REQUEST FOR INFORMATION

REGARDING

LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS)

FOR

THE CANADIAN GRAIN COMMISSION

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THIS IS NOT A SOLICITATION DOCUMENT

THIS IS A REQUEST FOR INFORMATION (RFI) FROM INDUSTRY

1) Background and Purpose of this Request for Information (RFI)

The intent of the Request for Information (RFI) is to:

a) Provide industry with an early opportunity to assess and comment on the requirements in order to maximize best value to Canada if a Request for Proposal (RFP) is posted;
b) Determine the capability of suppliers to provide the products and services described in the draft Statement of requirements (SOR);
c) Solicit feedback and recommendations on any issues that would impact a supplier's ability to fulfill the requirements;
d) Solicit industry knowledge and expertise about best practices that would increase the likelihood of a successful outcome for this solution;
e) Provide an opportunity for suppliers to demonstrate and discuss their software capabilities;
f) Solicit potential cost estimates for implementation and annual maintenance over a five-year period.

2) Nature of Request for Information

This is **not** a bid solicitation. The material in the RFI package is for the solicitation of feedback only. Responding to this RFI is not a prerequisite to participating in any future Request for Proposal for a CGC requirement. However, all suppliers are encouraged to indicate their level of interest when responding to this RFI with their comments, in order to facilitate a better understanding of requirements and capabilities from both Public Services and Procurement Canada (PSPC) and Industry perspectives.

Responses should be indicative of current offerings; if there are upgrades under production that may be more suitable than current offerings, please ensure the proposed timelines for production and subsequent release are clearly identified.

The publication of this RFI must not be construed as a commitment on Canada's part to issue a subsequent RFP for CGC's requirement and no contract or other form of commitment will be entered into with any supplier based on responses to this RFI. This RFI must in no way be considered as authorization by Canada for Suppliers to undertake any work, which would result in costs to Canada. Canada will not be liable for, nor will it reimburse any suppliers for any costs, fees or expenses which any Supplier incurs in the preparation or submission of its response to this RFI. Canada will not be bound by anything stated herein. Canada reserves the right to change, at any time, any or all parts of the requirement as it renders necessary.

Information provided will not be attributed to its source but may be publicized in a manner that does not disclose the provider. Suppliers will not be bound by any aspect of their responses to this RFI. All responses to this RFI will be held by Canada on a confidential basis (subject to applicable legislation) and remain the property of Canada once they have been received and may be used to support further development of internal planning documents and decisions, and possibly an RFP. Note that responses to the RFI will not be returned.

Please note that any analyses contained within the Annex A – Statement of Requirements are intended to assist potential respondents to understand the context for the proposed systems in order to provide meaningful responses to the questions in the RFI. When considering a bid resulting from a future RFP, respondents are encouraged to undertake their own analyses as they see appropriate, rather than rely solely on those provided by the CGC.

3) Long-Term / Continuous Planning

a) Product Evolution Scope: Canada expects the scope of the software solution to evolve during its use by the Canadian Grain Commission.

b) Solution Utilization Timeframe: The duration of any contract resulting from this procurement process does not indicate the period of the business relationship with the Contractor. The CGC will continue to use the software solution as long as it makes good business sense.

c) Multi-departmental Clause: The bid solicitation will also allow Canada to make the software solution available to any department or Crown corporation (as those terms are defined in the Financial Administration Act) or any other party for which the Department of Public Works and Government Services is authorized to act from time to time under section 16 of the Department of Public Works and Government Services Act (each a "Client"). Canada reserves the right to identify the software solution as a departmental or enterprise standard for this use and similar uses. Although Canada may make the software solution available to any or all the Clients, the bid solicitation will not preclude Canada from using another method of supply for entities of the Government of Canada with the same or similar needs.

4) Clarification

The CGC may request clarification of written responses received and/or comments received as a result of the responses to this RFI. If required, any clarification may be requested by the Contracting Authority either as it has been received and reviewed or after the closing date of the RFI.

Requests for clarification will be submitted in writing via email, and a response is requested within three (3) business days of the transmission of the clarification questions.

5) Closing Date

Responses to this RFI will be accepted until 4:00 PM (EST) March 24, 2023.

Responses may be submitted by email to: sheila.kvern@grainscananada.gc.ca

Please note that the maximum file size is 8GB; should a response to this RFI contain large attachments, please send multiple messages numbered in order i.e. 1 of 3, 2 of 3, 3 of 3 to ensure all information is received.

6) Format of Responses

Responses will be readable in any Microsoft document type, as well as in PDF format.

No paper copies will be accepted at this time.

Include the following sections:

- Section I: Vendor background

- Section II: Responses for Questions to Industry
    i. Reasonableness of requirements
    ii. Pricing
    iii. Vendor solution capabilities
    iv. Schedule

Canadian Grain Commission

Laboratory Information Management System

Appendix A

Statement of Requirements

Version 1.0

January 26, 2023

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Annex 1 – Current Equipment List (Separate Attachment)

Annex 2 – Laboratory Requirements (Separate Attachment)

1. Introduction

1.1 Purpose.

The purpose of this Statement of Requirements (SOR) is to define the tasks to be performed by the Canadian Grain Commission (CGC) to obtain a Laboratory Information Management System (LIMS) Solution (hereinafter referred to as "the Solution") that will enhance the way the CGC captures data, integrates equipment, tracks sample movement throughout the CGC's labs, and stores and manages the data collected therein.

1.2 CGC Overview

The Canadian Grain Commission (CGC) is a federal government department that administers the provisions of the Canada Grain Act (CGA). The object of the Commission (as set out in the CGA) is, "…in the interests of the grain producers, establish and maintain standards of quality for Canadian grain and regulate grain handling in Canada, to ensure a dependable commodity for domestic and export markets." The CGC's aims to be a leader in delivering excellence and innovation in grain quality as described in its vision "To be a world class, science-based quality assurance provider".

The CGC's two public-facing divisions are the Grain Research Laboratory (GRL) and Industry Services (IS). The GRL carries out Analytical Testing and scientific research to understand all aspects of grain quality and grain safety. IS regulates grain handling in Canada through its grain quality and quantity assurance programs and administers several producer protection programs and safeguards to ensure the fair treatment of Canadian grain producers when they deliver their grain to licensed grain elevators and grain dealers. Most of the labs are at the CGC Headquarters located in Winnipeg, and there are regional labs and service centres throughout Canada.

1.3 Background

Samples are received from various sources such as cargo vessels, companies, or individual grain producers. Samples undergo quality assurance testing at various CGC testing facilities. A portion of those samples are also divided and sent to its various CGC labs for use in scientific research. Custom databases and applications are used to store test results. These systems rely heavily on our IT division to support information management, to backup information and develop systems which share data between various labs. There are approximately 23 processes that could be incorporated into a LIMS. Section 3 describes common sample processes.

CGC Laboratories

Crop research programs include:

- Bread Wheat and Durum Research
- Milling and Malting/Research on Barley and Other Grains
- Pulse Research
- Oilseeds

Technology research programs include:

- Trace Organics and Trace Elements Analysis
- Microbiology and Grain Genomics

- Grain Biotechnology
- Analytical Services

2. Terminology

API	Application programming interface – Software which allows two different applications to share information between them.
CSP	Contract Security Program
DOS	Designated Organization Screening
GRL	Grain Research Laboratory. The division of the CGC that is responsible for scientific research on grains and grain products
HSP	Harvest Sample Program – A voluntary program offered by the CGC. Grain producers submit samples of different crops in order to receive information on their crop's grade (unofficial), dockage and quality.
IS	Industry Services. A division of the CGC that provides regulatory oversight including inspection, weighing and licensing services as mandated by the Canada Grain Act
ISO	International Organization of Standardization – An organization comprised of representatives from different nation's standards organizations. The main purpose of the organization is to set standards for different industrial, proprietary and commercial processes.
ODBC	Open Database Connectivity – A database API which provides a connection to access database management systems.
PWGSC	Public Works and Government Services Canada
SSAS	SQL Server Analysis Services – An online analytical processing tool used for faster data analysis across multiple files or databases.
SSIS	SQL Server Integration Services – Component of SQL which is used for data integration. It contains features which extracts, transforms and loads data.
SSO	Single Sign-on
SSRS	SQL Server Reporting Services
VDI	Virtual Desktop Interface

3. Description of typical sample flows

Description of a typical Cargo Sampling

a) Client makes requests for grain inspection and testing in addition to our grading requirements.
b) Grain samples are pulled while Cargo ships are being loaded (every 2000 Tonnes)
c) Cargo samples are pooled into a well-mixed composite sample by vessel

d) Composite sample is split into sub-units for pre-determined tests as requested/needed and sent to various CGC testing facilities as needed.
e) Samples are received at CGC locations
f) Analytical lab tests performed as requested by client or as required by the CGC
g) Analytical lab tests results are entered into various spreadsheets and programs
h) Results are compiled by staff from the various information locations and testing certificates are produced
i) Results are sent to clients and stored at the CGC according to established information management practices.

Description of a typical Submitted Sample workflow

a) Grain samples are submitted for inspection and testing by individuals or companies
b) Samples arrive at a CGC location for inspection and testing per client's requests and are logged in as received
c) Analytical lab tests performed as requested by client
d) Analytical lab tests results are entered into various spreadsheets and programs
e) Results are compiled by staff from the various databases and testing certificates are produced
f) Results are sent to clients and stored at the CGC according to established information management practices.

Description of a typical Harvest Sample workflow

a) Grain samples are submitted by Farmers for inspection and testing via barcoded envelopes provided by the CGC
b) Samples are individually catalogued and processed and sent to CGC testing facilities
c) Test results are entered into HSP application
d) Results are auto-generated email based on info from HSP app

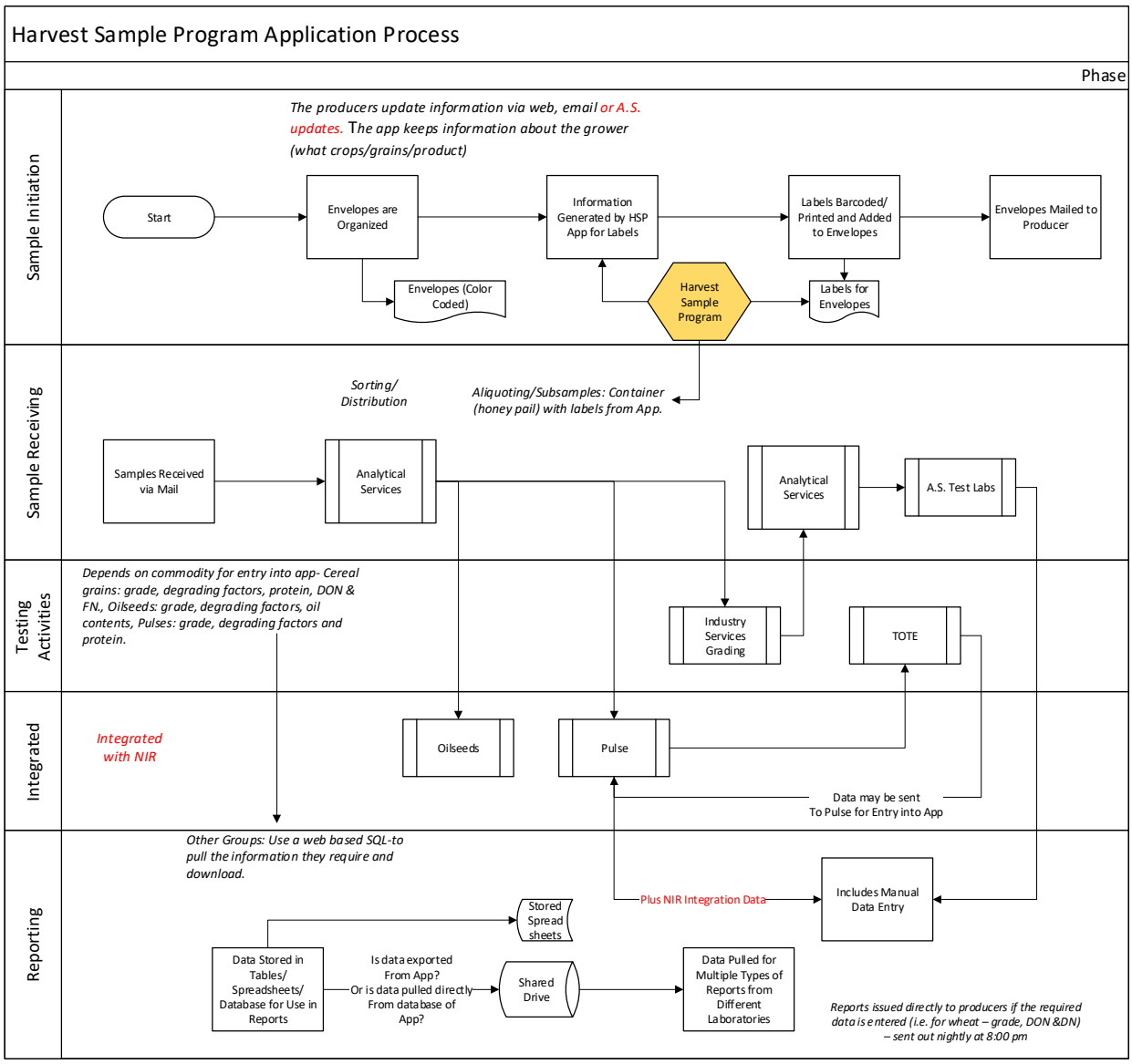

Figure 1. Harvest Sample Program Application, process flow

This chart shows the process of a sample, submitted by a farmer, through the CGC's harvest sample program, and the application that tracks it.

4. Professional Services – Resources Required

Project Manager (Senior)

Experience Required: The Project Manager must have a minimum of 3 years of project management experience with the implementation of Solution supplied by the Bidder.

Responsibilities could include but are not limited to:

a) Review client's requirements and propose resources and solutions from the Bidder;

b) Oversee the professional services outlined below and provided by the Bidder;
c) Prepare, maintain and provide to the CGC the solution documentation including the Project Implementation Plan for the implementation of the Solution;
d) Monitor and manage the implementation progress against a detailed schedule;
e) Report progress, prepare status reports and participate in status meetings on a regular basis to update The CGC on solution progress;
f) Identify, document and communicate to The CGC the risks and issues related to the solution.

Solution Configuration Specialist

Experience Required: The Solution Configuration Specialist must have a minimum of 5 years' experience in the configuration, customization and implementation of the Solution supplied by the Bidder

Responsibilities could include but are not limited to:

a) Configure the Solution;
b) Produce system documentation;
c) Produce design and architecture documentation;
d) Provide knowledge transfer and transition to designated CGC staff for the support and maintenance of the Solution

Solution Application Specialist

Experience Required: The Solution Application Specialist must have a minimum of 5 years' experience in the set-up, installation and validation of the Solution software supplied by the Bidder.

Responsibilities could include but are not limited to:

a) Configure the Solution;
b) Produce system documentation;
c) Provide knowledge transfer and transition to designated CGC staff for the support and maintenance of the Solution.

5. Qualifications

All resources provided by the Bidder must meet the minimum qualifications described in the Contract (including those relating to previous experience, professional designation, and language proficiency) and must be competent to provide the required services by any delivery dates described in the Contract.

6. Training

1. The training must be role-oriented and must include relevant information on the system hardware, the software installation, the system configuration and the maintenance;
2. Initial training sessions must be delivered during the implementation period. Other training sessions could be requested on an "as and when needed" basis;
3. The Bidder must provide electronic documentation, all presentations, and related reference documents used for training in English. If available, the Bidder must also provide the French

version of the documents. If no French version exists, The CGC reserves the right to translate the training material(s) to French with no obligation to share the translations with the Vendor;

4. Before providing any training, at least ten working days in advance of the first training session, the Bidder must submit the course syllabus and schedule, an electronic copy of all the training materials, and the names and qualifications of the instructors to the Technical Authority for approval;
5. The training will take place on-site at the CGC office in Winnipeg, Manitoba, Canada - or may be done virtually via MS Teams, WebEx, or Zoom;
6. The training must take place during regular business hours (between 8:00 am and 4:00 pm, Central Time);
7. The training material must reflect The CGC's environment and operational requirements.

Initial Training requirements

Here is an estimate of the training that will be required during the Solution implementation:

User Role	**Estimated Number of User**
LIMS Administrator	2
Configuration (Super Users)	5
Integration (LIMS Admin)	2
Reporting (LIMS Admin)	2
Lab Representative	10

Table 1. Initial Training Requirements

7. Contract Details

7.1 CONTRACT DURATION

Initial contract duration five (5) years with five (5) option years.

7.2 LOCATION OF WORK

All work will be done at the Bidder's premises until further notice; however, if and when offices are accessible, work may also be performed on site at Canadian Grain Commission Headquarters in Winnipeg, Manitoba, Canada. The CGC will provide all necessary office space, and access to CGC resources (i.e. Network).

7.3 LANGUAGE

The language of correspondence and all documents will be in English.

The CGC reserves the right to translate, as required, any material provided (including, but not limited to, implementation and solution documentation) in either French or English, in order to fulfil the Official Languages Act requirement to provide equal access to both French and English documentation.

8. Requirements

8.1 Functional

a) Must run concurrently in multiple locations to service both the Winnipeg Headquarters and Regional lab locations
b) Must support a laboratory with a minimum of 40 concurrent Laboratory Users and a minimum of 130 total users
c) Must run concurrently in both official languages
d) Must offer continued vendor support in both official languages
e) Must allow configuration of mandatory data elements
f) Must allow for customization
g) Must have the ability to provide Application Programming Interface (API) for integration with other applications
h) Must log all user transactions and maintain a history of all transactions

8.2 Technical

a) Must be able to be managed in the CGC's Microsoft Azure tenet or a Software as a Service (SaaS) based solution
b) Must be compatible with Microsoft office and Microsoft 365 applications
c) Must be compatible with the CGC's current workstation environment: Windows 10 Operating Systems. Applications can be accessed externally via laptop to M365/Azure, or internally through Citrix VDI infrastructure. CGC's main Web browser is MS Edge (current version).
d) Microsoft SQL database must be open or support ODBC or API interfaces
e) Must allow for 3rd party interface (i.e. SSRS, SSIS, SSAS)
f) Must have multi factor authentication
g) Solution should be compatible with the CGC directory services which is based on Microsoft Active Directory (MS-AD). SaaS solutions should use Azure AD with MFA for single sign-on (SSO).
h) Must use software technology and architecture that is current, supported and compatible with CGC's current software architecture technology
i) Must provide all digital documents in versions no later than Microsoft Office 2016 versions
j) Should have desktop applications based on client server architecture and/or include option for web enabled interface that meet industry standards for browsers

8.3 Security

a) The Hosted solutions must be hosted on a server that is located in Canada
b) Hosted Solutions must hold a valid Designated Organization Screening (DOS) with approved Document Safeguarding at the minimum level of Protected B, issued by the Contract Security Program (CSP), Public Works and Government Services Canada (PWGSC) at all times during the performance of the Contract. The Government of Canada (GC) Protected B security level for sensitive government information and assets applies to information or assets that, if compromised, could cause serious injury to an individual, organization, or government.

c) Each personnel requiring access to protected information, assets or site(s) must each hold a valid reliability status, granted or approved by the CSP, PWGSC. This includes subcontracts of the vendor.
d) Must acquire written approval from CSP and PWGSC prior to utilizing its Information Technology systems to electronically process, produce or store Protected B information
e) Must support industry standard methods for the encryption of sensitive data in transit to/from the host/server system, at rest within storage subsystem(s), and client computer(s), and must use most recent secure versions of encryption protocols such as Secure Sockets Layer, Transport Layer Security, or Secure File Transfer Protocol.
f) Must be able to provide notification of data breaches and identify security vulnerabilities

8.4 Maintenance

a) For hosted solutions, the vendor must be responsible for the maintenance of the system, which will be performed remotely
b) The vendor must provide a list of maintenance tasks including software updates and a recommended schedule to perform the maintenance tasks.
c) The vendor must identify a software replacement cycle that includes schedule and cost

8.5 System Training

a) Must offer virtual training to all users specified in table 1 at initial implementation
b) Must offer training to users specified in table 1 between 9:00 am and 3:00 pm, Canada Central Time

8.6 CGC Laboratories

(**See Annex 2**)

9 Deliverables

The following deliverables are required:

Tasks / Activities	Deliverable Description
Initial kick-off meeting	The Bidder must organize and schedule a meeting with The CGC team in order to initiate the work.
Scope Study	The Bidder must send a Solution Configuration Specialist to the CGC HQ location in Winnipeg, Manitoba, Canada in order to conduct a full Scope Study. If a visit in-person is not possible, the Scope Study will be conducted in collaboration with the Solution Configuration Specialist and The CGC using medias such as videoconference, email, etc.
Technology Blueprint	The Bidder must provide a Technology Blueprint (diagrams and textual descriptions) showing the mapping between the Solution components and the underlying technology.
Delivery of the implementation plan for final approval	Delivery of the implementation plan as per the requirements identified in the Statement of Requirements.

Delivery of the training plan	Delivery of the training plan as per the requirements identified in the Statement of Requirements.
Implementation plan review meeting	The Bidder must organize and schedule a meeting with The CGC team to review the Implementation Plan for approval.
Configuration of the Solution as per CGC requirements	Complete modifications on the Solution based on the results of the Scope Study performed.
Documentation on the configuration and any customization	The Bidder must provide complete documentation explaining the configuration performed on the initial Solution in order to be compliant to CGC requirements. Additional documentation about any Customization performed on the initial Solution in order to be compliant to CGC requirements.
First software implementation delivery	Delivery of the implemented Solution as per the requirements identified in the Statement of Requirements. The Solution Delivery can be incremental until the complete Solution delivery. The delivery includes the porting of existing data into the LIMS.

Table 2. Proposed solution delivery schedule

Canadian Grain Commission

Laboratory Information Management System

Appendix B

Questions to Industry

January 26, 2023

Suppliers are requested to review Appendix A - Statement of Requirements, Annex 1 - Current Equipment List, Annex 2 -Laboratory Requirements, and respond to the following questions in the tables below.

Respondents are welcome to provide additional notes.

Reasonableness of Requirements

1. Are there any specifications, requirements or evaluation criteria stated that would unduly limit your firm's ability to submit a response?
2. Would your firm bid on this request? If not, are there any specifications we have requested that would prevent your firm from bidding?
3. Are there any additional requirements that your firm believes should be added to the Requirements section for the CGC to achieve its stated outcomes?

Pricing

4. Please fill out the table below for your company's estimated cost for potential solutions available. Enter "N/A" if you do not offer this type of solution or if the cost is not applicable for the type of solution offered. The CGC assumes the following for each type of solution, please note if vendor offering is different:
    a. Client hosted onsite: Everything managed by the CGC (Application, infrastructure, data, etc.)
    b. Infrastructure as a Service: The CGC manages the application, data, middleware, operating system. The vendor provides the servers, storage, networking, and virtual interface
    c. Platform as a Service: The CGC manages the application and data. The vendor provides the operating system, middleware, servers, storage, networking, and virtual interface
    d. Software as a Service: Vendor is responsible for all items

	Client hosted On-Site	Platform as a Service	Infrastructure as a Service	Software as a Service
One-time Costs (in CAD)				
Application software				
Integration software				
Reporting software				
Professional services for implementation				
Data Migration ($/Mb)				
Training (See **Appendix A:** Section 6, table 1)				
Annual Costs (in CAD)				
Subscription licensing for 40 concurrent users				
Ongoing hosting costs				
Application software maintenance				
Integration software maintenance				
Reporting software maintenance				

Table 3. Pricing

5. What factors would affect the price of your company's solution? What bulk pricing is available for additional users or purchases by multiple Government of Canada departments?
6. What is the cost of going above the specified number of concurrent users during a peak period?
7. How and what does your organization charge for Data Migration (i.e. $/Mb) and are there other considerations (Drives, Applications etc.)?

Vendor Solution Capabilities

8. Could you please describe your support program currently offered (days and hours of activity, tiers, optional extensions, etc.)?
9. For Sample tracking, what type of scanner is required? Can phone cameras be adapted for use with an app, or otherwise used or are dedicated scanners required?
10. How does the Solution integrate with Lab Equipment and Instruments? Does it require additional install on each End-User computer? See Annex 1 for a List of Laboratory Equipment and Instruments.
11. Is the Solution able to integrate with OpenID Connect for authentication and authorization purposes?
12. What is the technology used to implement the Solution's API (RESTful, Web Services, etc.)?
13. What is your Solution's Web Interface technology (JavaScript, HTML5, etc.)?
14. Does your Solution have the security requirements that must be met in order to demonstrate security compliance for the provision of Cloud Solution up to Protected B?
15. Is your Solution readily capable to offer French and English user interface, or does it need to be adapted or configured? Can the user interface language be changed on the fly (toggle) or does it need logout/login? Does it require multiple install & URL (one per language)? Is the cost included?
16. Are there options to classify data within the platform, ability to apply metadata (date range etc.)?
17. Is your solution able to interact with platforms such as Microsoft 365?

Schedule

18. What would be the solution delivery timeframe, based on your experience delivering Laboratory Information Management System (LIMS) Solutions of similar scope and proportions? Complete the table below.

Tasks / Activities	Estimated Schedule	Vendor Notes
Initial kick-off meeting		
Scope Study		
Technology Blueprint		
Delivery of the implementation plan for final approval		
Delivery of the training plan		
Implementation plan review meeting		
Configuration of the Solution as per CGC requirements		

Documentation on the configuration and any customization		
First software implementation delivery		

19. What is the vendor's recommendation for CGC resources on the project and time requirements in order to meet project timeline?