfare (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.
 - This NVD procurement will consist of only the Basic NVSM monocular & binocular NVDs.
- Thermal Fusion NVDs:
 - These NVDs will be procured in a separate NVSM procurement in the future.
 - 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.
 - The NVSM project may procure fusion NVDs as independent devices or may procure thermal imager clip- on units that augment existing infrared NVDs.
- Augmented Reality NVDs
 - These NVDs will be procured in a separate NVSM procurement in the future.
 - 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.
 - The NVSM Project may procure Augmented Reality NVDs as independent devices or may procure thermal imager clip-on units that augment existing infrared NVDs.

3.3. Procurement Scope

The scope of this NVD procurement is to acquire the following basic NVD quantities.

- Basic Monocular NVDs (approx. 4200 units); and
- Basic Binocular NVDs (approx. 6700 units)

To better define what is to be included with each device to form a kit, an exhaustive list has been produced in section 3 of the SRS. Note that the transport case is optional, so it is to be considered separately then the kits and devices. As an overall package, Canada will also want to purchase the following:

- Initial training package to train a cadre of instructors in the CAF;
- Drawings to support the equipment management team activities;
- Manuals for the users and maintainers;
- 2 Years of spare parts to support the devices initially; and
- Special Tools and Test Equipment (STTE) for level 1 and 2 maintenances.

In addition, the procurement will include establishing a sustainment solution to maintain the systems over their lifecycle.

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 and the detection, recognition, and identification targeting tasks while driving, maneuvering, engaging the enemy, and performing trade specific tasks, outlined below.

An important emphasis of the NVSM Project is to ensure that all the procured capabilities be used by all military members. Thus, the procured NVDs must 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.

3.4.1. Detection, Recognition and Identification (NATO definition):

Detection is the discovery by any means of the presence of a person, object or phenomenon of potential military significance.

Recognition is the determination of the nature of a detected person, object or phenomenon, and possibly its class or type. This may include the determination of an individual within a particular class or type.

Identification the process of attaining an accurate characterization of a detected entity by any act or means so that high confidence real-time decisions, including weapons engagement, can be made.

Thus, high performing NVDs are required to conduct detection, recognition and identification activities.

3.4.2. Maneuverability:

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 CAF to walk, run, and move tactically across all terrain types, and on-board vessels at sea while remaining covert to the enemy.

Thus, the procured NVDs will minimize the weight, and maximize the comfort and ability to sustain operations for all users.

3.4.3. Vehicle and Vessel Operation:

Similar to maneuvering, soldiers and sailors will be able to drive their vehicles and vessels without any external light. Operators 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.

Thus, the procured NVDs will provide a sufficient wide field of view to ensure the safety of the vehicle and vessel driver and occupants.

3.4.4. Engage 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 physical signature.

Thus, the procured NVDs will minimize any electronic and heat emissions, light reflections, and sound generation.

3.4.5. Trade Specific Tasks:

In low light conditions the NVDs will also enable, 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.

Thus, the procured NVDs will be adaptable and easy to use, no matter the mission requirements.

3.5. Environment

The details about the environmental conditions and all performance requirements are in the attached System Requirement Specifications (SRS).

Attachment # 2

Industrial and Technological Benefits / Value Proposition

4. Industrial and Technological Benefits (ITB) Policy

4.1. Application of the ITB Policy

The ITB Policy may apply to this basic Monocular & Binocular NVD procurement. Engagement with industry through this RFI will help determine the application of the ITB Policy and how Canada could leverage opportunities for economic benefit through this. NVD procurement.

4.2. The ITB Policy including Value Proposition

The ITB Policy is an 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.

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,
- enhance innovation through Research and Development (R&D) in Canada,
- support skills development and training, and
- 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:

To leverage the procurement, 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.

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.

An initial analysis of this NVD procurement encompasses the following KICs

- **Electro-Optical/Infrared (EO/IR)** and **In-Service-Support**, where Canada has world leading capabilities, and
- **Artificial Intelligence** and **Clean Technology** where Canada sees potential for rapid growth and significant opportunities for the emerging technologies.

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 and training for Canadian industry.

For definitions of the relevant KICs for this project, please visit [Key Industrial Capabilities](#).

Attachment # 3

5. Night Vision Device Sustainment Approach

This attachment provides information on how the NVSM project anticipates conducting maintenance and sustainment activities for the duration of the Night Vision Device (NVD) lifecycle.

The attachment is delineated into two fundamental concepts:

- Acquisition of Initial Integrated Logistics Support (ILS) materiel; and
- Sustainment.

5.1. Acquisition of Initial ILS Materiel

This section pertains to capability and materiel support and includes the supporting materiel that are required at the onset of materiel acquisition. Known as the Initial ILS Package, this materiel ensures the Canadian Armed Forces (CAF) ability to maintain the equipment's capability and readiness while in-service. Traditionally, this is known as the Initial ILS package which ILS typically includes the following elements, however this list is not exhaustive:

- a) Maintenance
- b) Supply support
- c) Training
- d) Software Support
- e) Facilities and infrastructure
- f) Packaging, handling, storage and transportability
- g) Technical data
- h) Personnel
- i) Support tools and test equipment
- j) Support and engineering services

For each ILS element, the questions may refer to both the physical resources required and the services necessary during the equipment acquisition phase. For example, supply support can refer to the initial provisioning of spare parts and to the analysis required to determine the initial provisioning, if applicable.

5.2. Preliminary Concept of Sustainment

5.2.1. Concept of Operations

NVDs are anticipated to remain in service for no less than 10 years and will be distributed and used as follows:

- BNVDs: Combat arms soldiers and naval boarding parties will be issued the BNVD and will use them in Canada and when deployed abroad.
- MNVDs will be used by all other soldiers and sailors who require night vision to perform their tasks during training and operations.

The entire NVD fleet will be used across the full spectrum of operations and training of the Canadian Armed Forces. The systems must be operation-ready with the potential to be deployed to various operations around the world.

5.2.2. The Existing CAF Maintenance and Support Structure

DND has an existing support organization capable of sustaining NVDs. Ideally, DND executes all sustainment tasks except for the production of spares, which necessitates the acquisition of the appropriate enabling systems (E.g., support and test equipment, training, maintenance manuals, spare parts, etc.).

Currently, CAF equipment users and electro-optical technicians perform operator maintenance as well as most of the preventive and corrective maintenance tasks.

While DND plans to continue to perform all maintenance activities on the devices in-house, there may be a need for additional support during operational surges. As a result, the solicitation will consist of a single contract to a supplier for the acquisition and sustainment of the devices.

5.2.3. Supply (Spares) Support

Historically, DND acquired spares for 2 years as part of the acquisition of complex equipment systems. This provided adequate time to develop and transition to in-service support.

For this procurement, DND anticipates acquiring spares for 2 years concurrent with the initial acquisition to support DND-assigned maintenance tasks. Upon completion of the two-year period, spares will be ordered on a supply contract, on an 'as and when' required basis for the life cycle of the devices. Sustaining supply support including the management, warehousing and distribution of inventory will be performed in-house.

5.2.4. Training

Initial Cadre Training (ICT) will allow the CAF to operate and maintain the fleets upon initial delivery. During acquisition, operator and technician training will be required for a specific quantity of operators, operator-trainers, maintainers and instructors. DND will acquire initial training sessions to support operators and technicians.

Steady State Training will be developed and delivered by DND based on the ICT package.

5.2.5. Software Support

The need for any software support for NVDs is not anticipated as both NVDs (MNVD and BNVD) have a simple interface. In the event the device would require software support, it is desirable to be informed in your response to this RFI.

5.2.6. Facilities and infrastructure

The NVSM project does not anticipate the need for any new facilities to store, operate, or maintain the new equipment systems. CAF units operating the new equipment will manage and store the equipment using existing DND secure storage facilities. Maintenance and spares depots will not be expanded, nor will the existing schools.

5.2.7. Packaging, handling, storage and transportability

It is assumed that each equipment kit will be delivered in a self-contained package usable upon delivery. Specific storage and handling requirements will be identified for any long-term storage or transportability purposes.

5.2.8. Technical data

The Technical data package (TDP) generally includes:

- a) OEM technical publications such as operator manuals, preventative & corrective maintenance manuals, and available commercial part numbering listings (as procured by OEM);
- b) Proprietary rights data (i.e., measurements, weights, tolerances, CAD drawings, 3D models, systems components, etc.);
- c) Nomenclature and identification plate data, fitted equipment and loose items lists, minimum equipment lists; Supplementary Provisioning Technical Data (SPTD) needed for cataloging; and
- d) Drawing and software documentation needed for maintenance and in-service configuration management.

For the NVD acquisition, DND will require a technical data package (TDP) containing operator manuals, maintenance manuals and training manuals, each with varying levels of detail depending on the sustainment solution.

DND may require ongoing configuration management, engineering support, translation and publication services. Specific tasks such as asset tracking, maintenance planning, and spares inventory management may be required to use DND's SAP enterprise resource planning tool, the Defense Resource Management Information System (DRMIS).

5.2.9. Support by External Personnel

During the acquisition phase, potential bidders may be requested to provide personnel to support CAF user acceptance trials. While in-service, DND may require ongoing access to industry representatives for supply support, technical support, training delivery, or other roles as required.

5.2.10. Special Tools and Test Equipment (STTE)

During the acquisition phase, DND may require sufficient quantities of standard tools, special tools and test equipment necessary operate and maintain the equipment for the tasks which are DND's responsibility. Organizations responsible for sustainment would maintain the necessary support tools for their respective support responsibilities.

5.2.11. Engineering services

The NVD procurement does not anticipate engineering and technical support.

5.3. Information Required to Determine a Sustainment Solution

Input from industry on this RFI will help to confirm the viability of the DND's NVD sustainment approach. Once the NVD ILS package is delivered, the only additional in-service support that is forecasted is the provision of spare parts and overflow maintenance during surge periods.

DND anticipates four broad categories of in-service maintenance tasks:

- a) Operator tasks using no tools or tools carried within each kit and requiring less than 15 minutes to complete.

- b) Low complexity tasks with limited access to STTE and requiring less than 4hrs to complete.
- c) Higher complexity tasks with access to STTE and requiring up to 24hrs to complete; and
- d) Very complex tasks (such as overhauls and mid-life refits) using highly specialized tools and production equipment, requiring significant time to complete.

In Attachment #4 of this RFI, you are requested to provide information regarding possible sustainment activities. For example, you might indicate your willingness to provide all enabling systems required for DND to perform all maintenance tasks. Alternatively, you might propose a solution where industry performs all maintenance tasks and suggest DND owns a specified number of spare kits to meet a specific operational availability. On the other hand, intellectual property (IP) considerations may influence the tasks that can be performed by DND.

It is requested that responses not be limited to the industry preferred solution or a predetermined DND support structure, but rather include a spectrum of possibilities.

Attachment # 4

Questions to Industry

6. Basic Night Vision Device Procurement: High Level Questions

Respondents are requested to provide answers to the following questions and provide additional information that describes how their proposed product(s) meets the preliminary requirements defined in this document.

6.1. Question 1. Draft System Requirement Specification for the NVDs

The draft System Requirement Specification (SRS) for the basic Night Vision Device (NVD) is presented in Attachment 5 of this RFI. The draft SRS is subject to further revisions as Canada develops the requirements and gains a better understanding of the solutions that are available by industry.

To ensure a fair and open competitive process, Canada is requesting industry feedback on the draft SRS. Only those products that respond to Canada's defined specifications should be submitted. Please state your recommendations directly on the attached draft specifications excel spreadsheet.

6.1.1. Please identify your proposed system(s) that could satisfy the requirements specified in Attachment 5 of this RFI.

6.1.2. Provide performance specifications and detailed technical information about your proposed system(s).

6.1.3. Identify any criteria in the draft SRS that prohibits the procurement of a Military Off The Shelf (MOTS) solution and recommend alternative criteria.

6.2. Question 2. Image Intensifier (I²) Tubes:

Canada recognizes that the Image Intensifier (I²) Tube is an essential component of the NVD capability. The NVSM project anticipates conducting acceptance testing for image intensification performance on the sacrificial filter, anti-fogging filter, and objective lenses. Please provide feedback on the following I² tube considerations:

6.2.1. What is the effect of phosphorus color on the Detection Recognition and Identification (DRI) and other performance capabilities?

6.2.2. What is the maximum Signal to Noise Ratio (SNR) can your company offer for the holistic NVD System including spare parts?

6.2.3. Please explain how your company performs Quality Assurance on I² tube performance specifications. For BNVD products, please explain how the I² tube performance is matched.

6.2.4. Please explain how the Mean Time Before Failure (MTBF) of the I² tube is calculated and considerations other than operational use that impact the I² tube lifecycle rate of decline.

6.3. Question 3. Current Technical Considerations

Canada is investigating additional NVD capabilities that may currently exist as MOTS solutions. Please provide feedback on the maturity of the following technical performance capabilities.

- 6.3.1. Does your proposed solution display Grid reference?
- 6.3.2. Does your proposed solution display device azimuth?
- 6.3.3. Please provide a technology roadmap for future NVD capabilities.

6.4. Question 4. System Maturity

- 6.4.1. Provide actual or forecast dates for the following milestones related to your proposed NVD solution: qualification complete, first production.
- 6.4.2. Please identify any testing standards including MIL-STD-810H, MIL-STD-461G, and MIL-STD-1275E that have not been successfully completed.
- 6.4.3. Has this system been certified as Safe and Suitable for Service use by a NATO or Five Eyes Alliance country? Please provide details regarding the country and quantity of devices.

6.5. Question 5. Delivery Leadtime

Canada intends to procure NVD capabilities that are in full manufacturing production. NVSM would like to receive full delivery of the MNVD and BNVD systems within four years after Contract Award. Please provide information on the following production considerations:

- 6.5.1. What timelines would be a reasonable expectation for the delivery of procurement scope described in Attachment #1 of this RFI? What is the estimated lead time for NVD system products and components?
- 6.5.2. Describe potential risks to fulfilling all NVD contractual delivery obligations within four years of contract award.

6.6. Question 6. Controlled Goods and Export Restrictions

- 6.6.1. What, if any, ITAR (International Traffic in Arms Regulations), Technical Assistance Agreement, or Controlled Goods Program restrictions exist for any part of your proposed Solution?
- 6.6.2. Does your proposed solution or its components have any export or license restrictions? If so, list them.

6.7. Question 7. Warranty

- 6.7.1. What is your standard warranty period for each basic NVD type and do any exclusions apply? Do you offer an extended warranty period?
- 6.7.2. If applicable, please provide the cost for an extended warranty.

6.8. Question 8. Greenhouse Gas Emissions and the Setting of Reduction Targets

The Government of Canada is taking an active approach to advance the protection of the environment and support sustainable development by integrating environmental performance considerations into the procurement decision-making process.

6.8.1. Please confirm if your company is currently participating in Canada's Net-Zero Challenge or in one of the recognized equivalent initiatives listed.

- The United Nations Race to Zero;
- The Science-based Targets Initiative;
- The Carbon Disclosure Project (CDP); and
- International Organization for Standardization (ISO)

6.9. Question 9. Estimated Procurement Costs

Canada requests a cost estimate for each proposed solution. Based on the procurement scope identified in Attachment #1 of this RFI, please provide an indicative price per NVD. Describe inclusions and exclusions in the indicative price, as well as any volume price breaks. Table 1 and 2 provides a possible way to provide this information.

Table 1: Estimated Procurement Costs

System	Approx. Quantity of devices	Unit Price in CAD	Comments
Monocular NVD device	4200	\$	
Binocular NVDs device	6700	\$	
MNVD KIT	4200	\$	
BNVD KIT	6700	\$	
MNVD optional Transport case	4200	\$	
BNVD optional Transport case	6700	\$	

Table 2: Pricing for ILS

Type of ILS	Price (\$CAD) for approx. 4200 MNVD	Price (\$CAD) for approx. 6700 BNVD	Comments
Training	\$	\$	
Drawings	\$	\$	
2-Year Recommended Spare Parts			
Special Tools and Test Equipment			

6.10. Sustainment Cost

The government of Canada needs to understand the cost of the level of sustainment that is required to maintain the equipment performance over the expected life of the equipment.

Respondents are asked to provide a cost estimate for all device types that they are capable of providing and that meet descriptions in Attachments # 1 and 5. Each device must be entered on a different product specification sheet.

For each device specification sheet provided, the following information is requested:

- 6.10.1. What are your preventative and corrective maintenance strategies for your proposed solution?
- 6.10.2. For repairs that you recommend would be carried out by your organization, describe a typical minor repair, and a typical major repair. Provide an indicative price for each repair type.
- 6.10.3. Identify typical turn-around times for minor and major repairs.
- 6.10.4. Are you willing to provide repair and overhaul services from delivery and through-out the in-service life of the proposed system? Describe any constraints to the provision of these services.
- 6.10.5. Identify the Special Tools and Test Equipment (STTE) that Canada would require for each line of maintenance for your proposed solution. Provide an indicative price for each item of STTE.
- 6.10.6. Indicate if there are any Intellectual Property (IP) rights that must be obtained for DND to conduct in-house repairs.
 - What % of the initial acquisition price will the estimated sustainment cost for the life expectancy of the equipment amount to?
 - Prices/Costs of the annual recommended spare parts (emphasis on major/key/most replaced spare parts), based on OEM experience with other NATO/Five Eyes customers.
 - Incremental costs of software, if any, that an OEM will need to supply over life expectancy of equipment.
 - Prices/Costs of IP rights, if any, to enable DND to conduct in-house repairs.
 - Prices/Costs of an average level 1 (Up to 4 hours labour. Ex. changing external components) & level 2 (Up to 24 hours labour. Ex. changing the tubes) repair after warranty expiry, based on OEM experience with other NATO/Five Eyes customers – if conducted in Canada & outside Canada by OEM each time and per fleet per year.

Respondents are asked to complete Table 3 and fill out an estimate of the prices for the different types of sustainment for Year 1, Year 2 and Year 3.

Table 3: Pricing of sustainment

Type of sustainment	Price (CAD \$) in Year 1	Price (CAD \$) in Year 2	Price (CAD \$) in Year 3	Comments
Annual spares per MNVD device	\$	\$	\$	
Annual spares per BNVD device	\$	\$	\$	
Incremental software	\$	\$	\$	
Annual IP rights	\$	\$	\$	
Annual Level 1 Repairs per MNVD device	\$	\$	\$	
Annual Level 1 Repairs per BNVD device	\$	\$	\$	
Annual Level 2 Repairs per MNVD device	\$	\$	\$	
Annual Level 2 Repairs per BNVD device	\$	\$	\$	

Question: 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.

6.11. Question 9. Value Proposition/ Estimated Benefits

6.12. Defence Sector:

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.

6.12.1. Based on the high-level requirements put forward by DND, describe what Direct Work activities your company would foresee undertaking in Canada for the production and sustainment of the MNVD/BNVD. Procurement.

6.12.2. What opportunities and constraints are there to performing this work in Canada?

6.12.3. Please describe the production activities or services your company performs in the KICs of Artificial Intelligence, Clean Technology, Electro-Optical/Infrared (EO/IR) Systems, and In-Service Support? Please detail which activities are currently performed in Canada.

6.12.4. What percentage of Direct Work could be completed in Canada in the Key Industrial Capability identified above.

6.12.5. What other high value areas in which Canadian capabilities could be used to support the MNVD/BNVD project?

6.13. Supplier Development:

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 businesses (SMB).

6.13.1. 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 SMB with fewer than 250 employees. To what extent can you commit to an SMB requirement of over 15 percent in order to nurture the development of Canadian SMB within the defence sector (includes both direct work on this procurement and work in other business areas)?

6.13.2. As result of the MNVD/BNVD, please indicate what new supply chain opportunities could be made available to Canadian suppliers. Please include in your response information on:

- 6.13.2.1. What activities should be perceived as providing the highest value to Canada.
- 6.13.2.2. Which opportunities could be specifically targeted at Canadian SMBs.
- 6.13.2.3. Supplier development opportunities that could be performed in the KICs identified above.

Skills Development and Training:

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

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

- 6.13.3.1. Work integrated learning programs (e.g., co-operative education; work placements);
- 6.13.3.2. Apprenticeship programs;
- 6.13.3.3. A new or existing skills development program at or through a post-secondary institution;
- 6.13.3.4. Support for security certifications (e.g.: Top Secret, ITAR) or cybersecurity compliance certifications for Canadian companies, especially small and medium-sized businesses.
- 6.13.3.5. What Skills Development and Training opportunities are available in the KICs identified above?

Research and Development (R&D):

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.

6.13.4. Please describe your company's priority areas for R&D investment. As part of your answer, please identify to what extent these priority areas align with the KICs identified above?

6.13.5. Is there potential to develop research partnerships with Canadian post-secondary institutions, publicly funded research institutions or Canadian companies (such as consortia or centers of excellence)? If so, what research areas might your company pursue? If not, what other research or development partnerships could be formed to support technology development in the KICs identified above?

6.13.6. Is there potential to invest in research and development partnerships with Canadian SMBs and start-up companies, including funding for late-stage R&D and commercialization of innovative products or services?

6.13.7. Please identify to what extent R&D investments could be performed in the KICs identified above.

Exports:

6.13.8. Please describe any export opportunities from Canada directly related to this procurement.

6.13.9. 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.

6.13.10. What role would the MNVD/BNVD procurement play in positioning your company and its Canadian supply-chain for long-term growth?

Other Questions:

6.13.11. Are there other relevant KICs which align with the work to be conducted for the MNVD/BNVD 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.

6.13.12. Comparatively to price and technical merit, Value Proposition typically has a weight of 10-20% of the overall bid evaluation. What is your view on the weighting of the Value Proposition for the MNVD/BNVD project?

6.13.13. Within the Value Proposition, what are your recommended minimum percentages of weighting for each of the Value Proposition pillars (i.e. Direct Work, Supplier Development, Skills and Training, R&D, and Exports)?

6.14. Sustainment questions

6.14.1. Question 10. Maintenance:

Canada needs to understand the feasibility of performing in-house maintenance, with the exception for maintenance overflow. Respondents are asked to provide facts, best practices and lessons learned on the following:

- a) Maintenance (corrective, preventive, level 1 to 2 and 3 to 4 if required, etc.)
- b) Material (procurement, repair parts, consumable, forecasting, warehousing, distribution)
- c) Technical Data and Publications (logistics support analysis, spare parts lists, manuals, etc.)
- d) Training (Operator Training, Technical Training, etc.)
- e) Infrastructure (storage, workshop, training, etc.)
- f) Support and test equipment (Specialized Tool & Test Equipment (STTE), calibration, etc.)

6.14.1.1. What are the facts, best practices and lessons learned Canada will need to consider when developing a sustainment plan for the devices? Please be specific in terms of:

- a) Levels and Lines of maintenance;
- b) Supply Chain;
- c) Engineering Support including reach-back and configuration management;
- d) Logistics (Purchasing, Warehousing and Distribution); and
- e) Any other relevant aspects.

6.14.1.2. What nature of technical data (Maintenance Manuals, Parts Catalogues, Work Instructions, Operating Manuals, etc.) is typically provided with your products?

6.14.1.3. What are the typical metrics used to monitor the delivery of in-service support and how are they applied?

6.14.1.4. This requirement is expected to include the sustainment of technologies that are evolving rapidly. While Canada will be developing its in-service support solution, what are the facts, best practices and lessons learned with regards to the rapid evolution of the equipment, specifically:

- a) Usage of mid-life upgrade versus continuous upgrade or other industry best practice (specify)
- b) Software
- c) Hardware
- d) Support
- e) Typical intervals between upgrades
- f) Describe the breadth of support activities available for in-service support upgrades
- g) Typical length of down-times associated with the upgrades (hardware and software)
- h) Any other relevant aspects

Attachment # 5
Draft System Requirements Specifications