Terms of Reference
For
Design, Development and Implementation of Management Information System of the Sri Lanka Accounting and Auditing Standards Monitoring Board (SLAASMB)

1. Introduction

Development of new centralized solution improves the evidence based decision making process in relation to the operations of Sri Lanka Accounting and Auditing Standards Monitoring Board (SLASSMB). An effective and efficient decision making is one of the key factors for a productive government service delivery process and ensures a good governance model.

Introducing a centralize Management Information System (MIS) for the operations at SLAASMB minimizes overhead of manual documentation and also improves the information store and exchange among the internal staff.

2. Background

The Sri Lanka Accounting and Auditing Standards Monitoring Board (SLAASMB) was established in 1995 under the Sri Lanka Accounting and Auditing Standards Act No. 15 of 1995. Based on the definitions and criteria laid down by the Act, certain institutions are identified as Specified Business Enterprises (SBEs).

These SBEs are required to comply with Sri Lanka Accounting Standards and the auditors of SBEs are required to comply with Sri Lanka Auditing Standards. The Act requires SBEs to submit their annual audited financial statements to SLAASMB to enable SLAASMB to monitor compliance with Sri Lanka Accounting Standards and Sri Lanka Auditing Standards. SLAASMB carries out its function by reviewing financial statements received, reviewing audits of financial statement of SBEs, conducting investigations on failure to comply with standards and taking appropriate corrective action with regard to non-compliances with standards by SBEs and auditors.

The SLAASMB is empowered to call for documents, information and explanations from Directors and Managers of SBEs and Auditors of SBEs for the purpose of carrying out its functions. Where Financial Statements have not been prepared in accordance with Sri Lanka Accounting Standards, the SLAASMB could require an entity to make suitable corrections.

The Board has the power to compound an offence or impose a fine up to a limit specified in the statute. In cases where noncompliance was done deliberately to mislead the public the courts may impose penalties extending up to 5 years imprisonment.

3. Objective of the Assignment

This project envisages to hire a Consultant Firm (hereinafter referred to as **"**Consultant")**"** for acquiring a robust and scalable **Management Information System for SLAASMB** to achieve the below stated brief scope of services within a period of seven (7) months, conforming to the industry standards, implementing, integrating with internal and external applications and providing support and maintenance for a period given under the scope of work.

The Consultant is required to design, develop, implement and maintain the solution. The total duration of the assignment comprises of time for system design, development, final deployment including periodic user training/ demonstrations (7 months) and support and maintenance is 36 months from the date of the project kick-off.

Key objectives of the assignment are as follows;

- To build more robust and secure platform by digitizing and streamlining the SLAASMB operations to provide more efficient and effective service.
- Integration with other stakeholders to build an eco-system which provides an optimized service to stakeholders by minimizing operational costs while achieving service excellence.
- To build computer literate and technologically empowered SLAASMB officials in supporting government digital transformation.

4. Scope of Work

4.1 Implementation of MIS of SLAASMB

4.1.1 The consultant should review and understand scope and functionalities of the SLAASMB (Refer Annex 1).

4.1.2 The consultant should conduct a detailed system requirement study of the ‘’as is" process and should propose enhancement / new features such as simple workflows and dashboards for the relevant user levels. Some of the identified features which should be available in the SLAASMB system are listed in Annex 2.

4.1.3 The selected consultant should conduct discussions/workshops when necessary to identify and verify the requirements with all the relevant officials. Furthermore, consultant should propose any improvement if required.

4.1.4 On completing the above, a Detailed Software Requirements Specification (DSRS) and a Detailed Software Technical Design (DSTD) including the proposed solution architecture document should be submitted. The consultant should obtain approval from SLAASMB for the DSRS and approval from ICTA for the DSTD respectively.

4.1.5 Upon obtaining approval for the above, consultant should design and develop the solution.

4.1.6 The consultant should architecture and design the entire solution.

4.1.7 The consultant should submit all deliverables as specified in below item '6 – Final outputs, Reporting Requirements, Time Schedule for Deliverables'.

4.1.8 SLAASMB intends to develop and launch proposed solution in seven (07) months. During the project period, system functionality, quality and performance will be verified. The 3 years support and maintenance will commence after the operational acceptance of the system.

4.1.9 The consultant should present an application prototype covering major functionalities of the proposed solution such as, but not limited to user scenarios, workflows, document management and dashboard.

4.1.10 The consultant should implement all non-functional requirements mentioned in the Annex - 4.

4.1.11 The consultant should study possible integrations with external organizations for the proposed solution in order to provide a more comprehensive service.

4.1.12 The consultant should propose most suitable solution to secure and expose data.

4.1.13 The web application should be compatible with latest technological components and best practices and will be reviewed by ICTA and should be able to deploy into staging and production in cloud platform provided by ICTA.

4.1.14 The consultant should follow the proper coding standard and maintain project source code in the ICTA, GitHub system and upload all the relevant documents to the ICTA, SCM (Software Configuration Management).

4.1.15 The consultant should study and propose suitable hardware requirements (such as QR scanners, printers etc. - if required) to the proposed solution and should provide the detailed specifications.

4.1.16 The propose solution should have reporting capabilities and visualization capabilities to facilitate easy decision-making.

4.1.17 Adopt a proper application release procedure to release the SLAASMB solution to the production environments during the deployment in the staging/ production environments at the cloud (configure, replicate and data migration to the server) provided by ICTA.

4.1.18 The consultant should deploy all the iterations in a staging environment maintained by the consultant enabling the SLAASMB to access the iterations. This process should be continuously aligned with the respective milestones. Final production deployment should also be carried out in production environment given by ICTA. The consultant should maintain the staging environment until the end of maintenance period.

4.1.19 The consultant should understand and ensure the existing data volume and data complexity and provide data migration strategy accordingly. Moreover, data transformation strategy should follow the proper industry standards and proper control mechanisms in transforming these data in to the new solution.

4.1.20 Consultant should migrate the existing data of SLAASMB to the newly developed system.

4.1.21 Solution should be adhered to Web 2.0 concepts, open standards and Service Oriented Architecture (SOA).

4.1.22 The consultant is encouraged to use FOSS applications.

4.1.23 The consultant shall adhere to standards defined by ICTA such as relevant domain of Lanka Interoperability Framework (LIFe) and eGovernment Policy (Refer Annex 6).

4.1.24 Proposed system should be freely deployable, platform independent and interoperable. (Note: Freely deployable for enhancement, modification and redeployment purposes the system should have zero license cost).

4.1.25 Proposed solution should be browser independent and be able to access with less configuration in the client workstation.

4.1.26 The consultant shall comply with the independent quality assurance process, which will be carried by a team designated by the ICTA.

4.1.27 The consultant should derive the UAT test cases in collaboration with ICTA.

4.1.28 Obtain User Acceptance for the implemented processes iteratively by the committee appointed by SLAASMB.

4.1.29 The consultant should define the hosting requirement based on the deployment architecture at least a month ahead of the software deployment of SLAASMB.

4.1.30 Consultant shall configure and setup server requirements including system certificates /security(eg: SSL, HTTPS, etc).

4.1.31 Developed solution shall be tested by Sri Lanka Computer Emergency Readiness Team (SLCERT) to identify system security vulnerabilities. The consultant shall fix all security related recommendations as per the report submitted by SLCERT; prior to solution launch and during the support and maintenance period.

4.1.32 The proposed solution should have proper data backup plan and equipped with high availability and fault tolerance plan.

4.1.33 The consultant should develop proper alerting mechanism to monitor system performance issues, exception and system downtimes. Moreover, proposed alerting mechanism should be able to send alert via SMS to designated officers by SLAASMB.

4.1.34 The Consultant should adhere to any templates for the deliverables, if provided by ICTA.

4.1.35 The consultant should provide support and maintenance services, from the date of launch to agreed time period. Moreover, the consultant should adhere to the Service Level Agreement (SLA), during the support and maintenance (S&M) phase (Refer Annex 3 – Service Level Agreement for Support and Maintenance Services).

4.1.36 Adhere to ICTA project management practices.

4.1.37 Participate for Technical Review Committee meetings and Project Management Committee Meetings as a member and present the status of the project when necessary.

4.1.38 The consultant should work collaboratively with SLAASMB and ICTA throughout the tenure of the project; matters related to finalization of decision making, related to management and policy decision are taken by Project Steering Committee. (Refer Annex 5 - Project Steering Committee Model).

4.1.39 The Consultant should follow the intellectual property rights of the software application and all artifacts in accordance with the conditions of the Contract.

4.1.40 Dedicated Project Manager of the consultant should be aligned with schedule time lines given by SLAASMB.

4.2 Support and Maintenance

4.2.1 During the support and maintenance period the consultant should attend to any issue reported and carryout configuration changes (if required), apply relevant security patches, update and tuning of performance etc to make sure the security of the solution.

4.2.2 At the end of the S&M period, the consultant should handover the source code and relevant updated documents to SLAASMB, with a proper knowledge transfer sessions to the SLAASMB including following updated artifacts (Detailed Software Requirement Specification, System Architecture Design Document, Detailed Software Technical Documentation, Solutions Installation, QA Test Plan, Test Cases and Test Scripts, Application User Manual).

4.2.3 Change requests (CR) should accommodate after obtaining the approval from the Change Control Board and as per the CR rate agreed in the contract.

4.3 Document and Training

4.3.1 The consultant should provide user training document in Electronic format (With screen captures).

4.3.2 The consultant should provide a training plan, considering different users, different functionalities and number of days, training approach, required language, etc.

4.3.3 The consultant should provide both soft and hard copies of user manuals (e.g. Printed documents and CD's). All manuals should be in English.

4.3.4 The consultant has to provide trainer(s) and training material only. SLAASMB will provide required training facilities.

4.3.5 The consultant should provide adequate training for the users of envisaged solution using operation documentations.

4.3.6 The system administrator of the SLAASMB should also be trained in relation to the system administration activities such as creating users, assigning user rights and back up procedures etc. (not limited to)

Refer following Annexes which form a part and parcel of the Terms of Reference.

Annex 1 - High Level Overview of SLAASMB Operations
Annex 2 - Some of the identified features of the proposed solution
Annex 3 - Service Level Agreement (SLA)
Annex 4 - Non -functional Requirement
Annex 5 - Project Steering Committee Model
Annex 6 - References

5. Minimum Qualifications of key professional staff

The consultant shall give the team of professionals with the curriculum vitae and the team organization.

5.1 Development Team

	Key Professional Staff	Academic & Professional Qualifications	Experience in the PROPOS ED ROLE(Yrs.)	Experience in working in SOA / web services / integration (Yrs.)	Exposure SQA Process(Yrs.)	Specific Qualifications/ Requirements
a)	Project Manager	-Degree in ICT relevant field or Business Management	8	6	6	Enterprise Application, Experience in government related projects, Agile project management
b)	Software Architect	- BSc in ICT/ Computer Science -MSc in ICT or equivalent	5	5	5	Enterprise Application, Experience in government related projects, Micro services, Docker based deployment
c)	Technical Lead	- BSc in ICT/ Computer Science	3	3	3	Enterprise Application Development, Micro services, Docker based deployment,
d)	Senior Software Engineer	- BSc in ICT/ Computer Science or equivalent	3	3	3	Enterprise Application Development, Microservices, Docker based deployment,
e)	Software Engineer	-BSc in ICT/ Computer Science or equivalent	3	3	3	Enterprise Application Development, Microservices, Docker based deployment,

f)	Senior Business Analyst	- BSc in ICT/Computer Science or equivalent	5	3	3	Experience in Enterprise applications, Government related projects, (Demonstrated skills on Analysis and Solution Definition, Technical Recommendation and Testing, Project Execution etc.)
g)	UI/UX Lead	-BSc in ICT/ Computer Science or equivalent	3	3	3	Enterprise Application Development, Wire framing, Prototyping,
h)	DevOps Engineer	-BSc in ICT/ Computer Science or equivalent	2	2	2	Enterprise Application Deployment, Microservices, Docker based deployment, Continuous Integration, Continuous Deployment
i)	Quality Assurance Lead	-BSc in ICT/ Computer Science	3	3	3	Enterprise Application Quality Assurance, Microservices, Automated Testing
j)	Senior Quality Assurance Engineer	-BSc in ICT/ Computer Science or equivalent	3	3	3	Enterprise Application Quality Assurance, Microservices, Automated Testing

5.2 Support & Maintenance Team

	Key Professional Staff	**Academic**	**Experience in the PROPOSED ROLE(Yrs.)**	**Experience in working in SOA / web services / integration ((projects(Yrs.)**	**Exposure SQA Process(Yrs.)**	**Specific Qualifications/ Requirements**
a)	Technical Lead	- BSc in ICT/ Computer Science	3	3	3	Enterprise Application Maintenance
b)	Senior Software Engineer	-BSc in in ICT/ Computer Science or equivalent	3	3	3	Enterprise Application Maintenance

6. Final Outputs, Reporting Requirements, Time Schedule for Deliverables;

The total project duration is Forty Three (43) months; 7 months – for the implementation of the application (including requirement gathering, designing, developing and deployment), and 36 months (03 years) – for the support and maintenance with SLA

Consultancy firm is required to submit the following list of deliverables for SLAASMB application development and support & maintenance project for solution.

Development:

No.	Deliverables	Phase	Duration
1	Implementation Proposal 1.1 Inception report 1.2 Implementation schedule / Project plan	Inception	Commencement + ½ Months
2	2.1 System Requirement Definition Report (SRD) verification report 2.2 Detailed Software Requirements Specification (DSRS) 2.2 Iteration plan (2 Iterations for deployable and workable solution) 2.3 Specifications for required hardware improvements 2.4 Data migration and integration plan 2.5 Report on proposed 3rd party modules and features (if required)) 2.6 Detailed software technical design (DSTD) 2.7 QA test plan 2.8 Acceptance criteria for the UAT 2.9 Prototype using a wireframe tool	Elaboration	Commencement + 2 Months
3	3.1 Updated test plan for the iteration (functional and non- functional) 3.2 Test cases and test scenarios (functional and non-functional) 3.3 Proper maintenance of source code in ICTA GitHub 3.4 Developer and QA release notes 3.5 Successful deployment of staging and production environments 3.6 Test results 3.7 UAT test cases and successful UAT acceptance 3.8 User/Administration manual 3.9 Data Migration and Integration 3.10 Production deployment conformation report	Iteration 1	Commencement + 4 Months

4	4.1 Updated test plan for the iteration (Functional and Non-functional) 4.2 Updated detailed software technical design (DSTD) (if required) 4.3 Updated test cases and test scenarios (functional and non-functional) 4.4 Proper maintenance of source code in ICTA GitHub 4.5 Updated developer and QA release notes 4.6 Successful deployment of staging and production environments 4.7 Updated test results (functional and non-functional) 4.8 Updated UAT test cases and successful UAT acceptance 4.9 Updated User/Administration manual 4.10 Deployment guide 4.11 Data Migration and Integration 4.12 Production deployment conformation report 4.13 Help Desk document for the system	Iteration 2	Commencement + 7 Months
5	5.1 Monthly support and maintenance Report 5.2 Final S&M report should consist with comprehensive knowledge transfer with the documentation (including above mentioned all the updated documents)	S &M	Date of launch + 36 months

Change Request:

No.	Deliverables	Phase	Duration
1.	1.1. CR Proposal, including effort	Estimation	-
2.	2.1 Updated test plan for the iteration (Functional and Non-functional) 2.2 Updated detailed software technical design (DSTD)) 2.3 Updated test cases and test scenarios (functional and non-functional) 2.4 Proper maintenance of source code in ICTA GitHub 2.5 Updated developer and QA release notes 2.6 Successful deployment of staging and	Implementation	Agreed duration for the CR

	production environments 2.7 Updated test results (functional and non-functional) 2.8 Updated UAT test cases and successful UAT acceptance 2.9 Updated User/Administration manual 2.10 Deployment guide (if applicable) 2.11 Data Migration and Integration(If applicable) 2.12 Production deployment conformation report 2.13 User Training for assignments (if applicable)		

7. Services and facilities provided by ICTA and SLAASMB

7.1. Access to staging/ production servers.
7.2 Hosting facility (Lanka Government Cloud)
7.3. Web-based access to the ICTA GitHub and SCM system.
7.4. Access to Issue Tracking System.
7.5. Arrange and facilitate meetings/trainings/ workshops (if required)

8. Review Committees and Review Procedures

The Software Development Consultant is required to work closely with the ICTA Technology Team and the Software Process Audit (SPA) consultants.

All versions of deliverables will be reviewed by the Technical Review Committee appointed by SLAASMB.

Annex 1 - High Level Overview of SLAASMB Operations

High level processes related to the envisioned solution is given below for the purpose of estimating the scope. However, the selected vendor shall carry out a requirement study and propose a business rule driven configurable solution to address the business process areas defined below. However, the selected vendor may re-validate the given processes during the requirement study process in order to make the same more efficient and effective as per the digital transformation principals.

Following functional areas are applicable for the envisioned end-to-end solution.

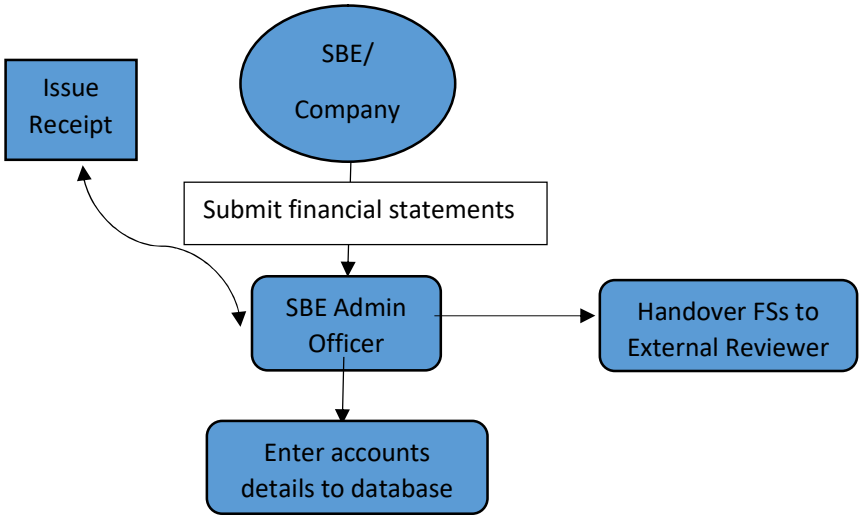
- Technical Work of SLAASMB
  - Financial Statement Review
  - Audit Review
  - Legal Proceedings

- Administrative functions of SLAASMB
  - Receipt of Financial Statements
  - External review process
  - Vehicle maintenance
  - Reimbursement of staff benefits
  - Leave records
  - Library records
  - Technical File movement record

a) ***Administration***

Receipt of financial statements

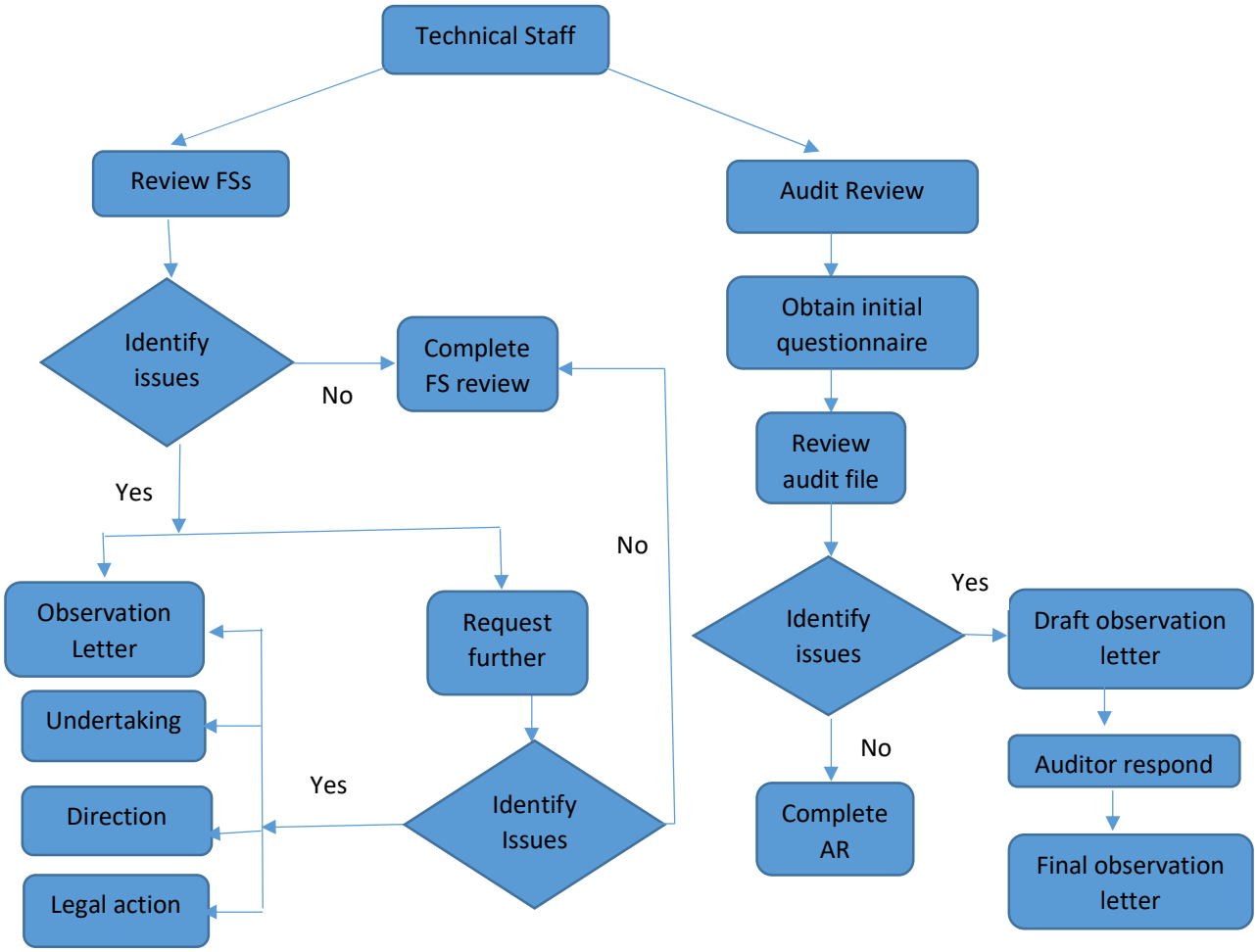
External Reviewers' process



b) Technical

Financial statements review

Audit reviews



Annex 2 – Some of the identified features of the proposed solution

Consultant should study the SLAASMB business process and should carry out requirement study to identify new features to be implemented in MIS. Some of the identified features listed in the following table.

Module	Task	Description
Generate Receipts Module	Generate QR Code	Generate unique QR Code no
	Generate Receipts	Receipts with unique Receipt no
	Update Receipt Register	List of financial statements received with the year of financial statements, Receipt date and Receipt number
	Maintain Database of financial information on SBEs	Key data(Total assets, Equity, Revenue, PAT etc) , graphs, comparisons, ratios
	Maintain database with market data of listed entities	Market price, Market Capitalization
	Alert pending financial statements	List of SBEs which had not submitted financial statements for a specific period
	Error reports	Duplicate financial statements received, financial statements from non SBEs received
	Generate reminders to SBEs	History of reminders, Status of reminders
	Alert new SBEs	Whether the alerted SBE has submitted financial statements to SLAASMB previously
	Obtain financial statements in soft copy form (CD) or hard copy form	Store softcopy/scanned copy of the financial statements in the scanned folder.
	Maintain past financial statements received SBE wise annually	Scanned folder should consist with past financial statements received.
	Identification of Financial Statements due to be lapsed	List of SBE's based on receipt date which have not been reviewed and are due to be lapsed.
	Other Information on Financial Statement	Lists of categories of SBEs (BNK, FNN, EXL etc…)
		SBEs adopting SME standards, full IFRS
		Whether the company is a Holding company and if so, subsidiaries and associates of the group (ability to attach group structures)

		Whether financial statements received are consolidated or not
		Review status of the reports received, risk category, review started or not, with external reviewer, name of the TM /ATM / External Reviewer, date of commencement of review, If a TM/ATM cannot review a particular financial statement, reason for inability (Eg. conflict of interest)
		Status of the pending reviews, pending information, observations to write
		History report including receipt number, date of receipt, Company Name, Category: (LST, BNK), Risk category, Whether Group of companies, assigned reviewer, Current status, previous financial reports submitted to SLAASMB, previous F/S reviewed by SLAASMB, previous letters issued by SLAASMB, Previous review results
		Report of ratio analysis of a company if at the receipt point the Total assets, Equity, Revenue, PAT is entered in the system.
		List of relationships among companies, (Identifying parent, subsidiary, associates relationships) and Non compliances and name of directors /Auditors
		Ageing of reports as at a given date.(So that outstanding reports can be analyzed with the age bucket)
		Alert files due to be lapsed within 2 months Generate alert report on files due to be lapsed for a particular period of time Identify SBE's with qualified, adverse , disclaimer audit opinion
	Maintain contact details of SBEs	Contact details of SBEs (Co name, Contact person and tel numbers) Names of Head of Finance, contact number
Technical file register	Maintain record of technical files (hard copy form files)	Updated records of inward outward movement of technical files (Name of TM/ATM, date taken, date return)

Annual Plan	Maintain information on annual target of financial statement reviews, audit reviews, training activities, other activities etc.	Allocate financial statements reviews and audit reviews to TM/ATM based on risk criteria Allocate other activities to TM/ATM including presentations Update annual budgeted working days and annual performance points
	Maintain information required for risk based selection of FS reviews and audit reviews	Incorporating the developed risk matrix to the system. Link financial and other information entered by SBE Admin Officer and Technical staff to the relevant fields in the matrix
Financial Statement reviews	Maintain information on past financial statement reviews	Past observations year wise Past data of financial statements of each SBE with repeated observations Past Observations Group wise analysis History of undertakings obtained History of directions issued Graphical presentations Analysis of reviews completed with no-issues (company wise) - No of reviews completed with no-issues previously to one particular SBE Analysis of Agreements undertaken
	Maintain information relating to review of financial statements by TM/ATM (Maintain e-technical file)	Generate materiality template based on financial data entered at the receipt point Generate information requests to be sent to SBEs Enabling peer review functions for the information requests generated Eg. Notify respective TM/DDG about letters to be reviewed Maintain copies of information requests sent in the e-technical file of respective SBE Alert TM/ATM when the information requested is due Generate reminders if the requested information not received on due date

	Alerts on previous financial statement review to support current year review	Alert when the same observation had been communicated twice to one particular SBE Information on undertakings obtained and directions issued and subsequent review and whether undertaking was completed Follow-up notes to be followed
	Maintain follow-up notes to be followed in next year review	Major issues/agreements undertaken to be followed up in the next year
	Maintain information on present reviews	Observations during the current year company wise Analysis of reviews based on categories (e.g. banks, finance companies, etc.) Agreements undertaken Analysis of reviews based on reviewer/ATM/TM
	Maintain information on observations communicated	List of Standards violated based on frequency of occurrence, standard wise, paragraph number wise and year end
	Maintain a folder on standard wordings to use in letters on non-compliances	Formats of letters
	Maintain folder of standard formats of letters	Formats of letters
	Maintain information on external reviewers	Status of reports given to external reviewers- date given, date received, allocated TM History of reviews of external reviewers – reviewers wise Allocate risk based identification to reviewers
	Maintain information on external reviewer evaluation	Evaluate external reviewers based on set criteria, each reviewer wise and each review wise

	Alert on related parties of the board	List of related parties and relationship
	Historical Information	History Report (Name of the Company, Name of the Group, Date received, Receipt number, Year, Asset, Liabilities, Equity, Revenue, Profit after tax, Assigned Preliminary reviewer, Date of review, Assigned Manager, Date of Completion, Type of letter sent, Number of Disclosure Issues, Number of measurement issues ,Value of measurement issues, Standard reference of noncompliance, Follow up notes, Whether Audit review has been done, Date of the Audit review, change in Auditor, financial strength of SBE considering market capitalization and or total assets with the related auditor) Observations communicated to subsidiaries in the same financial year (to consider when finalizing review of the parent)
	News /Important Published Notifications	Ability of attaching important findings (i.e. newspaper articles, CSE notices, SEC directions) to the individual company & to the group structure, Maintaining a folder for each company which has a higher risk (PLCs, Banks & Finance Companies) to update external news which are relevant for F/Ss reviews
	Technical Committee – Alert	Ability of generating technical memos in respect of important technical issues that are to be presented to the technical committee & ability of updating the same memo based on technical committee decisions. Ability of viewing those by subject. Notify Technical Committee members on each new technical memo generated
	Maintain Technical Committee decision register	Record on conclusions made by the technical committee (i.e. issue, conclusion, basis, standard reference, members participated, Date)

Audit reviews	Maintain information on past audit reviews	Past observations year wise, SBE wise, auditor wise
	Maintain information on present audit reviews	Observations SBE wise, auditor, audit partner Analysis of audit reviews based on TM/ATM, total reviews completed per annum
	Maintain a folder on standard wordings to use in letters	Formats of letters.(Eg. No issues, Draft observations, final observations, audit committee letters
	Maintain information on observations communicated	List of Standards violated based on frequency of occurrence, standard wise, paragraph number wise and year end
	Maintain Database of Audit Reviews	Observations analyzed based on firm, size of firm, audit partner.
		List of SBEs not subjected to audit reviews
		List of audit firms not subjected to audit reviews
		Improvements in firm-wise reviews (comparison of review finding for the first 5 years)
	Maintain information on firm-wide inspections	Firm-wide inspection plan, observations, report
	Maintain information on thematic audit inspections	Analysis of audit reviews based on theme inspected, TM/ATM, auditor, SBE, year end
	Historical information	Historical information about firm-wide and thematic audit inspections
Meetings	Maintain meeting calendar	Meetings held with auditors Meetings held with SBEs Meetings held with other parties
	Maintain information on meetings with companies	Allocate time slots, meeting rooms, participants for the meetings specified above. Auto generation of list of participants sheet Retain a copy of each meeting minute other than audit inspections, enabling only

		participants to the meeting to view such copy. Auto generation of meeting calling letters, email notifications Notifications on meetings (eg. Reminders) Copy of Statements obtained from meeting attendees (if any)
Technical meetings	Conducting Technical meetings	Details of technical meetings and minutes/ outcome of the meeting,
Learning activities	Maintain records on past training programs	History of training programs including how the program was sourced date of attendance Name of participant, (Technical/Non-technical training, Manager/Assistant manager/Non- technical staff) recurring/non recurring cost incurred Hours of training, Date of presentation done by the participant, total points allocated Feedback on program Other comments(if any)
	Maintain records on present training programs	how the program was sourced date of attendance Name of participant, (Technical/Non-technical training, Manager/Assistant manager/Non- technical staff) recurring/non- recurring cost incurred Hours of training, Date of presentation done by the participant, total

		points allocated Feedback on program Other comments(if any)
	Maintain folder of formats of reports	Learnings of the outcomes of training programs
	Maintain folder of PowerPoint presentations/ Reports/ Any other study materials	Up-to-date presentations on accounting and auditing standards Reports on learning outcomes of the training program attended information obtained from third parties by the SLAASMB (i.e. clarification obtained from inland Revenue), Valuation Guidelines, Articles/study materials
	Log on to possible training programs	Total cost incurred during the year for training, per person cost. Information on training budget
	Training contacts	Name of program, date of program, presentation, contact details, recommendation by staff attendees.
	Maintain records on trainings provided to outsiders by SLAASMB staff	Copies of important technical presentations done by staff, technical publications
Clarifications and complaints	Maintain records on clarifications provided	Event wise record on activities performed to attending to clarification with time spent for each activity Copies of clarification letter, information obtained, response to clarification
	Maintain records on complaints received	Event wise record on activities performed to attending to complaints with time spent for each activity Copies of complain letter, information obtained, response to complain (if any)
Legal Proceedings	Maintain records on past legal proceedings	History of legal actions/ Clarifications taken against companies (company wise and subject wise) from Attorney General History of legal action made against auditors (firm wise and subject wise)

	Maintain records on present legal proceedings	Present status of the legal actions, allocated attorney, date of handing over
	Matters referred to Attorney General	History of Legal clarifications requested Matters pending with Attorney General Allocated attorney, contact details, date of handing over to attorney general.
Valuation database	Data values of land Valuation (Location, basis, extent, Valuer, Asset type)	Details including company name, property details and valuation method details, Value Softcopy of valuation report
	Matters referred to Chief Valuer	Property values - Location wise, per perch value, extent, company name, Industry
Board members	Maintain records of Board Members	List of Board Members, Date of appointment, Date of registration. Attendance of board meetings
		Qualification, present employer, designation. Their relationship with SBEs / Auditors Experience category, sub-committeeof SLAASMB served.
Staff performance	Maintain Key Performance Indicators (KPI)	Performance evaluation Allocation of coach/supervisor
	Maintain time sheets Maintain individual performance records	Updating daily time sheets based on type of work performed Performance records of the individuals linked with the financial statement reviews and audit reviews database with ability to include any other work Compare actual performance points with budgeted performance points at a given time
Reimbursement of staff benefits	Maintain staff wise records for telephone bills and medical bills claim	Monthly wise details of telephone bills claimed (Mobile number, residence number, amount claimed for each month, amount of non-claimable charges, carried forward balance Details of medical bills claimed (Date, amount, balance available for each quarter)

Vehicle Register	Maintain vehicle wise records for vehicles assigned to staff and pool vehicles	Vehicle number, name of staff assigned, vehicle model, engine number, chassis number Details of last service done Reminders on vehicle license, insurance, service Record of repairs, services done
Leave Administration	Maintain leave records of staff	A summary of different type of leaves availed by each staff member as of a particular date and leave balance available Carried forward unutilized annual leave balance for next year upto 31 March Application of leave from the system and approval of leave applied by staff Generation of leave summary reports Link daily attendance records from finger print machine to leave records
Library administration	Maintain records of list of library books	Maintain records of inward outward movements of library books (Date taken, date returned, borrower name) Update list of books with new arrivals and removals

Annex 3 –Service Level Agreement for Support and Maintenance

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. The objectives of this agreement are detailed in Section 2.

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.
8. The consultant should adhere to the non-functional requirements that are stated in (Annex 4) to maintain high availability and business continuity of SLAASMB.
9. To design a business continuity plan with client in terms of disaster recovery, maintain system back-ups and related roles and responsibilities of both parties.

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 consultant must provide support and maintenance services during Support Levels mentioned below;

<table>
<tr><th>PPS category</th><th colspan="2">Support hours</th><th>Applicability</th></tr>
<tr><td rowspan="3">PPS1</td><td>From</td><td>To</td><td rowspan="3">For the internal department administration system/ external integrations, API exposed to external departments.</td></tr>
<tr><td>08:00 a.m.</td><td>06:00 p.m.</td></tr>
<tr><td colspan="2">Monday to Friday (excluding Public Holidays)</td></tr>
<tr><td rowspan="3">PPS2</td><td>From</td><td>To</td><td rowspan="3">Online services offered via portal/ external integrations related to smooth operation of the online services</td></tr>
<tr><td>08:00 a.m.</td><td>10:00 p.m.</td></tr>
<tr><td colspan="2">All days in the week (including Public and Mercantile Holidays)</td></tr>
</table>

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 numbers and emails 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 departments. 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 Support Levels. 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.

Support Level	**Business Critical**		**Non-Business Critical**	
	Fatal	**Impaired**	**Fatal**	**Impaired**
PPS1	10 minutes within Support Hours	20 minutes within Support Hours	20 minutes within Support Hours	45 minutes within Support Hours
PPS2	20 minutes within Support Hours	45 minutes within Support Hours	1 hour within Support Hours	2 hours within Support Hours

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 Support Level time, and thus the response may occur after the next Support Level begins. Furthermore, "Time to Arrive On-Site (specified in above table) starts from Support Level starting time and "Time to Resolve the Problem" is Support Level time starting from the actual time of arrival on site.

6 Problem Resolution and Penalties

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.

Maximum ceiling of penalty for a given month is 10% of the monthly support and maintenance price.

Support Level	**Business Critical**		**Non-Business Critical**	
	Fatal	**Impaired**	**Fatal**	**Impaired**
PPS1	1 Hour LKR 10,000.00 per hour	1.5 Hours LKR 7,500.00 per hour	1.5 Hours LKR 7,500.00 per hour	3 Hours LKR 5,000.00 per hour
PPS2	1.5 Hour LKR 7,500.00 per hour	3 Hours LKR 5,000.00 per hour	3 Hours LKR 5,000.00 per hour	4 Hours LKR 4,000.00 per hour

Table-2: Resolution Time and Penalties

7. "At the beginning of maintenance period Consultant and Client (SLAASMB) will mutually identify and agree on "Business Critical and Non-Business Critical" functionality/tools classification to apply SLA terms".

Annex 4 – Non-Functional Requirements

1. Security

1.1. User Authentication and Authorization

All applications should be able to access via ICTA's common infrastructure/application itself and independently via respective department's web site if required. Any authorization requirements should be implemented within the specific web application.
However, the solution should have the provision to integrate with the ICTA's proposed Identity Management solution in future.
An administrative application need to be developed wherever applicable.
Wherever applicable internal small applications need to be developed to capture and store relevant data.

1.2. Confidentiality and Integrity

All developed web applications should ensure "confidentiality" and "integrity" whenever required by adhering to transport and message level security standards. (i.e.: HTTPS, WS-Security)

1.3. Authentication

The web application should be able to verify the users.

1.4. Authorization

The web application should be able to verify that allowed users have access to resources.

1.5. Non-repudiation

All web application should ensure non-repudiation by having standard audit-trails and provisions to have WS-Security using digital signatures.

1.6. OWASP Guidelines

All web applications should ensure that the OWASP guidelines for security are followed when designing, developing and deploying the web application.

2. Audit Facilities

Wherever applicable, 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 -

- 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. Backup and Contingency Planning

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
- Messaging or communication facilities.
- Changes in operations and policy
- Sudden absence of key personnel
- Breach in Security

Automatic Backups daily, weekly *and* monthly should be taken. All the backup procedures and backups needs to be tested regularly for restoration.

4. Performance Testing

Please find the below index as a guide to determine the benchmark values for the Application under the test.

Item	Performance
Screen Navigation: field-to-field	< 5 milliseconds
Screen Navigation: screen-to-screen	< 3 seconds
Screen Refresh	< 3 seconds
Screen list box, combo box	< 2 seconds
Screen grid – 25 rows, 10 columns	<3 seconds
Report preview – (all reports) – initial page view (if asynchronous)	< 40 seconds in most instances. It is understood that complicated / large volume reports may require a longer period
Simple inquiry – single table, 5 fields, 3 conditions – without screen rendering	< 4 seconds for 100,000 rows

Complex enquiry – multiple joined table (5), 10 fields, 3 conditions – without screen rendering	< 6 seconds for 100,000 rows
Server side validations / computations	< 10 milliseconds
Client side validations / computations	< 1 millisecond
Batch processing (if any) per 100 records	< 120 seconds
Login, authentication, and verification	< 3 seconds
Daily backups (@Dept.) – max duration	1 hour (on-line preferred)
Total Restore (@Dept.) – max duration	4 hours

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 1mbps (shared) with 1,000 concurrent users (50% load factor) in total.

4.1 Performance Test Process Outputs

- Performance Test Scripts
- Performance Test Results

5. Usability

The web application should be extremely usable, even a greenhorn user should be able to handle the system and incorporate all the functionality of the system in a simple and user friendly interface. The web application should be internationalized and localized if needed. The web application should be responsive where it should be viewable on any computing device.

A randomly chosen user of the GeoPortal shall be able to:

- Search location visualized on a map within 10 seconds
- Enter a metadata record in a maximum of 4 minutes
- Enter a new user within 5 minutes (undertaken by the Database Administrator)

6. Interoperability

The web application should be able to view in standard compatible web browsers.

7. Availability

The web application should be performed as follows,

- 99.99% available unless the web application is designed with expected downtime for activities such as database upgrades and backups.

- Hence to have high availability, the web application must have low downtime and low recovery time.

8. Robustness

The web application should be performed as follows,

- 99.99% available unless the web application is designed with expected downtime for activities such as database upgrades and backups.
- Hence to have high availability, the web application must have low downtime and low recovery time should be able to handle error conditions gracefully, without failure. This includes a tolerance of invalid data, software defects, and unexpected operating conditions.
- Failure Detection
    - Once deployed, there should be appropriate tools to discover anomalies and failures of the system
- Fault Tolerance
    - Web application developer should anticipate exceptional conditions and develop the system to cope with them. The web application must be able to use reversion to fall back to a safe mode, meaning, the application should continue its intended functions, possibly at a reduced level, rather than falling completely.

9. Maintainability

The code of web application should be properly documented with appropriate comments and no complex codes (highly cohesive and loosely coupled) to do modifications such as corrections, improvements or adaption.

10. Compliance to Standards

The code of web application should be standardized by following web standards like W3C and ECMA – European Computer Manufacturers Association, to save time, augment the extensibility of the code, increase web traffic and improve the accessibly and load time of your application.

11. Reusability

The web application should be able to use of existing assets in some form with the software product development process. Assets are products and by-products of the software development life cycle and include code, software components, test suites, design and documentation.

12. API Management

12.1. API Standards and Best Practices

API standards and best practices that should be adhered to the code.

12.2 API Documentation

- Swagger documentation should be provided.

12.3. API Security

The web application should be used appropriate API security protocol mentioned below.

- Basic API authentication
    - Basic authentication should never be used without TLS (formally known as SSL) encryption as user name and password combination can be easily decoded otherwise.
- OAuth1.0a
    - Uses cryptographic signature value that combines the token secret, nonce, and other request based information. Can be safely used without SSL.
    - Recommend for sensitive data applications

- OAuth2
    - No need to use cryptographic algorithms to create, generate and validate signatures as all the encryption handled by TLS.
    - Recommend for less sensitive data applications
- JWT (JSON Web Tokens)

13. Scalability

The web application should be both scalable and resilient. A well-designed application should be able to scale seamlessly as demand increases and decreases. It should be resilient enough to withstand the loss of one or more hardware resource.

14. Legal and Licensing

The web application should comply the national law.

15. Extensibility

The web application should be designed and developed in a way that it can cater to future business needs.

16. Testability

web application should be designed and developed in a way that testability is high, meaning, the ease of testing a piece of code or functionality, or a provision added in software so that test plans and scripts can be systematically executed. In simple terms, the software should be tested easily with most famous 5 testing categories;

- Unit test
- Integration test

- System test
- Safety test
- Experience test

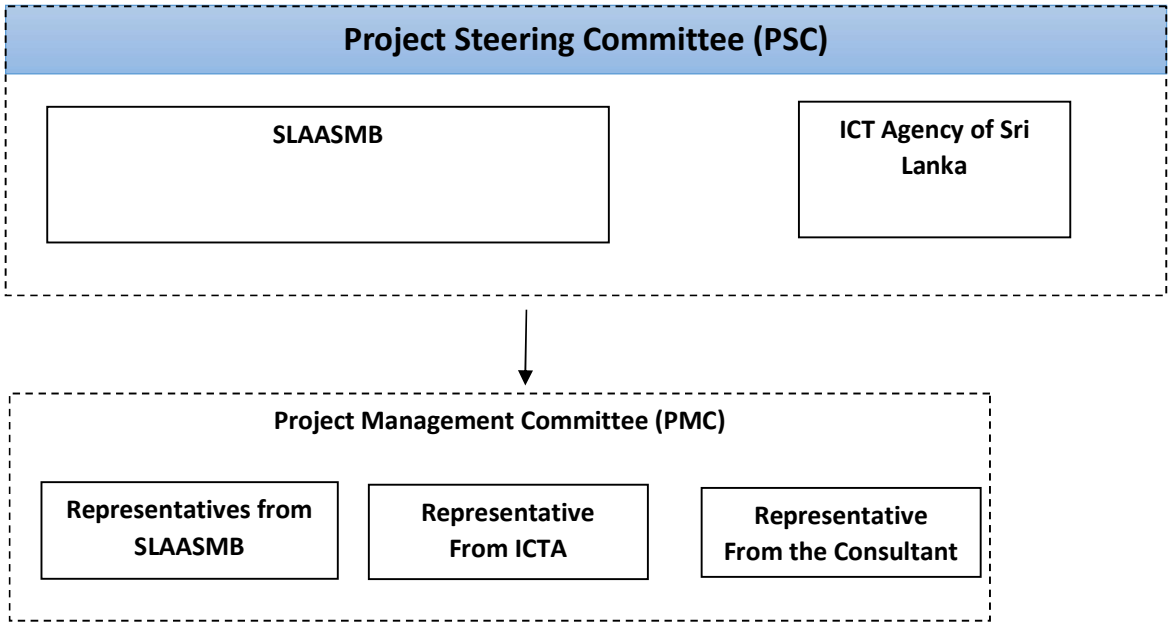
Refer Aden (2016)'s view on semantic testing for more information.

The web application should be working according to the given criteria in the latest version and 5 versions before in web browsers such as Mozilla Firefox, Google Chrome, Opera, and Apple Safari and the latest version and 2 versions before in Internet Explorer.

17. Notes

- Some of the non-functional requirements shall be excluded based on the project requirement with the approval of the Technical Review Committee appointed by SLAASMB.
- The vendor can propose similar standards/requirements for the above-mentioned standards/requirements with the approval of the Technical Review Committee appointed by SLAASMB.
- The design documents should be based on 4+1 architecture model.
- Consultant should sign a non-disclosure agreement with respect to data provided by the SLAASMB.
- The Consultant shall provide to the client the ownership rights in respect to the client specific components of the system through a source code management repository designated by the client, provided there exist no license restrictions affecting transfer of such ownership. The ownership rights in respect of client specific components may be shared between the client and the consultant at the discretion of client.
- Client specific components shall mean:
- Licensed software components which are modified to meet the system requirements ***AND***
- Bespoke applications to meet the system requirement
- The system will be audited by SLCERT for Information Security. The consultant shall implement the necessary changes/ modifications/enhancement recommended by SLCERT.

Annex 5 Project Steering Committee Model



Key roles and responsibilities of Project Steering Committee (PSC)

1. Provide guidance, advisory and supervision to ensure successful delivery of the project outputs and achievement of project outcomes.

2. Provide policy level guidance and reconcile differences in opinions, approaches and resolve disputes related to smooth functionality of the proposed system implementation and operation.

3. Address and resolve the risks and issues (setting up priority, cost, time, resource, quality, scope, etc.) raised by the Project Management Committee (PMC) and provide necessary guidance and advices.

4. Provide guidance, advisory and supervision to successfully adopt changes in order to achieve project success and outcomes.

5. Ensure provision of the required resources for planning and delivery of the project.

6. Review, approve or reject Change Requests (CRs) arises during the project by considering the importance, cost and time constraints.

Key roles and responsibilities of Project Management Committee (PMC)

1. Plan, implement, manage and monitor the operational activities of the project.
2. Provide advice and feedback on scope, schedule, cost and quality concerns or guidance on project priorities that arise during the planning, design and implementation phases of the project.
3. Review project schedule weekly and take necessary actions to mitigate possible risks and ensure smooth implementation at all stages.
4. Report project progress, risks and issues to the PSC regularly and seek necessary advices for ensuring uninterrupted project implementation.
5. Facilitate project deliverable approvals at key milestones; for example – functional program, schematic design, design development/ review, comment the deliverable artifacts, etc.
6. Ensure that all important decisions are recorded and communicated.

Annex 6 References

[1] e-Government Policy Approved by Cabinet of Sri Lanka - https://www.icta.lk/icta-assets/uploads/2016/03/eGov-Policy-structured-v4-0.pdf
[2] Lanka Interoperability Framework - http://www.life.gov.lk