

## SPECIFICATION

### ***LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS)***

#### **1. Scope**

- 1.1. This specification describes the IAEA requirements for LIMS software (hereinafter referred to as the “System”) including compatible hardware for a forensic, toxicological, as well as food, water and environmental safety/quality testing laboratory.
- 1.2. The System shall be implemented (setup, with relevant training offered and usability ensured) at the End-User’s site listed in Annex A.

#### **2. Requirements**

##### ***2.1. Functional and performance requirements***

The System shall meet the following functional and technical requirements:

- 2.1.1. Be useful in management of laboratory work flows, modules and information related to the scope, including but not limited to: Samples, sample receipt, storage and tracking; Organization of laboratory entities; Instrument/equipment management and interface; Analysis/data entry; Test orders and results; Quality Assurance and Quality Control; Electronic data transfer and reporting; Chemical and reagent inventory- and stock-taking; Personnel/analyst tracking; Documentation; Database handling and external integration including enabling of external stake holders to submit samples and download reports among others;
- 2.1.2. Be a flexible, scalable and configurable LIMS capable of serving additional in-house programmes in the testing laboratory beyond the defined scope;
- 2.1.3. Allow for handling and management of various food, biological, water or other environmental matrices containing or suspected of containing contaminants or toxins intentional added or not; and for identification and comparison purposes (e.g. DNA testing); and
- 2.1.4. Enable handling and managing of at least 300 of such samples at a time.

##### ***2.2. Technical Requirements***

The System shall meet the following technical requirements (others not explicitly stated are not excluded):

###### Software(s)

- 2.2.1. Shall be capable of being linked to common enterprise resource planning and other transaction systems relevant to the scope;
- 2.2.2. Shall include an option for a sample management system in the context of laboratory clients, and the possibility to schedule a batch of samples and linking client data to the batch, as well as comprehensive reporting of laboratory information;

- 2.2.3. Shall include a component for secure delivery of test results/reports to laboratory clients;
- 2.2.4. Shall include the capability to provide electronic signatures;
- 2.2.5. Shall include security access with regard to operators (individuals or groups) their roles, traceability of actions undertaken, and support proxy login;
- 2.2.6. Shall include licences for at least 10 concurrent users, and at least 10 instruments (for chemical, microbiological, molecular or toxicological analysis of biological, food, water and environmental matrices) connected bi- or uni-directionally at a time, with options for further scale-up;
- 2.2.7. Shall include appropriate one-time or perpetual licenses covering all required software (s) with no hidden charges to follow;
- 2.2.8. Shall include at least one year of technical support to facilitate optimum use of the programme.

Hardware (and associated database/server software)

- 2.2.9. Shall include two (2) compatible network-ready server computers to act as application/database server (minimum disc drive >2x300 gigabytes/2 x 500 gigabytes for the application/database server), and system/web server hardware as well as compatible network ready workstation (minimum Intel Core i7-8700 (up to 4.00 GHz, 12MB Cache); 16 Gb (1x16Gb) - DDR4 2666 SDRAM; 512 GB SSD; and minimum 1 terabyte hard disc space for the system/web server). The System shall have sufficient supportive computing resources (hardware and software).

### **3. Packing**

- 3.1. The System, for shipment to the End-User, shall be packed in accordance with any associated/applicable national or international standards.
- 3.2. The System shall be properly packaged to avoid damage in transit or after delivery prior to setup.

### **4. Quality Requirements**

The System and components shall be manufactured/developed (as applicable), shipped and installed in accordance with the Contractor's stated standards and in accordance with relevant guides for laboratory informatics. Documents demonstrating that the System meets such guides shall be presented.

### **5. Testing and Acceptance**

- 5.1. The System, prior to shipment, shall be tested or assessed (as applicable) for compatibility based on the Contractor's performance specifications and the minimum requirements specified herein;
- 5.2. The System, after installation/setup, shall be tested by the Contractor together with the End-User to demonstrate that the performance specifications and the minimum requirements as well as End-User needs herein specified, are met.

## 6. Installation and Training (as part of implementation)

6.1. The Contractor shall provide implementation service including installation of the System, on-site training on use, maintenance, as well as troubleshooting at the End-Users in English or French. The Contractor shall ensure the System is set up and operational and this task should be completed in a minimum period of five (5) days and maximum of fifteen (15) days at the End-User laboratory. A combination of on-site and remote (off-site) implementation will also be considered as an alternative; and

6.2. A report of satisfactory implementation, endorsed by the End-User, shall be sent to the IAEA.

## 7. Deliverable Data Items

7.1. The Contractor shall provide a set of literature and at least one user/operation manual in the English language (where possible in the French language as well for one of the End-Users), to facilitate use of the System, and any information that helps the Contractor demonstrate ability to meet stated specifications; and

7.2. A detailed plan for provision of continued technical and system sustainability support after sale and setup.

## 8. Optional quotation

Upon the request of the IAEA and/or the End-User, the Contractor shall deliver to the End-Users' laboratories:

8.1. Server/hardware cabinet(s) depending on the model;

8.2. Two additional workstations with the following minimum attributes or alternatives: Intel Core i7-8700 (up to 4.00 GHz, 12MB Cache); 16 Gb (1x16Gb) - DDR4 2666 SDRAM; 512 GB SSD; Intel UHD Graphics 630; Intel Wireless 9560 ac 2x2 + Bluetooth 5.0; Intel I219LM Gigabit Ethernet 10/100/1000 LAN; HP USB Standard Keyboard (US International); HP USB Optical Mouse; up to 5-year On-site Warranty, Next Business Day; HP Master Keyed Cable Lock 10mm; Intel HD Graphics; ≥1 TB hard disk;

8.3. Relevant statistical dashboard(s); and

8.4. Any other material recommended for installation, operation or maintenance such as storage media, verification keys, or any software user-authorization or security information.