Section 7. Terms of Reference

(Firm Level Consulting Services)
to
Develop Ethiopian Port Community System (EPCS) Requirements to Facilitate Secure and Intelligent Exchange of Information between Public and Private Entities along the Ethio-Djibouti Corridor

1. INTRODUCTION

The importance of ICT, including the Internet, in Trade Logistic management is facilitating the exchange of information in commercial transactions among enterprises and individuals, and enhancing global trade and logistics. It has transformed the global supply chains of international trade.

A number of projects and studies have shown that investments in key transport infrastructure can be undermined by lack of reliable information exchange within the Government and private sector and between government agencies and private sector operators. ICT can enable the development of an integrated logistics corridor management system in order to enhance the data collection, business/market information exchanges, export/import formalities, and overall communication.

As a land-locked country, in the logistics system that Ethiopia is developing, the dry ports are the key hub for logistics services activities including other key nodes like the Port of Djibouti. According to the study by the World Bank, the Ethiopia-Djibouti corridor linking Ethiopia to the Port of Djibouti is the dominant gateway for the country with over 95 percent of imports and exports. For this reason, the performance of this corridor is of paramount importance and as such is recognized by the Government that led to the development of the National Logistics Strategy (NLS).

The NLS document indicates that the Ethiopia logistics sector is characterized by poor coordination among logistics participants, fragmented implementation of logistics policies and the provision of low-quality and unreliable logistics services. The problem is often linked to the low-level usage of ICT.

Inefficiencies in logistics lead to long journey time and higher logistic cost in import and export goods undermines participation in global value chains. The main bottleneck on the corridor in trade logistic is inefficiency of the trade logistics. The main challenges are:

- Continued reliance on paper documents, fax, and emails in the exchange of official information between government agencies and the private sector, which is slow, unpredictable, and prone to errors and omissions;
- Lack of real-time cargo tracking along the trade logistic;
- Inefficient in-house business processing of information, which delays decision making and release of information/decisions
- Lack of modern port management systems.

In order to enhance the performance of the Ethio-Djibouti corridor through improvements in operational capacity, efficiency and range of logistics services at the Modjo Green Logistics Hub – MGLH (transforming the port to a full-fledged green logistics hub), the Government of Ethiopia has received financing from the World Bank (WB) towards the cost of the Ethiopia Trade Logistics Project (ETLP). The project will achieve this through investments in physical infrastructure, ICT systems, institutional capacity strengthening and support for regulatory reform. One of the project loan components is dedicated for the investment in ICT System in order to develop an Information Management System (IMS) which from now on will be referred to in this document as Ethiopian Port Community System (EPCS) to facilitate the secure and intelligent exchange of information between private companies and government agencies along the corridor. The secure and intelligent exchange of information makes it easy to optimize, manage and automate port and logistics processes, making for an efficient process that enhances the competitive position of port communities.

2. BACKGROUND

Given the complexity of Trade Logistic, with multiple participants, there is ample opportunity to increase efficiency and reduce costs by deploying a PCS. A PCS provides for the electronic exchange of information between all port and logistics sectors and is acknowledged as the most advanced method for the exchange of information within a single or national port community infrastructure. It is a "one-stop shop" where the whole port community can share information.

The EPCS is expected to connect the multiple systems operated by a variety of organizations that make up the port community along the corridor with core benefits of higher efficiency and speed regarding port processes, particularly through automation and the reduction of paperwork.

The Ethiopian National Single Window (NSW) could serve both as a gateway to the EPCS, and an integral part of a wider vision of the NSW as a tool for creating and strengthening seamless, electronic linkages between all stakeholders connected to

international trade, and for removing information and procedural redundancies. The integration of public and private stakeholders in the shipping process into a PCS platform will enable port operations to become fully automated, enabling fluid interoperability between all stakeholders in the supply chain.

Implementation of the EPCS will not compete with existing port systems. The objective is to integrate all the required information needed for supply chain processes into one platform which will reduce time to market through the fast exchange, standardization and simplification of data.

PCS is not an IT project but a change management project as trade logistics performance is about public private cooperation and collaboration. The key is to build a true community of supply chain participants or port community members (PCMs) where everyone recognizes that the benefits of working together toward a common goal are greater than working separately.

The desired EPCS is aimed at achieving three national strategic objectives of the country:

1. Complying with international trade facilitation and security standards - Ensure the security and confidentiality of communications and all related information

2. Enabling the development of a world-class trade and transport hub

3. Securing government revenue collection

The EPCS is expected to provide:

- Intelligent and secure data transfer between the Modjo Logistics Hub and the customers as well as with all public and private stakeholders

- Status information and control, tracking and tracing through the whole logistics chain

- Electronic handling of all information regarding import and export of containerized, general and bulk cargo

- All kinds of information required by stakeholders

- Integrating and achieving compliance with national and international standards

- Simplify and automate documentation delivery procedures, resulting in a paperless and error-free process

- Ensure confidential and safe message exchange between the stakeholders involved. Support for different formats such as XML, EDI, etc..

- Configurable system with quick adaptation to the requirements of each Port Authority and its users

- Complete web services layer to facilitate the integration and communication with external systems, such as PMS, Port Authority, etc.

- Integration of a variety of automated systems from all stakeholders within the Ethio-Djibouti corridor

- Reduction of paperwork, office work and administrative tasks oriented to prepare, create, send and receive data or information

- Elimination, or significant reduction, of physical movement of paper documents and waiting times at counters and offices.

3. DESIRED FEATURES OF THE EPCS

- The EPCS should be developed using a modular implementation approach for optimal integration of systems in use by various stakeholders

- The scope of the envisaged EPCS should span the corridor from Port of Loading to Port of Discharge though Final Destination

- Governance structure including ownership and long term operation of the EPCS as well as setting up an Advisory Board should be clearly charted

- AS IS process of each participant needs to be captured during business process engineering and reference needs to be made to the National Single Window's business process in order to minimize effort and time as some processes are similar to what would be in the EPCS

- Considering the critical nature of the EPCS, it is important to have a failover strategy of connectivity by having redundant lines and also considering VSAT (satellite hub) as an additional option in case of submarine cable and other unforeseen disruptions

- Connectivity protocol of all ports with the EPCS that are involved in import trading should be clearly observed

- The services provided by the TOS implemented at MDP and those provided by the EPCS should be clearly identified to avoid duplication of data and effort

- In order to prepare, support, and help stakeholders in making organizational change and be not left out, there should be communication strategy and tools that stakeholders will actually want to use

- The list of services provided by the EPCS should be clearly defined

- Managing the people side of a change is often the most challenging and critical component of an organizational transformation. For this reason, it is important to setup a change management team for a structured approach to managing the people side of change and for creating and implementing change management strategies and plans that maximize stakeholder adoption and usage and minimize resistance.

- The key stakeholders like importers and exporters should be clearly identified including up-to-date names of all regulatory agencies

- The legal framework of each stakeholder that will be a member of the EPCS needs to be looked into in order to avoid conflicts and inconsistencies in policy implementation

- People that have the right expertise need to be identified and be involved in business process mapping of the EPCS

- Integration with member systems should be done easily using EDI, API gateways and/or ESB/ message brokers

- Data integrity   should be ensured through the harmonization of formats across systems used by members

- The EPCS should manage interactions between systems used by port authorities, Customs, and terminal operators, from data exchange and logistics through billing and payment

- The EPCS should allow all stakeholders to access trade transactions in real time through their mobile devices

- Message Transmission from and to the EPCS will need to be done securely- the EPCS should facilitate secure electronic communication (using digital certificates) and data exchange between systems and users

These following are some of the port community members:

- Ministry of Transport
- Ethiopian Maritime Authority (EMA)
- Importers and Exporters (Cargo Owners)

- Ethiopian Shipping and Logistics Services (ESLSE)
- Shipping Agents
- Freight Forwarders and Customs Clearing Agents
- Banks
- Ministry of Trade and Industry
- Ethio-Djibouti Standard Gauge Rail Transport SC (EDR)
- Insurance Companies
- Ethiopian Roads Authority (ERA)
- Ethiopian Railway Corporation (ERC)
- Ethiopian Customs Commission
- Port De Djibouti
- Truckers (Transporters)
- Chamber of Commerce
- Associations – EFFSA
- Other Regulatory Agencies along the Corridor

4. OBJECTIVES OF THE ASSIGNMENT

The Ethiopian Maritime Authority (EMA) would like to strengthen its internal technical capacity in accordance with the National Logistics Strategy (NLS) and to manage the transformation of Modjo Dry Port to Modjo Green Logistics Hub (MGLH) through engaging the consulting services of a professional firm. Hence, EMA would like to procure the consultancy service of a qualified and well-experienced firm to carry out the requirement for the EPCS, which will be integrated with TOS and Electronic Gate Pass System, and other logistic systems in Ethio-Djibouti corridor including ESLSE and prepare a standard bidding document in line with one stage process of the WB. The following is a list of other logistic systems:

- Shipping Expert System (SES) and SeaLiner. SES is used by ESLSE to manage the shipping business and SeaLiner for cargo-related activities
- Oracle Fusion ERP Cloud which is currently being implemented to automate the back office operations of ESLSE using,
- Logistic systems along Ethio-Djibouti corridor like customs and railway systems, and others

5. SCOPE OF THE CONSULTING SERVICE

The consultancy service is desired for proposing an EPCS for integrating all stakeholders including private and government entities along the Ethio-Djibouti corridor for seamless

information exchange. The consultant will be responsible for putting requirements and specifications of the entire EPCS based on international best practices. The firm level consultant will be stationed in Addis Ababa with some travels to Modjo Dry Port and to other stakeholders that operate along the Ethio-Djibouti Corridor as required.

The EPCS system to be proposed by the consulting firm must be easy for end-user adoption, cost-effective, 100% fault free, reliable and able to be incorporated into Modjo's regular operations quickly and integrated with ESLSE ICT systems, owner of the port, as well as other future service providers operating at Modjo. The scope of this consultancy assignment covers all aspects of needs assessment, requirement analysis and specification, and preparation of one stage process bidding document for the procurement of EPCS.

It is advisable for the consultant to adhere to the following Statement of Work (SoW):

1) Carry out detailed business requirement identification and business needs analysis following well known methodology with adequate consultations of all stakeholders

2) Translate the business needs analysis to Functional Requirements and Non-Functional Requirements using standard ISO approved templates and then to a Technical Requirements Specification document. which must exist elsewhere in the world and can be customized to the specific situation of Ethiopia

3) The proposed system should look for a Custom PCS that addresses the core business processes along the corridor and the varying interests of the different stakeholders.

4) The consultant must comply to deliver the Final Document in such a way that the WB Standard Bidding Document will not entertain "alternative bid proposals".

6. GENERAL PRINCIPLES TO GUIDE THE CONSULTING FIRM

The key drivers for the establishment of the EPCS is, on the one hand, the need for a standardized communication platform among the heterogeneous systems owned by the different stakeholder to improve the logistics process in terms of speed, reliability or costs and, on the other hand, the need to increase competitive position of MDP.
Before the PCS is developed it is important that stakeholders have a common understanding of the roles and functions of the EPCS being proposed. The consultant is responsible to make sure that the Port Community Members (PCMs) understand the reasons for the establishment of the EPCS.

The consultant is expected to identify and draw inspiration from international best practices using knowledge of existing PCS, share experience and knowledge and import working systems where necessary.

7. CONSULTING FIRMS's QUALIFICATION REQUIREMENTS

The Firm must be able to demonstrate extensive experience gained over at least 10 years and demonstrated by multiple projects requiring the following:

- Providing consultancy in the governance, systems and technologies related to sea and airports / trade.
- Specific knowledge and/or experience in developing governance frameworks, operational models and organizational structures for the operation of a Port Community Systems would be highly desirable;
- Business process analysis particularly as it relates to the processing of import, export and transit of cargo;
- Development of strategic information systems plans for trade facilitation, complex enterprise software systems implementation, extensive knowledge in informatics management and current technology trends;
- International experience in trade related legal and regulatory issues. Knowledge of legal and regulatory impacts on ICT systems for trade and trade facilitation highly desirable;
- Development of functional and technical specifications of scalable complex ICT systems;
- Development and implementation of change management strategies in the public sector of developing countries;
- Public sector procurement including in the competitive acquisition of large scale complex ICT systems as well as the competitive procurement of service providers or operators is desirable;
- Knowledge of development and trade issues facing Ethiopia or other similar countries particularly related to implementation of Port Community Systems for NSW and trade facilitation;
- International experience with complex projects of similar nature; and
- Relevant experience of Port Community Systems or other trade related project involving countries in the region would be highly regarded.

8. SPECIFIC TASKS AND RESPONSIBILITIES

Primary tasks of the consultant firm include:

a) Task 1: Requirement Identification, Analysis, and Specification

- Create a common understanding among stakeholders of the envisaged EPCS
- Identify the core business processes that must be addressed by the EPCS
- Identify the state-of-art features that the EPCS should manifest
- Identify how the EPCS and other logistic systems in the corridor exchange information
- Take into consideration the legal frameworks and institutional characteristics that will govern the operation of the EPCS
- Specify the long-term operation requirements of the EPCS for sustainability

b) Task 2: Preparation of Bidding Document

Prepare Tender Documents (in line with one stage bidding process for the World Bank) including Preparation of Design, which includes Drawings, Specifications and BOQ (Bill of Quantities) and engineering estimates.

9. REPORTING REQUIREMENTS

All reports shall be made in English. The consultant shall present an Inception Report within 4 weeks of the start of services outlining an initial assessment of the tasks and proposed methodology and work plan. A report regarding the assignment to be submitted for approval by EMA as per the expected deliverable described in para 11 hereunder essentially including the production of a report on this second phase (evaluation of selected project in greater detail as described in para 7 above).

For each task listed above, a short description of the deliverables, delivery schedule and acceptance criteria for the deliverables should be identified.

The consulting firm should submit weekly progress reports of fieldwork to EMA and ESLSE and participate in a weekly conference call with the Project Implementation Unit (PIU) team to discuss the progress reports.

10. KEY STAFF REQUIREMENTS AND QUALIFICATIONS

The desired consultant needs to be a highly qualified professional firm with pertinent qualifications, competencies and experience relevant to the assignment.

The desired firm level consultant should possess the following relevant qualifications:

- Proven experience of undertaking projects/work of similar scope and nature in designing, installing and managing Port Community System; with at least three references of previous work
- Demonstrated knowledge and understanding of dry port and terminal operations & management, trade facilitation and inter-disciplinary development issues
- Proven experience in the development and management of port infrastructure
- Proven experience of conducting PCS requirements on well-known multipurpose ports and logistic hubs
- Experience in projects financed by partners such as the World Bank, especially in emerging economies
- Proven experience and understanding the business processes and gaps in dry port terminals and surrounding logistics systems to specify integration points in an automated way and real-time
- Proven experience in bidding document preparation (preferably for World Bank financed projects)

Under the assignment, the consultant will mobilize the following experts:

A. Trade Logistics and Facilitation Specialist (Team Leader)

B. Senior System Analyst

C. Senior System Integration Specialist

D. Senior Logistics Specialist

E. Senior Project Manager

However, the consulting firm may propose any other staff that the firm may consider as beneficiary to carrying out the assignment. All professionals deployed on this assignment shall be proficient in English.

The five key experts for this assignment will need to have a proven adequate academic and professional background as follows:

- Trade Logistics and Facilitation Specialist (Team Leader): The expert shall have a minimum Master's degree in Logistics and Supply Chain Management, Port Technology Business Administration, Engineering or related field from an accredited college or university. S/he should have minimum of 15 years of experience in the Import/Export International Shipping and Logistics field including about 5 years of relevant international experience regarding similar projects. Desired areas of expertise include port engineering, planning and port operations.

- Senior System Analyst: The expert shall have a Master's degree in Computer Science, Software Engineering or Information Technology with at least 12 years of relevant experience in similar projects. Desired areas of expertise include system requirements analysis and business transformation and experience in the shipping and logistics sector, proven experience in the development of PCS.

- Senior System Integration Specialist: The expert shall have a Master's degree in Computer Science, Software Engineering or Information Technology with at least 8 years of relevant experience in similar projects. Desired areas of expertise include creating applications, programs, and interfaces for businesses, proven experience in performing installation, configuration and monitoring of middleware products and in developing large-scale integration and API and electronic data interchange (EDI) solutions.

- Senior Logistics Expert: The expert shall have a minimum of Master's degree in Logistics and Supply Chain Management, Port Technology, Engineering or related field demonstrating Ports and Maritime Logistics & Freight Management. Desired areas of expertise include a minimum of eight years of experience in understanding business processes and gap analysis of logistic systems in and surrounding dry ports.

- Senior Project Manager: The expert shall have a Master's degree in Project Management, Business Management or a related filed, preferably with PMP/PMI certification. Desired areas of expertise include a minimum of eight years of experience in leading large scale ICT projects, experience in port projects, knowledge in Port IT systems. Preferred experience includes work in the Port and/or maritime industry and in a public sector setting and knowledge of project planning, design management, bid specifications, competitive bidding, contract management.

Detailed resume of each professionals and testimonies should be attached, showing the qualification, their role in the company and related experiences. The consulting team should include, but not limited to, the following experts with their summary of qualifications.

The key positions that are proposed by the Consultant for this assignment shall be subject to acceptance by the client with regard to their qualifications and experience as indicated above.

11. EXPECTED DELIVERABLES

The indicative list of deliverables to be submitted to Project Implementation Unit (PIU), timelines and file format for the consultant are listed below:

Phases	Deliverable/Milestone	File format	Mandays	Timelines 60 calendar days
I	AS-IS Process			
a)	Detailed process flow running currently at all port community members or supply chain participants including setting a benchmark point that determines where all stakeholders stand in terms of information and processes at the beginning of the project.	Inception Document that illustrate the "AS-IS"(pdf or docx)	60 Man days	Three and half weeks (24 calendar days)
II	"TO-BE" Process of the EPCS			
a)	Detailed report on data input and output and business processes orchestration associated with information exchange including the exchange of highly standardized electronic messages between the various parties.	Draft Document for Requirement Analysis Document (pdf or docx)	45 Man days	Two weeks (15 calendar days)
b)	Detailed Requirement Specification document for the "TO-BE" with best practices in place based on ISO standard Software Requirement Analysis document templates	Presentation (PPT) Final Version of Requirement Specification Document (pdf or docx)	30 Man days	Two weeks (14 calendar days
c)	Preparation of a World Bank standard one stage bidding document	Presentation (ppt) One stage bidding Document	15 Man days	One week (7 calendar days)

The copyright for all materials in any form communicated under this ToR will pass to EMA or the beneficiary, ESLSE.

The World Bank consultants and staff may be asked to help review the consultants' deliverables and provide comments on the submissions of these deliverables.

The Key Performance Indicators for this assignment include the following but not limited to

- All project deliverables are produced within budget and schedules and

- Interim outputs and final reports are accepted by PIU/EMA/ESLSE, WB and other key stakeholders.

12. DURATION OF THE ASSIGNMENT

The successful applicant firm will be engaged immediately on a full time basis for 150 Man days to conduct the assignment and deliver the Final One Stage Bidding Document (World Bank Standard) so that the client can proceed floating the bid (RFB) to select the PCS implementer.

13. COORDINATION & LIAISON

The consulting firm shall work under the direct supervision of the Project Manager and PIU maintain close liaison with the ICT specialist at PIU/EMA and ESLSE ICT Directorate.

A formal joint meeting shall be arranged by the consultant at least once every two weeks to facilitate monitoring of the consulting services. The consultant is also responsible for the formal minutes of such meetings to trace back and communicate all the deliberations. These meetings shall be held at EMA or agreed venues. The consultant shall nominate a project coordinator for this purpose.

14. FACILITIES TO BE PROVIDED

The Client, EMA/PIU, will

a) Provide available data and information such as studies, reports, files, etc. required for the project. Documents which are important for the consultant are as follows, but not limited to:

✓ National Logistics Strategy

✓ Corporate strategy of ESLSE

✓ Draft ESLSE's ICT Strategy & Requirements Definition Study

✓ Demand analysis and detailed design preparation of ESLSES/MDP and

✓ Future Governance Structure Study of ESLSE/MDP.

b) Furnish supporting letters to third parties/major stakeholders of the project for meetings and data collections.

c) Assign counterpart & technical team who will represent the client.