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**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du
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Title - Sujet DIGITAL HEALTH TECH PLATFORM DIGITAL HEALTH TECH PLATFORM	
Solicitation No. - N° de l'invitation HT218-224061/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client HT218-224061	Date 2022-12-05
GETS Reference No. - N° de référence de SEAG PW-\$\$ZM-379-41243	
File No. - N° de dossier 379zm.HT218-224061	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Eastern Standard Time EST on - le 2022-12-19 Heure Normale de 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: Debidin, Vidia	Buyer Id - Id de l'acheteur 379zm
Telephone No. - N° de téléphone (613) 314-6732 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
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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

THE FINAL DATE TO SUBMIT QUESTIONS IS 09 DECEMBER 2022.

ANY QUESTIONS RECEIVED AFTER THIS DATE MAY NOT BE ANSWERED.

The purpose of this amendment is to:

1. Modify Annex A – Statement of Work;
2. Modify Attachment 4.1 – Mandatory Technical Criteria;
3. Modify Attachment 4.2 – Point-Rated technical Criteria and,
4. Respond to questions received from industry.

The following shall form part of the Request For Proposal:

1. At Annex A – Statement of Work

Delete in it's entirely.

Insert Annex A – Statement of Work, Revision 01.

2. At Attachment 4.1 – Mandatory Technical Criteria

Delete in it's entirely.

Insert Attachment 4.1 – Mandatory Technical Criteria, Revision 01.

3. At Attachment 4.2 – Point-Rated Technical Criteria

Delete in it's entirely.

Insert Attachment 4.2 – Point-Rated Technical Criteria, Revision 01.

Questions Received as of 5 December 2022 for Solicitation No HT218-224061/A

Q1. Reference: Annex A - Statement of Work, Section 3.2.1- Advisory Services for standards and solutions for Canadian health credentials

Q1a. Can Health Canada please provide additional context as to the nature of the Advisory Services requested, including whether or not they wish to acquire research from the market.

A1a. Canada does not require vendors to acquire any research material from the market. Canada requires that the vendor resources have enough knowledge, expertise and experience to provide advice on standards and solutions on Canadian Digital Health Credentials.

Q1b. How this will be billed?

A1b. Advisory services will be billed on a per diem rate basis as per section 7.10 of part 7 of the solicitation.

Q2. Reference: Annex A - Statement of Work, Section 3.2.4 states “The Contractor will be available for support between 9:00 AM and 5:00 PM ET, Monday to Friday, excluding statutory holidays.” The requirement continues on to provide service levels for incident resolution. This service alludes to an 'on call' model.

Q2a. Can Health Canada please provide additional detail/clarity on what is required for on-call support?

A2a. Canada requires vendor resources to provide resolution to incidents as per the priority table found at section 3.2.4 IT Operations Support for standards and solutions for Canadian health credentials for specific pan-Canadian initiatives. The incidents will be provided via emails to the vendor resources who then needs to provide support, investigations, troubleshooting and changes to address and resolve the incidents.

Incident management and support would be part of the required tasks as per section 4.1.1 B of the Statement of work, A1 Application/Software Architect, A6 Programmer/Software developer (mobile), A14 Programmers and Web Developers. This does not constitute an on-call service and would be detailed in a Task-authorization.

Q2b. Can Health Canada please provide more clarity on how a TA for this would be structured, including how the Basis of Payment would function?

A2b. Once a contract is awarded, a TA that detailed the specific tasks for the required Resources Categories would be filled out, as per 7.2 Task Authorization of Part 7. The Basis of Payment would be as outlined in section 7.10 Payment of Part 7.

Q3. Reference: Annex A - Statement of Work, Section 5.1 - Contractor Obligations states, “The Contractor must use its own equipment and software for the performance of this Statement of Work. If the contractor requires access to HC’s infrastructure and Network, HC will provide labeled equipment to the contractor...”. Can Health Canada provide further detail about the nature of this requirement—are bidders expected to have their own development environment(s) to execute on tasks? To what degree will Health Canada’s infrastructure and network not be used for this requirement?

A3. The Bidders must have their own development environment to execute on tasks. However, prior to the deployment of the platform, the artifacts and the environments will need to be migrated from the contractor infrastructure to the Health Canada infrastructure and network by the contractor.

Q4. Reference: Attachment 4.1 - Mandatory Technical Criteria Requirement MTC-2

Can Health Canada please remove the requirement to provide “...proof of billable hours charged to the project”?

A4. Canada will not be removing this requirement at this time.

Q5. Reference: Attachment 4.2 - Point Rated Technical Criteria Requirement R1

Can Health Canada please clarify what is meant by 'all entities' to achieve 10 points?

A5. Please see revised Attachment 4.2 as part of Solicitation Amendment 001.

Q6. Reference: Attachment 4.1 - Mandatory Technical Criteria Requirement MTC-1

Will Canada amend this requirement to expand the definition of bidder to include parent, subsidiaries or other affiliates of the Bidder, or its subcontractors?

A6. Please see revised Attachment 4.1 as part of Solicitation Amendment 001.

Q7. Would Canada grant a three-week extension to January 9?

A7. Canada will not be extending the Solicitation period at this time.

Q8. Reference Table 1: Can Canada please clarify and limit the ask to one resume per type of resource?

A8. Please see revised Attachment 4.1 as part of Solicitation Amendment 001.

All other terms and conditions of the RFP remain unchanged.

Notes:

- See the attached, Annex A – Statement of Work, Revision 01.
- See the attached, Attachment 4.1 – Mandatory Technical Criteria, Revision 01.
- See the attached, Attachment 4.2 – Point-Rated Technical Criteria, Revision 01.
- Revisions are displayed in **green** font.

ANNEX A
STATEMENT OF WORK
Revision 01

Title

Developing and implementing new or enhancing current standards and solutions for Canadian health credentials.

2. Background

On March 11, 2020, the World Health Organization (WHO) declared the newly discovered coronavirus (COVID-19) as a global pandemic. With COVID-19, rapidly spreading and creating serious health threats across the globe, citizens, businesses, and governments have been significantly disrupted creating an unprecedented economic, social and health impact. In response to the COVID-19 outbreak, there has been a global effort to advance vaccines and therapeutics and develop public health digital solutions. Canada's ability to defeat COVID-19 depends greatly on assembling immunization data to guide key decision making throughout the pandemic.

The Government of Canada has taken unprecedented actions in an effort to slow the spread of this virus. It has implemented significant international travel restrictions, reduced in-person interactions with government personnel, recalled citizens and staff from abroad and implemented strict guidelines for physical distancing and remote working. In partnership with other levels of government, the Health Portfolio (Health Canada and the Public Health Agency of Canada) provides an array of services to monitor the evolution of this new virus and makes recommendations to prevent and limit its spread and associated impacts.

The Health Portfolio plays several important operational, coordination and leadership roles in responding to the COVID-19 outbreak. These include, among others, regulatory approval of vaccines and therapeutics for COVID-19, disease surveillance, the development of pandemic scenarios to inform policy and programmatic decisions, support for the development of guidance documents and clinical guidelines, managing Canada's pandemic vaccine contracts, and ensuring appropriate rapid research and response capacity. In January 2021, Public Service and Procurement Canada awarded a contract (6D036-204003/A) for the development of the National Vaccine Management Information Platform (NVMIP) in support of the COVID-19 emergency. The Canadian COVID-19 PVC is a solution delivered as part of the NVMIP in FY 21-22.

The NVMIP is an IT system called VaccineConnect that manages nationwide vaccination administration programs, which includes the COVID-19 vaccine rollout. The system can connect federal, provincial and territorial digital networks to ensure public health can meet future challenges. It provides information and support to provinces and territories for planning, management and reporting. The system also provides analytics to enhance population health management. This function will help public health decision makers in Canada plan for future epidemics and pandemics early on.

3. SCOPE**3.1. Introduction**

The Digital Transformation Branch (DTB) within Health Canada (HC) will provide thought leadership in standards and solutions for Canadian health credentials for specific pan-Canadian initiatives (e.g., Proof of vaccination credentials (PVC), exemption credentials, test credentials, recovery credentials, conversion from one standard to another, support solutions to address immunization international interoperability, enhance connections to internal Health Canada

systems, etc.) and leverage modern approaches to support and continuously improve the internal health portfolio of the Government of Canada. HC is looking to enable and support verifiable standards and solutions for Canadian health credentials among the federal government, provinces and territories for domestic use cases and international travel. The contractor's role will be to:

- i. Provide expertise and resources to design, develop and maintain new releases of the Canadian Proof of Vaccine Credential (PVC) and related technologies
- ii. Provide expertise and advice related to the design, implementation and use of health credential technologies, services and solutions, leveraging best practices and existing models.

A digital health credential is an electronic document that details a medical qualification, competence, health status, record or authority issued to an individual by a third party with a relevant or *de facto* authority or assumed competence to do so. The credentials could include a verifiable digital identity of the issuer and the holder of the credential.

3.2. Objectives of the Requirement

The successful bidder will utilize their subject matter expertise, to evolve the current PVC solution through a service of task-based assignments for project management, development (including defects and bug fixes), integration services, ongoing maintenance and operations services, reviewing and advising on risks, mitigation strategies and security requirements. They will also work with stakeholders to ensure the success of the solution.

The successful bidder may potentially be called on to support solutions and standards for other specific pan-Canadian projects (e.g., Proof of vaccination credentials (PVC), exemption credentials, test credentials, recovery credentials, conversion from one standard to another, support solutions to address immunization international interoperability, enhance connections to internal Health Canada systems, etc.)

The successful bidder will be responsible for the transition of all these functions to HC so it may be maintained in-house. This includes subsequent source code, documentation and licences required to operate designed solutions.

The objective of this contract is to provide support, on an as-and-when required basis, for the ongoing, development, maintenance and enhancement of standards and solutions for Canadian health credentials for specific pan-Canadian initiatives:

- a. Enhancements to issuer-in-a-box to enable federal, provincial and territorial issuers in issuing, enhancing and maintaining verifiable digital health credentials (e.g. the PVC) to citizens from their respective health portals
- b. Enhancements to PVC end to end architecture and standards for PVC issuance
- c. Development and implementation of common technologies, framework and Canadian standards (e.g. SMART Health card, HL7, FHIR, DIVOC, ICAO, EU DCC etc.) to facilitate the Canadian health journey leveraging Digital Identity, new health standards and solutions, health Artificial intelligence, cloud and big data structure /architectures etc.
- d. Business case development to assist with federal-provincial-territorial (F/P/T) stakeholder engagement and recommendations to assist decision making on new capabilities related to solutions and standards for digital health credentials
- e. Development of requirements and end-to-end architecture for pathfinder standards and solutions for Canadian health credentials (e.g., Proof of vaccination credentials (PVC), exemption credentials, test credentials, recovery credentials, conversion from one standard to another, support solutions to address immunization international interoperability, enhance connections to internal Health Canada systems, etc.)

- f. Project management support to assist tracking and reporting of various activities
- g. Development and maintenance of standards and solutions for Canadian health credentials by leveraging new and existing technologies, such as mobile application technologies
- h. Ability to leverage cryptography and Blockchain technology to support standards and solutions for Canadian health credentials

3.2.1 Advisory Services for standards and solutions for Canadian health credentials

- a. Technical advisory support for the delivery of pan-Canadian PVC, standards and solutions for Canadian health credentials (e.g., Proof of vaccination credentials (PVC), exemption credentials, test credentials, recovery credentials, conversion from one standard to another, support solutions to address immunization international interoperability, enhance connections to internal Health Canada systems, etc.) leveraging HL7/FHIR, citizen centric architecture and associated enhancements
- b. Perform analysis on health standards and solutions emerging in the industry and international space to drive recommendations on Canadian health credentials and solutions
- c. **Research support capabilities**, including business cases for new or existing capabilities such as exemptions, revocations, test credentials, recovery credentials, wallets, visitor pass, verifiers, solutions to support international interoperability, solutions to enhance connections to health systems etc.
- d. Perform readiness assessment of federal, provinces, territories, industry to adopt and deliver pathfinder standards and solutions for Canadian health credentials.
- e. Advisory support related to federal-provincial-territorial engagement; facilitate discussions to identify common standards and solutions for Canadian health credentials, as well as associated enhancements.
- f. Support international engagement for technical onboarding of standards and solutions for Canadian health credentials , providing technical advice to support interoperability between provinces and territories and with other countries or jurisdictions
- g. Support domestic, inbound and outbound travel use cases
- h. Develop business case document listing PVC and other digital standards and solutions for Canadian health credentials goals and objectives, scenarios, ecosystem stakeholders and their value proposition as part of enhancement and support to the solutions
- i. Revise business case as required based on discussions through federal-provincial-territorial and policy engagement.
- j. Ensure integration across other digital and non digital solutions deployed within Canada
- k. Support policy engagement in communicating and presenting enhancement to the PVC and/or other standards and solutions for Canadian health credentials
- l. Recommend and support governance structure for engagement of federal-provincial-territorial stakeholders in communicating and presenting the solution and business case
- m. Develop security and privacy solutions supporting the standards and solutions for Canadian health credentials.

3.2.2 Technical development for standards and solutions for Canadian health credentials for specific pan-Canadian initiatives:

- a. Identify functional and non-functional requirements required for enhancements to standards and solutions for Canadian health credentials, (e.g., Proof of vaccination credentials (PVC), exemption credentials, test credentials, recovery credentials, conversion from one standard to another, support solutions to address immunization international interoperability, enhance connections to internal Health Canada systems, etc.) and deliver updated business requirements documents and software architecture document

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- b. Assess requirements from various sources such as federal-provincial-territorial and international engagements
 - c. Develop and enhance technical specifications based on industry standard (HL7, FHIR, IPS etc.) for standards and solutions for Canadian health credentials and associated enhancements (e.g. digitize the International Certificate of Vaccination or Prophylaxis (ICVP), etc.)
 - d. Deliver backlog features to federal-provincial-territorial departments/agencies who have adopted the Issuer-in-a-Box (IIAB) technology , mini-Key Management store (KMS) and Revocation Toolkit (RTK)
 - e. Assist in the deployment of enhancements or new Issuer-in-a-box, Key management store and Revocation Toolkit, etc. as required (e.g., for issuance of PVC or other standards or solutions for Canadian health credentials under technical standard other than SMART Health Card framework)
 - f. Build, test and deploy enhancements and support for new capabilities such as but not limited to exemptions, revocations, test credentials, recovery credentials, wallet, visitor pass, federal verifiers, solutions for international interoperability etc.
 - g. Enable download of the verifiable credential from health portals such as the federal provincial territorial health portal in various formats
 - h. Conduct security assessment and address vulnerabilities as required for new capabilities and for open source code developed by HC for standards and solutions for Canadian health credentials and make it available to health solution providers
 - i. Develop, enhance and deliver solutions to address fraud and interprovincial and international interoperability in regards to PVC.

3.2.3 Project Management for standards and solutions for Canadian health credentials for specific pan-Canadian initiatives:

- a. Manage all work streams and tasks related to standards and solutions for Canadian health credentials (e.g., Proof of vaccination credentials (PVC), exemption credentials, test credentials, recovery credentials, conversion from one standard to another, support solutions to address immunization international interoperability, enhance connections to internal Health Canada systems, etc.) , such as technical development, support solutions for development, implementation of standards and pathfinder solutions
- b. Develop project charter/program plan, schedule and cost estimates for the solutions and associated enhancements
- c. Provide status updates leveraging dashboards and organize team around a project and program governance
- d. Represent team in meetings and workshops and provide clarity on objectives, project plan, agenda and actions
- e. Provides regular updates at daily stand ups and weekly project team meeting to facilitate monitoring of project deliverables

3.2.4 IT Operations Support for standards and solutions for Canadian health credentials for specific pan-Canadian initiatives:

- a. Provide ongoing IT service management support (Incident management, defects management, security management, change management, release management etc.) for federal-provincial-territorial departments and agencies who have adopted Issuer-in-a-box solution, Key management Store solutions and Revocation Toolkit and/or other standards and solutions for Canadian health credentials
- b. Provide IT service operations support for new deployments, new capabilities of standards and solutions for Canadian health credentials

- c. Support federal-provincial-territorial Technical Change Advisory Board discussions and report on the changes to specifications and solutions at the federal-provincial-territorial governance table(s) to facilitate decision making
- d. Manage the flow of information and documentation on changes and releases to solutions, new capabilities etc.
- e. Update operations administration manual and provide it to the federal-provincial-territorial departments and agencies leveraging HC's existing and new solution and service level agreements

The IT operations support process will be based on the following Incident Management requirements.

Once the HC operational support team receives the incident, it will be reviewed and addressed as appropriate. Incidents will be classified by HC utilizing the following priority matrix and forwarded to the Contractor with the priority score applied:

Priority	Impact			
	Multiple Province or territory	Multiple users within a single Province or territory	Single user within a single Province or territory	No users
A full outage of multiple or all services and/or non compliance with Federal health regulation or Federal security requirements	Priority 1	Priority 1	Priority 2	Priority 2
An issue completely affecting a service and no work around is available	Priority 1	Priority 1	Priority 2	Priority 3
An issue affecting a service and a workaround is available	Priority 2	Priority 3	Priority 3	Priority 4
An issue that has no impact to the availability of the affected service and redundancy is available	Priority 3	Priority 4	Priority 4	Priority 4

During the support period, touchpoints may be scheduled by the HC/PHAC operational support team with involved stakeholders (e.g. Canada Border Services Agency (CBSA), Provinces, Territories etc.) to discuss priority 3 and 4 incidents, to support resolution of incidents.

HC will be responsible for determining the priority level of incidents and will share information with the Contractor to determine an action plan.

The Contractor will be available for support between 9:00 AM and 5:00 PM ET, Monday to Friday, excluding statutory holidays.

Incident resolution time is the usual time expected between when the incident was reported via HC and the time when the incident was resolved and service was restored.

- i. Priority 1: Within next business day
- ii. Priority 2: Within two business days
- iii. Priority 3 and 4: Within five business days

1. RESOURCES

To achieve the objectives of this initiative Canada has determined the following resources are to be required with the associated tasks/activities. All resources are considered optional until the task authority (TA) is complete.

Initial Contract Period: Maintenance and enhancement of the Proof of Vaccination credentials, exemptions, verifiers, wallets etc.

Stream	Service	Level	Estimated number of resources
1	A6 Programmer/Software Developer(Mobile)	3	2
1	A11 Tester	2	1
1	A14 Programmers Web Developer	2	1
1	A16 Mobile Multi-media Content Consultant	3	1
3	I10 Technology Architect	3	1
4	B7 Business Transformation Architect	3	1
5	P7 Project Coordinator	2	1

Contract Option Years: In addition to the initial period resources, the following resources will be required to support the development and implementation of standards and solutions for Canadian health credentials.

Stream	Service	Level	Estimated number of resources
1	A1 Application/Software Architect	3	1
1	A8 System Analyst	3	1
1	A15 Web Graphics Designer	2	1
4	B1 Business Analyst	3	1
3	I5 Information Architect	3	1
3	I4 Database Modeller	3	1
3	I10 Technology Architect (Mobile)	3	1
5	P2 Enterprise Architect	3	1
5	P9 Project Manager	3	1
5	P11 Quality Assurance Specialist/Analyst	2	1
6	C5 Public Key Infrastructure Specialist	3	1
6	C7 Information Technology Security Design Specialist	3	1

Optional resources: In addition to the initial period and option year resources, the following resources may be required to support the development and implementation of standards and solutions for Canadian health credentials.

Stream	Service	Level	Estimated number of resources
1	A12 Web Architect	3	1
3	I1 Data Conversion Specialist	3	1
5	P10 Project Scheduler	2	1
5	P12 Risk Management Specialist	3	1
6	C3 Security Threat and Risk Assessment and Certification and Accreditation Analyst	3	1

4.1. Tasks, Activities, Deliverables and/or Milestones

The successful bidder will be required to provide resources, as and when required, to meet the requirements and tasks listed below. Task authorizations will be issued against the new contract in support of these initiatives. Each role will consist of turning directions into reality and/or a function solution and/or ensure effective communications between the different groups in order to meet Health Canada requirements. Activities described for each role are not prescriptive, they are sample activities but could include activities beyond those listed.

4.1.1 Stream 1: Applications Services

A) A1 Application/Software Architect

The Application/Software Architect will be responsible to participate in all aspects of the software development process such as determining business goals, prototype modeling, risk evaluation and customization to ensure they meet Health Canada requirements as described in the Statement of Work. Tasks include, but are not limited to, the following:

1. Develop and maintain solution architectures, frameworks and strategies, either for an organization or for a major application area, to meet the business and application requirements
2. Analyze functional requirements to identify information, procedure and decision flows, related to automating, innovating and/or modernizing solution or standards in the field of health.
3. Identify the policies and requirements that drive out a particular solution
4. Analyze and evaluate alternative technology solutions to meet business problems
5. Ensures the integration of all aspects of technology solutions
6. Monitor industry trends to ensure that solutions fit with government and industry directions for technology
7. Analyze functional requirements to identify information, procedures and decision flows
8. Evaluate existing procedures and methods, identify and document database content, structure, and application sub-systems, and develop data dictionary
9. Define and document interfaces of manual to automated operations within application sub-systems, to external systems and between new and existing systems
10. Define input/output sources, including detailed plan for technical design phase, and obtain approval of the system proposal
11. Identify and document system specific standards relating to programming, documentation and testing, covering program libraries, data dictionaries, naming conventions, etc. by using modeling tools
12. Application support, including investigations, troubleshooting and changes to address and resolve the incidents

B) A6 Programmer/Software Developer (Mobile)

The Programmer/Software Developer will take direction from the Solution Designers and Architects turning them into reality and a function solution to meet Health Canada requirements as described in the Statement of Work. Tasks include, but are not limited to, the following:

Mobile application tasks;

1. Develop and enhance iOS and Android mobile applications.
2. Design or extend the design of mobile applications taking into considerations iOS and Android accessibility platform guidelines in order to correct current accessibility deficiencies and to deliver new business functionality.

3. Ensure that the mobile applications are adhering to WCAG 2.1 guidelines where applicable.
4. Develop and upgrade iOS and Android applications based on iOS and Android accessibility platform frameworks, methodologies and API's.
5. Unit test mobile applications to ensure that applications are compliant with platform accessibility guidelines.
6. Integrate development artefacts with CI/CD pipelines and/or mobile build pipelines, including with HC Azure CI/CD pipelines
7. Work with HC resources and transfer knowledge of designs, mobile application code.
8. **Application support, including investigations, troubleshooting and changes to address and resolve the incidents**

Web application tasks;

1. Design or extend the design of web application taking into considerations WCAG 2.1.
2. Accessibility guidelines in order to correct current accessibility deficiencies and to deliver new business functionality.
3. Develop and/or extend web application meet or exceed WCAG 2.1 AAA web standards.
4. Unit test web applications to ensure that applications are compliant with WCAG 2.1 accessibility guidelines.
5. Work with HC resources and transfer knowledge of designs, web application code.

C) A8 System Analyst

The system analysis will work directly with the project architects and the HC business team to ensure effective communications between the different groups. Tasks include, but are not limited to, the following:

1. Develop requirements, feasibility, cost, design, and specification documents for systems
2. Implement systems to support projects, departments, organizations or businesses
3. Translate business requirements into systems design and specifications
4. Analyse and recommend alternatives and options for solutions
5. Develop technical specifications for systems development, design and implementation
6. Lead and participate in Joint Application Development (JAD) sessions with various stakeholders
7. Identify business needs and translate them into system requirements, functional requirements, user stories
8. Ensure deliverables align with the Policy on Service and Digital (<https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=32603>), and all its supporting instruments, (Directive, Guidelines, Policy, and Standards).

D) A11 Tester

The tester will be responsible to support coordinator of testing and then to perform functional tests on the designed solution. These testers may also be required to work directly with Government of Canada client testers. Tasks include, but are not limited to, the following:

1. Test planning and coordination
2. Supervision of testing in accordance with the plan
3. Management and monitoring of test plans for all levels of testing
4. Management of walkthroughs and reviews related to testing and implementation readiness
5. Status reporting
6. Development of test scenarios and test scripts
7. Develop testing toolkits and documentation for the applications

8. Establishing and maintaining source and object code libraries for a multi-platform, multi-operating system environment
9. Establishing software testing procedures for unit test, integration testing and regression testing with emphasis on automating the testing procedures
10. Establishing and operating "interoperability" testing procedures to ensure that the interaction and co-existence of various software elements, which are proposed to be distributed on the common infrastructure, conform to appropriate departmental standards (e.g. For performance, compatibility, etc.) and have no unforeseen detrimental effects on the shared infrastructure;
11. Establishing a validation and verification capability which assumes functional and performance compliance
12. Lead and participate in Joint Application Development (JAD) sessions with various stakeholders
13. Identify system needs and functional requirements, and translate into unit and component test planning documentation, automated and manual test cases and procedures, report on test outcomes
14. Ensure deliverables align with the Policy on Service and Digital, and all its supporting instruments, (Directive, Guidelines, Policy, and Standards).

E) A12 Web Architect

The Web Architect will be responsible of ensuring all Web facing solutions have been designed to meet to meet the Government of Canada Directives, Policies and Standards required for Government of Canada websites. Tasks include, but are not limited to, the following:

1. Define architecture to be used in web-based or mobile projects
2. Perform architectural modeling to ensure consistency of the design with existing work
3. Consult on the development language to be used for the project
4. Identify business needs and translate them into system requirements, functional requirements, user stories by following IM/IT Agile development methodologies
5. Assess the impact of the new requirements on existing web applications
6. Develop code based upon design and requirements documents
7. Write code to write to and read from the database
8. Unit test the code prior to releasing it for integration testing
9. Monitor the need for architectural changes as the project progresses
10. Develop test plans for testing the system
11. Ensure functionalities have been implemented according to specifications
12. Define assumptions and constraints of architecture with regard to physical structure and data collection
13. Develop post-implementation plan for monitoring/tracking architecture stability
14. Ensure deliverables align with the [Policy on Service and Digital \(https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=32603\)](https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=32603), and all its supporting instruments, (Directive, Guidelines, Policy, Standards)
15. Ensure deliverables align with the [Standard on Web Accessibility- Canada.ca \(https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=23601\)](https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=23601)
16. Ensure deliverables align with the [Standard on Web Interoperability- Canada.ca \(https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=25875 \)](https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=25875)
17. Ensure deliverables align with the [Standard on Web Usability- Canada.ca \(Standard on Web Usability- Canada.ca\)](https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=25875)
18. Ensure deliverables align with the [Standard on Optimizing Websites and Applications for Mobile Devices- Canada.ca \(Standard on Optimizing Websites and Applications for Mobile Devices- Canada.ca\)](https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=25875)

F) A14 Programmers and Web Developers

These roles will take direction from the Solution Designers and Architects turning them into reality and a function solution to meet HC requirements as described in the Statement of Work. Tasks include, but are not limited to, the following:

1. Develop technical solutions based on the functional and non-functional application requirements.
2. Develop and integrate the policies and security controls that drive out a particular solution and with all aspects of the end-to-end technology solution.
3. Develop testing toolkits and documentation for the applications.
4. Develop and/or implement the UX and UI of the application and ensure that that the application follows the HC, and Government of Canada web standards.
5. Integrate with various back-ends
6. Integrate applications with 3rd party libraries and APIs
7. Develop toolkits and documentation such as concept of operations, concept of support, to support delivery and operations of technical solutions to the clients
8. Develop and code and applications using various CLOUD technologies
9. Develop and code applications using legacy technologies
10. Develop Web applications using legacy and or CLOUD technologies
11. Unit test the code prior to releasing it for integration testing
12. Resolve defects
13. Work with HC resources and transfer knowledge of, designs, application code
14. Application support, including investigations, troubleshooting and changes to address and resolve the incidents

G) A15 Web Graphics Designer

The Web Graphic Designer will be responsible for curating the aesthetics of a website or application from logos to fonts and images, respecting HC requirements as described in the Statement of Work. Tasks include, but are not limited to, the following:

1. Create web pages including graphic design
2. Develop and implement usability tests, analyses result and modify design accordingly
3. Develop flowcharts (web site flow maps) depicting navigation and content
4. Develop line drawings or block diagrams illustrating the priority of information, links, navigation and space requirements
5. Develop content diagrams showing the interactive connection between pages
6. Develop interactive prototypes showing basic form and functionality used for both usability testing and presentations

H) A16 Web Mobile Media Content Consultant

The Web Mobile Content Consultant will be responsible in ensuring media-supported communication are communicated via a mobile platform for the exchange of information between and among a small number of identified and connected, all while respecting HC requirements. Tasks include but are not limited to the following:

1. Build UX and UI designs for mobile and web applications in compliance with accessibility and mobile platform standards with developer level instructions / guidance
2. Build multi-media presentations
3. Construct UX/UI product outlines and briefings
4. Develop and integrate with CBSA UX/UI standards and using HC tooling
5. Follow HC and or Government of Canada UX processes

4.1.2 Stream 3: Information Management/Information Technology Services**A) I1 Data Conversion Specialist**

The Data Conversion Specialist will be responsible for overseeing the development of new databases, monitoring database performance and interpreting raw data and turning it into usable feedback and applications as per HC requirements. Tasks include, but are not limited to, the following:

1. Oversee all facilities of the conversion process.
2. Complete mapping, interfaces, mock conversion work, enhancements, actual conversion, and verify completeness and accuracy of converted data.
3. Analyze and coordinate data file conversions
4. Work with importing files from heterogeneous platforms
5. Integrate and extract, transform and locate (ETL) data from back-ends systems
6. Develop and test ETL processes
7. Resolve defects
8. Work with HC resources and transfer knowledge of data conversion, ETL code

B) I4 Database Modeller

The Data Architect has both strategic and tactical responsibility for developing and maintaining the Architecture and Data Models for corporate and project specific initiatives. This responsibility includes the identification of data most valuable to the department, the integration of this data, and the development of core relating data models. The resulting data models will be based on data architecture and modeling design principles and tenets. Tasks include, but are not limited to, the following:

1. Design, develop and maintain Logical Data Models
2. Analyze proposed changes to databases from the context of the Logical Data Model.
3. Provide technical expertise in the use and optimization of data modeling techniques to team members
4. Provide technical assistance, guidance and direction in terms of data analysis and modeling to team members
5. Provide assistance to project team and business users relating to data issues and data analysis concepts
6. Participate in the development of data modeling and metadata policies and procedures
7. Participate in data analysis as a result of new/updated requirements
8. Apply approved changes to logical data models
9. Comply with corporate data architectures, strategies and frameworks, including enterprise data warehouse activities
10. Analyze and evaluate alternative data architecture solutions to meet business problems/requirements to be incorporated into the corporate data architecture
11. Review corporate architecture strategies and directions, data requirements, and business information needs and devise data structures to support them
12. Improve modeling efficiency through recommendations on how to better utilize current metadata repositories
13. Comply with corporate repository metadata directions
14. Provide input to refinement of data architectures
15. Participate in data architecture refinement
16. Define access strategies

C) I5 Information Management Architect

The information Management Architect will be responsible to organize information and design strategies using data from usability testing on how users interact with communications systems as described in the Statement of Work. Tasks include, but are not limited to, the following:

1. Analyse existing capabilities and requirements, develop redesigned frameworks and recommend areas for improved capability and integration. Develop and document detailed statements of requirements.
2. Evaluate existing procedures and methods, identify and document database content, structure, and application subsystems, and develop data dictionary.
3. Define and document interfaces of manual to automated operations within application subsystems, to external systems, and between new and existing systems.
4. Prototype potential solutions, provide trade-off information and suggest recommended courses of action.
5. Perform information modelling in support of BPR implementation.
6. Perform cost/benefit analysis of implementing new processes and solutions.
7. Provide advice in developing and integrating process and information models between business processes to eliminate information and process redundancies.
8. Provide advice in defining new requirements and opportunities for applying efficient and effective solutions; identify and provide preliminary costs of potential options.

D) I10 Technology Architects

The Technology Architects will work with the Business Transformation Architect and the contractor Project team to ensure the technologies used and selected align and integrate with the Government of Canada standards as they apply to HC. Tasks include, but are not limited to, the following:

1. Develop technical architectures, frameworks and strategies, either for an organization or for a major application area, to meet the business and application requirements by following IT/IM Agile development methodologies.
2. Identify the policies and requirements that drive out a particular solution.
3. Analyze and evaluate alternative technology solutions to meet business problems.
4. Ensures the integration of all aspects of technology solutions.
5. Monitor industry trends to ensure that solutions fit with government and industry directions for technology.
6. Provide information, direction and support for emerging technologies.
7. Perform impact analysis of technology changes.
8. Provide support to applications and/or technical support teams in the proper application of existing infrastructure.
9. Review application and program design or technical infrastructure design to ensure adherence to standards and to recommend performance improvements.
10. Design and development using various CLOUD server less technologies i.e. AWS, AZURE, IBM etc.
11. Ingest information from external partners and transform to internal standards, using cloud-native technology solutions.
12. Provide query services to various data sources, data bases, services, document stores, file systems, using cloud-native technology solutions.
13. Work with HC resources and transfer knowledge of architectures, designs, application code.
14. Design and implement digital health solution or standards impacting organizations greater than 500 000 users.

I10 Technology Architects (Mobile)

The Technology Architect will work with the Business Transformation Architect and the Technology Architect to ensure the technologies used and selected align and integrate with the Government of Canada standards as they apply to HC. Tasks include, but are not limited to, the following:

1. Develop and prepare architectural designs and specifications for web-based and mobile-based service delivery over the internet.
2. Provide technical designs, resolutions and plans in response to cyber security vulnerability assessment evidence
3. Lead the development and/or recommend solutions for the incorporation of accessibility modifications to adhere to Government of Canada WCAG standards for mobile applications
4. Assess and design interfaces from the online portals with mobile applications
5. Perform architectural modeling to ensure consistency of the design with existing work
6. Recommend the development language to be used for the application
7. Assess the impact of the new requirements on existing applications
8. Develop code based upon design and requirements documents
9. Unit test the code prior to releasing it for integration testing
10. Monitor the need for architectural changes as the project progresses
11. Ensure functionalities have been implemented according to specifications and they meet architectural definitions
12. Define assumptions and constraints of architecture with regard to physical structure and data collection
13. Identify business needs and translate them into system, functional and non-functional Requirements
14. Develop and document functional, business, technical and software architectures for the mobile application and back-end
15. Develop post-implementation plan for monitoring/tracking architecture stability
16. Work with HC resources and transfer knowledge of architectures, designs, mobile application code
17. Follow HC Solution Development Life Cycle (SDLC) processes

4.1.3 Stream 4: Business Services

A) B1 Business Analysts

The Business analysis will work with the contractor team and the HC team to ensure all business requirements are well documented. Tasks include, but are not limited to, the following:

1. Develop and document statements of requirements for considered alternatives
2. Perform business analyses of functional requirements to identify information, procedures, and decision flows
3. Evaluate existing procedures and methods, identify and document items such as database content, structure, application subsystems
4. Define and document interfaces of manual to automated operations within application subsystems, to external systems, and between new and existing systems
5. Provide guidance on the creation of a Roadmap framework and documentation to define project's vision, strategy, objectives and milestones
6. Establish acceptance test criteria with client
7. Assist with the development and the evaluation of potential testing tools
8. Support and use the selected departmental methodologies
9. Support business analyses of functional requirements to prioritize the allocation of requirements to releases aligned with the project

B) B7 Business Transformation Architect

The business transformation Architect will provide advice, guidance and recommendations based on discussions with the team and input from the contractor team members. The resource category will also work closely with the Technology Architect ensuring technologies selected will operate within the Government of Canada architecture framework. Tasks include, but are not limited to, the following:

1. Analysis and development of business success "critical success factors"
2. Analysis and development of architecture requirements design, process development, process mapping and training
3. Responsible for leading other functional staff to define business strategy and processes in support of transformation and change management activities
4. Participate in change impact analysis and change management activities
5. Participate in organizational realignment (job re-design organizational re-structuring)
6. Coordinate development of training and coordination with other stakeholders
7. Create presentations and present to various stakeholders, and facilitate meetings and discussions
8. Provide recommendation and advisory services related to automating, innovating and/or modernizing solution or standards in the field of health.
9. Design and implement digital health solution or standards impacting organizations greater than 500 000 people.

4.1.4 Stream 5: Project Management Services**A) P2 Enterprise Architect**

The Enterprise Architect will be responsible for the upkeep and maintenance of IT networks and services, for overseeing, improving and upgrading enterprise services, software and hardware as described in the Statement of Work. Tasks include, but are not limited to, the following :

1. Evaluate the enterprise's business/Information and Communications Technology (ICT) architecture, determine its consistency and integration with the organization's business/ICT strategies, assess the degree of its alignment with Treasury Board CIO Business Transformation Enablement Program (BTEP) and Federated Architecture Program (FAP) and recommend changes to the business/ICT architecture to improve its alignment with these external factors
2. Identify future business/ICT requirements against the current enterprise architecture, perform gaps analyses, develop Requirements for Technology Architectures (RTA), and prepare migration strategies
3. Assess the feasibility of migrating from the current state to the target business architecture and enabling technologies and identify the risks associated with migrating to the target business architecture and technologies and make recommendations for risk mitigation
4. Identify business and technology trends that create opportunities for business improvement, advise business and ICT Senior Executives on ICT trends and emerging technologies and the impact on the organization's and government ICT architectures and business strategies, model "What if" scenarios and recommend appropriate changes to the existing architecture and ICT infrastructure, and recommend alternative solutions, methodologies and strategies
5. Produce an architectural evolution plan, recommend prioritization of architecture evolution initiatives, and develop and/or implement an architecture evolution plan
6. Manage the development and implementation of an architectural improvement plan

7. Provide recommendation and advisory services related to automating, innovating and/or modernizing solution or standards in the field of health.

B) P7 Project Coordinator

The Project Coordinator will work directly with the Project Manager (PM) ensuring the PM as all information to run the successful project. The coordinator will need to communicate with all members of the project team to obtain the information required for the PM to complete the functions of that role. Tasks include, but are not limited to, the following:

1. Assist project management and data processing professionals, technical users and end users in project coordination and synchronization tasks
2. Provide administrative and technical support of a clerical nature as required to a project team
3. Assist in performing such tasks as maintaining project documentation and application/system libraries and tracking the life cycle of custom application
4. Act as the first or single point of contact in a "hot-line" situation by accepting incoming calls, logging calls, attempting to resolve simple problems and following established procedures for more difficult problems
5. Track project change requests
6. Manage, track, maintain and update relevant project information in manual and/or electronic files; project information might include such things as project activity schedule, status reports, correspondence
7. Use computer tools, aids, system control languages on PCs, minis, or mainframes to perform work
8. Communicate with project management and data processing professionals, technical users and end users on administrative matters related to the project.
9. Work with project management software (e.g. Microsoft Project) for the purpose of managing, maintaining and reporting against project milestones.

C) P9 Project Managers

The Project Manager will be responsible for managing all the activities of the contractors' project team. Tasks include, but are not limited to, the following:

1. Manage Project delivery following PMBoK Best Practices. Manage and report on all deliverables, time, scope, risks to senior management
2. Manage the project during the development, implementation and operations start up by ensuring that resources are made available and that the project is developed and is fully operational within previously agreed time, cost and performance parameters
3. Formulate statements of problems; establishes procedures for the development and implementation of significant, new or modified project elements to solve these problems
4. Define and document the objectives for the project; determine budgetary requirements, timelines, the composition, roles and responsibilities and terms of reference for the project team.
5. Report progress of the project on an ongoing basis and at scheduled points in the life cycle
6. Meets with stakeholders and other project managers and states problems in a form capable of being solved
7. Prepare plans, charts, tables and diagrams to assist in analyzing or displaying problems; work with a variety of project management tools
8. Construct, monitor and report on work plans and schedules

9. Develop project management documents such as the project charter, project plan, risk management plan, project schedule, change management plan and bi-weekly status reports on progress
10. Work with project management software (e.g. Microsoft Project) for the purpose of managing, maintaining and reporting against project milestones.

D) P10 Project Scheduler

The Project Scheduler will be responsible to develop and manage schedules for projects and assist project managers with schedule planning, coordinate tasks, and monitor the timelines of scheduled assignments. Tasks include, but are not limited to, the following:

1. Develop and support project schedules
2. Develop and maintain Work Breakdown Structures
3. Produce appropriate reports and identify scheduling and/or dependency issues and support issue resolution for medium to large projects
4. Conduct and provide critical path analysis
5. Assist in schedule co-ordination efforts with internal and external project stakeholders
6. Work with project management software (e.g. Microsoft Project) for the purpose of documenting project schedules and resolving issues related to the project(s) scheduling
7. Work with Cloud DevOps for the purpose of managing, scheduling, and reporting on Agile projects.

E) P11 Quality Assurance Specialist/Analyst

The Quality Assurance Specialist/Analyst will be responsible for monitoring, inspecting and proposing measures to correct or improve final products in order to meet HC requirements as described in the Statement of Work. Tasks include, but are not limited to, the following:

1. Lead development of test plans, test scripts and test data
2. Participate in functional and technical design reviews, perform integration/functional and system testing, and verify test results
3. Identify and document software defects
4. Participate with other project resources to resolve defects
5. Perform regression testing of software applications

F) P12 Risk Management Specialist

The Risk Management Specialist will be responsible to identify potential risks that might negatively affect the business. Tasks include, but are not limited to, the following:

1. Conduct risk assessments
2. Identify project risks and overall project risks
3. Recommend alternative solutions, methodologies and strategies for risk mitigation and management
4. Produce risk management plans
5. Conduct risk assessments for troubled projects to quickly assess associated risks and recommend courses of action to minimize inherent risks
6. Assist in prioritization and assignment of risks
7. Assist in the development and/or implementation of Risk Management Plans
8. Manage the implementation of Risk Management Plans to identify, analyze, plan, track and control project risks on a continuous basis throughout the project life cycle
9. Coach, mentor and train project teams in risk mitigation techniques

4.1.5 Stream 6: Cyber Protection Services

A) C3 Security Threat and Risk Assessment and Certification and Accreditation Analyst

The Security Assessor will work with the Business team to identify and gather materials required for the Security Authorization and Accreditation Process to ensure the solution(s) provided meet acceptable levels of security safeguards to operate as per the security requirements defined by HC and as described in the Statement of Work. Tasks include, but are not limited to, the following:

1. Conduct security and privacy assessment with a final report and evidence.
2. Develop the policies and security controls that drive out a particular solution and with all aspects of the end-to-end technology solution.
3. Develop toolkits and documentation such as concept of operations, concept of support, to support delivery and operations of technical solutions to the clients.

B) C5 Public Key Infrastructure Specialist

The Public Key Infrastructure Specialist will be responsible to assess, configure, and maintain technological infrastructure systems to ensure they meet HC requirements. They evaluate existing systems and determine ways to better align those systems to support business operations for increased efficiency. Tasks include, but are not limited to, the following:

1. Develop PKI related policies, standards, guidelines and procedures.
2. Review existing PKI policies, standards, guidelines and procedures and provide advice as to their appropriateness and effectiveness
3. Review and analyze the application of PKI architecture, Digital signatures/certificates, PKI products, Internet security protocols, directory standards, certificate protocols, and Certification Authority (CA)
4. Interoperability and governance studies
5. Conduct compliance audits of PKI related concerns, including operations, application systems and infrastructure
6. Conduct PKI related security threat and risk assessments of IT facilities, application systems and communications
7. Conduct PKI related reviews of backup and recovery plans
8. Investigate PKI related incidents and report cause and related weaknesses and recommend remedies
9. Develop PKI Certificate Policy, Practice Statement development, and Policy compliance inspections and audits
10. Design the PKI related framework and implement the PKI infrastructure required to protect assets and to support application systems including Private and Public Key Cryptography
11. Provide advice on PKI and including Private and Public Key Cryptography aspects of application systems under development
12. Complete tasks directly supporting the departmental IT Security, Trust Frameworks and Cyber Protection Program
13. Develop and deliver PKI awareness and training programs

C) C7 Information Technology Security Design Specialist

The Security Design Specialist will be responsible to develop and administer security standards and specifications to ensure compliance with current institutional security systems and HC

requirements as described in the Statement of Work. They design, develop, and oversee implementation of solutions for system installation, including review of contractor submittals, periodic field observations, and system acceptance testing. Tasks include, but are not limited to, the following:

1. Review, analyze, and/or apply: Architectural methods, frameworks, and models such as TOGAF, Canadian government Business Transformation Enablement Program (BTEP) and GSRM, Zachman, UMM.
2. Review, analyze, and/or apply a broad range of security technologies including multiple types of systems and applications architectures, and multiple hardware and software platforms, including:
 - o Directory Standards such as X.400, X.500, and SMTP
 - o Operating Systems such as MS, Unix, Linux, and Novell
 - o Networking Protocols (for example, HTTP, FTP, Telnet)
 - o Network routers, multiplexers and switches
 - o Domain Name Services (DNS) and Network Time Protocols (NTP)
3. Review, analyze, and/or apply Secure IT architectures, standards, communications, and security protocols such as IPSec, SSL, SSH, S-MIME, HTTPS
4. Review, analyze, and/or apply IT Security protocols at all layers of the Open Systems Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) stacks
5. Review, analyze, and/or apply the significance and implications of market and technology trends in order to apply them within architecture roadmaps and solution designs. (e.g. web services security, incident management, identity management)
6. Review, analyze, and/or apply Best practices and standards related to the concept of network zoning and defence in-depth principles
7. Review, analyze, and/or apply IT Security protocols at all layers of the Open Systems Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) stacks
8. Analyze IT Security statistics, tools and techniques
9. Analyze security data and provide advisories and reports
10. Prepare technical reports such as requirement analysis, options analysis, technical architecture documents, mathematical risk modeling
11. Brief senior managers
12. Security architecture design and engineering support
13. Conduct data security designation/classification studies
14. Prepare tailored IT Security alerts and advisories from open and closed sources
Complete tasks directly supporting the departmental IT Security and Cyber Protection Program
15. Develop and deliver training material relevant to the resource category

4.2. Deliverables

The Contractors must provide the Project Authority with all deliverables electronically in Microsoft Word/PowerPoint format respectively; the Contractors must submit one (1) electronic copy of a report to the Project Authority outlining the accomplishments for the given period, open issues and upcoming milestones on a weekly basis.

4.3. Meetings

Daily, weekly, monthly and/or adhoc Meetings will be held via Microsoft Teams.

4.4. Reporting Requirements

In addition to the timely submission of the deliverables, as outlined in the TA, and the fulfillment of all obligations under this Contract, it is the responsibility of the Contractors to facilitate and maintain regular communication with the Project Authority. Communication is defined as all reasonable effort to inform the Project Authority of plans, decisions, proposed approaches, implementation, and results of Work, to ensure that the Work is progressing well and in accordance with expectations. Communication may include virtual and phone calls, electronic mail, faxes, mailings, and meetings. The contractor may be required to report on deliverables and project status on a monthly and/or weekly basis, indicating which resource worked on what task/activities as well as include the cost associated with the task/activities.

The Contractors are to immediately notify the Project Authority of any issues, problems or areas of concern, relating to any Work completed under this Contract, as they arise.

4.5. Project Management Control Procedures

The Project Manager would be following PMBoK best practices to coordinate and manage all project activities. Prepare Governance Meetings, record decisions, manage risks, time, scope and costs. The Project Manager will report to the Director in HC's Digital Transformation Branch.

5. ADDITIONAL INFORMATION

5.1. Contractor's Obligations

1. Unless otherwise specified, the Contractor must use its own equipment and **software including development environment** for the performance of this Statement of Work.
2. If the contractor requires access to HC's infrastructure and Network, HC will provide labeled equipment to the contractor, which will remain within the custody and control of the Contractor until such time as the Project Authority provides instructions for its delivery. During this period of time, the Contractor must take reasonable and proper care of the equipment.

5.2. Location of Work, Work site and Delivery Point

The work is expected to be performed and completed at the contractor's determined work location, whether that is the geographic location of the person's workplace for those who have a usual place of work or who work at home. The determination of working either on-site or off-site will be determined in the TA stage.

Due to existing workload and deadlines, all personnel assigned to any contract resulting from this RFP must be ready to work in close and frequent contact with the Project Authority and other departmental personnel.

5.3. Language of Work

The Work must be completed in English.

5.4. Travel and Living

There is no travel associated with this Contract.

6. PROJECT SCHEDULE

6.1. Schedule

The vendor will have to create a draft project plan with timelines for HC sign-off within 2 months of contract award.

The deliverables will be based on identifying critical paths and associated work packages. This will be proposed as & when required, through a TA, where HC will request work to be performed. The vendor will utilize their expertise (as required in the Mandatory Corporate criteria) and present a plan with timelines & price, which will then either be accepted by Canada or elements are negotiated/ clarified.

7. APPLICABLE DOCUMENTS AND GLOSSARY

7.1 Relevant Terms, Acronyms and Glossaries

1. AI – Artificial Intelligence
2. API – Application Program Interface
3. AWS – Amazon Web Services
4. BTEP – Business Transformation Enablement Program
5. FHIR – Fast Health Interoperability Resources
6. FTP – File Transfer Protocol
7. GSRM – Government of Canada Service Oriented Architecture
8. GUI – Graphical User Interface
9. HL7 – Health Level 7, the specification for Health Care Interoperability
10. HTTP/HTTPS – Hypertext Transfer Protocol and HTTP Secure
11. IPsec – Internet Protocol Secure
12. **Issuer in a Box (IIAB):** is a stateless RESTful service that generates a Proof of Vaccine Credential (PVC) as a PDF document consistent with HC's Pan-Canadian Common Look and Feel (CLF) specifications. IIAB accepts a JSON data structure that contains information about an individual's vaccination events. Upon accepting the JSON data structure, the data gets validated against the rules and guidelines set in the CLF, which is based on the SMART Health Cards technical specifications. Once the data is validated, IIAB generates a data string that gets signed with a private key provided by the issuer, and the digitally signed information is embedded into a QR code, which is ultimately embedded into the PDF that IIAB generates. IIAB is written in Typescript and runs on Node.js.
13. IT – Information Technology
14. JSON – JavaScript Object Notation
15. **Mini-KMS:** is a service that generates public-private key pairs using the ES-256 algorithm, consistent with SMART Health Cards specification requirements. A private key generated by Mini-KMS can be provided to IIAB or other PVC issuance service to sign the data that is embedded in the QR code in a PVC. When a verifier goes to validate a digitally signed PVC, it will utilize a public key that is generated by Mini-KMS together with the private key and which is published by the issuer in a well-known URL. Mini-KMS is meant to be a simple stopgap solution to help issuers who do not have a production-grade key management capability get started producing and issuing PVCs. Mini-KMS is written in Typescript and runs on Node.js.
16. PMBoK – Project Management Book of Knowledge
17. **Revocation Toolkit (RTK):** is a service component and command line utility that provides two functions to support PTs that need to revoke PVCs. These two functions support the updating of card revocation lists and the regeneration of revocation IDs so that the issuing PT does not need to store revocation IDs for all PVCs issued. The regeneration function is only applicable in case the issuing PT uses the HMAC method of revocation ID generation. RTK is compatible with IIAB but can also be used by PTs that do not use IIAB.
18. SMTP – Simple Mail Transfer Protocol
19. SSH – Secure Shell Protocol
20. SSL – Secure Socket Layer
21. TOGAF – The Open Group Architecture Framework
22. UMM – Unified Modelling Methodology

ATTACHMENT 4.1
MANDATORY TECHNICAL CRITERIA
Revision 01

Note to Bidders: A Word version of this document is available by sending a request by email to Vidia.Debidin@tpsgc-pwgsc.gc.ca

MTC#	Mandatory Technical Criteria	Bidder's Response (Reference to Substantiating Materials Included in Bid)
MTC-1	<p>The Bidder must have been awarded at least three (3) contracts in the fields of Information Management and/or Information Technology (IM/IT) in the past ten (10) years as of the initial publication date of this solicitation, where the bidder had to manage and deliver large** and complex*** projects related to digital health****, which were for a large organization* or Government (Canadian or international) Client.</p> <p>A) For each contract identified in the fields of Information Management and/or Information Technology (IM/IT) the bidder must demonstrate the following:</p> <ul style="list-style-type: none"> a. The name of the client organization; b. The project name under which services were provided (if applicable); c. At a minimum, the client's full name and email address. Bidders are also requested to include the title of the client; d. The Contract number or reference number; e. The start and end dates for the Initial Contract Period as well as the dates of any amendments; f. The contract value must be at least \$3,000,000, including amendments and taxes; g. The Bidder must demonstrate they have delivered projects of similar size, scope and complexity (as described in Annex A) with large teams (minimum of 10 resources). This must be demonstrated by explaining the complexity of the project along with showing billable hours of a client – example: a team of 10 resources working fulltime on a project will bill approximately 400 hours per week, 1600 hours per month for 6 or more months. <p>B) For one of the contracts identified:</p> <ul style="list-style-type: none"> a. The Bidder must have provided at least 5 resources simultaneously for a period of at least 8 consecutive months 	

	<p>on the same project within the past ten (10) years as of the initial publication date of this solicitation. This must be demonstrated by showing monthly billable hours of a client;</p> <p>b. The Bidder must demonstrate they have worked on a large** scale and complex*** digital health**** project impacting over 500,000 users with a minimum of 3 internal and/or external system integration endpoints over a period of at least 12 consecutive months within in the past ten (10) years as of the initial publication date of this solicitation, not including amendments;</p> <p>c. The bidder must demonstrate, they have delivered a project with a minimum of 3 work streams solicited in this RFP, where the bidder's team was accountable for providing concrete leadership in planning, advisory, building and delivering digital health**** solutions or standards to a large organization* or Government (Canadian or international) Client.</p> <p>d. The bidder must demonstrate they have implemented and delivered digital health**** solutions or standards in the cloud environment as well as explain how they set up the infrastructure.</p> <p>e. The bidder must:</p> <ol style="list-style-type: none"> (1) demonstrate multiple architects, multiple analysts, multiple project coordinators and multiple developers have worked together on the same project; (2) demonstrate they have completed similar or same tasks and/or deliverables outlined in the SOW for the resource category identified for the Initial Contract Period (as defined in the Statement of Work); and, (3) provide monthly billable hours for each of the resources. <p>The information listed above should be submitted using Form M1 and Table 1.</p> <p>* Large organization is defined by an organization that has a minimum of 500 employees and has a minimum end of year revenue of 10 million dollars.</p> <p>** Large is considered as a project that generally takes 12 to 24 months, involves a major change to one or more services (creates, retires or significantly alters an IT or IM service), Impacts all or large part of a population (minimum of 500 000 individuals), is high risk and complex, involves multiple stakeholders with varying objectives, includes a cross-functional core team and-or requires a full time project manager</p> <p>*** Complex includes items that refer to a minimum of two (2) of the following characteristics:</p> <ul style="list-style-type: none"> • Having many elements or dimensions; • Having significant public visibility; 	
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	<ul style="list-style-type: none"> • Featuring significant involvement by internal or external stakeholders or partners (including international partners); being financially or technically challenging or having potential risks to the organization; <p>**** Digital health examples:</p> <ul style="list-style-type: none"> • Telemedicine; • Artificial intelligence (AI)-enabled medical devices; • Electronic health and medical records; • Virtual health; • Interoperability; • Health Information Exchange; • Automation and modernization of health services; • Streamlining physicians' work; • Digital health credentials <p>To demonstrate this experience the Bidder must submit:</p> <p>Customer references for three individual IM/IT contracts (one reference for each contract) managed within the last ten (10) years.</p> <p>The references must include the name of the organization, the contract number, a short description of the services provided, the name, and either the telephone number or e-mail address of the organization's contact responsible for the contract, as well as the award date, expiry date, dollar value of each contract and the number of resources provided on a monthly basis.</p> <p>This information should be submitted using Form M1 A.</p> <p>Note to Bidder: The reference Contract(s) must have been contracted with the Bidder submitting a bid for this requirement. "Bidder" means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a bid to perform a Contract for goods, services or both. The experience of the Bidder, its parent companies, subsidiaries, affiliates or other proposed associated entities of the Bidder will be considered. The Bidder must demonstrate that this experience will be available to the Bidder and to Canada during the period of the contract.</p> <p>If the Bidder is using the experience of its parent company, subsidiary, affiliate or other associated entity, then it must:</p> <ol style="list-style-type: none"> a. describe the relationship between the Bidder and the other entity; and, b. describe how the experience of the other entity will be available to the Bidder and to Canada during the period of the contract. 	
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MTC-2	<p>CONTRACT MANAGER</p> <p>The Bidder must identify in its bid, the full name and position title of the individual that will be designated as the Health Canada Contract Manager responsible for resource and contract management associated with the resulting contract.</p> <p>The Contract Manager must demonstrate they have experience as a Contract Manager by providing a short summary of the tasks they completed on a previous contract related to Digital Health* (minimum 12 month duration) while occupying this role along with their proof of billable hours charged to that project.</p> <p>A copy of the Contract Manager's resume must be provided with the bid.</p> <p>The information listed above should be submitted using Form M2.</p> <p>* Digital health examples:</p> <ul style="list-style-type: none"> • Telemedicine; • Artificial intelligence (AI)-enabled medical devices; • Electronic health and medical records; • Virtual health; • Interoperability; • Health Information Exchange; • Automation and modernization of health services; • Streamlining physicians' work; • Digital health credentials 	
MTC-3	<p>RISK MITIGATION STRATEGY</p> <p>The Bidder must provide in its bid, the Risk Mitigation Strategy it proposes to implement in the resulting Contract. The Strategy must at a minimum include:</p> <ol style="list-style-type: none"> a) The approach the Bidder will take to identify potential risks arising while performing the contract; b) The approach the Bidder will take to deal with difficult and unexpected situations; and c) The approach the Bidder will take to ensure that it is able to manage large* groups of diverse** resources in support of a single client. <p>The information listed above should be submitted using Form M3.</p> <p>* Large is defined as a minimum of 10 resources</p> <p>** Diverse is defined as multi-disciplined and multi-stakeholders</p>	

MTC-4	<p>CONTRACT MANAGEMENT STRATEGY</p> <p>The Bidder must provide in its bid the Contract Management Strategy it proposes to implement in the resulting Contract. The proposed Contract Management Strategy must at a minimum include how the Bidder will address the following:</p> <ul style="list-style-type: none">a) Provide fully qualified resources to Health Canada within five days of receipt of a Task Authorization request;b) Manage the process of transitioning between the existing vendor and the new contract;c) Manage the process of transitioning between contract resources during the term of the contract;d) Manage quality assurance practices in providing resources for tasking; ande) Manage contingency plans or practices to ensure resource availability and resource replacement. <p>The information listed above should be submitted using Form M4.</p>	
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FORM M1**BIDDER'S EXPERIENCE**

In accordance with the requirements of mandatory evaluation criterion MTC-1 A, provide the following information for each Contract identified:

- a) The name of the client organization;
- b) The project name under which services were provided (if applicable);
- c) The client's full name, email address, and title;
- d) The Contract number or reference number;
- e) The start and end dates for the Initial Contract Period as well as dates of any amendments;
- f) The value of the Contract (amendments and applicable taxes included);
- g) The complexity of the project along with showing billable hours of a client – example: a team of 10 resources working fulltime on a project will bill approximately 400 hours per week, 1600 hours per month for 6 or more months.

In accordance with the requirements of mandatory evaluation criterion MTC-1 B provide the following information from one of the identified contracts:

- a) The full name and title of each resource that worked simultaneously for a period of at least 8 consecutive months within the past ten (10) years as of the initial publication date of this solicitation along with the billable hours of a client.
- b) The large scale and complex digital health project impacting over 500,000 users with a minimum of 3 internal and/or external system integration endpoints over a period of at least 12 consecutive months within in the past ten (10) years as of the initial publication date of this solicitation, not including amendments;
- c) The project streams as solicited in this RFP, where the bidder and his team were accountable for providing concrete leadership in planning, advisory, building and delivering digital health solutions or standards to a large organization or Government (Canadian or international) Client.
- d) The implementation and delivery of the digital health solutions or standards in the cloud as well as explain how the infrastructure was set up
- e) The bidder must:
 - (1) demonstrate multiple architects, multiple analysts, multiple project coordinators and multiple developers have worked together on the same project;
 - (2) demonstrate they have completed similar or same tasks and/or deliverables outlined in the SOW for the resource category identified for the Initial Contract Period (as defined in the Statement of Work); and,
 - (3) provide monthly billable hours for each of the resources.

- a. Table 1 may be used to facilitate answering this question

TABLE 1

Table 1 is provided to assist Bidders in structuring the required information for **MTC1-B** . Bidders should replicate Table 1 below as needed to provide the required information.

<p>1. Specify the names of the architects identified in the reference contract as well as specific examples of the tasks and or deliverables they completed by mapping them to the resource categories identified in the SOW for the initial contract period. A Copy of at least two of the identified resource CV is required.</p>	
<p>2. Specify the analysts identified in the reference contract as well as the completed tasks and/or deliverables by mapping them to the resource categories identified in the SOW for the initial contract period. A Copy of at least one of the identified resource CV is required.</p>	
<p>3. Specify the names of project coordinator identified in the reference contract as well as the completed tasks and/or deliverables by mapping them to the resource categories identified in the SOW for the initial contract period. A Copy of at least one of the identified resource CV is required.</p>	
<p>4. Specify the developers identified in the reference contract as well as the completed tasks and/or deliverables by mapping them to the resource categories identified in the SOW for the initial contract period. A Copy of at lease two of the identified resource CV is required.</p>	
<p>5. Monthly billable hours for each of the identified resources</p>	

FORM M1-A**REFERENCES**

Customer references for three individual IM/IT contracts (one reference for each contract) managed within the last ten (10) years.

The references must include:

- a) the name of the organization
- b) the contract number
- c) a short description of the services provided
- d) the name, and either the telephone number or e-mail address of the organization's contact responsible for the contract
- e) The award date
- f) The expiry date
- g) The dollar value of the contract
- h) The number of resources provided on a monthly basis.

FORM M2**CONTRACT MANAGER**

In accordance with the requirements of mandatory evaluation criterion **MTC-2**, provide the following information for the contract manager:

- a) The full name of the individual that will be designated as the Health Canada contract manager responsible for resource and contract management associated with the resulting contract;
- b) The position title of the individual named above;
- c) A copy of the contract manager's resume must be provided with the bid;
- d) Summary of the tasks completed on a previous contract related to Digital Health* (minimum 12 month duration) while occupying this role; and
- e) The billable hours charged to project used to demonstrate the experience.

* Digital health examples:

- Telemedicine;
- Artificial intelligence (AI)-enabled medical devices;
- Electronic health and medical records;
- Virtual health;
- Interoperability;
- Health Information Exchange;
- Automation and modernization of health services;
- Streamlining physicians' work;
- Digital health credentials

FORM M3**RISK MITIGATION STRATEGY**

In accordance with the requirements of mandatory evaluation criterion **MTC-3** provide, at a minimum, the following information for the Risk Management Strategy:

- a) The approach the Bidder will take to identify potential risks arising while performing the Contract;
- b) The approach the Bidder will take to deal with difficult and unexpected situations; and
- c) The approach the Bidder will take to ensure that it is able to manage large* groups of diverse** resources in support of a single client.

*** Large is defined as a minimum of 10 resources**

**** Diverse is defined as multi-disciplined and multi-stakeholders**

FORM M4**CONTRACT MANAGEMENT STRATEGY**

In accordance with the requirements of mandatory evaluation criterion **MTC-4** provide, at a minimum, how the Bidder will address the following information for the Contract Management Strategy:

- a) Provide fully qualified resources to Health Canada within five days of receipt of a Task Authorization request
- b) Manage the process of transitioning between existing contracted resources and the new contract
- c) Manage the process of transitioning between contract resources during the term of the contract
- d) Manage quality assurance practices in providing resources for tasking; and
- e) Manage contingency plans or practices to ensure resource availability and resource replacement.

ATTACHMENT 4.2
POINT-RATED TECHNICAL CRITERIA
Revision 01

Note to Bidders: A Word version of this document is available by sending a request by email to Vidia.Debidin@tpsgc-pwgsc.gc.ca

ID	Point Rated Criteria	MAX Score	Point Grid	Bidder Response (Demonstrated Experience)
R1	Experience in navigating with health related projects with collaboration between the federal Government of Canada and provinces and/or territories.	10	<p>No collaboration between entities = 0 points</p> <p>Collaboration between two entities* = 5 points.</p> <p>Collaboration between all** entities = 10 points.</p> <p>* Two entities are defined as one federal and one provincial or one federal and one territorial.</p> <p>** All entities means a collaboration between the Federal Government and all 13 provinces and territories.</p>	
R2	<p>The bidder should demonstrate they have delivered multiple* projects with large** teams within the past ten (10) years as of the initial publication date of this solicitation</p> <p>* multiple is defined as a minimum of 3 projects of similar scope and size</p> <p>** large is defined as a team that includes more than 10 employees</p>	10	<p>Less than 10 employees in any of the multiple projects = 0 points</p> <p>Over 10 employees in each of the multiple project = 10 points</p>	
R3	The Bidder should demonstrate they have delivered a large* project in the field of digital health** credentials within the past five (5) years as of the	10	Not delivered a digital health credential project = 0 points	

<p>initial publication date of this solicitation.</p> <p>* Large is considered as a project that generally takes 12 to 24 months, involves a major change to one or more services (creates, retires or significantly alters an IT or IM service), Impacts all or large part of a population (minimum of 500 000 individuals), is high risk and complex, involves multiple stakeholders with varying objectives, includes a cross-functional core team and-or requires a full time project manager</p> <p>** Digital health examples:</p> <ul style="list-style-type: none">• Telemedicine;• Artificial intelligence (AI)-enabled medical devices;• Electronic health and medical records;• Virtual health;• Interoperability;• Health Information Exchange;• Automation and modernization of health services;• Streamlining physicians' work;• Digital health credentials		Delivered a digital health credential project = 10 points.	
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