

**Terms of Reference
for
Procurement of Consultancy Firm for Implementing the ICT Solution for
Government Analyst's Department**

1. Introduction:

Government Analyst's Department (GAD) engages with very important high level activities to assist the Government to ensure food safety and to maintain law and order. The GAD works with law enforcement authorities and other relevant organizations closely. However, data entry, data analysis and case tracking is mainly performed using manual or some legacy systems which are not capable of increasing the efficiency or effectiveness of the laboratory information system.

ICT can significantly be used for effective and efficient management of Laboratory information system of the GAD. Both internal and external stakeholders of the Department and citizens will be benefited in numerous ways by introducing proper ICT solutions.

2. Background:

The Government Analyst's Department (GAD) is divided into two main divisions:

- (i) Food Science Division and
- (ii) Forensic Science Division.

The Food Division of the Department composed of three (04) laboratories as Food, Liquor, Milk and Water. Each section analyzes samples and issue scientific reports to protect the public under the Food Act, Consumer Protection Act, Environment Protection Act, etc... And analyze liquor under Excise Ordinance. The Forensic Division of the department has eight major disciplines as Ballistic, Explosives and fire investigation, Narcotics, Questioned Documents, Serology and DNA, Toxicology and Miscellaneous. Each section in the Forensic Division carries out investigations and examinations of evidence related to various crimes such as murder, rape, theft, hit and run, arson, fraud etc.

The GAD works with the key Institutions such as Courts of Law and Labor Tribunals, Department of Police, Criminal Investigation Department, Department of Health, Department of

Customs, Department of Excise, Sri Lanka Standards Institution, Consumer Affairs Authority, Sri Lanka Tea Board, Central Environment Authority, Sri Lanka Insurance Company, National Lotteries Board, Colombo Dockyard and other Government Departments and Law Enforcement Authorities.

3. Objective of the Assessment:

The efficiency and the effectiveness of the functions of the GAD can be significantly increased by Information and Communication Technology, thereby making internal users, external stakeholders and citizens satisfied. Since the current manual system which do not have the capability to meet the current requirements, it is intended to develop a centralized and integrated software solution which will facilitate all core functions of the Department. A proper ICT solution will improve the overall performance of GAD so that it can adhere with the standards used by similar organizations in other countries.

4. Scope of Work:

The consultancy firm is expected to carry out tasks in three major areas;

- a) Carry out a comprehensive system requirements and business processes study of the proposed solution.
- b) System implementation.
- c) User training
- d) Facilitate operational acceptance and user acceptance
- e) Providing support and maintenance services for a period of one year

Carry out a comprehensive system requirements and business processes study of the proposed solution.

- 4.1** The consultant should carry out as-is study of the business processes and a study to identify detailed requirements of the proposed solution and produce a Detailed System Requirement Specification (DSRS) and Business Process (BP) document .

System implementation

- 4.2** The consultant should base the implementation of the system on BP and DSRS documents and outcomes.
- 4.3** The consultant should architecture and design the entire solution.
- 4.4** The consultant should adopt an iterative and agile approach where the users will be given workable iterations of the system. Users are expected to give comments at the end of each iteration. The relevant milestones of each iteration should be appropriately defined by the

consultant. It is expected to complete the entire solution by three (3) major iterations. The iterative release plan shall be finalized along with the system architecture/design

- 4.5 The consultant should deploy all the iterations in a staging environment maintained by the consultant enabling the stakeholders to access the iterations (public access). This process should be continued aligned with the respective milestones. Final production deployment should also be carried out in production environment given by GAD/ICTA. The consultant should maintain the staging environment until the end of maintenance period.

User Training

- 4.6 The consultant should facilitate the training requirements given in Annexure-3.

Facilitate operational acceptance and user acceptance

- 4.7 The consultant should facilitate operational acceptance and user acceptance activities.

Maintenance and software support for the system

- 4.8 The consultant should adhere to the Service Levels of Maintenance and Software Support specified in the Annexure-1.
- 4.9 Maintenance and support phase of the solution is commenced upon acceptance of the whole software solution. (Since the system will be centrally hosted, support will be for central setup).

General requirements

- 4.10 All consultants are required to sign a Non-Disclosure Agreement (NDA) where applicable.
- 4.11 The consultant shall comply with the independent software project audit (SPA) process, which will be carried by a team designated by GAD. The consultant shall adhere to the requirements stipulated in the Software Project Audit Process (Annexure-4).
- 4.12 Ensure interoperability for exchanging data by adhering to the latest technical and data standards of Lanka Interoperability Framework (LIFe) (<http://www.life.gov.lk>), and incorporate with the LIFe Location Code Navigator (<http://repository.icta.lk/LIFe/navigate>).
- 4.13 The consultant shall have separate identical environments for Development and Quality Assurance (QA) and Staging. The Production environment will be given by the client. Production Environment would be setup based on the hardware requirements given by the consultant.
- 4.14 Adherence to the latest revisions of e-Government Policy of Sri Lanka [http://www.icta.lk/attachments/759_ICT_Policies_and_Procedures_for_Government_V_9_English_Jan_08_2010.pdf].

- 4.15 Adherence to Web 2.0 concepts, open standards, interoperability standards and Service Oriented Architecture (SOA) principles.
- 4.16 Maintain project source code in a source code repository given by ICTA/GAD. The GAD will be the owner of ALL source codes of the entire solution.
- 4.17 Maintain all issues in the Issue tracking system maintained by ICTA/GAD.
- 4.18 Adopt a proper application release procedure to release the iterations for deployment in the staging / production environments.
- 4.19 Participate for the meetings/discussions of project governance committees such as Project Steering Committee (PSC), Project Management Committee (PMC) and Project Review Committees as and when required.
- 4.20 The system will be audited by SLCERT (Sri Lanka Computer Emergency Readiness Team) for Information Security. The consultant shall implement the necessary changes/modifications/enhancements recommended by SLCERT.

Non-functional Requirements

- 4.21 The system shall meet the non-requirements stipulated in Annexure-2.

5. Deliverables and Timeline:

The consultant is required to submit the following list of deliverables.

No	Deliverables	Duration
1	a) Project management plan (with project schedule/Gantt chart) b) Implementation approach	Commencement Date + 1 week
2	a) System Requirement Specification (DSRS) and Business Process (BP)	Commencement Date + 3 weeks
3	a) Software architecture document for the complete system b) Iteration plan with milestones identified. b) User Interface standard proposed for the solution	Commencement Date + 5 weeks
4	a) Detail design of the system b) Test plan c) Test cases and test scenarios of the first iteration	Commencement Date + 8 weeks
5	a) Deployed (in staging environment) and working version of first iteration b) Hardware requirement for production	Commencement Date + 12 weeks

6	a) Updates of the detail design document (as required/ based on feedback on first iteration) b) Test cases and test scenarios of the second iteration c) Deployed (in staging environment) and working version of second iteration	Commencement Date + 15 weeks
7	a) Updates of the detail design document (as required/ based on feedback on first/second iterations) b) Test cases and test scenarios of the third iteration c) Deployed (in staging environment) and working version of third iteration	Commencement Date + 18 weeks
8	a) Updates of the detail design document (as required/ based on feedback on first/second/third iterations) b) Integrated and deployed (in staging environment) complete working version c) Training proposal d) UAT test cases e) Requirement for production environment	Commencement Date + 20 weeks
9	a) User Acceptance Testing (UAT) b) Initial versions of the User Manual (English) and Admin Manual (English) c) Training for key users (identified by ICTA/GAD)	Commencement Date + 21 weeks
10	a) Complete post UAT changes/enhancements b) Deployment of integrated complete solution in the production environment/ ready for production) c) Final versions of the User Manual (English), Sinhala and Tamil translations and Admin Manual (English) d) Training for remaining users (identified by ICTA/GAD) e) System maintenance plan	Commencement Date + 24 weeks
11	Operational Acceptance Testing (OAT)	Production + 3 months
12	Maintenance and Software Support	Production + 1 year

6. Qualifications of the KEY CONSULTANTS;

Preferred Qualifications:

▪ **Project Implementing team**

Key Professional Staff	Academic	Experience in the <u>PROPOSED ROLE</u>	Experience in working in Enterprise level projects	Experience in web-based application development	Exposure to Software Project Audit Process
1. Project Manager	B. Sc or equivalent	5 years	3 projects	-	1 project
2. Software Architect	B. Sc or equivalent	3 years	2 projects	1 project	-
3. Technical Lead	B. Sc or equivalent	2 years	2 projects	1 project	1 project
4. Senior Software Engineer (2)	B. Sc or equivalent	2 years	1 project	1 project	1 project
5. Business Analyst	B. Sc or equivalent	3 years	2 projects	-	-
6. Quality Assurance Lead	B. Sc or equivalent	2 years	2 projects	1 project	1 project
7. Quality Assurance Engineer	B. Sc or equivalent	2 years	1 project	1 project	1 project

▪ **Support and Maintenance team**

Key Professional Staff	Academic	Experience in the <u>PROPOSED ROLE</u>	Experience in working in Enterprise level projects	Experience in web-based application development	Exposure SQA Process
8. Senior Software Engineer	B. Sc or equivalent	2 years	1 project	1 project	-
9. QA Engineer	B. Sc or equivalent	3 years	1 project	1 project	-

7. Services and Facilities Provided by ICTA/GAD

- 7.1 Web-based access to the ICTA SCM system
- 7.2 Integrated build environment
- 7.3 Access to production servers (for production deployment)
- 7.4 Issue Tracking System, Ticketing system (for maintenance period)
- 7.5 SPA dashboard

8. Review Committees and Review Procedures

The consultant is required to work closely with the project team of GAD/ICTA and Software Project Audit (SPA) consultants and/or any other review committee(s) as appointed/decided by ICTA/GAD.

All versions of deliverables will be reviewed and the acceptance is given once the deliverables meet the acceptance criteria.

References:

- [1] e Government Policy Approved By Cabinet of Sri Lanka - <https://www.gov.lk/elaws/wordpress/wp-content/uploads/2015/03/eGov-Policy-structured-v4-0.pdf> (the latest version to be considered).
- [2] Lanka Interoperability Framework - <http://www.life.gov.lk/>

List of Annexures

Annexure-1: Service Levels of Maintenance and Software Support

Annexure-2: Non-functional Requirements

Annexure-3: Training Requirements

Annexure-1

SERVICE LEVEL AGREEMENT *for* SUPPORT AND MAINTENANCE SERVICES

1. Introduction

The aim of this agreement is to provide a basis for close co-operation between the Client and the Consultant for support and maintenance services to be provided by the Consultant, thereby ensuring a timely and efficient support service is available.

This agreement is contingent upon each party knowing and fulfilling their responsibilities and generating an environment conducive to the achievement and maintenance of targeted service levels.

2. Objectives of Service Level Agreements

- 1 To create an environment conducive to a co-operative relationship between Client, Consultant and Client's representatives (government organizations) to ensure the effective support of all end users.
- 2 To document the responsibilities of all parties taking part in the Agreement.
- 3 To define the commencement of the agreement, its initial term and the provision for reviews.
- 4 To define in detail the service to be delivered by each party and the level of service expected, thereby reducing the risk of misunderstandings.
- 5 To institute a formal system of objective service level monitoring ensuring that reviews of the agreement is based on factual data.
- 6 To provide a common understanding of service requirements/capabilities and of the principals involved in the measurement of service levels.
- 7 To provide for all parties to the Service Level Agreement a single, easily referenced document which caters for all objectives as listed above.

3. Service Level Monitoring

The success of Service Level Agreements (SLA) depends fundamentally on the ability to measure performance comprehensively and accurately so that credible and reliable information can be provided to customers and support areas on the service provided.

Service factors must be meaningful, measurable and monitored constantly. Actual levels of service are to be compared with agreed target levels on a regular basis by both Client and Consultant. In the event of a discrepancy between actual and targeted service levels both Client and Consultant are expected to identify and resolve the reason(s) for any discrepancies in close co-operation.

Service level monitoring will be performed by Client. Reports will be produced as and when required and forwarded to the Consultant.

4. Principal Period of Support (PPS) Requirements

The Principal Period of Support (PPS) is considered in 2 categories as follows;

PPS category	Duration	Applicability
PPS1	From 08:00 AM to 05:00 PM Monday to Friday (excluding public holidays)	All system components.

Consultant MUST provide System Support and Maintenance Services during the above stipulated times.

5. On-Call Services Requirements

Consultant MUST make at least ONE qualified personnel available to the Client by telephone and email for the reporting and resolution of non-conformities or other issues, defects or problems. Dedicated telephone number(s) and email(s) should be available for reporting issues. Client will nominate the personnel who are authorized to report non-conformities or other problems with the system from the head office/regional offices. Reporting of non-conformities includes requests by the Client to apply critical software updates or patches.

Table-1 shows the response priority assigned to faults according to the perceived importance of the reported situation and the required initial telephone response times for the individual priority ratings. All times indicated represent telephone response time during specified PPSs. The indicated telephone response time represents the maximum delay between a fault/request being reported and a Consultant's representative contacting the Client by telephone. The purpose of this telephone contact is to notify the Client of the receipt of the fault/request and provide the Client with details of the proposed action to be taken in respect of the particular fault/request.

	Business Critical	Non-Business Critical
Fatal	30 minutes	45 minutes
Impaired	45 minutes	90 minutes

Table-1: Response Priority

Note:

- Fatal - Total system inoperability
- Impaired - Partial system inoperability
- Business Critical - Unable to perform core business functions
- Non-Business Critical - Able to perform limited core business functions

Consultant notification can occur outside PPS time, and thus the response may occur after the next PPS begins. Furthermore, "Time to Arrive On-Site (Table-3)" starts from PPS starting

time and “Time to Resolve the Problem” is PPS time starting from the actual time of arrival on site.

6. Problem Resolution and Penalties

If problems have not been corrected within two (2) hours of the initial contact, the Consultant shall send qualified maintenance personnel to the respective Client’s site to take necessary actions to correct the issue reported (defect, problem or non-conformity).

If faults are not corrected within the time limits specified in the Table-2, the Client shall be entitled to a penalty payment for each hour that the Consultant fails to resolve the fault.

The time to arrive on-site is specified in the Table-3.

	Business Critical	Non-Business Critical
Fatal	6 Hours LKR 5,000.00	10 Hours LKR 3,000.00
Impaired	10 Hours LKR 3,000.00	15 Hours LKR 2,000.00

Table-2: Resolution Time and Penalties

	Business Critical	Non-Business Critical
Fatal	2 Hours	3 Hours
Impaired	3 Hours	5 Hours

Table-3: Time to arrive on-site

Annexure-2

Non-Functional Requirements

1. Security and Authentication

- Only authenticated users should be allowed. Access privileges should be granted to a user by assigning roles. The roles should be created by assigning tasks.
- The application should ensure “confidentiality” and “integrity” wherever applicable by adhering to transport and message level security standards. (i.e. HTTPS, WS-Security).

2. Audit Facilities

- An audit trail of all activities must be maintained. On a service or operation being initiated, the system should log the event, creating a basic ‘audit log entry’. It should not be possible for the operation to be executed without the log entry being made.
- The information recorded in the audit trail depends on the type of activity which takes place. Each service would be responsible for logging detailed information. The different types of operations are; (not limited to)
 - Data Capture & Maintenance
 - Creation of an entry / item
 - Modification an item
 - Deletion
 - Control (or status change)
 - Process execution
 - Data synchronization
 - Print (only selected item)
 - Retrieval
 - Monitor
- Detail logging may be enabled or disabled for each type of operation, and/or for each business object. It should be possible to configure which attributes of a data item should be traced at the detail level. Tracing of some attributes may be considered mandatory, and they should not be turned off.

3. High Availability and Backup

- Application level high-availability should be ensured. There shouldn't be any single-point-of-failure.
- Necessary mechanisms for off-site backup should be implemented. Backup procedure and restoration procedure should be properly documented and restoration should be properly tested.
- The main contingencies that should be considered and the training with regards to these shall be given to the relevant staff -
 - Equipment failure
 - Physical / natural Disaster
 - Breakdown in EDM, messaging or communication facilities.
 - Changes in operations and policy
 - Sudden absence of key personnel
 - Breach in Security

4. Performance

- Following performance criteria is provided as a guideline only. If the actual performance is falling below the stipulated figures, the consultant is to justify the reasons. However, the performance level must be accepted by the technical evaluation committee appointed by the client.
- The bandwidth is assumed at 256kbps with 50 concurrent users in total.

Item	Performance
i. Screen Navigation: field-to-field	< 10 milliseconds
ii. Screen Navigation: screen-to-screen	< 5 seconds
iii. Screen Refresh	< 3 seconds
iv. Screen list box, combo box	< 3 seconds
v. Screen grid – 25 rows, 10 columns	< 5 seconds
vi. Report preview – (all reports) – initial page view (if asynchronous)	< 60 seconds in most instances. It is understood that complicated / large volume reports may require a longer period

vii. Simple enquiry – single table, 5 fields, 3 conditions – without screen rendering	< 5 seconds for 100,000 rows
viii. Complex enquiry – multiple joined table (5), 10 fields, 3 conditions – without screen rendering	< 8 seconds for 100,000 rows
ix. Server side validations / computations	< 10 milliseconds
x. Client side validations / computations	< 1 millisecond
xi. Batch processing (if any) per 100 records	< 120 seconds
xii. Login, authentication, and verification	< 3 seconds
xiii. Daily backups (@ Dept.) – max duration	1 hour (on-line preferred)
xiv. Total Restore (@Dept) – max duration	4 hours

Annexure-3

Training Requirements

Division	No of Employees who require training
CB - Serogy	2
CD -Drugs	3
CE - Explosives	3
CF-Firearms	3
CM - Miscellaneous	3
CT - Toxicology	3
DNA	2
EQD	3
Food	3
Liquor	3
Admin	4
IT section	2
hierarchy	7
Quality Assurance	1