**Expression of Interest (EoI) for the Design, Development, and Implementation of the e-Port Management System for Bhomra Land Port**

## A. Background

Bangladesh Land Port Authority (BLPA) was established in 2001 with a view to increasing trade and business with neighbouring countries. The Bhomra land port is one of Bangladesh's major land ports, the amount of import and export through the Bhomra land port in FY 2019-2020 was around 2.7 million metric tons. Around 450 import and 50 export trucks use this land port daily. The inflow of import and export volume is increasing rapidly after the inauguration of the Padma Bridge. Currently, all port operations rely solely on human procedures and documentation, causing delays in cargo movement around the port. To facilitate this heavy inflow of traffic, the port process needs to be simplified and automated.

In line with this vision of the Bangladesh Land Port Authority (BLPA) as well as the government of Bangladesh, the Global Alliance for Trade Facilitation (the Alliance), a public-private partnership, is implementing a project on trade facilitation named 'Digitalisation of Border Procedures at Bhomra Land Port in Bangladesh'.

The Alliance supports governments in developing and least-developed countries in implementing the World Trade Organization's Trade Facilitation Agreement. Alliance projects cut through red tape and end costly delays at borders by bringing together governments and businesses of all sizes as equal partners to deliver targeted trade reforms. The Alliance is led by the Center for International Private Enterprise, the International Chamber of Commerce, and the World Economic Forum, in cooperation with Gesellschaft für Internationale Zusammenarbeit (GIZ). It is funded by the governments of the United States, Canada, and Germany.

This project is delivered in Bangladesh by Swisscontact, in collaboration with Bangladesh Land Port Authority.

The overall goal of the project is to ensure that "border procedures are streamlined and efficient" at the Bhomra land port in Bangladesh. For that purpose, the project aims to develop and facilitate the implementation an e-port management software for the port. The Bhomra land port will significantly reduce the time for completing port procedures and have a positive impact (in terms of reduced time) on the functions and procedures of other border agencies such as Customs.

The project started its preliminary activities in August 2021. It has completed a baseline study and business process analysis of the Bhomra Land Port. Furthermore, it reviewed the existing software modules of a similar land port. The project drafted a prototype based on the analysis of the requirements and is now moving to the design and implementation phase for the e-port management software for Bhomra land port. The project has identified the following challenges and it is proposing some specifications mentioned in sections D, E & F of this EoI.

## B. Current Problems and Challenges

- Manual checking of documents, managing manual register at different touch points delaying service delivery.
- Port authority is not able to track a consignment and truck at any point in time in the port.
- Delaying of Indian trucks unloading and leaving time causes congestion in the port.
- Billing assessment and delivery management is not transparent as the operation is manual.
- Port authority needs to manage, register, and archive the documents manually.

## C. Objective

The objective of the assignment is **to develop an e-port management software** that supports the stakeholders to achieve:

- Average reduction in time required by local C&F agents to complete import and export border procedures.
- Average reduction in time required by port officials to complete specific import and export operations.
- Increased efficiency of Land Border Authority in processing imports and export procedures
- A reduction in cost to complete import and export border procedures for C&F agents

## D. Product Feature

Key product features from different stakeholders' views are -

**Bhomra Land Port:**

- Web-based application for service delivery at all touch points in the port.
- End-to-end tracking of consignment and truck at any moment of time in the port.
- Real-time notification of events triggered by every touch point.
- Ability to submit and approve activities required to complete a process.
- Ability to input data in online and offline for critical delivery points.
- Ability to receive e-payment for port services.

**Users such as the C&F, Importers, and Exporters:**

- Web and mobile-based application for request submission.
- Real-time notification of activities in all delivery points.
- End-to-end tracking of consignment and truck.
- Reduce paper-based transactions at different delivery points.
- Ability to provide payment online.

**Bangladesh Land Port Authority (central administration team of the land ports):**

- Trend analysis for all delivery points.
- Dashboard-based real-time monitoring system.

## E. Identified Modules for the e-Port Management System [Please check the Terms of Reference (ToR) link in the ANNEX 1]

## Operation modules

OM1.    Consignment management:
- Preparation, submission, and approval of consignment/manifest data before carriers arrive at the port.

OM2.    Zero-point entry:
- Add carrier/transport details with a Unique consignment id.
- Bar code generated receipt for the driver.
- Tracking id generated for the carrier.
- Offline entry without network/poor network coverage.

OM3.    Weighbridge Management:
- Product net weight measurement.
- Empty truck weight measurement.
- Automatic suggestion for trucks destination based on goods type.
- Offline entry without network/poor network coverage.
- Upload historical data from existing system.

OM4.    Posting Management:
- Searching and tracking documents.
- Verifying all the documents uploaded in the system.
- Location management of goods for transhipment, shed, and yard.

OM5.    Shed management:
- Shed Setup – Setup shed with relevant fields e.g., Shed Category, types of Good for the shed, goods-wise shed capacity, shed height & width. A 3D view of the shade with all blocks will be generated with each block measurement unit.
- Shed Receive – Automatic suggestion of shed free space based on goods type, free space in the shed, and amount of space required.

OM6.    Delivery Management:
- Transhipment lane setup.
- Bangla truck auto-suggestion and entry management.
- Delivery/unloading request submission and approval.

OM7.    Billing Management:
- Automatic billing assessment for full consignment.
- Partial and complete billing assessment.

OM8.    Labour Management:
- Labour group assignment for unloading and loading.
- Group release and status recording.
- Bill submission by labour contractor.

OM9.    Payment module:
- Cash, bank, and e payment

OM10.   Exit Management:
- Exit pass generation based on bill payment.
- Partial release of trucks and consignment.
- Releasing the truck from the port gate.
- Partial release of the consignment.
- Automated halting charge calculation.
- Releasing the trucks from the border.

OM11.   Accounts Management:
- Submission and approval of labour contractor bill.
- Accounting transaction entry
- Income and expense reporting
- Operating expense budgeting
- Financial Reporting.

OM12.   E-passenger exit operation:
- Port officials will input passenger slip information into the system.
- Passengers can pay through mobile or cash payment.
- System generates payment slips and notifies port officials and passengers.

## Backend Support Functions

BSF 1.    **Workflow Management:** Allows the configuration of users and activities to complete a business process e.g., billing assessment may require submission from one user and approval from another user.
   a.    **Notification management:** This allows the system to generate notifications for workflow activities and user activities at different delivery points. The user will pop up with a notification for any activities to be performed.

BSF 2.    **Document Management:** Allows the system to track, manage and store documents related to port operation.

BSF 3.    **User Administration:** Allows the administrator to manage users, groups, roles
   a.    E-signature-based user administration.

BSF 4.    **Master data management:** Allows the administrator to set up master data e.g., Tariff schedule, goods type, truck type, transhipment lane, and shed setup.

BSF 5.    **Audit Management:** Allows management or admin users to view and monitor specific processes, workflows, activities, and users in order to investigate issues for specific cases.

BSF 6.    **Consignment and truck tracking**: Allows port users and management to track the journey of a consignment and trucks of a specific consignment in any of the delivery points at the port.

BSF 7. **Reporting and Dashboard setup:** Allows the administrator to set up customized and predefined reports required by the management and port user, to set up a dashboard for the management users and end-user specific dashboard to view pending and completed activities graphically.

## F. System Requirements

1. System must be hosted in Bhomra Land Port premise and accessible through intranet and internet
2. Application must be developed based on progressive web application (**PWA) technology** to give users the same experience while accessing on desktop and mobile.
3. System must follow a standard design approach for UX/UI plan.
4. Offline data entry feature without network availability, resync with the server once online.
5. System must ensure advanced API architecture and authentication mechanism.
6. The system shall have the functionality to export/import files based on the standard template defined through web services and/or API.
7. The database architecture should be designed based on master-slave asynchronous replication to ensure high availability.
8. System should support multilingual options i.e., Bangla and English with input validation both in Bangla and English.
9. System must follow the WCO data model standard for trade facilitation.
10. The vendor must have an on-premises automated software build release delivery approach such as managing the software delivery in the bidder's premise before deploying it in the live system at Bhomra. The development cycle is-
    (a) source code development, (b) unit test and code review, (c) functional test in staging or testing server, (d) UAT in the testing server (available through internet), and then deploying it in the Bhomra on-premises infrastructure, where another cycle of test will be performed.
11. The application and primary database server will be hosted in Bhomra Land Port premise and the backup database server will be hosted in the Bangladesh Computer Council National data centre.

## G. Scope of the Procurement Project

The current procurement project aims at developing and deploying the e-port management system as well as providing support and maintenance for **three (3) years**. The development is expected to be broken into several short (and meaningful) phases.

The overall project includes mandatory modules and complementary modules according to the list below-

- The vendor must be able to provide all the required functionalities. The evaluation will be made on the overall project proposal and the deployment approach.
- The mandatory modules are clearly identified within Table 1 below, it is expected that they are developed and deployed by end of August 2023 latest.
- The complementary modules are listed in Table 2 below, they are out of the scope of this procurement project budget and period. However, the tender participants are requested to provide a tentative budget for these modules for future development outside of this procurement project.

Table 1, below, lists the Operation and Backend Modules defined within this procurement document, it indicates whether they are Mandatory or Complementary as well as the prioritization of those module defined as 'Mandatory'. The prioritisation provides guidance to developers intending to deliver the system in a phased manner, both high and medium priority modules are considered in scope.

| Table 1: Scope of Work | | Scope | | Priority | |
|---|---|---|---|---|---|
| | | Mandatory | Complementary | High | Medium |
| **Operation Modules** | | | | | |
| OM 1 | Consignment management | X | - | X | - |
| OM 2 | Zero-point entry | X | - | X | - |
| OM 3 | Weighbridge Management | X | - | Workflow validation only | X |
| OM 4 | Posting management | X | - | X | - |
| OM 5 | Shed management | - | X | - | - |
| OM 6 | Delivery Management | X | - | Workflow validation only | X |
| OM 7 | Billing management | X | - | Workflow validation only | X |
| OM 8 | Labour Management | - | X | - | - |
| OM 9 | Payment module | X | - | Cash module with Challan | Bank module and e-payment |
| OM 10 | Exit management (Port gate and Zero-point) | X | - | X | - |
| OM 11 | Accounts Management | - | X | - | - |
| OM 12 | E-passenger exit operation | - | X | - | - |
| **Back-end Support functions** | | | | | |
| BSF 1 | Approval / workflow management | | | X | |
| BSF 2 | Document management | | | | X |
| BSF 3 | User Administration | | | X | |
| BSF 4 | Master data management | | | X | |
| BSF 5 | Audit management | | | | X |
| BSF 6 | Consignment and truck tracking | | | X | |
| BSF 7 | Reporting and Dashboard setup | | | | X |

Table 2, below, lists the Complementary Modules, they may be considered out of scope.

| Table 2: Identified Complementary modules | |
|---|---|
| CM 1 | Labour Management |
| CM 2 | Shed management |
| CM 3 | E-Passenger Exit Operation |
| CM 4 | Export Operation |
| CM 5 | Accounts Management |
| CM 6 | ASYCUDA Integration |
| CM 7 | Office management |

## H. Estimated Tendering Timeline

| SL | Tasks | Deadlines |
|---|---|---|
| 1 | Publishing Expression of Interest (EoI) and ToR in national newspapers, Bdjobs and Swisscontact website | 15-Feb-2023 |
| 2 | Submission deadline for the candidates | 26-Feb-2023 |
| 3 | Finalizing eligible candidates | 7-Mar-2023 |
| 4 | Sharing updated ToR including technical and financial forms and evaluation criteria to the eligible candidates | 9-Mar-2023 |
| 5 | Conducting Q&A through email or pre-bid discussion with the eligible candidates | 16-Mar-2023 |
| 6 | Technical and financial proposal submission deadline | 30-Mar-2023 |
| 7 | Technical proposal presentation from the selected bidders | 2-Apr-2023 |
| 8 | Evaluating the technical proposals by PEC | 6-Apr-2023 |
| 9 | Opening & evaluating the financial proposals and determining combined evaluation and final ranking | 11-Apr-2023 |
| 10 | Negotiating with the highest scoring bidders or the next (if necessary) | 16-Apr-2023 |

## I. Eligibility Criteria

The vendor must meet the below eligibility criteria for selection to the next steps and the following documents are mandatory for submission:

| Sl. | Eligibility criteria | Documents required for submission |
|---|---|---|
| 1 | a) Minimum 8 years' experience in ICT business as a registered Software Company or Firm/entity with Register of joint stock & companies (RJSC) in Bangladesh.<br>b) Yearly turnover of the firm shall be at least Tk. one crore in the past 3 years and the minimum amount of liquid assets i.e working capital or credit line(s) of the firm shall be Tk one crore.<br>c) Bangladeshi companies can be the lead consortium with international or other local companies. In that case, the "Consortium Lead" must fulfill qualification criteria 1(a) and 1 (b). | i. RJSC Registration certificate.<br>ii. Audited financial statements of the last 3 years issued by a credited auditor<br>iii. Latest Trade license<br>iv. Latest VAT/BIN certificate<br>v. Latest Income Tax clearance certificate.<br>vi. Working capital or credit line(s) certificate of the firm as per template. (Please find the link in ANNEX 2) |
| 2 | The vendor must have two project experiences in the Government of Bangladesh's digital system design, development, and implementation e.g., similar experience on web-based & mobile apps enterprise solutions with Industry standard technology relevant to public service delivery, similar experience on web-based payment and monitoring solutions, etc. | vii. Submission of project summary according to the template/relevant project certificates (Please find the link in ANNEX 3) |
| 3 | The vendor should have a minimum CMMI level 3 certification. | viii. Copy of certificate including appraisal disclosure statement from CMMI institute |
| 4 | The vendor must have at least 1 software support and maintenance contract completed/running in the last 5 years with a total of 1 year of duration. A proven record of providing software development and its maintenance support will be an added quality. | ix. Certificates/attestation from the client that must include client name, email and contact no., duration of the service contract and high-level description of the assignment. |
| 5 | Management capacity (company brochures and other documents describing similar assignments, experience, availability of appropriate professional staff and experience among applicant's staff, resources to carry out the assignment), logistic capability (well-equipped office space with necessary facilities etc.) | x. Company brochures/profile, list of similar assignments with web link, list of professional staffs, logistics support. & Office space information etc. |

## J.  Project Completion Deadline

The deadline for the project completion is by August 2023.

This project includes the implementation of the IT system on-premises and the WARRANTY period of three (3) years for system maintenance and support service after GO LIVE. There will be a detailed SLA for the maintenance and support service that will be provided in the ToR for the short-listed bidders.

## K.  Submission Guideline

**This EoI is for the 'Digitalisation of Border Procedures at Bhomra Land Port' project.** Interested bidders should register their interest to develop the modules as required, with the necessary documents as mentioned in the **SECTION I COLOUMN** (**documents required for submission**) to match the eligibility criteria. The documents must be submitted as soft copies & hard copies by **February 28, 2023, before 10:00 AM** following the instructions below:

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**Soft copy submission:**

The subject line of the email must mention **"Expression of Interest (EoI) for the Design, Development, and Implementation of e-Port management system for the Bhomra Land Port"**

**Email to:** bd.procurement@swisscontact.org

**Hard copy Submission:**
Mr. Md. Alamgir (Grade-1 & Chairman)
Bangladesh Land Ports Authority
Head Office
Address: F-19/A, Sher-e-Banglanagar, Agargaon, Dhaka-1207

**For Enquiries regarding EoI:**

**Email to:** bd.procurement@swisscontact.org

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## L.  ANNEXES

**ANNEX 1:** Terms of Reference

**ANNEX 2:** Credit Line Template

**ANNEX 3:** Project Track Record Template

# TERMS OF REFERENCE (TOR)
# FOR THE
# DESIGN, DEVELOPMENT, AND IMPLEMENTATION OF E-PORT MANAGEMENT SYSTEM
# FOR THE BHOMRA LAND PORT

## A.    PROJECT BACKGROUND

Smart Bangladesh is ensuring an ICT based society where information will be available to everyone through online to establish technology based digital governance, e-commerce, e-agriculture, e-production, e-education etc. It will make people think globally and connect them with the whole world economically, socially, politically, academically, and even culturally. In line with Smart Bangladesh vision, Land Port Authority is committed to introduce e-Service in its operational activities. The Land Port Authority has taken initiative to transform the operational procedure of land ports to digital system. In this process, stakeholders like C&F, exporter, importer, and management will come to know all the process and present status through web portal/online and mobile.

Bangladesh Land Port authority was established in 2001 with a view to increase trade and business with the neighboring countries. This organization is facilitating export-import through land route. At present, the number of land ports in Bangladesh is 24. Trade between India and Bangladesh has been increasing day by day. To keep patch with this increasing trend of trade and business, we need to update the operational procedures of port activities so that the service recipients can afford services within a time frame as well as with minimum cost.

The Bhomra land port is one of Bangladesh's major land ports, the number of imports and export through Bhomra land port in FY 2019-2020 was around 2.7 million metric tons. Around 450 import and 50 export trucks use this land port daily. The inflow of import and export volume is increasing rapidly after the inauguration of the Padma Bridge. Currently, all port operations rely solely on human procedures and documentation, causing delays in cargo movement around the port. To facilitate this heavy inflow of traffic, the port process needs to be simplified and automated.

In line with this vision of the Bangladesh Land Port Authority (BLPA) as well as the government of Bangladesh, the **Global Alliance for Trade Facilitation (the Alliance),** a public-private partnership, is implementing a project on  trade facilitation named 'Digitalisation of Border Procedures at Bhomra Land Port' in Bangladesh.

The Alliance supports governments in developing and least-developed countries in implementing the World Trade Organization's Trade Facilitation Agreement. Alliance projects cut through red tape and end costly delays at borders by bringing together governments and businesses of all sizes as equal partners to deliver targeted trade reforms. The Alliance is led by the Center for International Private Enterprise, the International Chamber of Commerce, and the World Economic Forum, in cooperation with Gesellschaft für Internationale Zusammenarbeit (GIZ). It is funded by the governments of the United States, Canada, and Germany.

This project is delivered in Bangladesh by Swisscontact in collaboration with Bangladesh Land Port Authority.

The project's overall goal is to ensure that "Border procedures are streamlined and efficient" at the Bhomra land port in Bangladesh. For that purpose, the project aims to develop and facilitate the implementation of an e-port management software for the port. The Bhomra land port will significantly reduce the time for completing port procedures and have a positive impact (in terms of reduced time) on the functions and procedures of other border agencies such as Customs.

The project started its preliminary activities in August 2021. It has completed a baseline study and business process analysis of the Bhomra Land Port. Furthermore, it reviewed the existing software modules of a similar land port. The project drafted a prototype based on the analysis of the requirements and is now moving to the design and implementation phase for the e-port management software for Bhomra land port. The project has identified the following challenges and it is proposing some specifications mentioned in sections D, E & F of this ToR.

## B.    CURRENT PROBLEMS AND CHALLENGES

- Manual checking of documents and managing manual register at different touch points delaying the service delivery.
- Port authority cannot track a consignment and truck at any point in the port.

- Delaying of Indian trucks unloading and leaving time causes congestion in the port.
- Billing assessment and delivery management is not transparent as the operation is manual.
- The port authority needs to manage, register and archive the documents manually.

## C.    OBJECTIVE

The objective of the assignment is to develop an e-port management software that supports the stakeholders to achieve:

- Average reduction in time required by local C&F agents to complete import and export border procedures.
- Average reduction in time required by port officials to complete specific import and export operations.
- Increased efficiency of Land Border Authority in processing import and export procedures
- A reduction in cost to complete import and export border procedures for C&F agents.
- Introduce easy and transparent monitoring system.
- Ability of efficient business planning.
- Ease of work and service management.
- Reduce physical movement through automation.
- Availability of all required information at key stroke.
- Provide instant update and tracking of the service.

## D.    PRODUCT FEATURE

Key product features from different stakeholders' view are:

**Bhomra Land Port:**
- Web-based application for service delivery at all touch points in the port.
- End-to-end tracking of consignment and truck at any moment of time in the port.
- Real-time notification of events triggered by every touch point.
- Ability to submit and approve activities required to complete a process.
- Ability to input data in online and offline for critical delivery points.
- Ability to receive e-payment for port services.

**Users such as the C&F, Importers, and Exporters:**
- Web and mobile-based application for request submission.
- Real-time notification of activities in all delivery points.
- End-to-end tracking of consignment and truck.
- Reduce paper-based transactions at different delivery points.
- Ability to provide payment online.

**Bangladesh Land Port Authority (central administration team of the land ports):**
- Trend analysis for all delivery points.
- Dashboard-based real-time monitoring system.

## E.    IDENTIFIED MODULES FOR THE E-PORT MANAGEMENT SYSTEM

## Operation modules

OM1.    Consignment management:
- Preparation, submission, and approval of consignment/manifest data before carriers arrive at the port.

OM2.    Zero-point entry:
- Add carrier/transport details with a Unique consignment id.
- Bar code generated receipt for the driver.
- Tracking id generated for the carrier.
- Offline entry without network/poor network coverage.

OM3.    Weighbridge Management:
- Product net weight measurement.

- Empty truck weight measurement.
- Automatic suggestion for trucks destination based on goods type.
- Offline entry without network/poor network coverage.
- Upload historical data from the existing system.

OM4.  Posting Management:
- Searching and tracking documents.
- Verifying all the documents uploaded in the system.
- Location management of goods for transhipment, shed, and yard.

OM5.  Shed management:
- Shed Setup – Setup shed with relevant fields e.g., Shed Category, types of Good for the shed, goods-wise shed capacity, shed height & width. A 3D view of the shade with all blocks will be generated with each block measurement unit.
- Shed Receive – Automatic suggestion of shed free space based on goods type, free space in the shed, and amount of space required.

OM6.  Delivery Management:
- Transhipment lane setup.
-  Bangla truck auto-suggestion and entry management.
- Delivery/unloading request submission and approval.

OM7.  Billing Management:
- Automatic billing assessment for full consignment.
- Partial and complete billing assessment.

OM8.  Labor Management:
- Labor group assignment for unloading and loading.
- Group release and status recording.
- Bill submission by labour contractor.

OM9.  Payment module:
- Cash, bank, and e payment.

OM10.  Exit Management:
- Exit pass generation based on bill payment.
- Partial release of trucks and consignment.
- Releasing the truck from the port gate.
- Partial release of the consignment.
- Automated halting charge calculation.
- Releasing the trucks from the border.

OM11.  Accounts Management:
- Submission and approval of labour contractor bill.
- Accounting transaction entry.
- Income and expense reporting.
- Operating expense budgeting
- Financial reporting

OM12.  E-passenger exit operation:
- Port officials will input passenger slip information into the system.
- Passengers can pay through mobile or cash payment.
- System generates payment slips and notifies port officials and passengers.

## Backend Support Functions:

BSF 1. **Workflow Management:** Allows the configuration of users and activities to complete a business process e.g., billing assessment may require submission from one user and approval from another user.

    a. **Notification management:** This allows the system to generate notifications for workflow activities and user activities at different delivery points. The user will pop up with a notification for any activities to be performed.

BSF 2. **Document Management:** Allows the system to track, manage and store documents related to port operation.

BSF 3. **User Administration:** Allows the administrator to manage users, groups, roles and

    a. E-signature-based user administration.

BSF 4. **Master data management:** Allows the administrator to set up master data e.g., Tariff schedule, goods type, truck type, transshipment lane, and shed setup.

BSF 5. **Audit Management:** Allows management or admin users to view and monitor specific processes, workflows, activities, and users in order to investigate issues for specific cases.

BSF 6. **Consignment and truck tracking**: Allows port users and management to track the journey of a consignment and trucks of a specific consignment in any of the delivery points at the port.

BSF 7. **Reporting and Dashboard setup:** Allows the administrator to set up customized and predefined reports required by the management and port user, to set up a dashboard for the management users and end-user specific dashboard to view pending and completed activities graphically.

The table below indicates the feature prioritization of the procurement project:

| Scope of Work | | Priority | |
|---|---|---|---|
| | | **High** | **Medium** |
| **Operation modules** | | | |
| OM 1 | Consignment management | X | |
| OM 2 | Zero-point entry | X | |
| OM 3 | Weighbridge Management | Workflow validation only | X |
| OM 4 | Posting management | X | |
| OM 5 | Shed management | *Complementary module Out of the scope of this project* | |
| OM 6 | Delivery management | Workflow validation only | X |
| OM 7 | Billing management | Workflow validation only | X |
| OM 8 | Labour management | *Complementary module Out of the scope of this project* | |
| OM 9 | Payment module | Cash module with Challan | Bank module and e-payment |
| OM 10 | Exit management (Port gate and Zero-point) | X | |
| OM 11 | Accounts management | *Complementary module Out of the scope of this project* | |
| OM 12 | E-passenger exit operation | *Complementary module Out of the scope of this project* | |
| **Back-end Support functions** | | | |
| BSF 1 | Approval / workflow management | X | |
| BSF 2 | Document management | | X |
| BSF 3 | User administration | X | |
| BSF 4 | Master data management | X | |

| BSF 5 | Audit management | | X |
| BSF 6 | Consignment and truck tracking | X | |
| BSF 7 | Reporting and dashboard setup | | X |

## F. FUNCTIONAL REQUIREMENTS

The following is a general summary of the functionality required in each business process to complete the import operation:

| No | Name of the Process | Process description | Actor | Media |
|---|---|---|---|---|
| 1. | Consignment management | i. C&F will input consignment details to add new consignment after receiving documents from the Importer. There can be multiple attachments of files while adding a new consignment. A **Unique Consignment ID** will be generated while adding a new consignment.<br>ii. C&F can see their own consignment and their status from Consignment List.<br>iii. C&F will prepare Truck wise BD Crew manifest and submit for approval.<br>iv. Port and Customs officer will approve the crew manifest with e signature assigned by the system and C&F will get the notification.<br>v. Concern actors will have notifications (SMS, email). | Importer, C&F, agent, port users | Web and mobile |
| 2. | Zero-point entry | i. Once the truck arrives at the port Indian truck driver will submit the documents including BD Crew Manifest and Car pass.<br>ii. Port officer will search the specific consignment and truck no, input the manifest no. and provide barcode generated clearance slip to the driver.<br>iii. At this point there will be a tracking id generated for the truck.<br>iv. Concern actors will have notifications (SMS, email). | Port users, C&F agent, Importer | Web and mobile |
| 3. | Weighbridge management | i. Port officer can see all upcoming trucks and select the truck no for weight measurement once the truck will be on the weigh scale.<br>ii. Alternatively, the truck driver will produce the manifest slip in front of the weighbridge room, the port officer will scan it with the bar code scanner, the system populates truck data, and the port officer will generate weight measurement report.<br>iii. Notification will be generated for relevant users.<br>iv. System would have tare weight if the truck came before.<br>v. If the truck is new, then a status Empty truck weight will be required.<br>vi. Concern actors will have notifications (SMS, email). | Port users, C&F agent, Importer | Digital weigh scale, Web and mobile |
| 4. | Posting | i. System will auto suggest whether the Goods is for Shed or Yard or Transshipment.<br>ii. Posting officer will entry relevant goods specification and verify entry against documents uploaded in the system.<br>iii. Notification will be generated for relevant users.<br>iv. Concern actors will have notifications (SMS, email). | Port users, C&F agent and Importer | Web and mobile |

| 5. | Shed management | i. In the proposed system there will be two sub processes under this Shed Management Module.<br>ii. Shed Setup – Shed officer will be able to setup shed with relevant fields e.g. Shed Category, types of Good for the shed, goods wise shed capacity, shed height & width. A 3D view of the shed with all blocks will be generated with each block measurement units.<br>iii. Shed Receive --<br>a) Indian Truck driver will approach to the shed and have the BD Crew manifest in hand.<br>b) Shed Officer will see detail of the consignment by clicking the notification or by searching specific field.<br>c) System will show suggested available blocks based on consignment total weight and allocate space for the goods.<br>d) Shed officer finally submits the form and the new status of the truck set as **Goods unloaded.**<br>iv. Concern actors will have notifications (SMS, email). | Port users C&F agent and Importer | Web and mobile |
|---|---|---|---|---|
| 6. | Delivery management | i. In the proposed system *C&F Agent* will request for Delivery from Shed/Transshipment/Yard.<br>ii. System suggests required capacity and quantity of Bangla truck entry in the port.<br>iii. Port Official will check the delivery request and give approval from Shed or Transshipment or Yard.<br>iv. Labor Contractor and C&F Agent will get the approved notification.<br>v. Concern actors will have notifications (SMS, email). | Port users, C&F agent and Importer | Web and mobile |
| 7. | Labor management | i. Labor Leader will assign a group upon receiving notification for Goods Loading or Unloading.<br>ii. Leader will see available groups for assigning.<br>iii. Group Leader will change the status **"Release"** when the task will complete.<br>iv. Labor Contractor will submit the bill by end of the month on behalf of all groups.<br>v. Bill will be generated according to the total no. of consignment, Loaded and Unloaded weight.<br>vi. Concern actors will have notifications (SMS, email). | Port users, C&F agent, Importer, Labor contractor | Web and mobile |
| 8. | Billing assessment | i. Billing officer will receive notification of the billing assessment for approval.<br>ii. Once the billing officer selects the specific consignment for billing, the system automatically calculates the tariff for the goods on the basis of the tariff schedule and predefined charges.<br>iii. Billing officer will verify the system-generated Assessment sheet as per instruction given at posting.<br>iv. Once the Billing officer approves the assessment sheet, C&F will get a notification.<br>v. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |
| 9. | Bill payment | i. C&F can select **Payment** in three different ways-<br>a. C&F will receive a manual printed challan and pay cash.<br>b. Designated banks will have a bank module for port payment. The Bank officer receives notification for bank payment. Search challan with Consignment no., receive and confirm the payment.<br>c. E-payment through card, internet banking, and mobile banking.<br>ii. C&F will receive a notification with the consignment details.<br>iii. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |

| 10. | Exit pass management | i. Port officer will generate an exit pass from the pending list of approved consignments.<br>ii. C&F and the port gate officer will receive a notification with exit pass details.<br>iii. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |
|---|---|---|---|---|
| 11. | Port gate exit | i. Port gate officer receives the notification of trucks eligible for leaving the port.<br>ii. After necessary data validation allow the truck to exit the port gate.<br>iii. System will track the exit timing of the truck.<br>iv. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |
| 12. | Accounts management | i. Accounts officers will be able to see each payment detail and can generate reports based on their needs.<br>ii. Labor contractor will apply for his payment based on a prescribed format to Director/DD/AD.<br>iii. Accounts officer will validate the application and approve and then the BLPA authority will approve the payment.<br><br>Backoffice operation:<br>i. Accounting transaction entry<br>ii. Income and expense reporting<br>iii. Operating expense budgeting<br>iv. Financial Reporting. | Accounts officer, C&F agent,Importer | Web and mobile |
| 13. | Zero-Point exit | i. When the Indian truck reaches zero point, the gate officer will search the system by Truck no. and check the Exit Pass date.<br>ii. System will calculate charges for extra days if the truck stays more than the eligible days.<br>iii. Truck driver will pay the charges, an officer will allow the truck driver to exit, and the system will store the date & time of the truck exit.<br>iv. C&F and the relevant port officer will be notified.<br>v. Concern actors will have notifications (SMS, Email). | Port users, C&F agent and Importer | Web and mobile |

## G. USERS AND USER ROLES

The list of users and their associated roles are mentioned below:

| No. | Types of users | User title | Possible no. users per day | Office | Major role |
|---|---|---|---|---|---|
| 01 | Operator/end user | Traffic inspector, weight machine operator, billing, exit pass, and challan officer | 20 | Bhomra Land port | Manifest data entry, document uploading, measurement of goods weight entry, entry of unloading and loading information, billing assessment, and exit pass generation. |
| 02 | Admin | Deputy director, Assistant director, Any officer approved by Bhomra port authority | 5 | Bhomra Land port | User creation, user role management, master data configuration, workflow approval and other sysadmin works. |
| 03 | Management | Chairman, Deputy director, Director traffic, Director admin, Member traffic, Director of accounts, | 10 | Bhomra land port and Head Office of Bangladesh | System monitoring in different touch points, trend analysis of port revenue, incoming and outgoing trucks, performance measurement of delivery points. |

| No. | Types of users | User title | Possible no. users per day | Office | Major role |
|-----|----------------|------------|----------------------------|--------|------------|
|     |                |            |                            | Land port Authority |            |
| 04  | Service Recipient | C&F, Importer, Exporter and customs | 50 | All over the country | Consignment data uploading, consignment and truck tracking, system notification tracking. |

## H.    Integration requirements:

Possible integration scopes of this application are mentioned below:

| Interfacing system | Scope of Integration |
|--------------------|----------------------|
| Payment Gateway | Port bill payment through, e-pay, card, mobile and internet banking |
| Weigh machine | Capturing weigh machine data to automatically calculate goods net weight. |
| SMS gateway | Sending SMS notification to the users. |

## I.    NON-FUNCTIONAL REQUIREMENTS

The non-functional requirements are as follows:

1. **Workflow Management:** Allows the configuration of users and activities to complete a business process e.g., billing assessment may require submission from one user and approval from another user.
   a. **Notification management:** This allows the system to generate notifications for workflow activities and user activities at different delivery points. The user will pop up with a notification for any activities to be performed.
2. **Document Management:** Allows the system to track, manage and store documents related to port operation.
3. **User Administration:** Allows the administrator to manage users, groups, roles
   a. E-signature-based user administration.
4. **Master data management:** Allows the administrator to set up master data e.g., Tariff schedule, goods type, truck type, transhipment lane, and shed setup.
5. **Audit Management:** Allows management or admin users to view and monitor specific processes, workflows, activities, and users in order to investigate issues for specific cases.
6. **Consignment and truck tracking**: Allows port users and management to track the journey of a consignment and trucks of a specific consignment in any of the delivery points at the port.
7. **Reporting and Dashboard setup:** Allows the administrator to set up customized and predefined reports required by the management and port user, to set up a dashboard for the management users and end-user specific dashboard to view pending and completed activities graphically.

## J.    SYSTEM REQUIREMENTS

1. System must be hosted in Bhomra Land Port premise and accessible through intranet and internet.
2. Application must be developed based on progressive web application (**PWA) technology** to give users the same experience while accessing on desktop and mobile.
3. System must follow standard design approach for UX/UI plan.
4. Offline data entry feature without network availability, resync with the server once online.
5. System must ensure advanced API architecture and authentication mechanism.
6. The system shall have the functionality to export/import files based on the standard template defined through web services and/or API.
7. The database architecture should be designed based on master-slave asynchronous replication to ensure high availability.

8. System should support multilingual options i.e., Bangla and English with input validation both in Bangla and English.
9. System must follow the WCO data model standard for trade facilitation.
10. Vendor must have an on-premises automated software build release delivery approach (such as to manage the software delivery in the bidder's premise before deploying it in the live system at Bhomra. The development cycle is i) source code development, ii) Unit test and code review, iii) functional test in staging or testing server, iv) UAT in the testing server (available through internet) and then deploying it in the Bhomra on-premises infrastructure, where another cycle of test will be performed.
11. The application and primary database server will be hosted in Bhomra Land Port premise and the backup database server will be hosted in the Bangladesh Computer Council National data centre.

## K.    HOSTING REQUIREMENTS

The application and primary database server will be hosted in Bhomra Land Port premise and the backup database server will be hosted in the Bangladesh Computer Council National data center. Therefore, at this stage, the vendor is requested to submit a preliminary hosting plan considering the issues mentioned below-

1. Hosting requirement /environment (hardware, servers, network, security, storage, traffic, firewall, bandwidth etc.)
2. Hosting architecture
3. Data Growth and Scalability plan
4. User handling/load balancing mechanism
5. Scheduled backup & Restore Requirements
6. Disaster recovery requirements
7. Monitoring tools requirements

## L.    SIZING, PERFORMANCE, SCALABILITY AND AVAILABLITY REQUIREMENTS

1. The system should be designed in such a way that it can meet the currently estimated load and must have the capability to scale out to meet future needs.
2. A rough sizing assumption is as follows:
3. Capability of handling transactions of at least 1000/day in terms of service delivery and 100 system users.
4. Concurrent user requests will be max 20/sec.
5. Concurrent API requests will be min 200/day.
6. Page load time, login response time, and on-click" load time for the web application should be less than 5 seconds while this is accessed over the internet and less than 3 seconds while accessing over intranet.
7. Average transaction response time, on-submit response time, or any other database access/ search time should be less than 5 seconds when the system solution is accessed over the internet and less than 3 seconds while accessing over intranet.
8. Considering the network infrastructure challenges in Bangladesh, the solution must support low bandwidth conditions for the services defined in the functional requirements.

## M.    SECURITY REQUIREMENTS

The vendor should follow any of the industry standard secure development methodologies such as (but not limited to) Comprehensive Lightweight Application Security Process (CLASP) by OWASP etc. The vendor should consider (but not limited to) common vulnerabilities such as SQL Injection, Cross Site Scripting (XSS), etc. The vendor will undertake responsibility for Input Validation Controls, Authorization/Authentication Control, and other security controls in place in both the test and production environment of the application.

Standards to be followed for web, mobile interfaces, and API's as well:

1. OWASP Security Checklist compliance.
2. Software coding style guide e.g. google java script style guide or any other standard.
3. Penetration testing. (Audit by Bangladesh computer council).
4. Load testing. (Audit by Bangladesh computer council)

## N. DATA SECURITY

1. No personally identifiable information may be exposed within and outside the system without proper authorization as the privacy of the user data must be dealt with utmost priority.
2. Any attempt to breach the security will be recorded with all the relevant data.
3. If the system is accessed in a time not defined by the Administrator, e.g., in the case of production deployment, all options will be locked, and the user will not be able to use the system.
4. The system must communicate using Transport Layer Security and ensure SSL encryption.

## O. FINANCIAL TRANSACTION SECURITY

1. System should have necessary checks and control for all integration and approval of money transactions.

2. Security architecture should be industry standards as such it compliant with banks' and financial gateways' security requirements.

## P. BUSINESS CONTINUITY

The vendor is requested to propose a disaster recovery plan for service restoration with the following considerations:

1. All standard backup facilities should be supported by the system which can be started with disk-based backup facility, gradually moving to Storage Area Network (SAN) based backup system.
2. System should have an automated backup mechanism by which users can schedule the backups and the system will take the backups without manual intervention.
3. System should maintain an automated recovery system and all versions of the backup will be maintained. At any given point in time, the versions and incremental backup details can be retrieved from the system.

## Q. DESIGN DEVELOPMENT AND IMPLEMENTATION REQUIREMENTS

The supplier should be aligned with **Agile Software Development Methodology** and must follow this during the development of this project.

The following is a general summary of the requirements in each phase of the development life cycle.

## R. USER EXPERIENCE RESEARCH AND REQUIREMENT FINALIZATION:

Currently, there is a draft prototype (digital wireframe) designed and developed based on the AS-IS process analysis, user empathy, process reengineering, and stakeholder validation.

The vendor must propose a plan including test and design iteration of the prototype, conducting user experience research, gathering, identifying, prioritizing, and finalization of product backlogs.

The vendor must have the capability **to deploy onsite resources according to the site office timing** to lock and approve the design as well as win the customers with solution ideation.

Apart from this, the vendor should consider the following as a requirement at the time of the UI/UX plan.

1. The system interfaces should be highly user-friendly, easy to navigate, and ensure fast loading.
2. The UI shall design by using a well-established, supported, and lightweight UI framework so that it follows widely used industry flow patterns.
3. UI shall be easily configurable if any changes are needed.
4. Menu, content, and navigation shall be based on the user entitlements, roles, and permissions.

## S. SYSTEM DESIGN

At this phase, the vendor may perform different designing-related tasks and will produce various standard System designing Documents (SDD)

1. Specifying technical and functional requirements.
2. Design, review and finalize User Interface.
3. Description of UI and requirements.
4. Designing system architecture.
5. Determine process and data flow.
6. Database design.

7. API Design.
8. Finalizing tools, technologies, and frameworks to be used, etc.

## T.    BUILD AND RELEASE PIPELINE

1. Vendor must propose a plan/sketch of how the pipeline will be built.
2. Vendor must have **on-premises CI/CD** facility.

## U.    TESTING

The vendor must propose a plan covering all the standard suitable testing approaches for this system including below:

1. Code coverage test
2. Unit Test
3. Functional Test
4. System and integration testing
5. Regression testing
6. Stress Testing
7. Usability testing
8. Security testing

At this stage, the vendor must validate and approve the test plan and cases and execute all the testing activities, provide reports, and sign off the completion from the client.

## V.    USER ACCEPTANCE TEST

At this stage, the system will be released for User Acceptance Test (UAT), which will be tested by the end users. Based on the UAT report/ feedback the vendor will review the system, incorporate all feedback and make sure that all the requirements and specifications of the proposed system are met. If any further modification is required, the vendor will take the necessary steps to update the system. This phase also includes alpha testing, beta testing, end user testing, physical tests, or performance test etc. then the system will be ready for final release.

At this stage vendor must sign off the completion from the client.

## W.    DEPLOYMENT AND IMPLEMENTATION

The vendor must propose a deployment plan considering agile methodology, product functions, stakeholder environment, assessing project timeline, and quickly winning the client.

## X.    TRAINING AND KNOWLEDGE TRANSFER

The vendor must propose detail training plan considering the following level of training:

1. Vendor only have to develop relevant training materials e.g. user guide, training manual, online video tutorial, online help and frequently asked questions.
2. Vendor must have a plan for job shadowing and reverse job shadowing with the operational users.

| Training Level | Training Catalogue | Number of Participants |
|---|---|---|
| E port management system training | Provide functional training to the port field official, C&F, and other relevant stakeholders. | Total batch 5<br><br>Per batch 20 Participants |
| First-level technical support | Training of basic functional troubleshooting, incident, and request resolution of the system to the selected users. | 1 batch 8 Participants |
| Training of the trainers | ToT training to selected official so that trainers can replicate the skills to the relevant officials. | 1 batch 15 Participants |

| | | |
|---|---|---|
| Second level technical support (Basic product development and technology training) | i. Day to day operation and maintenance of the production system.<br>ii. Database and application server incident and request resolution.<br>iii. Regular system health checkup and monitoring. | 1 batch 6 participants |

## Y.    SYSTEM HANDOVER

At this phase vendor will propose a plan for smooth handover of the system with below documentation:

1. Handover checklist.
2. Prototype and UI design documentation.
3. Requirement gathering and product backlog.
4. Requirement traceability matrix and System requirement specification (SRS).
5. System design document (SDD).
6. Complete source code with documentation following best practices.
7. Quality assurance and UAT documentation and reports.
8. Training materials.
9. Incident and bug reports.
10. API specification.
11. Release and Deployment documentation.
12. Reports to follow agile methodology.
13. Any other relevant reports or documents during system development.

## Z.    MAINTENANCE AND SUPPORT SERVICE

The selected Vendor must provide a **WARRANTY** period of three years for system maintenance and support service after **GO LIVE**. The vendor should consider 25-30% of the total contract price (BDT) as mentioned in section **CC** for the warranty period or may propose a budget **that must be within the contract price** mentioned in section **CC**.

10% (Ten) of the total Contract Price shall be paid after fulfilling each year support upon submission invoice with Maintenance Report on the end of the year.

In accordance with this vendor must provide an **Advance Payment Security** on contract supported by an irrevocable unconditional **Bank Guarantee.**

The vendor must provide detailed maintenance and support service plan, which may include the followings-

1. Support service types and mode of services.
2. Helpdesk functionalities
3. Configuration management
4. Release management
5. Incident management
6. Bug fixing and relevant change management.
7. Problem management
8. Maintenance and support service-related reporting.

## AA.    KEY MILESTONES OF THE PROJECT

1. Validate the Prototype, and design iteration, and gather and lock the requirements.
2. Detail system design developed.
3. Design, review, validate and finalize UI based on Prototype design.
4. Source code developed with build and release pipeline.

5. Quality assurance, UAT and rollout with some selected modules or modules with prioritized features with desktop and mobile view.
6. Feedback incorporated, rebuild modules with end-to-end regression testing.
7. Capacity development of the users.
8. Release and deployment of the first version of e port management system.
9. System handover, signoff and project closure.

## BB.     PROJECT COMPLETION DEADLINE

The deadline for the project completion is by August 2023.

[*The following annex has been added solely to provide an understanding of an ideal e-port management system that includes all required business processes. However, as of right now, only the work that is specified in the expression of interest and the terms of reference will be covered.*]

## ANNEX
## AN IDEAL E-PORT SYSTEM

**Import Operation:**

The following is a general summary of the functionality required in each Business Process to complete the **import operation**.

*Figure 1: Functional Requirements*

| No | Name of the Process | Process description | Actor | Media |
|----|---------------------|---------------------|-------|-------|
| 1. | Consignment Management | i. C&F will input consignment details to add new consignment after receiving documents from the Importer. There can be multiple attachments of files while adding a new consignment. A **Unique Consignment ID** will be generated while adding a new consignment.<br>ii. C&F can see their own consignment and their status from consignment list.<br>iii. C&F will prepare Truck wise BD Crew manifest and submit for approval.<br>iv. Port and Customs officer will approve the crew manifest with e signature assigned by the system and C&F will get the notification.<br>v. Concern actors will have notifications (SMS, email) | Importer, C&F, agent, port users | Web and mobile |
| 2. | Zero-point entry | i. Once the truck arrives at the port Indian truck driver will submit the documents including BD Crew Manifest and Car pass.<br>ii. Port officer will search the specific consignment and truck no, input the manifest no. and provide barcode generated clearance slip to the driver.<br>iii. At this point there will be a tracking id generated for the truck.<br>iv. Concern actors will have notifications (SMS, email). | Port users, C&F agent, Importer | Web and mobile |
| 3. | Weighbridge Management | i. Port officer can see all upcoming trucks and select the truck no for weight measurement once the truck will be on the weigh scale.<br>ii. Alternatively, the truck driver will produce the manifest slip in front of the weighbridge room, the port officer will scan it with the bar code scanner, the system populates truck data, and the port officer will generate weight measurement report.<br>iii. Notification will be generated for relevant users.<br>iv. System would have tare weight if the truck came before.<br>v. If the truck is new, then a status Empty truck weight will be required.<br>vi. Concern actors will have notifications (SMS, email). | Port users, C&F agent, Importer | Digital weigh Scale, Web and mobile |
| 4. | Posting | i. System will auto suggest whether the Goods is for Shed or Yard or Transshipment.<br>ii. Posting officer will entry relevant goods specification and verify entry against documents uploaded in the system.<br>iii. Notification will be generated for relevant users.<br>iv. Concern actors will have notifications (SMS, email). | Port users, C&F agent and Importer | Web and mobile |

| | | | | |
|---|---|---|---|---|
| 5. | Shed Management | i. In the proposed system there will be two sub processes under this Shed Management Module. <br> ii. Shed Setup – Shed officer will be able to setup shed with relevant fields e.g. Shed Category, types of Good for the shed, goods wise shed capacity, shed height & width. A 3D view of the shed with all blocks will be generated with each block measurement units. <br> iii. Shed Receive -- <br>   a) Indian Truck driver will approach to the shed and have the BD Crew manifest in hand. <br>   b) Shed Officer will see detail of the consignment by clicking the notification or by searching specific field. <br>   c) System will show suggested available blocks based on consignment total weight and allocate space for the goods. <br>   d) Shed officer finally submits the form and the new status of the truck set as **Goods unloaded.** <br> iv. Concern actors will have notifications (SMS, email). | Port users C&F agent and Importer | Web and mobile |
| 6. | Delivery Management | i. In the proposed system *C&F Agent* will request for Delivery from Shed/Transshipment/Yard. <br> ii. System suggests required capacity and quantity of Bangla truck entry in the port. <br> iii. Port Official will check the delivery request and give approval from Shed or Transshipment or Yard. <br> iv. Labor Contractor and C&F Agent will get the approved notification. <br> v. Concern actors will have notifications (SMS, email). | Port users, C&F agent and Importer | Web and mobile |
| 7. | Labor Management | i. Labor Leader will assign a group upon receiving notification for Goods Loading or Unloading. <br> ii. Leader will see available groups for assigning. <br> iii. Group Leader will change the status **"Release"** when the task will complete. <br> iv. Labor Contractor will submit the bill by end of the month on behalf of all groups. <br> v. Bill will be generated according to the total no. of consignment, Loaded and Unloaded weight. <br> vi. Concern actors will have notifications (SMS, email). | Port users, C&F agent, Importer, Labor contractor | Web and mobile |
| 8. | Billing assessment | i. Billing officer will receive notification of the billing assessment for approval. <br> ii. Once the billing officer selects the specific consignment for billing, the system automatically calculates the tariff for the goods on the basis of the tariff schedule and predefined charges. <br> iii. Billing officer will verify the system-generated Assessment sheet as per instruction given at posting. <br> iv. Once the Billing officer approves the assessment sheet, C&F will get a notification. <br> v. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |
| 9. | Bill payment | i. C&F can select **payment** in three different ways- <br>   a. C&F will receive a manual printed challan and pay cash. <br>   b. Designated banks will have a bank module for port payment. The Bank officer receives notification for bank payment. Search challan with Consignment no., receive and confirm the payment. <br>   c. E-payment through card, internet banking, and mobile banking. <br> ii. C&F will receive a notification with the consignment details. <br> iii. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |

| No. | Name of the Process | Process description | Actor | Media |
|---|---|---|---|---|
| 10. | Exit Pass Management | i. Port officer will generate an exit pass from the pending list of approved consignments.<br>ii. C&F and the port gate officer will receive a notification with exit pass details.<br>iii. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |
| 11. | Port gate exit | i. Port gate officer receives the notification of trucks eligible for leaving the port.<br>ii. After necessary data validation allow the truck to exit the port gate.<br>iii. System will track the exit timing of the truck.<br>iv. Concern actors will have notifications (SMS, Email). | Port users, C&F agent, Importer | Web and mobile |
| 12. | Accounts Management | i. Accounts officers will be able to see each payment detail and can generate reports based on their needs.<br>ii. Labor contractor will apply for his payment based on a prescribed format to Director/DD/AD.<br>iii. Accounts officer will validate the application and approve and then the BLPA authority will approve the payment.<br><br>iv. Backoffice operation:<br>v. Accounting transaction entry<br>vi. Income and expense reporting<br>vii. Operating expense budgeting<br>viii. Financial reporting. | Accounts officer, C&F agent,Importer | Web and mobile |
| 13. | Zero-Point exit | i. When the Indian truck reaches zero point, the gate officer will search the system by Truck no. and check the Exit Pass date.<br>ii. System will calculate charges for extra days if the truck stays more than the eligible days.<br>iii. Truck driver will pay the charges, an officer will allow the truck driver to exit, and the system will store the date & time of the truck exit.<br>iv. C&F and the relevant port officer will be notified.<br>v. Concern actors will have notifications (SMS, Email). | Port users, C&F agent and Importer | Web and mobile |

## Export Operation

Following is a general summary of the functionality required in each Business Process to complete **export operation.**

*Figure 2: Export Operation*

| No. | Name of the Process | Process description | Actor | Media |
|---|---|---|---|---|
| 1. | Weigh Bridge Management | i. Port official can see all upcoming trucks and input the truck details for weight measurement once truck will be on the weigh scale.<br>ii. A receipt will print with necessary weight information.<br>iii. Concern actors will have notifications (SMS, Email). | Port user, C&F agent and Exporter | Digital weigh scale, web and mobile app |
| 2. | Port bill assessment | i. After the customs payment is done and the release order number is generated, the C&F agent visits the port for bill generation.<br>ii. At this point, the C&F agent will submit the application with a signed bill of entry, invoice, and packing list, L/C, Country of Origin, and certification (if any) in the system.<br>iii. Port officer will provide the relevant input to prepare the assessment and the system generates the bill for payment.<br>iv. Relevant users will be notified by the system.<br>v. Concern actors will have notifications (SMS, Email). | C&F agent, Port users, Exporter | Web and mobile app |
| 3. | Port bill payment | i. C&F can select Payment in three different ways-<br>ii. C&F will receive manual printed challan and pay cash.<br>iii. Designated banks will have a bank module for port payment. The bank officer receives notification for bank payment. Search | C&F agent, Exporter, Port users | Web and mobile app |

| | | challan with Consignment/LC/release order no., receive and confirm the payment.<br>iv.  E-payment through card, internet banking, and mobile banking.<br>v.  C&F and port users will receive payment notifications with the consignment details.<br>vi.  Concern actors will have notifications (SMS, Email). | | |
|---|---|---|---|---|
| 4. | Gate pass and Port exit | i.  Port officer will generate an exit pass from the pending list of approved consignment.<br>ii.  After necessary data validation exit gate port officer will allow the truck to exit the port gate.<br>iii.  System will store the date & time of the truck exit.<br>iv.  Concern actors will have notifications (SMS, Email). | C&F agent, Exporter and Port users | Web and mobile app |

**Passenger Exit Operation:**

Following is a general summary of the functionality required to complete **passenger exit operation**.

*Figure 3: Passenger Exit Operation Requirements*

| No. | Name of the Process | Process description | Actor | Media |
|---|---|---|---|---|
| 1. | Passengers exit operation | i.  Port officials will input passenger slip information into the system.<br>ii.  Passengers can pay through mobile or cash payment.<br>iii.  System generates payment slips and notifies port officials and passengers.<br>iv.  Concern actors will have notifications (SMS, Email). | Port users and passengers | Web and mobile app |

**Integration Requirements:**

Possible integration scopes of this application are mentioned below:

*Figure 4: Integration Requirements*

| Interfacing system | Scope of Integration |
|---|---|
| **ASYCUDA** | **From the Port system to ASYCUDA**<br>i.  Submission of Consignment data for automated approval of crew manifest by Customs officer.<br>ii.  Submission of weighbridge data to verify Truck net weight which is required to complete Customs examination.<br>iii.  Track consignment status, truck, and goods location to start examination and complete assessment.<br>iv.  Exit pass data to confirm the truck leaving the port.<br>v.  AIN number verification to register authorized C&F in the system.<br>**From ASYCUDA to Port System**<br>i.  Manifest entry no. to complete the zero-point activity.<br>ii.  Bill of entry data to start delivery management and posting.<br>iii.  Release order data to start port billing assessment.<br>iv.  Exit pass confirmation notification require to release a truck from the port. |
| **Payment Gateway** | Port bill payment through, Ekpay, card, mobile and internet banking. |
| **Weigh machine** | Capturing weigh machine data to automatically calculate goods net weight. |
| **SMS gateway** | Sending SMS notification to the users. |

| | |
|---|---|
| **IVAS System** | BIN verification to register authorized importer and    exporter in the system. |
| **Cross border land port management system** | Receiving IGM (import general manifest) from land port of INDIA. |
| **E-Nothi** | Providing an interface to connect E-Nothi from land port management system. |
| **NID** | To fetch and verify identity details of port officials and other actors. |
| **Passport** | To fetch and verify identity details of port officials and other actors. |

## Letter of Commitment for Bank's Undertaking for Line of Credit

Date:
To:

[**Swisscontact**

**SWISS FOUNDATION FOR TECHNICAL COOPERATION**

House 28, Road 43, Gulshan-2, Dhaka 1212,
Bangladesh]

<div align="center">

**CREDIT COMMITTMENT No:** [*insert number*]

</div>

We have been informed that *[name of Tenderer]* (hereinafter called "the Tenderer") intends to submit to you its tender for the supply of services of *[insert name of service]* under the above invitation for tenders.

Furthermore, we understand that, according to your conditions, the tenderer's financial capacity i.e., liquid asset must be substantiated by a Letter of Commitment of bank's undertaking for Line of Credit.

At the request of, and arrangement with, the tenderer, we *[name and address of the Bank]*do hereby agree and undertake that [*name and address of the tenderer*] will be provided by us with a revolving line of credit, in case awarded the contract, for the delivery of service viz. [*insert name of service*], for an amount not less than BDT[1,00,00,000] (One Crore only) for the sole purpose of the supply of goods and related services under the above contract. This revolving Line of Credit will be maintained by us until issuance of "**Acceptance Certificate**" by the procuring entity (Swisscontact SWISS FOUNDATION FOR TECHNICAL COOPERATION House 28, Road 43, Gulshan-2, Dhaka 1212, Bangladesh).

In witness whereof, authorised representative of the bank has hereunto signed and sealed this Letter of Commitment.

Signature                                        Signature

# Project Track Record Template

Maximum 5 pages per Project Reference

| | |
|---|---|
| Company Name | |
| Project Name | |
| Project Client (GoB client) | |
| Contact person from client (For reference contact) | |
| Project Start | |
| Project End | |
| Total person month assigned to the project for design and deployment | |
| Project Scope | |
| Type of Services provided | |
| Software development methodology applied | |
| What challenges did you face in Software requirement sign-off and how did you overcome them? | |
| Technologies applied and why you think this is the best solution for this project. | |
| Did you do any innovation while designing the solution/software or did you reengineer any process to design the solution? | |
| Solution deployment methodologies applied | |
| What challenges did you face in project deployment and how did you overcome them? | |
| List of the Professional Roles/Expertise deployed for the assignment (Project manager, lead software architect, lead software engineer, design lead etc.) | |

| | |
|---|---|
| Did you / do you provide maintenance services after deployment? If yes, please specify the services provided. | |
| What challenges did you face in maintenance and how did you overcome them? | |
| Why do you think is this project relevant for the proposed project? What are the learnings from this project for the proposed project? | |
| Any further relevant information | |