Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions - TPSGC
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
11 Laurier St.\11, rue Laurier
Gatineau
K1A 0S5
Bid Fax: (819) 997-9776

LETTER OF INTEREST
LETTRE D'INTÉRÊT

Title - Sujet RFI EHRP - DDR PDSE Request for Information EHRP - Demande de renseignements PDSE	
Solicitation No. - N° de l'invitation W6369-210257/A	**Date** 2021-04-15
Client Reference No. - N° de référence du client 6000534572	**GETS Ref. No. - N° de réf. de SEAG** PW-$$XE-685-39378
File No. - N° de dossier 685xe.W6369-210257	**CCC No./N° CCC - FMS No./N° VME**

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM Eastern Daylight Saving Time EDT
on - le 2021-05-14 Heure Avancée de l'Est HAE

F.O.B. - F.A.B.
Plant-Usine: ☐ **Destination:** ☐ **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à: Ferrier, Heather	**Buyer Id - Id de l'acheteur** 685xe
Telephone No. - N° de téléphone (613) 408-0259 ( )	**FAX No. - N° de FAX** ( ) -

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Specified Herein
Précisé dans les présentes

Comments - Commentaires

Instructions: See Herein

Instructions: Voir aux présentes

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

Delivery Required - Livraison exigée See Herein – Voir ci-inclus	**Delivery Offered - Livraison proposée**

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

Telephone No. - N°de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Issuing Office - Bureau de distribution
Business Transformation and Systems Integration Service/Division de transformation des opérations et d'intégrat
Special Procurement Initiative Dir
Dir. des initiatives speciales d'approvisionnement
Terrasses de la Chaudière 4th Floo
10 Wellington Street
Gatineau
Québec
K1A 0S5

Canada

Destination Code - Code destinataire	Destination Address - Adresse de la destination	Invoice Code - Code bur.-comptable	Invoice Address - Adresse de facturation
D - 1	Department of National Defence 101 Colonel By Drive Ottawa, Ontario, K1A 0K2 Attn: Brock Heilman, PD EHRP	I - 1	DEPT OF NATIONAL DEFENCE DG PROC SVCS 101 Colonel By Dr OTTAWA ON K1A 0K2

Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	EHRP RFI	D - 1	I - 1	1	Each	$	$	See Herein – Voir ci-inclus	

Solicitation No. : W6369-210257/A

Request for Information

Canadian Armed Forces
Electronic Health Records Platform (EHRP)

For

The Department of National Defence

Table of Contents

REQUEST FOR INFORMATION FOR CANADIAN ARMED FORCES ELECTRONIC HEALTH RECORDS PLATFORM FOR THE DEPARTMENT OF NATIONAL DEFENCE

PART A

1. PURPOSE AND NATURE OF THIS REQUEST FOR INFORMATION (RFI)

Public Services and Procurement Canada (PSPC) is issuing this Request for Information (RFI) on behalf of the Department of National Defence (DND) to solicit information from the Industry regarding an Electronic Health Records Platform (EHRP) capability project being considered for DND.

The objectives of this Request for Information (RFI) are to:

a. Inform Industry of the high-level requirements being considered;
b. Align this requirement with the Industry's capabilities, as applicable;
c. Obtain input from Industry regarding:
   i. Feasible approaches with respect to two implementation options being considered;
   ii. A feasible high-level solution architecture;
   iii. Realistic implementation estimates in terms of scope of work, schedule, organization structure, professional resources; division of responsibilities between Canada and the contractor;
   iv. Risks and recommended risk mitigation for technology, architecture, cost, scope, business transformation and schedule; and
   v. A recommended costing model with indicative budgeting estimates.

Respondents are requested to provide their comments, concerns, and where applicable recommendations regarding how the requirements or objectives described in this RFI could be satisfied. Although the information collected from Respondents may be provided as commercial-in-confidence (and, if identified as such, will be treated accordingly), Canada may use the information to assist in defining a solution to meet requirements and analyze possible procurement approaches.

The information contained in this document remains a work in progress. Respondents should not assume that new requirements will not be added, changed or removed to any subsequent RFI or bid solicitation should Canada decide to proceed with either. Comments regarding any aspect of this information are welcome as part of this RFI process.

This RFI is neither a call for tender nor a Request for Proposal (RFP). As such, responses will not be formally evaluated. No agreement or contract will be entered into based on this RFI. The issuance of this RFI is not in any way be a commitment by Canada, nor an authority for potential Respondents to undertake any work that could be charged to Canada. This RFI is not to be considered as a commitment to issue a subsequent solicitation or award contract(s) for the work described herein. Respondents will not be reimbursed for any costs incurred in participating in

this RFI including, but not limited to, expenses incurred for participating in any additional engagement activities.

Participation in this RFI is encouraged but is not mandatory. Respondents should note that this RFI is not a pre-selection process and that there will be no short-listing of potential Suppliers for the purposes of undertaking any future work as a result of this RFI. Participation in this RFI is not a condition or prerequisite for the participation in any potential subsequent Industry Engagement activities or any potential subsequent solicitation. Changes to this RFI may occur and will be advertised on the Government Electronic Tendering System. Canada asks Respondents to visit Buyandsell.gc.ca regularly to check for any changes.

Respondents should note that Canada retained the services of Calian Ltd. and Gartner in the development of this RFI.

2. PROJECT BACKGROUND

DND's current Health Information System needs to be modernized to incorporate modern decision-making, analytics, and patient interaction technologies.

The current solution, the Canadian Forces Health Information System (CFHIS) as detailed in Annex E, was introduced in 2001 to mainly digitize existing health records. This shift from a paper-based to an electronic-based system improved the portability of and electronic access to health information; and established the foundation for further development of a comprehensive digital health capability.

The CFHIS enables the Canadian Forces Health Services Group (CF H Svcs Gp) to provide health care services to Canadian Armed Forces (CAF) members to promote and maintain their good health and mental well-being. This includes disease and injury prevention, diagnosis and treatment that facilitates their rapid return to operational fitness or to the best possible degree of health.

The arrival of new clinical decision-making, advanced analytics, and personalized patient experience technologies, none of which are currently incorporated into the CFHIS, have revolutionized the delivery of healthcare across the globe. The CAF can no longer keep pace with these emerging technologies and, without significant investment, will find itself lagging behind its provincial and foreign defence counterparts.

Considering the gap in capability mentioned above, DND has initiated a project, the EHRP Project, to either enhance the CFHIS, or replace the CFHIS with a completely new commercial off the shelf solution. The project is now in the Options Analysis (OA) phase to determine which option best meets DND's needs.

3. PROJECT SCOPE

The project scope includes implementation of either of the following options to meet the requirements outlined in Annex D:

a. **Enhanced CFHIS (CFHIS+)** - This option would leverage the current CFHIS as the platform for the future EHRP capability. The gap in functionality (i.e. between the present

capability and the future requirements) would require the vendors to add additional modules, develop customizations, or purchase new functionality.

b. **New Solution** - This option would involve the acquisition of a new and proven solution to replace the current CFHIS. A careful forward-looking selection and integration of the most modern, evolvable, and proven technologies available at the point of program delivery would be required. Canadian Forces Health Services Group (CF H Svcs Gp) processes would be adapted to accommodate the available technology solution.

4. MILESTONES

Key procurement milestone activities and dates are estimated as follows and are subject to change at Canada's sole discretion. In providing responses, the following schedule should be utilized as a baseline:

Anticipated Procurement Milestones	Anticipated Schedule
One-on-One Supplier Consultations	June/July 2021
Enhanced CFHIS (CFHIS+)	
RFI 2 (Draft RFP)	2023-2024
RFP	2024-2025
Contract Award	2024-2025
OR	
New Solution	
RFP Gate 1 – Invitation to Qualify (ITQ)	2023-2024
Review and Refine Requirements (RRR) with pre-qualified Suppliers	2023-2024
Draft RFP with pre-qualified Suppliers	2024-2025
RFP with pre-qualified Suppliers	2025-2026
Contract Award	2025-2026
Full Operational Capability	2027-2028

5. LEGISLATION, TRADE AGREEMENTS, AND GOVERNMENT POLICIES

The following is indicative of some of the legislation, trade agreements and government policies that could impact any follow-on solicitation(s):

a. *Official Languages Act;*
b. *Access to Information Act;*

c. *Privacy Act;*
d. *Accessible Canada Act*;
e. Industrial and Technological Benefits Policy;
f. Federal Contractors Program for Employment Equity (FCP-EE);
g. Canadian Free Trade Agreement (CFTA);
h. World Trade Organization – Agreements on Government Procurement (WTO-AGP);
i. Canada-European Union Comprehensive Economic and Trade Agreement (CETA); and
j. Bilateral Free Trade Agreements.

Respondents are advised that a National Security Exception (NSE) may be invoked for the procurement of the EHRP under the authority of PSPC's Assistant Deputy Minister - Procurement Branch. The NSE provided in all of Canada's trade agreements allows Canada to exclude a procurement from some or all of the obligations in the relevant trade agreement(s), where Canada considers it necessary to do so in order to protect its national security interests in the text of the NSE. The purpose of the NSE is to ensure that all parties to the agreements are not required in any way to compromise the national security interests, including data sovereignty, through the application of the obligations of the trade agreements. Details are available at: https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/section/3/105.

6. CONFLICT OF INTEREST

In order to protect the integrity of the procurement process, Respondents are advised that Canada may reject a response or any subsequent bid in the following circumstances:

a. if the Respondent/Bidder, any of its subcontractors, any of their respective employees or former employees was involved in any manner in the preparation of the RFI or bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;

b. if the Respondent/Bidder, any of its subcontractors, any of their respective employees or former employees had access to information related to the RFI or bid solicitation that was not available to other respondents/bidders and that would, in Canada's opinion, give or appear to give the Respondent/Bidder an unfair advantage.

The experience acquired by a bidder who is providing or has provided the goods and services described in any subsequent bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This bidder remains however subject to the criteria established above.

Where Canada intends to reject a response/bid under this section, the Contracting Authority will inform the Respondent/Bidder and provide the Respondent/Bidder an opportunity to make representations before making a final decision. Respondents/Bidders who are in doubt about a particular situation should contact the Contracting Authority before response/bid closing. By submitting a response/bid, the Respondent/Bidder represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Respondent/Bidder acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.

7. INDUSTRIAL AND TECHNOLOGICAL BENEFITS

The Industrial and Technological Benefits (ITB) Policy, including Value Proposition, may apply to the Canadian Armed Forces Electronic Health Record Platform (EHRP) project. Engagement through the Request for Information (RFI) and review of the responses to questions addressed in Annex C will help determine the ITB Policy's application and how Canada could leverage this procurement for economic benefit.

The ITB Policy encourages companies to establish or grow their presence in Canada, strengthen Canada's supply chains, and develop Canadian industrial capabilities. The 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.

The ITB Policy has (5) main objectives:

a. Support the long-term sustainability and growth of Canada's defence industry;
b. Support the growth of prime contractors and Suppliers in Canada, including small and medium-sized businesses (SMBs) in all regions of the country;
c. Enhance innovation through Research and Development (R&D) in Canada;
d. Increase the export potential and international competitiveness of Canadian-based firms; and,
e. Fill skills and training gaps within the Canadian economy to support a more innovative Canada.

To maximize the economic impact that can be leveraged through the VP, Canada will utilize the ITB Policy to motivate contractors to invest in Key Industrial Capabilities (KICs). 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. For more information about the ITB Policy, please visit www.canada.ca/itb.

8. FAIRNESS MONITOR

To ensure the openness, fairness, transparency and integrity of the procurement process, a third-party Fairness Monitor (FM) will be involved in the entire process of this multi-phased procurement, including this RFI. The FM will, for example, observe the procurement process to ensure that PSPC and DND have acted in a fair and consistent manner during the entire process. The FM is under obligations pursuant to its contract with Canada to maintain the confidentiality of all information received as a result of its participation in this procurement process. For the purpose of carrying out its FM-related obligations, the FM will be granted access to documentation generated and received by Canada pursuant to this RFI and any subsequent procurement activities undertaken during the procurement process.

PSPC has engaged P1 Consulting located in Nepean, Ontario, as a fairness monitor for the purpose of this procurement.

9. ENGAGEMENT PROCESS

The Industry Engagement Process (IEP) begins with the publication on Buyandsell.gc.ca http://www.buyandsell.gc.ca/tenders of this RFI. The initial Industry Engagement Process consists of the following events:

a. Posting of the RFI;
b. Respondents Submission of RFI Responses; and
c. One-on-One Meetings;

Canada will not post a summary of feedback and outcomes report on Buyandsell.gc.ca upon the completion of the RFI consultation activities. At Canada's discretion, this RFI may be followed by other RFIs seeking additional feedback from Suppliers.

At any point within the Industry Engagement Process, the above-listed Industry Engagement events or their scheduling may change.

INDUSTRY ONE-ON-ONE MEETINGS

Following the RFI release, one-on-one meetings will be held remotely between Canada and interested Respondents. The intent of these meetings is to provide an opportunity for an open discussion between Canada and Respondents concerning the feedback and responses to information requested in **ANNEX C – Information to Include in Responses**, and suggestions or alternative approaches to material presented in conjunction with this RFI. These sessions will provide an opportunity for Respondents to clarify their presentation and to present relevant technical input for a potential RFP. There will also be an opportunity for Respondents to seek clarifications from the EHRP Project Team concerning the requirements at the one-on-one meetings.

Any solutions, ideas, recommendations or issues raised during the RFI and one-on-one meetings will be analyzed for further consideration by Canada. The meetings will be optional and held at the request of the Respondents; members of the media cannot participate in the one-on-one consultations. Attendance at these sessions is not required in order to submit a response to the RFI nor any potential follow-on RFP.

Should Respondents elect to engage in the one-on-one meetings, participation will be strictly reserved to properly registered industry representatives who sign and submit the **Industry Engagement Process - Rules of Engagement (Mandatory Form to Participants)**, provided as Annex A. All Respondents who would like to take part in a one-on-one consultation must also send a request and register as outlined in **Annex B – One-on-One Meetings Registration Procedures**.

One-on-one meetings will be held by video conference. An invitation with a list of available meeting dates and times will be sent to Suppliers registered to participate in the engagement process.

Registration for the one-on-one meetings is required on or before the RFI closing date to the following email address: Heather.Ferrier@tpsgc-pwgsc.gc.ca. Upon receipt of the request, the Contracting Authority will contact each Respondent to confirm and provide a listing of the available dates and times for consideration via email.

A Fairness Monitor will be present at all one-on-one meetings.

Representation from PSPC, DND, and Innovation, Science and Economic Development Canada (ISED) will be present at all one-on-one meetings.

The resources contracted by DND, including Gartner and Calian Ltd., will also be present at all one-on-one meetings.

10. TREATMENT OF RESPONSES

Responses will not be formally evaluated. However, the responses received may be used by Canada to develop or modify the procurement approach as well as any draft documents contained in this RFI. Canada will review all RFI responses received by the closing date. Canada may, in its discretion, review responses received after the RFI closing date.

A review team composed of representatives of the DND, PSPC and possibly subject matter experts (SMEs) will review the responses. Canada 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.

Respondents should mark any portions of their response that they consider proprietary or confidential. Canada will handle the responses in accordance with the *Access to Information Act*.

Responses to this RFI will not be returned to Respondents.

Canada may, at its discretion, contact any Respondents to follow up with additional questions or for clarification of any aspect of a response.

11. FORMAT OF RESPONSES

Suppliers wishing to provide feedback to DND are asked to do so using **Annex C – Information to Include in Responses**. Respondents are requested to provide their comments, concerns and, where applicable, alternative recommendations regarding how the requirements or objectives described in this RFI could be satisfied. Respondents are also invited to provide comments regarding the content of any draft documents included in this RFI. Respondents should explain any assumptions they make in their responses.

11.1 **Cover Page**: If the response includes multiple volumes, Respondents should indicate on the front cover page of each volume the title of the response, the RFI number, the volume number and the full legal name of the Respondent.

11.2 Title Page: The first page of each volume of the response, after the cover page, should be the title page, which should contain the:

- title of the Respondent's response and the volume number;
- name and address of the Respondent;
- name, address and telephone number of the Respondent's contact;
- date; and
- RFI number.

a) **Numbering System**: Respondents should prepare their response using a numbering system corresponding to the one in this RFI. All references to descriptive material and technical manuals included as part of the response should be referenced accordingly.

b) **Body**: The response should be labelled with the date and the Respondent's name on each page, and pages should be sequentially numbered. It is preferred that all pertinent information be included in the response without the need to visit Respondent websites. If necessary, however, website references may be provided for additional information, beyond that requested in this RFI. If this is the case, it should be noted that the information contained in such websites may not be used for the analysis of the response to this RFI.

12. ENQUIRIES AND SUBMISSION OF RFI RESPONSES

12.1 Enquiries

Enquiries are to be made in writing (by e-mail) exclusively to the Contracting Authority indicated below.

Enquiries should be received no less than ten (10) working days prior to the RFI closing date to allow sufficient time to provide a written response. Enquiries received after that time might not be answered prior to the RFI closing date.

To ensure consistency and quality of information provided to Respondents, the replies to enquiries will be published on Buyandsell.gc.ca, without revealing the sources of the enquiries.

Interested Suppliers must note that all communication pertaining to the subject matter of this RFI shall exclusively be directed to the PSPC Contracting Authority. Interested Suppliers must refrain from communicating directly with DND stakeholders or with other Government of Canada representatives, regarding any aspect of this procurement process, including the subject matter described herein.

Requests for clarification must be sent to the Contracting Authority:

Heather Ferrier

Supply Team Leader
Business and Technology Solutions Sector (BTSS)
Technology-Enabled Major Projects Procurement Directorate (TEMPPD)

Acquisitions Branch
Public Services and Procurement Canada (PSPC)
E-mail address: Heather.Ferrier@tpsgc-pwgsc.gc.ca

12.2 Submission of RFI Responses

Time and Place for Submission of Responses:

Suppliers interested in providing a response must deliver it using epost Connect, by the time and date indicated on the information cover page of this RFI.

Note: Respondents needing to create an epost Connect account must go to https://www.canadapost.ca/cpc/en/business.page then click on *My Account* and follow the steps. Respondents must register a few days prior to solicitation closing date.

Respondents must send an email to the PWGSC-TPSGC Bid Receiving Unit (BRU) (TPSGC.DGAreceptiondessoumissions-ABBidReceiving.PWGSC@tpsgc-pwgsc.gc.ca) from the email address linked to their Canada Post account.

The email must include the RFI number (found on the cover page) and state that you intend to submit a response using epost Connect. This does not mean that the response must be ready to send; the email will allow BRU to initiate an epost Connect "conversation" with you, so that your setup will be completed when your response is ready to be sent.

Note: Responses will not be accepted if emailed directly to this email address. This email address is to be used to open an epost Connect "conversation" only, or to send responses through an epost Connect message if the Respondent is using its own licensing agreement for epost Connect.

Each Respondent is solely responsible for ensuring its response is delivered on time, to the correct location.

PART B

1. ORGANIZATION BACKGROUND

The Canadian Forces Health Services Group (CF H Svcs Gp) is comprised of 6,350 health care professionals and operates Canada's "fourteenth" health jurisdiction providing health services to CAF personnel anywhere in Canada and around the world. A close relationship with the health services of allies and civilian health authorities enables it to provide CAF members with the best possible domestic and operational force health protection, clinical care, and rehabilitative services available.

CF H Svcs Gp also works collaboratively with other DND organizations. In the area of health data and information technology, this includes: Assistant Deputy Minister (Information Management) (ADM (IM)) – supporting and maintaining the CFHIS; Assistant Deputy Minister (Data, Innovation and Analytics) (ADM(DIA)) – delivering data-driven and evidence-based decision-making support; Treasury Board Secretariat (TBS) Chief Information Officer Branch –

guiding and coordinating the collaborative health information efforts of federal health agencies and departments; Canada Health Infoway – setting interoperability and content standards across Canada; and regional/provincial/ territorial health authorities and providers – coordinating and providing care to CAF members.

2. DESCRIPTION OF THE CURRENT ENVIRONMENT

The CF H Svcs Gp is responsible for optimizing health and the health management outcomes of CAF members by ensuring reliable, secure, and comprehensive health information is globally accessible in order to enable quality decisions to support organizational objectives. Historically, this need was met with paper-based records and in 2001 the Canadian Forces Health Information System (CFHIS) was introduced, which successfully replaced paper health files with an electronic health record. The portability of, and electronic access to, health information for internal CF H Svcs Gp healthcare providers was greatly improved.

Adopting a CFHIS was a challenging endeavour, which required significant change management and organizational investment but has paid substantial dividends: the foundation has been laid for further development of a comprehensive digital health record capability. The Electronic Health Record Platform (EHRP) will be a key component of this capability, embodying the hardware, software, and documented business processes that will be a critical enabler to both Health Services personnel and for the health of their patients.

While the CFHIS brought the CAF into the modern era of digitizing paper-based health records, the standard of care available to average Canadians is advancing at a very rapid pace due to the application of new technologies, mass storage and associated analytics and personalized healthcare. The CAF can no longer claim that it operates a state-of-the-art health information management solution and the gap will continue to grow unless an investment is made to acquire new digital health record capabilities.

Since the CFHIS project was initiated in 1999, standards of patient care in Canada have advanced. Healthcare itself, patient expectations, and health technology have all evolved. With an EHR in place, CF H Svcs Gp is in a position to capitalize on the emerging technologies which have been developed since the late 1990's. An updated digital health record capability, similar to that which exists or is under development in the rest of Canada, would enable CF H Svcs Gp to better meet the diverse needs of CAF members, the Chain of Command, and CAF healthcare providers.

Currently, healthcare providers are not easily able to analyze the cost of care and quality of care delivered across the patient population, nor provide patients the ability to engage more deeply in their own healthcare decisions through access to their own healthcare record.

3. DESCRIPTION OF THE DESIRED SOLUTION AND FUTURE VISION

The Canadian Armed Forces (CAF) requires an Electronic Health Record (EHR) solution that is capable of providing modern clinical decision-support tools, advanced analytics and a patient experience commensurate with the provincial and defence partners.

Future Vision

The overall solution envisioned is of an out-patient "ambulatory care" EHR as the core clinician-facing tool, coupled with various modules that permit patients to review information in the EHR, as well as contribute to it in ways specified by their clinicians.

In the CAF ambulatory care model, many different types of clinicians (dentists, physicians, nurse practitioners, physician assistants, and medical technicians in the primary care area, as well as physiotherapists, psychologists, social workers, etc.) are expected to use the EHR that enable their unique workflows.

Clinical decision support should be a given in this modern EHR, but decision support is also expected to be available in two main areas: population health management and in the assessment of the performance of the overall CAF healthcare system. These two areas would largely be the domain of users in the CF H Svcs Gp headquarters environment but would also be extended, within the limits of health information privacy, to clinical leaders in the clinics themselves, the regions to which the clinics belong, as well as to the patients' supervisors at various levels (also known in the military as the chain of command).

In order to provide "best-in-class" technological solution in all of the aforementioned areas, the overall EHR "platform" (EHRP) would incorporate at its core a best-in-class EHR combined with a patient portal, tightly integrated virtual care support, advanced analytics and the ability to share information between CAF healthcare providers on one hand and NATO allies as well as Canadian provincial and territorial healthcare providers on the other. As all of these best-in-class features may not be available as a single product or Respondent approach, a modular implementation approach may be required.

ANNEX A – RULES OF ENGAGEMENT

CANADIAN ARMED FORCES ELECTRONIC HEALTH RECORD PLATFORM

Industry Engagement Process

Rules of Engagement

(Mandatory Form for Participants)

W6369-210257

An overriding principle of the Industry Engagement is that it be conducted with the utmost fairness and equity between all parties. No one person or organization shall receive nor be perceived to have received any unusual or unfair advantage over the others.

All Crown documentation provided throughout the Industry Engagement process ("Consultative Process"), will be provided to all participants who have agreed to and signed the Rules of Engagement ("Participant").

The Consultative Process may consist of any of the following activities, a RFI, one-on-one sessions and any other processes deemed necessary by the Contracting Authority. In order to maximize the benefits of the Consultative Process, Canada will endeavor to solicit comments from Participants on various issues raised. Any solutions, ideas or issues raised during the Consultative Process will be first analyzed for further consideration by Canada. An agenda with discussion topics will be provided to Participants in advance of the one-on-one sessions.

Canada will not disclose proprietary or commercially-sensitive information concerning a Participant to other Participants or third parties, except and only to the extent required by law.

TERMS AND CONDITIONS

The following terms and conditions apply to the Consultative Process. The onus is on the registered Respondent to ensure that all Participants are aware of these terms and conditions. In order to encourage open dialogue, Participants agree to the following:

1. To discuss their views concerning Canada's requirement and to provide positive resolutions to the issues in question. Everyone shall have equal opportunity to share their ideas and suggestions;

2. To allow Canada to record and/or make notes during the one-on-one sessions, should clarification of information be required;

3. To NOT reveal or discuss any information to the media regarding Canada's requirement during this Consultative Process. Any media questions will be directed to the PSPC Media Relations Office;

4. All enquiries are to be directed to the PSPC Contracting Authority, unless advised otherwise. Any communication to unauthorized representatives of Canada may be subject to full disclosure by Canada on Buyandsell.gc.ca;

5. Any information submitted to Canada as part of this process may be used by Canada in the development of a subsequent competitive Request for Proposal (RFP) or other competitive process. However, Canada is not bound to accept any expression of interest or to consider it further in any associated documents such as a RFP;

6. Canada is not obligated to issue any RFP, or to negotiate any Contract for the requirement;

7. If Canada does release a RFP, the terms and conditions of the RFP shall be subject to Canada's absolute discretion;

8. Canada will not reimburse any person or entity for any cost incurred in participating in this Industry Consultative Process;

9. Participation is not a mandatory requirement. Not participating in this Consultative Process will not preclude a bidder from submitting a proposal;

10. Canada may disclose the names of Respondents participating in the process;

11. Failure to agree to and to sign the Rules of Engagement will result in the exclusion from participation in the Consultative Process; and

12. A dispute resolution process to manage impasses throughout this Consultative Process shall be adhered to as follows:

    12.1. By informal discussion and good faith negotiation, each of the parties shall make all reasonable efforts to resolve any dispute, controversy or claim arising out of or in any way connected to this Consultative Process.

    12.2. Any dispute between parties of any nature arising out of or in connection with this Consultative Process shall be resolved by the following process:

        a. Any such dispute shall first be referred to the Participant's Representative and the PSPC Manager managing the Consultative Process. The parties will have three (3) business days in which to resolve the dispute;

        b. In the event the representatives of the parties specified in Article 12.2.a. above are unable to resolve the dispute, it shall be referred to the Participant's Project Director and the PSPC Senior Director of the Division responsible to manage the Consultative Process. The parties will have three (3) business days to resolve the dispute;

        c. In the event the representatives of the Parties specified in Article 12.2.b. above are unable to resolve the dispute, it shall be referred to the Participant's President and the PSPC Director General, who will have three (3) business days to resolve the dispute;

        d. In the event the representatives of the Parties specified in Article 12.2.c. above are unable to resolve the dispute, it shall be referred to the Participant's Chief Executive Officer and the PSPC Assistant Deputy Minister, Acquisitions Branch, who will have five (5) business days to resolve the dispute; and

        e. In the event the representatives of the Parties specified in Article 12.2.d. above are unable to resolve the dispute, the Contracting Authority shall within five (5) business days render a written decision which shall include a detailed description of the dispute and the reasons supporting the Contracting Authority's decision. The Contracting Authority shall deliver a signed copy thereof to the Participant.

By signing this document, the individual represents that he/she has full authority to bind the Respondent listed below and that the individual and the Respondent agrees to be bound by all the terms and conditions contained herein.

Name of Respondent: _____

Name of Individual: _____

Telephone: _____

E-mail: _____

Signature: _____

Date: _____

ANNEX B –ONE-ON-ONE MEETINGS REGISTRATION PROCEDURES

Registration Process

Canada will meet with registered Respondents who request a one-on-one consultation, in accordance with this RFI. When registering, Respondents are requested to provide a list of the individuals from their organization who will attend the meeting using Table 1 below. Canada will then confirm receipt of the request and provide a list of available dates and times by email. Respondents will be asked to identify three potential schedule times. Canada cannot guarantee that Respondents will be allocated any of their preferred meeting times. The Contracting Authority will either confirm a requested time or will reply with an alternative suggested time. Meeting times will be allocated on a first come, first served basis.

Table 1 - One-on-One Consultations Participant List

Respondent Name:	
Participant Full Name & Title	Email Address

Registration Requirements

Registration to one-on-one consultations must be done via email to the Contracting Authority, by the registration deadline, and is requested to include the following information:

a) Name, title, email and phone number for the Respondent's one main point of contact for purpose of communications during the RFI period;
b) Name, title and email of people who will attend one-on-one consultation. Please submit Table 1; and
c) Preferred language for communication: please submit Table 2 below.

Table 2 – Language

Respondents must identify which of Canada's two official languages will be used for communications from Canada with the Respondent (the same language for all Respondent representatives) during the RFI period, including one-on-one meetings - indicate either English or French	
	English ☐ French ☐

Registered Respondents will be contacted by the Contracting Authority to:

a) Confirm receipt of Respondents' request and provide list of available dates and times;
b) Confirm the date and time of the Respondents' one-on-one meeting; and
c) Discuss any special requirements and help the registered Respondents with their planning for the one-on-one meeting.

ANNEX C – INFORMATION TO INCLUDE IN RESPONSES

The following information is requested for both options addressed in Part A, Section 3 – Project Scope, as applicable:

1. SUBMISSION EXECUTIVE SUMMARY

An executive summary of the response highlighting the salient information.

2. COMPANY PROFILE

a. A brief introduction to the company that highlights corporate capacities, products, services, Canadian based capabilities, and experience in delivering EHRP solutions relevant to the project scope;
b. Background information on capacity to individually or through partnership(s) deliver an EHRP solution;
c. A description of established partnerships with other industries, if any, that would be of benefit to the development of the project capability requirement; and
d. An overview of the Security Compliance capacity within the company.

3. PRODUCT - FUNCTIONAL

a. Describe how your solution and services would meet the EHRP requirements listed in Annex D, either through the CFHIS+ or through the new solution described in Part A, 3. Project Scope. Highlight the degree to which each requirement is achievable;
b. Describe the ability to meet the constraints and standards noted in Annex D;
c. Provide descriptions of the security approach and architecture related to protecting sensitive data in a cloud environment. If you have successfully deployed cloud solutions in compliance with Government organizations guidance and regulations those should also be clearly identified; and
d. Specify any additions or amendments you would propose to the requirements in order to provide or ensure a closer to optimal solution.

4. PRODUCT - TECHNICAL

Provide a solution architecture overview, describing key components, software, application, data level security, features, and hardware highlighting the following as much as possible:

a. The envisaged solution based on estimated time frames stated in Part A;
b. The approach to ensure the confidentiality and integrity of the data stored in the cloud;
c. The approach to system redundancy and backup;
d. The approach for employment of mobile devices;
e. The scope of hardware and software that DND would be required to procure; and
f. Extent of scalability to meet larger enterprise needs.

5. IMPLEMENTATION, TRAINING, SUPPORT AND MANAGED SERVICES

a. <u>Implementation Approach – Provide recommended:</u>
    i. Role(s) in this project (e.g., system integrator, component provider, site installer, verification and validation, training provider, in-service support provider, etc.);

ii. Scope of work that would be expected of DND and a schedule overview for the suggested solution;
iii. Approach to procurement of the solution;
iv. Approach to project management, system integration, security engineering, business transformation, training, and in-service support;
v. IT security approach (overview) to ensure that DND unique data would be protected;
vi. Scope of human resources that DND should consider adding to its staff for both project implementation and in-service support;
vii. Approach to migrating legacy data to the new EHRP and its long term management;
viii. Approach to simplifying information exchange with external agencies through common or open standards;
ix. Approach to innovation, with a view to maintaining capability relevance throughout the lifecycle;
x. Deployment, including phased approaches, incremental capabilities, development, testing, training and upgrades;
xi. EHRP capability that DND/CAF should implement internally as part of the overall solution; and
xii. Approach to assisting in DND's transition to the new solution considering other systems that may be integrated, and estimated time required to complete the transition.

b. Risk Assessment – Highlight significant risks that may impact the solution, cost, schedule and scope as well as mitigation strategies.

c. In Service Support – Provide technical support model and the specific types of support that would be offered to users.

6. OPTIONS EVALUATION

Provide key assumptions, limitations, concerns, risks, conclusions and recommendations that, in your opinion, DND should consider as the project evaluates the various options.

7. PRICING AND LICENSING

Propose a costing structure approach and provide high level cost estimates based on current or recent similar projects, ideally at the module level if possible, which could serve as the basis for estimating the Total Cost of Ownership over the life of the capability. Please include the following:

a. Key cost drivers and risks;
b. Acquisition costs by EHRP module (if possible);
c. Overhead costs such as project management, system integration, business analysis, and training;
d. Cost for cloud access and downloads, available storage versus long term storage;
e. In-service support costs including licence fees;
f. Currency exchange considerations;

g. Costs should reflect Nominal Dollars and currency ($Current Year), which is defined as the dollar value of a product at the time it was produced; and
h. Estimated life span of the solution.

8. INDUSTRIAL AND TECHNOLOGICAL BENEFITS/VALUE PROPOSITION

DND is seeking the following information on economic leveraging opportunities related to EHRP. Respondents should be aware that any contracts entered into as a result of any subsequent RFP that may follow this RFI may contain socio-economic benefit requirements as defined in the Industrial and Technological Benefits (ITB) Policy. Under the ITB Policy, companies awarded defence procurement contracts are required to undertake business activities in Canada equal to the value of the contract. In addition, a core element of the ITB Policy is a rated and weighted Value Proposition.

a. Based on the high level requirements proposed by DND, describe what Direct Work activities your company would foresee undertaking in Canada for the implementation and the maintenance of the EHRP.
    i. What percentage of the Direct Work could be completed in Canada?; and
    ii. What percentage of the Direct Work could be completed by under-represented groups in Canada?

b. As a result of the EHRP project, please indicate what new supply chain opportunities could be made available to Canadian Suppliers and what opportunities you foresee that could be specifically targeted at Canadian small and medium-sized businesses (SMBs). Please include the following information in your response:
    i. Which activities should be perceived as providing the highest value to Canada and why; and
    ii. Supplier development opportunities that could be performed in the area of EHRP. For the EHR Supplier development opportunities identified, please specify the Direct and Indirect activities that could be performed with SMBs.

c. The ITB Policy requires at least 15 percent of the value of the contract to be work with Canadian SMBs. Please describe the challenges and opportunities that you foresee if Canada motivates higher levels of SMB participation through a rated requirement.

d. Please detail the potential export opportunities your company foresees undertaking from Canada as a result of the EHRP project.
    i. Please identify to what extent export opportunities could be performed.

e. Please provide your views on the feasibility of providing an exclusive global product mandate to your Canadian partners or Canadian-based operations, including subsidiaries, and supply chain partners for direct work, global value chain (exports on the system) and indirect opportunities.

f. To what extent are you able to support the licencing or transfer of Intellectual Property (IP) related to your solution to your Canadian partners or Canadian-based operations, including subsidiaries, and supply chain partners so that these organizations have access to the necessary IP to undertake work, including in-service support, in Canada?

g. Please detail the potential opportunities related to skills development and training that could be incentivized for investment through the Value Proposition.
   i. Include in your response which activities should be perceived as providing the highest value to Canada and why; and
   ii. Identify to what extent skills development and training investments could be performed in EHR Systems.

h. Through the Value Proposition, in what high-value research and development (R&D) areas should Canada motivate investment?
   i. Please identify to what extent R&D investments could be performed in EHR Systems.

i. Recognizing the role that post-secondary institutions and public research institutes play in fostering innovation in Canada, please describe what potential direct or indirect opportunities your company foresees undertaking in Canada with these organizations and what specific research areas you would pursue.

j. In your view, which KICs align with the work to be conducted for the EHRP project? Please indicate which KICs should be considered and why. As part of your response, describe how the proposed KICs would enhance the opportunities that could be leveraged through the Value Proposition for Canadian industry.

k. With consideration to technical merit and price, the Value Proposition typically has a weight of no less than 10 percent of the overall bid evaluation. Please provide your views on the weighting of the Value Proposition for the EHRP project.
   i. In your response, please include feedback on proposed weightings for each Value Proposition pillar (i.e. Defence Sector, Supplier Development, Exports, Skills Development and Training, and Research and Development).

l. Based on the high level requirements, do you foresee any challenges if the ITB Policy, including Value Proposition, is applied to this procurement?
   i. Please explain these potential challenges and propose mitigation strategies that could support development in Canada for the acquisition and maintenance of the EHRP.

ANNEX D – EHRP REQUIREMENTS

Note: Paragraphs that state "NA **–** Reference requirement deleted" identify paragraphs from the DND internal baseline HLMR document that have been cancelled or relocated. These are identified herein only to ensure that the RFI is aligned with the DND internal baseline HLMR document paragraph numbering.

High Level Requirements (HLRs)

1. **Privacy/ Security of Personal Information** –Safeguard the privacy and security of private healthcare information compliant with all relevant legislation and CAF requirements.
2. **Interactive and Flexible User Experience** - Provide an interactive and flexible user experience according to the type of user; e.g. patient, clinician, epidemiologist, public health specialist, cost & performance analyst, researcher, etc.
3. **Clinical and Population Health Decision Support** – Provide clinical decision support to healthcare providers both during individual clinical encounters and when monitoring the health of the overall patient population. Note that this aligns with the Healthcare Information and Management Systems Society (HIMSS) Analytics Adoption Model for Analytics Maturity (AMAM) Stage 5 (https://www.himssanalytics.org/amam).
4. **Information Sharing with Partners** – Share designated portions of the electronic health record in a two-way exchange between the CAF and NATO healthcare providers, and between the CAF and external Canadian healthcare providers and payment processors.
5. **Information Sharing with Patients** – Allow patients to view their electronic health record and contribute to it, schedule appointments, and support secure communications with their designated healthcare providers.
6. **Deployability and Accessibility** – Allow all users to access the EHR in a deployed environment, including ships at sea, as well as domestically in Canada.
7. **Long Term Sustainability** – Support, through tools and processes, the assessment of the performance of the healthcare system, continuous quality improvement, and the analysis of the cost of care. Note that this aligns with the Healthcare Information and Management Systems Society (HIMSS) Analytics Adoption Model for Analytics Maturity (AMAM) Stage 5.
8. **Core EHR Functionality** – Provide an electronic health record that permits the CAF to attain the Healthcare Information and Management Systems Society (HIMSS) Outpatient EMR Adoption Model (O-EMRAM) Stage 7 (https://www.himssanalytics.org/oemram).

PRELIMINARY DETAILED REQUIREMENTS

HLR 1 – Privacy/ Security of Personal Information –

1.1. The EHRP must have an audit capability that logs all transactions by users and externally-interfaced systems and permits designated users to identify any information privacy breaches, including the ability to automatically detect unusual patterns.

1.2. (1.2.1) All users must be able to securely access the EHRP, both domestically and internationally in a deployed theatre of operation, such access to be compliant with

DND and Government of Canada standards for the security, confidentiality and privacy of personal health information. (1.2.2) The EHRP must provide streamlined and rapid secure access under emergency circumstances. (Note: this latter requirement is intended to support, for example, healthcare personnel providing care in battle/high threat locations and other emergency situations).

1.3. The EHRP must provide secure Internet access from anywhere in the world for all users.
1.4. All EHRP users must be able to access the system 24 hours a day and 7 days a week.
1.5. Designated users of the EHRP must be able to control access to allow only authorized users internal and external to DND to access information within the EHRP.
1.6. Users must have the ability to securely access the EHRP from Government of Canada-issued or personal mobile devices.

HLR 2 – Interactive and Flexible User Experience –

2.1. The user interface design demonstrates adherence to current industry and Government of Canada standards or best practices for: (a) the core EHR used by clinicians and patients, and (b) the remaining elements of the EHRP interface employed by all other users.

2.2. The EHRP supports multiple types of clinicians and their workflows including (a) Primary care clinicians (physicians, nurse practitioners, other primary care nurses, physicians' assistants, and medical technicians); (b) Dental clinicians (dental generalists, dental specialists, dental hygienists, dental assistants, and nurses employed in dental clinics); (c) Internal-to-DND specialists (e.g. psychiatrists, physiatrists, orthopedic surgeons, general surgeons, general internal medicine specialists, radiologists, etc.); (d) Nurse case managers, (e) Psychologists, (f) Social workers, (g) Addictions counsellors, and (h) Preventive medicine technicians. The user interface design demonstrates adherence to current industry standards or best practices for: (a) the core EHR used by clinicians and patients, and (b) the remaining elements of the EHRP interface employed by all other users.

2.3. The EHRP supports designated non-clinicians and their workflows including (a) Healthcare clerks; (b) Epidemiologists; (c) Quality and Patient Safety officers; (d) Quality Assurance.

2.4. The EHRP supports the provision of telehealth interactions (video, telephone, email, text message) directly within the core EHR for both (a) Encounters between clinicians and patients and (b) Consults between clinicians and other clinicians (such as specialists). Such support must facilitate direct capture of key elements of the encounter or consult in an efficient manner (e.g. patient consent, and capturing text of emails and text messages, still images, video, and audio recordings) without requiring the clinician to exit the core EHR.
2.5. NA – Reference requirement deleted
2.6. NA – Reference requirement deleted
2.7. The EHRP provides dental clinicians the following dentistry-specific requirements (Note: it is understood that these requirements overlap with others articulated elsewhere in this

document but, given the relatively unique requirement for robust dental capabilities within an EHR, they are also included separately):

2.7.1. A cumulative treatment record, to include clinical notes linked to treatment codes, the current and historical treatment plans, an ability to chart dental conditions on a cumulative odontogram, which is automatically updated with provision of treatment;

2.7.2. The ability to electronically import digital documents and to digitize (scan) paper documents that were generated outside the EHRP, to link them to events (referrals, treatment, etc.), and to store them in the EHRP where they can easily be accessed;

2.7.3. The ability for the EHRP to connect to and record data from external devices, to include: X-ray sensors, intraoral scanners, cameras, removable storage media, barcode scanners, and cardiac monitors;

2.7.4. The ability to generate correspondence within the EHRP for communication to internal (CAF medical and dental providers) and external (civilian healthcare providers and dental laboratories) addressees, to include referral notes, consultation reports, and dental laboratory prescriptions, with the ability to attach various portions of the record to the correspondence, such as odontograms and dental images;

2.7.5. The ability for the EHRP to interface with external secure file sharing modules, such as the Canadian Dental Association (CDA) ""Secure Send"", and to directly communicate with the portal without having to import and export records when sharing;

2.7.6. The ability to directly capture and to import digital dental images (2D and 3D radiography in DICOM format, intraoral scans in STL and PLY formats, photographs in JPG format) into the EHRP; radiographic capabilities must be hardwired X-ray sensors (not PSP plate) and include intraoral, extra oral 2D (panoramic and cephalometric), and extra oral 3D (cone-beam computed tomography);

2.7.7. The ability to order, view, manipulate, and enhance digital dental images within the EHRP on any workstation, with the ability to view images in various configurations, including the most recent panoramic and bitewing radiographs together, and to view selected radiographs on the same screen as the clinical notes and odontogram;

2.7.8. The ability to export dental records (to include any clinical note, treatment plan, etc. as well as any digital dental image) electronically so that they may be shared with external dental clinics and laboratories, and external devices, such as in-house milling units and 3D printers;

2.7.9. The ability to digitally plan within the EHRP the surgical and restorative phases of dental implant treatment, to include importing, merging, and manipulating CBCT and IOS data to plan in three dimensions for the safe surgical placement of implant fixtures around vital anatomical structures, and to directly communicate with external laboratories for the fabrication of surgical guides; and

2.7.10. The ability for dental clinicians to interface with other elements of the patient's EHR, including the medical history, laboratory and pathology reports, medical consultation requests and reports, and prescription ordering at the point of examination and treatment."

2.8. (2.8.1) The EHRP incorporates all elements of a Canadian provincial cancer screening program such as Ontario's for cervical, breast, and colon cancer; including patient enrolment, screening test scheduling, results tracking, and electronic communication between clinicians and patients. (2.8.2) The EHRP incorporates all elements of an immunization program for both routine and deployment/travel-specific immunizations; including immunization ordering and tracking.

2.9. Diagnostic services ordered by internal-to-DND healthcare providers. Both local and external-to-DND diagnostic services in-Canada and deployed (such as blood work, X-ray, CT, EEG, ECG, audiograms) will be (a) Ordered from within the EHR, and (b) Results received electronically into the EHRP in a form usable for data analysis and clinical decision support.

2.10.(2.10.1) Patients can request prescription renewals or changes through the EHRP, (2.10.2) Clinicians have an electronic (paperless, non-"wet ink" signature) prescribing ability conforming to provincial/territorial standards, including prescribing controlled substances; and (2.10.3) The EHRP will automatically and electronically receive dispensed information from internal and external pharmacies.

2.11.The EHRP must provide the ability to easily access "how to" tutorials to educate users on how to use all elements of the EHRP, including an overview of each of the clinician and non-clinician workflows.

2.12.The EHRP will be able to, without exiting the core EHR, view patient records which have been imported from the legacy EHR, i.e. CFHIS (Purkinje Dossier), and from ADSTRA dental software. If Purkinje Dossier forms part of the new EHRP, then the EHRP will permit seamless importation of data from DND's previous versions of Purkinje Dossier.

2.13.Diagnostic services ordered by external-to-DND healthcare providers. The EHR incorporates modern healthcare standards signaling interfaces that allow the EHR to import diagnostic services results (such as lab work, diagnostic imaging) and hospital discharge summaries for CAF members who receive care in healthcare facilities external-to-DND. (Note: this requirement is only to have these interfaces in place, not to actually integrate with every external-to-DND healthcare providers' facilities at the municipal and provincial/territorial levels.)

HLR 3 – Clinical and Population Health Decision Support –

3.1 The EHRP provides tools that permit the organization to reach the Healthcare Information and Management Systems Society (HIMSS) Adoption Model for Analytics Maturity (AMAM) Stage 5 (https://www.himssanalytics.org/amam) with expanded point of care oriented analytics tools. Specifically, (3.1.1) Evidence-based medicine (EBM) clinical decision support (CDS) tools are available within the core EHR at the point of care that permit the clinician to manage the following chronic medical conditions in a clinical pathway within their usual workflow: (a) Impaired Glucose Tolerance and Diabetes, (b) Hypertension, (c) Dyslipidemia, (d) Mechanical Low Back Pain, and (e) Obesity. (3.1.2) The EBM CDS tools follow a modular approach that permits authorized users to modify, add, or delete clinical pathways. (3.1.3) Evidence-based dentistry (EBD) clinical decision support CDS tools are available at the point of care to serve as guides for various clinical pathways that may be influenced by CAF policies (e.g., dental sleep medicine, management of patients with periodontitis, smoking cessation tools, orthodontic referral, etc.).

3.2 The EHRP provides tools that permit the organization to reach the Healthcare Information and Management Systems Society (HIMSS) Adoption Model for Analytics Maturity (AMAM) Stage 5 with expanded tools that support population health analytics. Specifically, (3.2.1) Dependent on 3.1, the EHRP provides descriptive analytics tools for authorized users that monitor the clinical outcomes of the chronic health conditions being tracked, not at the individual patient level, but at the clinic, regional, and overall CAF population levels. Such tools will allow analysis of clinical performance at each level (clinic, region, overall). (3.2.2) Dependent on 3.1, and specific to dentistry, dental analytics requirements include patient status (dental fitness classification, PSR score, recall interval), prevalence of conditions (caries, periodontal disease, TMD, service-related injuries, tobacco use, oral hygiene habits, etc.), and treatment codes (care metrics by discipline, costing, referrals, lab prescriptions, etc.); and (3.2.3) Descriptive analytics tools will also permit ad hoc queries to be made by authorized users (such as population health specialists, epidemiologists, and researchers) that use the entire clinical data set from the EHRP.

3.3 (3.3.1) The EHRP provides descriptive analytics tools to authorized users that provide real-time surveillance of communicable diseases (such as COVID-19, influenza like illnesses, sexually-transmitted infections) in the patient population at the clinic, region, and overall CAF population levels. EHRP analytics tools will provide the ability to provide trend data (incidence and prevalence) as well as alerts when communicable disease incidence and prevalence patterns meet user-specified thresholds for possible disease outbreaks. (3.3.2) Using data from 3.3.1, the EHRP will incorporate a mechanism for communicable disease contact tracing by authorized users at the individual patient level. (3.3.3) In a deployed environment, the EHRP will complement non-EHRP tools used by DND for detecting, tracking and controlling chemical, bacterial, radiological and nuclear (CBRN) exposures, by providing real-time analytics of EHR data to help identify these exposures in the patient population at the deployed unit level.

3.4 NA-Reference requirement deleted.

3.5 Clinicians will have access to drug interaction information and medication decision support tools at the point of care, fully integrated into the EHRP and their individual clinical workflow.

3.6 Pharmacists will have medication decision support tools at the point of dispensing, fully integrated into the EHRP and their workflow. These medication decision support tools will integrate with the clinical decision support tools provided in requirement 3.1 to enable pharmacists to acknowledge or adapt medication therapy supporting the chronic medical conditions managed in each clinical pathway.

3.7 (3.7) Psychiatrists, Clinical Psychologists, Social Workers, and Addictions Counsellors will have tools provided within the EHRP that provide clinical decision support (CDS) specific to each of their disciplines. (3.7.1) The EHRP will provide the ability for patients to directly enter clinical questionnaire data into the EHR (such as for depression, anxiety, PTSD, and addictions) as directed by their clinician, and (3.7.2) Provide the clinician with CDS tools that allow them to monitor their patient's treatment progress by providing trend information based on these questionnaires and identifying recommended treatment changes.

3.8 (3.8.1) The EHRP will provide the ability for CAF personnel to directly enter data into a "Declaration of Injury or Illness" questionnaire in the EHR on returning from deployment, and track clinician follow-up for any positive declarations. (3.8.2) The EHRP will track CAF personnel returning from deployment and ensure that an "Enhanced Post Deployment Screen" (EPDS) questionnaire is completed within the CAF-mandated timeframe. (3.8.3) The EHRP will provide clinical decision support to analyze all completed EPDS questionnaires and recommend as well as track all clinical interventions required.

HLR 4 – Information Sharing with Partners –

4.1 The EHRP provides the ability to enter patient registration data (e.g. demographic information such as name, sex, gender, date of birth) directly in the health record by authorized users or to be digitally imported from the DND's Human Resource Management System (HRMS) such as Guardian. Additional information from HRMS may be imported and displayed read-only in the EHRP such as deployment history and training history, as well as the contract status for those CAF reserve force members under contract.

4.2 NA – Reference requirement deleted.

4.3 (4.3.1) The EHRP has the ability to manage a CAF member's dental fitness classification and medical category data (vision, hearing, etc.) from recruitment through to release, incorporating a workflow to track all associated health records. (4.3.2) EHRP provides the ability to electronically communicate the current status of a member's dental status, medical category and Medical Employment Limitations (MEL) to both the member and their chain of command.

4.4 The EHRP supports the management of casualties in a deployed environment and will interoperate with NATO health records systems as required to: (a) Manage the identification of injured CAF members or those NATO members under CAF healthcare

professionals' care; (b) Assess casualty acuity; and (c) Track the casualty during evacuation from the deployed location.

4.5 The EHRP supports the exchange of information with EHRs used by our NATO partners.

4.6 The EHRP provides an electronic referral/consultation management ability. This includes: (4.6.1) The ability for clinicians to electronically make referrals to other healthcare providers (consultants) internal and external to DND, (4.6.2) The ability for the referring clinician and other authorized users to track the referral and the consultant report tied to the referral, (4.6.3) The ability to securely exchange clinical data between the referring clinician and the consultant (e.g. test/procedure results, medication lists, etc.) as part of the referral process, (4.6.4) The ability to coordinate appointments and follow-up procedures with the consultants. (4.6.5) Deleted. (4.6.6) The ability to easily setup and interface with various e-Consult/e-Referral facilities that may exist in the various provinces and territories.

HLR 5 – Information Sharing with Patients –

5.1 The EHRP allows patients or designated healthcare team members to (a) Schedule appointments, (b) Initiate appointment reminders; and (c) Provide online appointment pre-visit check-in procedures, which will include the completion of pre-visit questionnaires based on the appointment type (e.g. periodic health assessments, women's health questionnaires, physiotherapy questionnaires, consent forms, and dental screening and dental pre-consultation questionnaires).

5.2 The EHRP provides the ability for the patient to view, download and export their data.

5.3 The EHRP will provide the ability to import patient-curated data into the electronic health record and flag it to the attention of the appropriate healthcare provider through an open standards-based interface such as HL7 or FHIR. Note: Given the fluidity of this technology, the specific data to be imported is currently unspecified, but could include blood glucose monitoring data and blood pressure results from medical-grade devices, and heart rate and other exercise data from personal, non-medical grade, wearable devices such as Fitbits®, and Apple® watches.

5.4 The EHRP provides the ability for physiotherapists to track assessments, rehabilitation plans and outcome measurements; augmented with patient-provided data. Patients will have applications that they will use to assist them in achieving their rehabilitation goals. Data from these applications will be loaded into their electronic health record and sent to the attention of their designated physiotherapist.

HLR 6 – Deployability and Accessibility –

6.1 The EHRP maintains the integrity of the member's health record in a variety of in-Canada and deployed environments, including ships at sea, i.e. (a) Document health care while in connected, low-connectivity, and no-connectivity environments; and (b) Ensure that all healthcare recorded while in low-connectivity and no-connectivity environments is synchronized with the EHRP when sufficient connectivity resumes.

HLR 7 – Long Term Sustainability –

7.1 The EHRP provides tools that permit the organization to reach the Healthcare Information and Management Systems Society (HIMSS) Adoption Model for Analytics Maturity (AMAM) Stage 5 with expanded tools that support quality based performance reporting and bring further understanding around the economics of care. Specifically, the EHRP will provide descriptive analytics tools that draw in the population health data available through requirement 3.2 and combines it with data from the Federal Health Claim Processing System (FHCPS, currently operated by Medavie Blue Cross) and other available ad hoc cost data (e.g. cost of various lab tests and other investigations in DND facilities as opposed to external-to-DND facilities) to support quality improvement programs; balancing clinical quality of care, risk, and cost of care.

7.2 Building on the outputs demonstrated in SOR 3.1 and 3.2, the EHRP provides the ability for CAF senior medical and dental authorities to perform quality assurance (QA) audits to monitor clinician performance against guidelines for the 5 specified chronic medical conditions and dental clinical pathways. (7.2.2) Specific to dentistry, the EHRP provides the ability to perform within the EHRP various quality assurance (QA) and quality improvement (QI) tasks that are imperative for patient safety, to include tracking instrument sterilization, donated tissues, and implanted devices with barcode systems, and performing quality control tasks on components of the dental radiographic system.

HLR 8 – Core EHRP Functionality –

8.1 The EHRP has the ability to manage the information life-cycle, including creating, storing, retrieving, organizing, transferring and disposing of patients' records according to government policies.

8.2 The EHRP has the ability for multiple users to review patient records concurrently from different locations.

8.3 The EHRP provides the ability for clinicians to easily record and retrieve health information in the EHRP such as results, images, scanned documents, clinical notes, orders, and referrals.

8.4 The EHRP supports the ability to maintain currency with the most recent Canadian health standard code structures by permitting authorized users to program coding structures such as ICD-10-CA, Drug Product DINs, the Canadian Dental Association's Uniform System of Coding and List of Services (adapted with the fee guides of various provincial dental associations, for general dentistry and all applicable specialties), Canadian Classification of Health Interventions codes, etc.

8.5 NA – Reference requirement deleted.

8.6 PACS. The EHRP has a picture archiving and communication system (PACS) that manages and stores images from various imaging devices (e.g. Photos, X-ray, CT, dental 3D images) in a vendor-neutral archive compatible with image standards external-to-DND (which will permit importing or exporting images accordingly).

8.7 The EHRP provides the ability for authorized users to modify and configure various elements of the EHRP that commonly require frequent maintenance, without requiring assistance from the software vendor(s). Examples of such elements are: health standard coding structures, new and ad hoc descriptive analytics reports and queries, clinical templates, diagnoses and treatment menus, clinical decision support (CDS)

tools, etc. The EHRP manages the information life cycle, including creating, storing, retrieving, organizing, transferring and disposing of patients' records according to government policies.

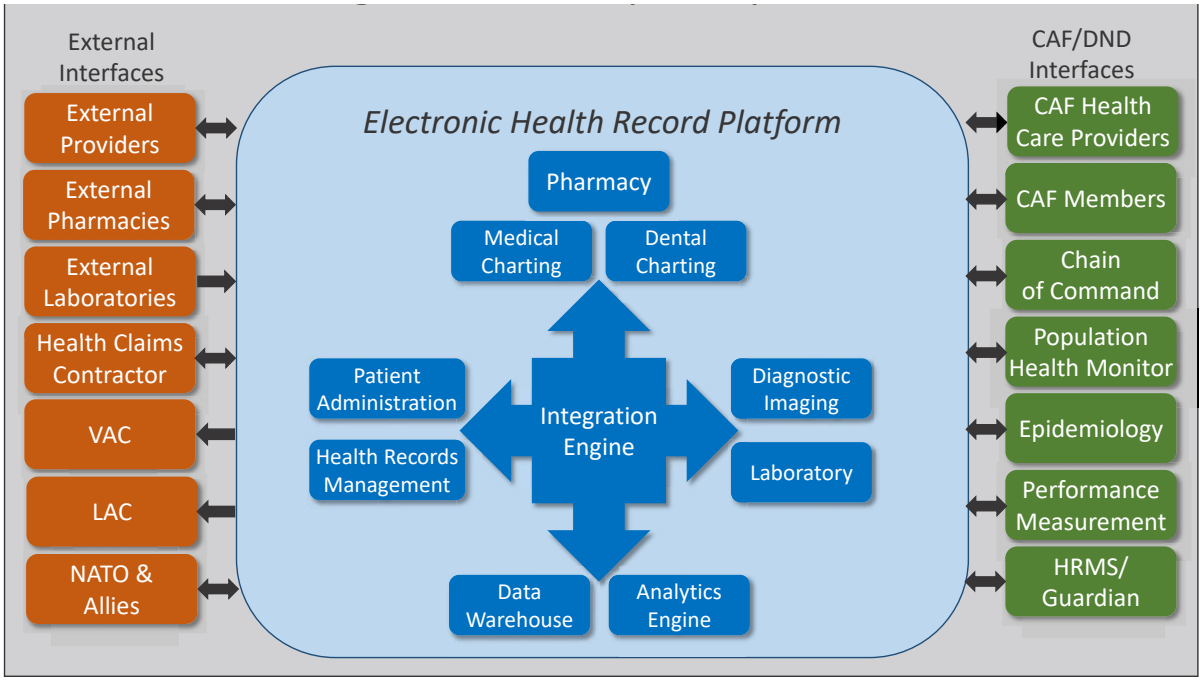
CONSTRAINTS AND STANDARDS

1. **Information Security and Privacy**
    a. Access to EHRP information must be protected to comply with the Government of Canada Privacy Act, General Data Protection Regulation of the U.K., and the Health Insurance Portability and Accountability Act of the U.S.;
    b. The EHRP must be able to handle information at a Government of Canada level of confidentiality of Protected B or higher and will be evaluated using security controls found in Communications Security Establishment, Information Technology Security Guideline ITSG-33;
    c. The EHRP solution Information security framework must comply with Canadian ITSG-33, International Standards Organization (ISO) 27000 series related to Cloud, Federal Risk and Authorization Management Program (FedRAMP) Moderate Impact, National Institute of Standards and Technology (NIST) Special Publication (SP) 800-53, Criminal Justice Information Services (CJIS), System and Organization Controls (SOC) 2;
    d. The data must be tagged with the appropriate metadata that will enable proper information management, security and governance;
    e. All EHRP data must be encrypted in transit and at rest; and
    f. As user identity is a key factor in GOC Cloud perimeter security, a single continuous digital identity per individual for the entire EHRP system (UNIQUE ID) is required.
2. **Bilingualism -** The *Official Languages Act* mandates that the Government of Canada conduct its business in both official languages and provide government tools and services in both languages. The EHRP must hence be easy to operate in both of Canada's official languages.
3. **Accessibility –** The EHRP Web interface must enable users with disabilities to access EHR information. The Government of Canada mandates the use of Web Content Accessibility Guideline (WCAG) 2.0 to make content accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity and combinations of these.
4. **Data Sovereignty -** The required services and/or infrastructure are anticipated to be established within the political and geographic boundaries of Canada. Stringent contractual and technical measures must be put in place to ensure that government information is secured at all times, at rest and in motion, through encryption protection and is only accessed by those authorized to access the infrastructure for those purposes approved by Canada.

5. **COTS –** The EHRP must be a mature Commercial off the Shelf (COTS) solution that has been successfully implemented in other health care organizations, requires minimal configuration and can leverage desktop as well as other software products licensed by the Government of Canada, where practical.
6. **Architecture**
    a. The EHRP must be able to function within a Government of Canada cloud information technology architecture; and
    b. Application Programming Interfaces (APIs) must comply with Government of Canada's Digital Standards and must be exposed using industry accepted open standards, while vendor proprietary protocols and data schemas must be avoided.

FUNCTIONAL AND INTEROPERABILITY SCOPE OF EHRP

The diagram below depicts the functions to be included in the EHRP and the external interactions with the overall digital health capability, including, amongst others, VAC, NATO, and Library and Archives Canada (LAC).



ANNEX E – OVERVIEW OF EXISTING CFHIS

1. CANADIAN FORCES HEALTH INFORMATION SYSTEM (CFHIS) OVERVIEW

The EHR currently used within CFHIS was developed by *Purkinje*, a Canadian company with its head office in Montreal. DND employs three separate but interrelated products from *Purkinje*:

a. Dossier – This is what most people think of as "CFHIS" and is the "face" of the product used by clinicians, allowing direct electronic note entry by the clinicians and allowing them to review investigations such as blood work, x-ray reports, etc. As opposed to most other *Purkinje* customers' deployments of *Dossier*, CFHIS also permits direct electronic charting by other healthcare professionals in the CAF/DND such as dentists, physiotherapists, psychiatrists, psychologists, social workers, nurse case managers and, recently added, occupational therapists.
Dossier also stores and organizes specialist consults such as orthopedic surgeon reports, ophthalmology exams, etc. Most of these consults (almost 100%), however, are available only as scanned images. Similarly, except for those Canadian Forces Health System (CFHS) clinics who have integrated lab facilities for common blood work, almost all lab results also consist of scanned images;

b. Registration – This is the *Purkinje* module used to create new patient records and modify various demographic information such as address and phone numbers, as well as designate to which clinic and care delivery unit (CDU) the patient is rostered; and

c. Scheduler – The final commonly-used Purkinje module, *Scheduler* is used, as its name implies, to create, modify, and cancel appointments. It also has a few powerful features such as the ability to create Recall Lists to ensure, for example, that a patient whose appointment was cancelled, is not lost to follow-up and will be scheduled with a healthcare provider in the future according to the degree of urgency.

But CFHIS is much more than the *Purkinje* products: *Dossier*, *Registration* and *Scheduler*. The best way to conceptualize CFHIS is as a backbone integration engine using *InterSystems* (headquartered in the United States) software, with the *Purkinje* products bolted on and sharing the same patient database (See Figure 1). Also bolted on to CFHIS and *InterSystems* are products that interconnect labs (*SoftLab*), digital imaging such as X-rays (*SoftRad*), dental charting and imaging (*ADSTRA*) and, to a very limited degree at the moment, analytics. *SoftLab* and *SoftRad* are both products of SCC Soft Computer, also headquartered in the United States. *ADSTRA* is a Canadian company headquartered in Toronto.

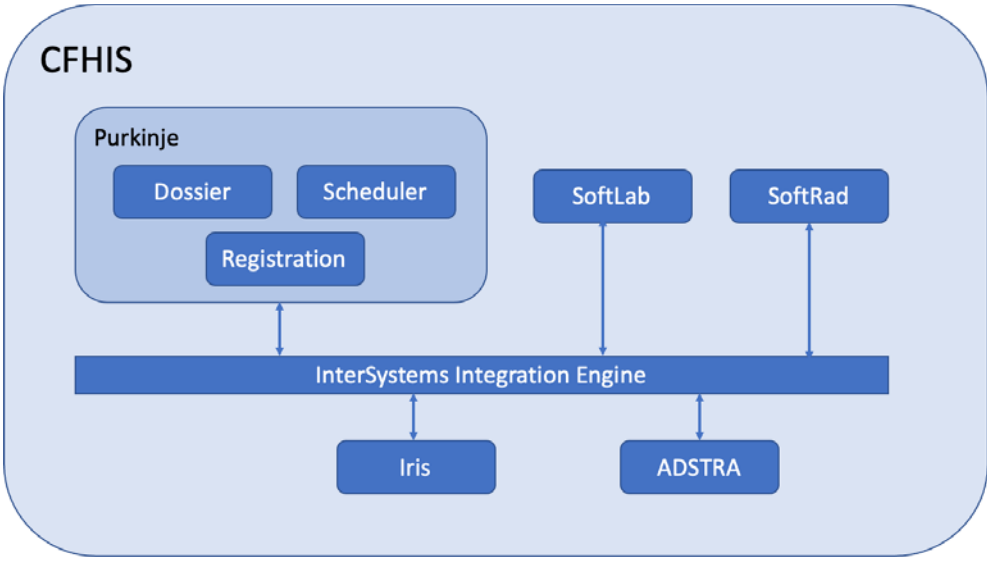
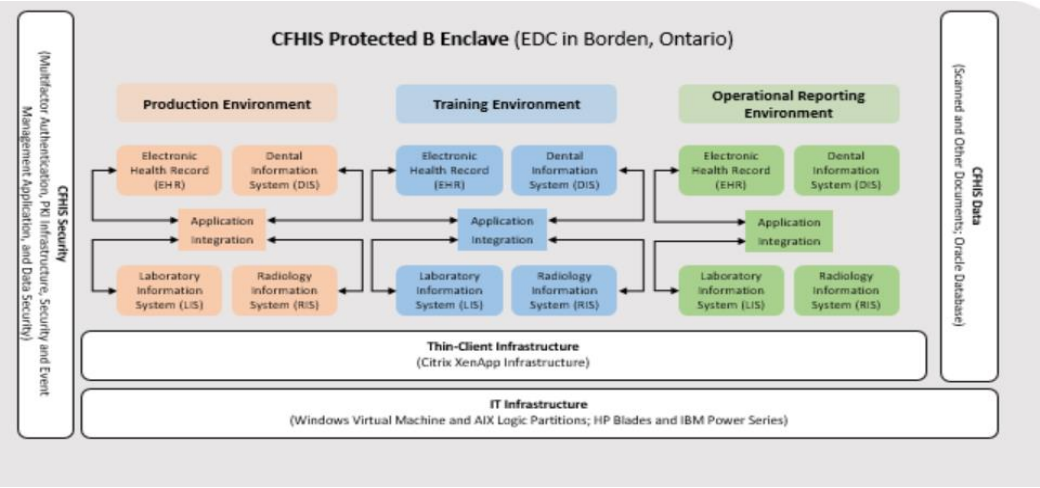


Figure 1 - CFHIS Overall Concept

CAF/DND also licenses *InterSystems* analytics tools such as *Iris*, which helps create low-level descriptive healthcare analytics (entry-level analytics for all intents and purposes) as part of its contract with *InterSystems*.

2. CFHIS IT INFRASTRUCTURE

The underlying information technology (IT) infrastructure for CFHIS, as depicted at figure 2 in the following page, centred in the CFB Borden data centre, provides always-on, secure, privacy-act-compliant service to more than 31 CFHS clinics and dental detachments across Canada, to deployed operations, and to ships at sea.



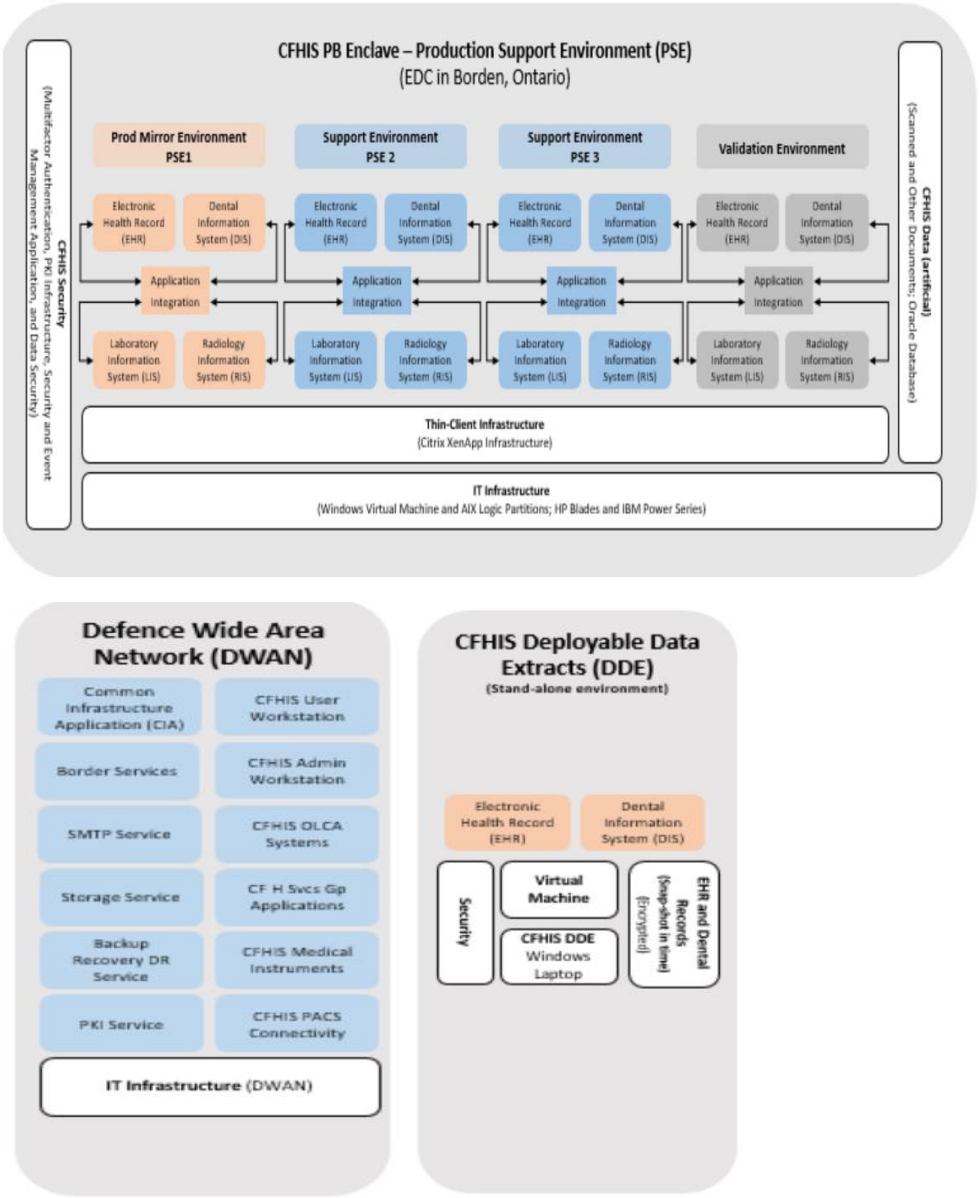


Figure 2 - CFHIS IT Infrastructure Overview

3. CFHIS IN SERVICE SUPPORT

In-Service Support (ISS) for the CFHIS is the responsibility of DND Information Management Group (IM Gp) with Operational Authority residing with CF H Svcs Gp. IM Gp employs six IT specialists and a systems manager to manage the in service support and contracted services.

The core ISS work is contracted with IBM and the associated software vendors aforementioned. IBM maintains the overall system in collaboration with the software vendors, provides help desk support and is responsible for Tier 3 services which include System troubleshooting. The software vendors provide the required software licences to DND and also provide Tier 4 support which includes system troubleshooting at the design level.

The underlying network infrastructure, including storage, non-application software such as CITRIX, OS and Oracle, is operated and maintained by Shared Services Canada.