

## NOTICE INVITING BUDGETORY OFFERS

Name of Work	<b>“SITC of Access Control System at old Gate no 9, Gate no 2 and Break Water Berth Gate and Face Recognition based Biometric Attendance System at various locations in Port Areas” with two years guarantee period followed by three years of Comprehensive Maintenance Contract”</b>
Budgetary offer No	CME/XEN (E-HR)/H-5/2024/B1
Date of submission of budgetary quotation	On or Before <b>30/09/2024 at 15:00 Hrs.</b>
Address for communication	Executive Engineer (E-HR), Electrical Harbour Section Mechanical Engg. Dept. SARASI 2 <sup>nd</sup> floor, ADMIN building, Headland Sada Mormugao Port Authority, Vasco-da-Gama Goa - 403804
Contact Details	Phone : (0832) 2594207, 2594523, Email : mohamed.shaik@mptgoa.gov.in
Website	<a href="http://www.mptgoa.gov.in">www.mptgoa.gov.in</a>

**EXECUTIVE ENGINEER (E-HR)  
MORMUGAO PORT AUTHORITY**

**Sub: "SITC of Access Control System at old Gate no 9, Gate no 2 and Break Water Berth Gate and Face Recognition based Biometric Attendance System at various locations in Port Areas" with two years guarantee period followed by three years of Comprehensive Maintenance Contract"**

Mormugao Port Authority proposes to install RFID Access Control System at old Gate no 9, Gate No 2 and Breakwater Berth Gate and Face Recognition Biometric Attendance System at various locations in Port Areas with two years guarantee period followed by six years of Comprehensive Maintenance Contract.

As such, it is requested to kindly furnish budgetary quotation for the same (Scope of work, technical specifications are enclosed at Annexure-I and Price Schedule enclosed at Schedule A1.

Your budgetary offer should reach to this office on or before 30/09/2024 at 15:00 Hrs.

**Thanking you,**

Yours sincerely,

**EXECUTIVE ENGINEER (E- HR)  
ELECTRICAL HARBOUR SECTION**

## Annexure I

**Sub: “SITC of Access Control System at old Gate no 9, Gate no 2 and Break Water Berth Gate and Face Recognition based Biometric Attendance System at various locations in Port Areas” with two years guarantee period followed by three years of Comprehensive Maintenance Contract”**

**GENERAL:** Mormugao Port Authority intends to take up the work of SITC of Access Control System at old Gate no 9, Gate no 2 and Break Water Berth Gate and Face Recognition based Biometric Attendance System at various locations in Port Areas” with two years guarantee period followed by three years of Comprehensive Maintenance Contract.

**The work is described in 3 PART namely**

**PART A: RFID Access Control System**

**PART B: Biometric Attendance System**

**PART C: Comprehensive Maintenance Contract.**

The work mentioned is illustrative indicative and not exhaustive. The project is on turnkey basis and the tenderer may have to carry out any other related works, which are not included herein and the same shall be incorporated as per relevant standards in bidder's scope

### **PART A**

#### **Technical Specification: RFID Access Control System**

##### **1.1 Existing System Overview:**

MPA has implemented RFID (Radio Frequency Identification) based Gate access control system and the same is in operation since 2017.

Salient features of the existing CMC

- Manpower support for maintenance was been provided at site for round the clock operations.
- Operation and maintenance of the HEP Pass system along with supply of peripherals/hardware.
- Centralized database of all Users/ Visitors / Pass Holders
- HEP (harbor entry permit) management system through RFID reader. The system authenticates all movements and can be tracked seamlessly.
- The system is having a provision to renew/extend the existing vehicle pass which have been restricted for EXIT on account of overstay, with simultaneous auto-reminder POP-UP message sent to the User login screen / email ID.

## 1.2 Scope of Work of proposed Gate access control system

The scope of work under this RFP will result in implementation of **turnkey** online fully automated system which will:

- Significantly enhance the security at Gate no 2, Old Gate no 9 and Breakwater Berth Gate of the Port
- Automate and speed up vehicles/ persons entry/exit to the port.
- Control and restrict access to authorized personnel only inside the Port
- Track movement of persons, materials, and vehicles across the port and provide alert in the system.
- Record all movement of men, materials, vehicles and provide historical audit trail.
- Prevent revenue leakage.
- Comply with ISPS code.
- User in Face recognition for all employees and port users
- Online seamless vehicle pass generation by employing minimum access protocol.
- Integration with ANPR for easy access to all types of vehicles
- Dismantling of existing RFID system at old Gate no 9, Gate no 2 and Breakwater berth Gate and handing over the devices to MPA.
- During the Guarantee/ CMC period, the Vendor has to deploy 06 Nos. employees, as mentioned below
  - 1) Engineer – 1 No
  - 2) Data Entry Operator—5 nos (4 at Gate no 9 ,1 at HEP)
- The main equipment's of RFID system to be installed at Port Gates are tabulated below:

Sr no.	Item Description	Entry/ Exit	Quantity in nos.			Total	Remark
			Gate no. 9	Gate no.2	Cruise berth		
1	Boom Barrier	Entry	1	1	1	4	
		Exit	1				
2	Card reader	Entry	2	2	2	12	One each for boom barrier & turnstile
		Exit	2	2	2		
3	Turnstile	Entry	1	1	1	4	
		Exit	1				
4	LED Indicator signal light	Entry	1	1	1	6	For Boom barrier
		Exit	1	1	1		
5	LED TV Display	Entry	2	1	1	8	One each for boom barrier & turnstile
		Exit	2	1	1		

### 1.3 The scope of the online Portal

**Objectives:**

- a) Providing easy, and anytime access to MPA services (both information & transaction) to ensure reliability, efficiency, transparency, accountability & validated access.
- b) Efficient delivery of MPA services with faster turnaround time.
- c) Reduce stake holder’s visit to MPA for availing services.
- d) Faster movement of Men, Materials & vehicles to reduce queuing as best as possible.
- e) Capacity building and training stake holders and MPA officials by conducting at least 4 introductory training session for the users of the system.

**Port Access Control System (PACS) Software**

PACS shall be operated through a centralized software catering to the following requirements

- a. Registration/ De-registration of Firms, Port users and Employees.
- b. Application submission/ processing for Permits (Men, Vehicle and Material).
- c. Integration with ANPR for vehicle movement.
- d. Integration with MPA e-Wallet (for enabling the payment for permit applications and other fees/ penalty).
- e. Integration with Port Operating system.
- f. Integration of Weigh Bridge system with PACS.
- g. Provision of generating E-GST invoice.
- h. 24 X 7 Helpdesk support
- i. Adherence to the Service Level Agreements (SLAs)
- j. Hosting and maintenance of the On-premises solution.
- k. Integration with Hand-held readers.
- l. Integration of RFID Readers for both Vehicle & Pedestrian lane.
- m. The bidder shall be competent to develop API’s Integration, develop software and coding. Shall have a reliable software development team to carry out any software related activity as and when required.
- n. The new Toll plaza gate and Gate no 1 presently are being managed by another contractor/system as such the new proposed RFID system should be able to integrate with above system through API’s

### 1.4 Business Objective - MPA

The following categories are prevalent for Harbor Entry Permit at MPA.

SL No	USER TYPE	DESCRIPTION	APPLICATION ACCESS
1	REGISTERED COMPANIES	Port Users who need to visit the port for various activities on a regular basis. (Coast Guard IOCL, HPCL, Navy, etc.)	REQUEST FOR FR – permanent users VEHICLE/PERSON - ANPR/RFID PASS – Daily Users PARKING PASS - both

2	Govt. agencies	Provision to be made for IN and ICG with code so that they can avail their passes for vendors.	VEHICLE/PERSON - ANPR/RFID PASS – Daily Users PARKING PASS - both
3	DEPARTMENTAL PASS ( Multiple users in single Pass)	Sub-Vendors, vendors, students, etc. need to enter the port for various purposes. Departments shall initiate the pass request based on their requirements.	VEHICLE/PERSON - ANPR / FR PARKING PASS - ANPR
4	PPP Operators	PPP Operators shall initiate passes for their Sub-Vendors, vendors, cleaners etc.	REQUEST FOR RFID Passes VEHICLE: ANPR
5	USER PASS	Person or vehicle who is not registered with the port and who need to visit the port on a rare occasion.	VEHICLE/PERSON – ANPR/FR
6	REQUEST APPROVER; TRAFFIC DEPARTMENT	The pass section shall verify and approve request such as Company registration, Pass approval, Card Issue etc.	Company Registration Approval RFID Card Issue Pass approval Change approval Pass issued reports Penalizing /Backlisting
7	SECURITY AGENCY/PORT LOGIN	Security can review the Person/Vehicle Movement and cargo movement at the Gates.	GATE IN/GATE OUT Reports GATE IN/OUT with CARGO Report Already IN or Already OUT message report Number of Person/ Vehicle
8	ADMINISTRATOR: Traffic and Finance Department	Port officials should be allowed to review the performance and monitor the harbor entry/exit of persons/ vehicles and generate various reports to view various performance parameters.	Pass Approval All Reports – Pass Issue. Gate Entry/Exit Cargo Linked, Revenue etc. Hot listing /Backlisting

### 1.5 Proposed System:

The proposed solution will be an integrated intelligent solution comprising of the following sub systems:

1. RFID based passes for Vendors, Visitors, Vehicles, Drivers, and all other port users
2. RFID/ANPR Tagged Entry & Exit of vehicles at the port.
3. Capture Pass holder photo and details.

4. Online web-based Pass issuance Request system.
5. Notification through email, SMS, etc.
6. ANPR based tracking for Vehicles within the Port gates and scalable within the port premises.
7. Live control Room for round the clock tracking.
8. Distributed architecture.
9. Archival and retrieval system.
10. Integration of Payment Gateway with preferred bank for cash less transactions
11. E- wallet for hassle free transaction

#### **1.6 Web Based Pass Generation System:**

MPA proposes to replace the existing Pass generation solution with state of Art web-based Pass generation module with the following General features:

- Online web based pass generation module with MSSQL DB
- Login feature for Proposers - so that they can login to upload the relevant details as required by MPA from any location of their choice based on User rights.
- Pass generation module with provision of capturing Photo and signature at the MPA gate along with issuance of paper pass for spot verification based on FR. FR will be used for regular Port Users for all durations.
- The ANPR based access will be used to log in the Physical check In & OUT time of the vehicle at the port gates. The same will be used to calculate the user fee for port usage.
- The solution should be smart enough to verify the pre-sanctioned data already available.
- The Pass generation process should have the following flow:
  - a) It should be web based and should have provision to create any number of users on line
  - b) Every proposer should have unique Username and Password. Using the same, the Proposer should upload all relevant details like, vehicle FC, RC Driver details, Helper details, likely loading or unloading date, cargo type etc. as requested by MPA. The proposer should be able to upload all relevant details from their own office.
  - c) Once the data is uploaded, suitable counter foil shall be generated with a unique ID.
  - d) The Pass section at the gate should be provided with a web based PASS Issuance Module, which shall have provision to capture the Photo of Driver/ Helper etc. along with signature if required. All other relevant details should be available from the data entered by the proposer. On confirming authenticity of the documents the Pass section will issue a paper pass with FR and other details and activate ANPR tag for vehicle and FR for the driver & helpers.
  - e) Once issued the ANPR will be automatically pick up the data of vehicle, driver and helpers. On validation system shall provide access to the vehicle and driver/helpers through RFID Readers for both Vehicle & Pedestrian lane.

- f) At exit lane the same ANPR system will be available. The system shall check for overstay and allow Exit in case found suitable. For Overstay the system will automatically calculate user fee based on the slabs already fed into the system. The extra amount should be paid before releasing the vehicle/ User
- g) The software should have both options to facilitate payment of fees vide bank or Wallet.
- h) The entire data generated should be available at the DB for historical audit trail.
- i) Customized reports shall be made available to MPA as desired.
- j) System should have simplified approval system with email and SMS alerts.
- k) System should comply to all policy frameworks as desired by Ministry, MPA and other statutory bodies
- l) Distributed architecture with a local server available at each pass issuance center along with apt central server with proper backup to stand the requirement.
- m) The master DB should have 99.99% up time with active fail over.
- n) Mirroring of master DB is mandatory.
- o) All data should be available for a particular period as desired by MPA.
- p) In future system should have provision for Kiosk based self-generation integration.
- q) System should have provision to configure multiple types of Passes like daily, Weekly, Monthly, Yearly and Permanent along with date bar

## **1.7 Types of Passes:**

Pedestrian Passes will be of following types:

1. Employees
2. Pensioners
3. Regular workers – Contractual
4. Permanent Workers – Contractual
5. Stakeholders
6. Visitors
7. Drivers
8. Labourers
9. Passengers

The Vehicle Passes will be of the following types:

1. Commercial vehicles
2. Inter carting Vehicles
3. Private vehicles
4. Port Vehicles
5. Equipment's
6. VIP



The Port areas can be broadly classified into:

1. Breakwater / Mole Berth.
2. JSW
3. Adani
4. Berth No 8
5. Berth No 9
6. Berth No 10/11
7. Railway Yard
8. MPA site Offices/ Harbour
9. MPA Admin Bldg.
10. Miscellaneous areas.

The Types of Port Entry permit will include:

1. Daily
2. Weekly
3. Monthly
4. Yearly
5. Permanent
6. Date specific

### **1.8 Pass Issuance Module**

- A) On authentication of Visitors/ Port Users/employees, etc. by the RFID system details of the person along with photo (face) shall be flashed on display screen for easy identification.
- B) All types of vehicles will be issued with RFID tag.
- C) System should have ANPR based vehicle recognition.
- D) Photos for users and ANPR/HF tag for vehicles will be allowed for online bookings.
- E) The online portal will have documents and Photo uploading facility.
- F) The software should have provision to store all relevant details like name, address, Employee no, Vendor no. etc. as desired by MPA
- G) Additionally a paper pass if desired will be provided as backup.
- H) Apart from the online reservation the same facility should be available at the gate counters as well for pass generation.

### **1.9 Company Registration**

Company Registration process will be a part of proposed solution & the same should be integrated with SAP. The agent/Company registration details shall be explicit function part of the system for ready accessibility.

System, will check existing records and populate the list of companies if already registered with same PAN No. or GSTIN No. or contact number or e-mail id or similar Company Name; where port officials can check the record of company with hyperlink. Record may detail the current quota allocation for RFID cards and Pass.

#### **1.10 Port Permit Quota Allocation.**

1. Traffic Department will have provision to allot quotas for all Registered Companies for Limit of Vehicle Pass, User Pass and Driver Pass
2. Quota Allocation for Vehicle Pass
3. System to maintain the changes in quota allocation details.
4. System should have provision to add, block, hold change and delete Pass/Users for both vehicles and Pedestrians.

#### **1.11 Account Recharge**

Upon successful registration of Company/User, Payment Wallet will be activated by the system. In which user must maintain minimum required balance to take advantage of Port-related services. It will be required for obtaining Permit issuance for his employee, vehicles, and Drivers etc. It can be additionally used for payment of any penalties if any.

The company will have a provision to load money onto his wallet by paying through payment Gateway or through SAP system. It will have further provision to carryout Transaction wise wallet deduction for online booking of Tickets. Penalties, if any should be clearly intimated to the company officially through proper intimation protocol.

#### **1.12 Blacklisting of Company**

The Traffic Department will have rights to Blacklist a company/ User/ Driver/individuals etc. for a period or for life. The software should facilitate the same.

#### **1.13 Request for Pass**

Upon successful Registration of User/Company/Port Department with valid login Credentials, they can request for New passes. Prerequisites for Card Issuance

1. User must have proper valid login credentials.
2. User Registration must be valid.
3. On request the Traffic Department will be final authority issuance and quantum of Passes to be issued.

#### **1.14 Passes will only be issued to:**

- A. Registered Companies/ Users
- B. Port Departments authorized for Vendor/Vendor Pass are General Administrative Department and Traffic Dept. The system will have provision for VVIP pass and also for

bulk Pass request where only a primary member or head of the student group, etc. will have access based on FR. This will be used for Students and bulk visitors.

C. PPP Operators for issuing passes to Sub-vendors.

### **1.15 Request for Card Details – Process flow**

1. User Code (Auto Populated)
2. No. Of Person
3. No. of drivers
4. No. of vehicle
5. Reason for Visit inside the port
6. Pay through e wallet
7. Duration

### **1.16 Pass Rate Master**

In system there will be a provision to keep pass Rate Master based on following criteria

1. Pass Type
2. Rate Per Unit
3. Net Rate
4. GST
5. Gross Rate
6. Tax if any

### **1.17 Approval/Rejection/Modification of Pass Request**

Port officials will accept or reject the Pass request or modify the number of Passes to be issued.

### **1.18 Payment**

Payment to be deducted from User wallet/card or net banking option as per payment portal available with Port.

### **1.19 Payment Confirmation**

Payment confirmation should be provided by the system to the user on successful completion of payment.

### **1.20 Issuance of Pass with Unique Number**

Upon confirmation of payment, Unique Pass number shall be assigned to the user, the validation will be based on FR.

### **1.21 Report of Pass Lost or Suspension of Pass Request**

User will login with valid credentials and by selecting the Pass number, generate request to report Past.

## 1.22 Vehicle and User Entry Pass Application

This functionality will be used by the registered companies, PPP Operator, User and Port Departments for the request and issuance of Pass. Once the Individual is registered in the system/authorized to use the respective form, they can request for Port entry permit for User or vehicle. Subject to the approval of Traffic Department

While applying for pass, the following set of information shall be captured

SL No	Description	Details
1	Identification of the entity (individual or Vehicle) including Photo for pedestrians and ANPR number for vehicles/Vehicle No.	Identification Number to be recorded and document to be uploaded
2	Capturing of Cargo code/ Description/ Quantity/ Time and date	Captured through data entered and by scanning of the card on RFID reader while entry/exit
3	Relationship of the entity to the User	Details such as Designation and Type of employment shall be recorded.
4	Purpose of visit	The purpose of visit and document proof to be recorded
5	Location Based entry Request	Location based entry for restricted area is captured.
	Pass Period	Charges are displayed based on the number of days for the Pass request

Once the pass is applied, the user should be able to track the status of the pass request (Approved/ Pending /Rejected). Once approved, the user can view the list of active passes along with the pass validity dates.

## 1.23 Identification

When user requests for passes, following details should be entered by individual based on configuration in the system for each pass type and User type.

Individual Pass	Aadhar Card Number Secondary ID like PAN or DL for Locals Passport and its Visa validity (Based on Duration of pass) for Foreigners with Nationality, Passport No and Passport Validity, Visa Number and Validity & Immigration Bureau certificate
Driver Pass	Aadhar Card Number Driving License Number

	PVC and its Validity ( based on Duration of pass) Other information
Vehicle Pass	Vehicle Number / ANPR No. RC Validity Insurance Details with expiry Other information

### 1.23.1 Long Duration Pass

All long duration Passes will have the above features/ validations

### 1.23.2 Eligibility for Pass

- Valid Work Permit
- Loading / Unloading requirement etc.

### 1.23.3 Location based entry

The user shall identify the request for entry permit to restricted areas inside the port. This feature can be extended to other locations when the need arises.

### 1.23.4 Pass Period

The user shall select the pass start date time and shall select either select number of days/month/year or the end dates. Based on the days selected, the rates are calculated as per the rate master and displayed to user. The rate master shall be visible to user via hyperlink.

As default, the pass shall expire the next day or 24 hrs time bound, As decided by MPA.

## 1.24 Rate Master

Rate Master Table

1. It will allow Port officials to decide & update the rate master as and when required
2. Rate validity from / to date will be maintained in the system, Rates as those decided by MPA.

Particular	Individual(Rs)	Vehicle(Rs)
Daily Pass		
Monthly Pass		
Yearly Pass		
Auction Pass		

### 1.25 Other Validations:

1. Once the application is submitted, the user can view the summary of the pass request with List of Name of the entities requesting pass and if the details are correct, user can submit for port approval; else return to pass application screen. This feature aims to reduce the manual errors while entering vehicle numbers/ Person details.

2. System will have capability to collect RC Book Validity, FC and Insurance and also validate the expiry date
3. System should issue the pass even if the FC or RC book validity expires within the pass period. System should have the provision to update the RC Book, Insurance details for the already issued pass if it is expired. The pass shall be suspended till the time the document is uploaded. The prompt message and notification for updating the documents will be generated at least 3 weeks in advance. The reason for suspension of pass can be viewed while scanning the pass. This suspension should be a configuration in the system and should be at the discretion of Port to allow the vehicle or stop the auto suspension.
4. System should not allow to issue new pass for same Aadhar Number/Vehicle number which is already having valid Pass.
5. When user is requesting for Pass, system should browse the database to check if Individual Name/Aadhaar Number/Vehicle Number is available in Blacklisting and marked as suspended user and issue popup
6. If any pass is requested for 1 month or more Police verification certificate (PVC) document should be mandatory in the system. PVC document is valid for 2 year. The period can be configured based on MPA requirements

## **1.26 Department Passes**

Apart from the port users, passes are also issued to Vendors, Vendors, Project trainer, industrial Users, internship project students, press & media etc., in this, pass is requested by Individual Port departments. Port department can decide whether the pass would be available for Free of Charge or Chargeable basis. For Free of Charge Pass, department shall submit the relevant work order or document. Once pass request is generated by the Departments and details are submitted, the request should flow to Pass Section of Traffic Department to issue the Pass at their discretion.

- **PPP Operator (vendor pass)**

PPP operator may have sub-Vendors and vendors visiting the port. Once pass request is generated by the PPP operator, the PPP operator can choose to upload the pass details or sent link the given mail id. In case of link, the user shall upload the details of the individual/vehicle through the link. Once it is submitted, it will flow to PPP Operator for approval. On approval, the request flows to Pass Section, Traffic Department.

The PPP operator can view the status of the pass (Approved/Pending/Rejected) along with the pass validity dates. They can view the list of passes that are active.

- **User Pass**

Rare Users of the port can apply for pass through the link on website and share all the details as mentioned under Pass application and submit the application to the pass section. Upon

verification of the documents, the passes are approved and mailed to the requestor by the traffic department. The max duration of the pass is 2 days. Validation - Check pass requestor Aadhaar number against number of passes issued in the previous one year; limit number of days pass request to 5 days in the last 365 days. Again, it is an optional procedure and will be customized based on MPA requirement

## **1.27 Request Approval**

### **1.27.1 Vehicle and User Entry pass Approval.**

For User / Vehicle Pass approval process will be done based on configuration.

1. For registered users, the identification documents of individuals and vehicle whose configuration documents has been verified once and accepted by the Port. System should identify that the submitted document are already verified earlier and need not be checked by the Port again.
2. Location based entry shall be approved by the port.
3. For Foreign National Pass approval is required. No auto-approval is allowed. Visa and Passport shall be checked, scrutinized and uploaded.
4. Once any Aadhaar Number/Vehicle Number has obtained a pass from Port, then next pass should be automatically approved if it is from the same organization by system it-self (suggested).

Traffic officials and permit section can see the pass request along with the documents uploaded. If all the details are correct, they will approve the pass otherwise reject with reason for New User.

Once the pass is approved by the port, the registered users will receive the Pass confirmation over email/ SMS.

There shall be a provision for pass approvers to search for number of passes issued by the company for any given organization and date time.

### **1.27.2 Payment details**

If Pass is selected as Non-Chargeable then payment details will not be checked and printout of pass will be allowed. RFID linked passes also shall generate a digital bill containing the photo and pass start and end dates.

For all other passes upon submission of pass details, system should deduct the payment automatically from Wallet / generate payment link to make the payment by requesting party. Charges will be applied as per rate master. Integration with payment gateway is under the scope of HEP.

### **1.27.3 Entry Permit Process Steps:**

Submitting User Entry Permit Request through Portal:

**a) User Entry permits Request submission**

1. Authorized Company logs into online portal using valid credentials
2. User enters all necessary information, attaches required documents scan copies, system displays the Quota of the select type of permit pass required and submits “User Entry permit Request”.
3. System verifies the request against the available details.
4. System should have provision for Specials request
5. System prompts alert and restrict user in case any mismatch of details.
6. On submission, “User Entry permits Request” will be available in HEP application for review and verification.

**b) User Entry permits Issuance in HEP**

1. Authorized port official logs in to the HEP Web Application using valid credentials.
2. Submitted “User Entry permit Request” details will be available in HEP system for acceptance.
3. Provided information is verified against the attached documents and gets approved in case there is no discrepancy.
4. Once the request is approved system will generate “User Entry permit no” which is unique no for further processes.
5. System will allow generating pass in prescribed format.
6. On approval all stakeholders are notified.
7. Also status is updated in Portal.

**c) Rejection**

1. This function enables port Officials to reject the “User Entry permit Request” based upon
  - a. Mismatch of the Details
  - b. Non availability of Information/Documents
  - c. Port Norms
2. The system should also be capable of verifying the details and rejecting them as per Port requirement.
3. Rejections authority can be configured as per requirement.
4. On rejection all stakeholders are notified.
5. Also, status is updated in HEP portal

**1.28 Submitting User Entry Permit Request by Port Official through HEP Application**

1. Authorized Port Official can create the request for User Entry Permit through SAP
2. Provided information is verified against the available documents and gets approved in case there is no discrepancy.
3. Once the request is approved the system will generate “User Entry permit no” which is unique no for further processes.



4. System will allow generating pass in prescribed format.
5. On approval all stakeholders are notified.

### **1.29 User Entry permits Renewal/ EXTENSION REQUEST submission**

1. Authorized Company logs into online portal using valid credentials.
2. User selects the earlier pass and enters additional information, attaches required scan copies as a reference, and submits "User Entry permit Renewal Request".
3. On submission, "User Entry permits Renewal Request" will be available in HEP application for review and verification.

#### **1.29.1 User Entry permits renewal in HEP**

1. Authorized port official logs in to the HEP Web Application using valid credentials.
2. Submitted "User Entry permit Renewal Request" details will be available in HEP system for acceptance.
3. Provided information is verified against the earlier pass, attached documents, and gets approved in case there is no discrepancy.
4. Once the request is approved system will renew the pass for requested duration.
5. System will allow generating pass in prescribed format.
6. On approval all stakeholders are notified.
7. Status is updated in Portal.

### **1.30 Submitting User Entry permit Cancellation Request through Portal:**

#### **1.30.1 User Entry permits Cancellation Request submission**

1. Authorized Company logs into online portal using valid credentials.
2. User selects the pass to be cancelled and enters reason for cancellation, attaches required scan copies as a reference, and submits "User Entry permit Cancellation Request". On submission, "User Entry permits Cancellation Request" will be available in HEP application for review and verification.

#### **1.30.2 User Entry permits Cancellation in HEP**

1. Authorized port official logs in to the HEP Web Application using valid credentials.
2. Submitted "User Entry permit Cancellation Request" details will be available in HEP system for acceptance.
3. Provided information is verified against the earlier pass, attached documents and gets approved in case there is no discrepancy.
4. Pass will be cancelled in the system.
5. All stakeholders are notified.
6. Status is updated in Portal.

## **1.31 Submitting Vehicle Entry Permit Request through Portal:**

### **1.31.1 Vehicle Entry permits Request submission**

1. Authorized Company logs into online portal using valid credentials. The function would only be available to users/company who are eligible as per Port category.
2. User enters all necessary information, attaches required documents scan copies as a reference, system displays the Quota of the select type of permit pass required and submits "User Entry permit Request".
3. System verifies the request against the available details.
4. System prompts alert and restrict user in case any mismatch of details.
5. On submission, "User Entry permits Request" will be available in HEP application for review and verification.

### **1.31.2 Vehicle Entry permits Issuance in HEP**

1. Authorized port official logs in to the HEP Web Application using valid credentials.
2. Submitted "User Entry permit Request" details will be available in HEP system for acceptance.
3. Provided information is verified against the attached documents and gets approved in case there is no discrepancy.
4. Once the request is approved system will generate "User Entry permit no." which is unique no. for further processes.
5. System will allow generating pass in prescribed format.
6. On approval all stakeholders are notified.
7. Status is updated in Portal.

### **1.31.3 Rejection**

1. This function enables port Officials to reject the "User Entry permit Request" based upon
  - a. Mismatch of the Details
  - b. Non availability of Information/Documents
  - c. Port Norms
  - d. Nonpayment of fees
2. Rejections authority can be conquered as per requirement.
3. On rejection all stakeholders are notified.
4. Status is updated in Portal.

## **1.32 Submitting Vehicle Entry Permit Request through Port Official through HEP Application**

1. Authorized Port Official can create the request for User Entry Permit
2. Provided information is verified against the available documents and gets approved in case there is no discrepancy.
3. Once the request is approved system will generate "User Entry permit no" which is unique no for further processes.

4. System will allow generating pass in prescribed format.
5. On approval all stakeholders are notified.

### **1.32.1 Submitting User Entry Permit Renewal Request through Portal:**

#### **1.32.2 User Entry permits Renewal Request submission**

1. Authorized Company logs into online portal using valid credentials
2. User selects the earlier pass and enters additional information, attaches required scan copies as a reference, and submits "User Entry permit Renewal Request".
3. On submission, "User Entry permits Renewal Request" will be available in HEP application for review and verification.

#### **1.32.3 User Entry permits renewal in HEP**

1. Authorized port official logs in to the HEP Web Application using valid credentials.
2. Submitted "User Entry permit Renewal Request" details will be available in HEP system for acceptance.
3. Provided information is verified against the earlier pass, attached documents and gets approved in case there is no discrepancy.
4. Once the request is approved system will renew the pass for requested duration.
5. System will allow generating pass in prescribed format.
6. On approval all stakeholders are notified.
7. Status is updated in Portal.

### **1.33 Submitting User Entry permit Cancellation Request through Portal:**

#### **1.33.1 User Entry permits Cancellation Request submission**

1. Authorized Company logs into online portal using valid credentials
2. User selects the pass to be cancelled and enters reason for cancellation, attaches required scan copies as a reference, and submits "User Entry permit Cancellation Request".
3. On submission, "User Entry permits Cancellation Request" will be available in HEP application for review and verification.

#### **1.33.2 User Entry permits Cancellation in HEP**

1. Authorized port official logs in to the HEP Web Application using valid credentials.
2. Submitted "User Entry permit Cancellation Request" details will be available in HEP system for acceptance.
3. Provided information is verified against the earlier pass, attached documents and gets approved in case there is no discrepancy.
4. Pass will be cancelled in the system.
5. All stakeholders are notified.
6. Status is updated in Portal.

### 1.34 Penalizing/Blacklisting of Vehicles/Individuals/Firms:

Blacklisting details will be received from Competent Authorities and based on that the Vehicle/Individual/firm will be blacklisted. The blacklisted vehicles will be released as per the approval of Competent Authority, for vehicle necessary penalty charges will be collected.

### 1.35 Penalizing

1. Penalizing can be done to individual Name or ID card or Vehicle against appropriate reason code.
2. Penalizing can be done to Company against appropriate reason code.
3. On Regular basis at Specified time System will check and Penalize vehicle which is staying inside Port without valid Permit.

Penalizing Reason	Penalizing Charges(Rs)
Vehicle Stay Inside port after pass expiry	

Subject to revision by MPA

### 1.36 Blacklisting

1. Blacklisting can be done to Individual Name or ID card against appropriate reason code
2. Blacklisting can be done to Company against appropriate reason code
3. Blacklisting can be done on already issued pass and the person/company or individual will be restricted for further passes until Blacklisting release. Against appropriate reason code
4. Blacklisting can be done temporarily for specific period or permanent.
6. Once Blacklisting is done respective Individual/Vehicle/Firm will be marked as In-active for all transactions and data will not be shown for request of pass/card, and it will be bared to Exit/Entry from/to port premises.

#### 1.36.1 Release of Blacklisting of Vehicles/Individuals/Firms:

At the time of release of blacklisting payment check has to be made before releasing of vehicle/individuals/firms

Blacklisting and Penalty charges to be deducted from the user shall be displayed on the Blacklisting Release screen. The Blacklisting Release shall be effected only after deduction of this payment from the user wallet.

Single Charge	A fixed value ( Rs- )
Charge based (for Vehicles only)	Per day charge is levied (Rs- )

### 1.37 Dashboards and Reports

#### 1.37.1 Dashboards

Dashboard shall be available to each of the user categories.

- a) Traffic Engineer

- b) Traffic Department operator
- c) Admin
- d) User

### 1.37.2 Reports

Various reports shall be available to the Pass Approver, Administrators and Security Logins to monitor and regulate the performance of Harbor Entry Permit.

The following Reports will be offered under the scope of HEP

Sl.no	Report Title
1	Gate In/Out Report
2	Registered FR Expired Report
3	Registered FR Report
4	Pass Last Issued Report
5	Revenue Report
6	Total Pass Issued Report
7	Pass Approval Report
8	Type of Pass Issue(daily, weekly, monthly Quarterly)
9	Long validity Pass Status Report
10	Gate Wise In/Out Summary
11	Gate Wise / Lane Wise In & OUT Report
12	Gate Lane Wise In/Out Summary
13	Revenue Report Summary
14	Registered User
15	Default / Overstay Vehicle Report
16	Rejected Vehicles report
17	Penalized report
18	Blacklisted report
19	Any other report as per request of MPA during the contract period

**NOTE: THE ABOVE REPORTS ARE SUGGESTIVE ONLY. AS PER TENDER THE REQUIRED REPORTS WILL BE PROVIDED TO MPA**

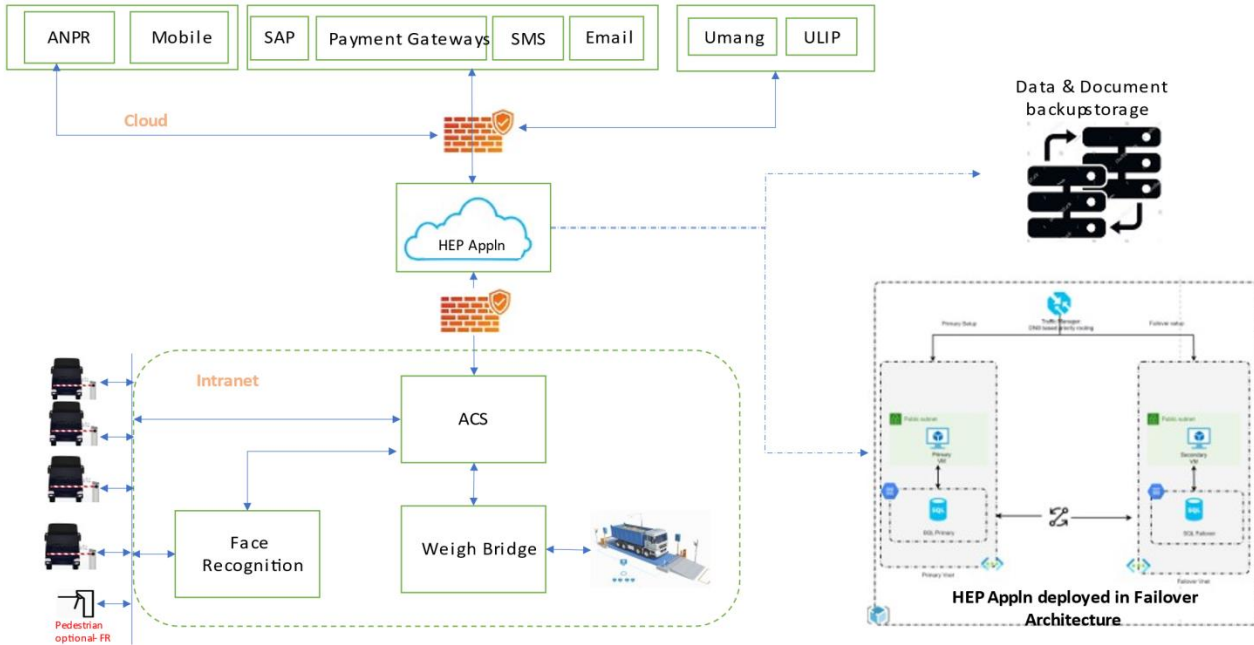
### 1.38 Third party interfaces required for HEP operations:

Sr.No.	APPLICATION	INTEGRATION
1.	PAYMENT LINKS	BANK PAYMENT GATEWAY
2.	EMAIL	EMAIL SERVER LINK
3.	SMS	SMS GATEWAY
4.	ACCESS CONTROL	ACCESS CONTROL INTEGRATION
5.	EMPLOYEE MASTER	HR PORTAL
6.	DISPLAY	DISPLAY SERVICES
7.	FINANCIAL MODULE	SAP / ERP INTEGRATION
8.	EXTERNAL DATA	ACCESS CONTROL INTEGRATION

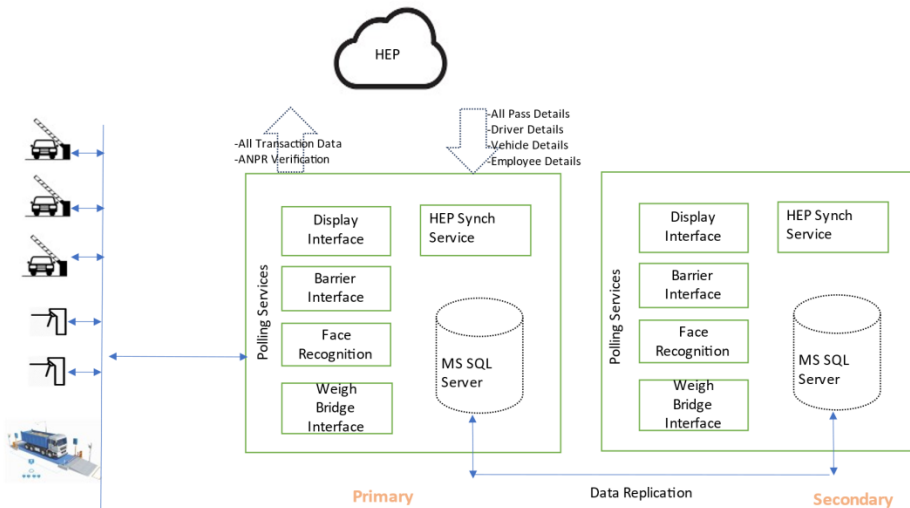
MPA will help with the above co-ordinations and arrangements.

### 1.39 Logical Deployment Architecture

MPT Port High Level Deployment context



MPT Port Access Control System



## 1.40 TENDER SPECIFIC FEATURES & COMPLIANCE

### A) Gateways

The relevant interfaces to communicate with 3rd party gateways will be developed and deployed.

- Web gateway with necessary security features.
- SMS gateway – only authorized third party SMS service providers will be used.
- SMTP gateway will have all security features.

### B) Presentation layer

The public facing web portal will have personalization features to show what is relevant to the user roles. Be it public, agent, employer, govt. official etc. All the messages and user info will be displayed based on the content expiry and user rights. In addition, CAPTCHA based authentication will be provided for all public static images will be cached for better response time.

### C) Security Layer and Strategic control

The solution will be based on role based security control and resource level controls for sensitive data. A detailed & customized security layer will be a part of the deployment post the information gathering phase with MPA is completed. The security layer will be designed in line with the Port requirement and also keeping the best industry practices & standards.

### D) Data layer

The solution will include relevant data store and management mechanisms for storing different type of data. Be it documents storage, large dataset for Reporting or content management. The data related features are enumerated below:

SL No	Data Type	Storage & backup
1	Web App	Cloud
2	DB	Cloud including redundancy
3	Mobile app	Cloud
4	Access data	Cloud & Local
5	Vehicle & Pedestrian Details	Cloud & Local
6	Log	Cloud – for cloud app Local – for local access control app

### E) Monitoring Services

All suitable monitoring services will be provided as per the tender requirement:

- i) For access control: all reader/ camera related data will be provided on the live view monitor.
- ii) The dashboard will have auto trigger in case any camera/ reader is not syncing with details like last synced time.
- iii) Data sync view option will be provided for Live dash board with ANPR, network & camera related option will be provided for Remote trouble shooting option will be provided for Data Log for all software changes/ operator changes and software health status will be provided for the ticketing system will be inbuilt for single point support services.
- iv) DB sizing and monitoring will be a part of the standard package.

## **F) Architectural requirements**

- i) All the architectural requirements including scalability, interoperability, performance. Requirements are fully complied to handle increased user base subject to Server & Storage capacity.
- ii) Data store etc. for interoperability the solution will have adequate API based integration.
- iii) SAP, Payment Gateway, SMS, Email integration along with ANPR, UHF & Weigh bridge integration will be achieved at the local level.
- iv) Integration with ANPR, Umang, e-VAHAAN, AADHAR & ULIP can be achieved at the cloud level provided MPA provided the connectivity for secured running of the solution

## **G) Server requirements**

Suitable server for local access control will be provided at site.

- i) Redundancy N + 1 will be made available with respect to hosting all critical components including Web App, Mobile App, DB and DNS in high availability mode. Also the system will be deployed with both horizontal scalability such that any increase or decrease of the server requirement can be achieved without any major change. Similarly, the vertical scalability of cloud server in terms of core, DB and RAM will be provided.
- ii) Server sizing will be arrived at after the technical requirement are frozen however the suggested server specs are provided below:
  - i. Central Server
  - ii. Local Server
- iii) Server with antivirus software loader

## **H) Security Certificate requirements**

All the machine level, application level and infrastructure cyber security concerns will be addressed. Application will be fortified with industry standard user access policies and address major vulnerabilities. As a part of the solution third party VAPT (Vulnerability Assessment & Penetration Testing) certifications will be carried out before handing over. The VAPT Certification to be conducted by CERT-IN certified empaneled partners. The operating system supplied should be along with the antivirus software and regular security patches should be installed to keep the system updated.

During the contract period it is responsibility of the bidder to patch any vulnerabilities listed in the time specific manner.



**I) Host based security requirements:**

A detailed document will be provided related to host-based security in consultation with MPA and as per industry standards. However, the below basis scopes will be covered under this proposal:

1. Install and configure a host-based firewall – MPA scope.
2. Provide SSL certificate for all web hosted applications.
3. Choose good passwords for any accounts on the system and change any default or well-known accounts on the machine.
4. Install and keep up with operating system patches and also hardware firmware patches.
5. Configure and continue to monitor logs on the device.
6. Disable services and accounts which are not being used or are no longer necessary.
7. Replace insecure services (such as TELNET, RSH, or RLOGIN) with more secure alternatives such as SSH.
8. Restrict access to services which cannot be disabled where possible.
9. Make and test backups of the system in a consistent manner.

**J) Photo Detection Services:**

As a part of the proposed solution ANPR & photo data will be encrypted and not only be stored in the local DB but will also be available on the central server as well as in APP Server.

**K) Training requirements:**

MPA stake holders will be trained adequately to monitor, use and reporting of the proposed solution in compliance with the tender requirements.

**1.41 GENERAL TERMS AND CONDITIONS**

**1.41.1 MINIMUM ELIGIBILITY CRITERIA**

The Bidder shall have similar work experience in SITC of RFID Access Control System and Biometric Attendance System during last 7 (seven) years ending last day of month previous to the one in which offers are invited.

Similar work means

a.) “Supply, installation, testing and commissioning (SITC) of RFID Gate Access system at any Government/ PSUs/ reputed private organizations.

OR

b.) Supply, installation, testing and commissioning (SITC) of RFID Gate Access system and subsequent maintenance contract (MC) for the same, at any Government/ PSUs/ reputed private organizations.

OR

c.) Supply, installation, testing and commissioning (SITC) of vehicular movement through automatic gate access system at Tolls on National Highways.

OR

d.)Supply, installation, testing and commissioning (SITC) of vehicular movement through automatic gate access system at Tolls on National Highways and subsequent maintenance contract (MC) for the same.

OR

e.)Supply, installation, testing and commissioning (SITC) of Biometric attendance system at any Government/ PSUs/ reputed private organizations

**Note:** 2. For Similar Works indicated at Sr. No. (b) & (d) above, the Bidder has to necessarily complete the SITC work. In case if the SITC is completed and the MC is in progress for the same SITC work, then the SITC and completed MC portion shall be considered for evaluation. The Bidder has to produce the completion certificate pertaining to the SITC works and completed portion of maintenance contract from the Client.

Also, in case the Bidder submits original SITC Work Order along with numerous MC extension work orders, then only the completed extension work orders shall be considered for evaluation along with the original SITC work order. However, the original work order issued by the Client should have been completed by the Bidder in all respects to qualify in the bidding process.

**NOTE 3:** In case 'similar' works is subcontracted and both the Contractor as well as Sub-Contractor submits the bid with the same experience credentials, then the main Contractor's credentials shall be considered for evaluation with respect to that work. The sub-contractor shall be evaluated on other work orders / Agreements / LOA's submitted.

#### **1.42 Other Conditions:**

1. The Vendor is required to offer rates as per Port's format "**Schedule-A1**".
2. Technical and Commercial condition shall be clearly furnished in the quotation.
3. The rate should be quoted as per unit.
4. GATE PASS: Necessary Entry Permits shall be obtained by the Vendor at their own cost.
5. The Vendor must comply with the Safety aspects as governed by the relevant edition of Indian Electricity Rules and Industrial Safety, the Vendor shall be responsible for overall safety.
6. The Tenderer shall inspect the site and assess the requirement before furnishing their offer.
7. Issue of Radio Frequency Identification (RFID) (ISO certified) cards with pre-printed format on front side and other details on back side with terms and conditions (as advised by Port). The cards supplied shall be with the holder and lanyard (Print having MPA logo).

8. Manning at the HEP and at the Local Gate office , Admin Office, for issue of dock entry permits for individuals/persons and vehicles round the clock (24X7) and at Harbour Entry Permit (HEP) Section from 0900 to 1700hrs on all Port working days throughout the year.
9. Providing necessary equipment's and accessories as required at Entry/Exit Pass issue gate offices.
10. The premises at Local Gates and HEP including electrical fixtures, furniture's, fans and Air conditioners will be provided by the Port free of cost. The electricity shall be supplied by the Port free of cost.
11. The work mentioned is illustrative and not exhaustive and tenderer may have to carry out any other work related to issue of permits which are not included herein above. The entire work shall be done on turnkey basis and it shall be operated round the clock. The required manpower for the contract period shall be supported by the Bidder. Any technical manpower required by the tenderer including IT support executive, machine/show card, repair technician etc. shall be provided by the tenderer.
12. As and when the passes are issued, the soft copy of the details shall be uploaded / updated to the server through the network connectivity provided by the Port. The number of passes issued in each category will be arrived based on the number of records transferred to the Port's server.
13. All the cost of the hardware, software and allied equipment's & spares, operation and maintenance shall be borne by the successful bidder.
14. The successful bidder shall maintain and upkeep all the hardware and software etc. as may be required for 24 hrs round the clock operations at Port at his cost and risk.
15. The successful bidder shall also be required to arrange for the integration of the software with any other software that is presently in use at MPA or would be installed at a later date at no extra cost.
16. The successful bidder shall conduct and impart necessary training to the Port staff/officers for the operation of the RFID system.
17. At the end of the period of contract, all the equipment, software, hardware, etc. under this tender shall be handed over to the Port on as is where basis is in good working condition.
18. The hardware and software, including the source code and all related licenses thereto shall be under the ownership of the Port. The bidder shall obtain third party licenses or such other certification/documentation required for the purpose in the name of the Mormugao Port Authority.
19. A provision should be made for integration of Port's existing RFID system with Indian Port Association (IPA) as and when the pass issue data and activities are required to be centrally pooled, if required.
20. The successful bidder shall be responsible for insurance of all the manpower (health insurance) & hardware supplied and installed by vendor for risk coverage (accidental hazards, death & disability of person, material breakage due to negligence, theft, storm, fire or any other hazards which may occur due to trespassing of vehicles & /or natural

adverse climatic conditions and calamities-War, Fire, Cyclone, salinity problems at shore, etc.).

21. In addition to the above, the successful bidder shall ensure that necessary replacement/up-gradation/integration of hardware and software, as may be required for the successful implementation of this project, from time to time.
22. The successful bidder shall commission the RFID system and all other works as required under this tender, within 45 days from the 7th day of issue of LOA. The successful bidder shall conduct a trial run of the RFID system, 07 days before the go-live.
23. The Vendor shall keep in readiness the spares required for immediate replacement as required during the validity of the contract.

### 1.43 Technical Specification:

#### 1. ANPR Camera

Sr.No.	Parameter	Minimum Technical Specification
1	Image Sensor	1/3" progressive scan RGB CMOS or better
2	Day/ Night Operation	Yes with IR Cut Filter
3	Minimum Illumination	Color: 0.5 lux; B/W 0 Lux with IR
4	Lens	3 - 10 mm (+/- 1mm), IR corrected, 5.3 Megapixel or higher Lens with Motorized zoom, auto focus or better
5	Electronic Shutter	1 to 1/10,000sec with preferred shutter control or better
6	Image Resolution	2592x1520 or better
7	Compression	H.264, H.265
8	Frame Rate and Bit Rate	Up to 60 fps, Controllable bit rate, frame rate and Maximum Bit rate
9	Video Streams	Minimum 4 Nos., individually configurable streams. Each Stream shall be configurable at H.265, full resolution, full frame rate
10	Motion Detection	Yes built in with multiple configurable areas in the video stream.
11	Defog	Support: Built in or software based. In case of software based additional server shall be considered
12	Electronic Image Stabilization	Built in Required
13	Image Enhancement	Built in WDR, HLC, BLC, Barrel Distortion/ Lens Distortion
14	Pan Tilt Zoom	Digital PTZ
15	Wide Dynamic Range	Up to 120 dB or better
16	IR	Up to 40 Meter (Built in or External) IR
17	Alarm & Audio Connectors	1 Input & 1 Output for Alarm & Audio Interface

18	Analytics	<p>Camera shall have following video analytics as minimum: Intrusion Detection, Line Crossing, Unattended Object Detection, missing Object Detection.</p> <p>Classified object should support min Person/Face/Vehicle/License plate Vehicle Type should support min car/bus/truck/motorcycle/bicycle Alarms can be set up to trigger an email or SMS notification.</p> <p>The VA shall be Edge based (Built in of Third Party) or In case of server based additional necessary hardware and software shall be considered</p>
19	Event Actions	FTP, HTTP, Email notification, PTZ Preset, Edge Storage, Alarm Output, Text Overlay
20	Edge Storage	1TB or Better
21	Protocols	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT
22	Text Overlay	Date & time, and a customer-specific text, camera name, graphical image, etc.
23	Security	<p>UL CAP(UL 2900-2-3 L2)</p> <p>HTTPS(SSL) Login Authentication</p> <p>IP Address Filtering</p> <p>User access log</p> <p>Device Certificate( Root CA, pre-installed)</p> <p>Secure by default certificate</p> <p>Secure OS/Boot/Storage, Verify firmware forgery</p>
24	Firmware Upgrade	The firmware upgrade shall be done though web interface, The firmware shall be available free of cost
25	Interface	RJ 45, 100 Base TX or better
26	Memory	2GB RAM, 512 MB Flash or better
27	Enclosure	<p>IP66/IP67, IK10, NEMA 4x or better</p> <p>The camera and housing shall be of same make as of camera</p>
28	Power requirements	Vendor to specify, POE Preferred
29	Operating Temperature	0 °C to 55 °C
30	Operating Humidity	Max 90% RH or better
31	Certification	UL, CE, FCC,BIS, ROHS, EMC, NDAA Compliant
	Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1, IEC/EN 62471

	Environment	IEC/EN 63000 IEC/EN 60529 IP66/IP67, IEC/EN 62262 IK10 NEMA TS 2-2013(2.2.8, 2.2.9) NEMA 250 type 4X
32	Application Programmers Interface	The interface shall be available for integration with 3rd party analytics and applications in public domain
33	Embedded Applications	The camera shall provide a platform allowing the upload of third party applications into the camera
34	Mount	Wall Mount/ Pole Mount
35	Compatibility	ONVIF Profile S,G,T,M
35	Cybersecurity	OEM shall provide declaration on letter stating SOC/Sensor/Chipset used in the camera with Chipset make and model no. & shall fall under the guidelines of GFR

2. **LED Display ( TV DISPLAY):** Heavy duty display 42", wall mounted, with industrial enclosure & accessories, with necessary URL launcher.
3. **RFID Reader:** Reader with Pigtail; Support Mobile Credential, Seos, Iclass, Mifare & prox Cards
4. **SERVERS:**
  - a. Successful bidder shall arrange for Backup & Disaster Recovery
  - b. Port Access Control Software will have real time fail over as well as DR server.
  - c. DR Server will be physically located separate from Central Server.
  - d. DR Server will have instance of Master Data that is not any older than 2 hours from the live data server.
  - e. Configuring the auto replication tool/Application under bidders scope.
  - f. Any new software development required for gate operations connected with man, vehicle or material movement will be in contractor's scope without any additional cost to port.

**SERVER SPECS ALONG with DR Server (with suitable Racks)**

Sr.No.	Parameter	Technical Specification
1	Processor	Minimum 12 Core or better dual socket with Processor and Base Frequency 2.4GHz
2	RAM	Min 64 GB and extendable up to 128 GB
3	Storage	2 x 480 GB NVMe configured as RAID1 for OS
4		6 x 1.2TB SAS (10k RPM) Hot Swap on RAID 6
5	Network Interface	2 Nos 1 Gbps and 2 Nos 10 Gbps Gigabit Ethernet ports, 2 Nos of 10Gbps SFP+
6	Operating System & License	The bidder shall provide "proven latest" licensed windows server 2022 Operating system or higher. Necessary licensing document shall be submitted & also license shall be perpetual & provided in the name of MPA.
7	Power Supply	Mini 800 watts Dual Redundant Power supply
8	Optical Drive	DVD +/-RW Internal

9	Keyboards and Mouse	USB type
10	USB port	Minimum 4 Nos.
11	Form Factor	Rack Type
12	Expandable	RAM & HDD upgradable
13	Communication Ports	1 No. Serial port
14	Additional Features	Configuration upgrades should only with Cryptographically signed firmware, Secure Boot, Secure Erase etc.
15	OS	Windows Server 2022 Standard(*64 bit) or higher
16	DB server	SQL SERVER 2022 STANDARD EDITION OR HIGHER (Licensed version). , Antivirus loaded

### 5. Tripod/ Turnstile Specifications:-

SL.NO	PARAMETERS	Particular
1	Power supply (V)	180 - 270 VAC, 47 - 63Hz / 90 -130V, 47 - 63Hz
2	Power Consumption	Stand By: <30W, Operating: <15W
3	Weight (Kg)	32 Kg
4	Operating temperature (°C)	-10°C to 55°C
5	Type	Bi-directional, electro-mechanical tripod turnstile Anti-backup device to prevent reverse rotation once the mechanism has moved 30°, 45° & 60° from home Positive action lock to prevent the two-passage at one time
6	Access Time Out	Adjustable 1-10 Sec
7	The lateral casings	Made of AISI304 stainless steel, and are removable for easy installation and wiring purposes.
8	Designed to take additional command sensors	To integrate the access control system (optional)
9	The tripod arm	Made of AISI304 polished, stainless steel
10	Tripod Arm Length	380 mm/ 500 mm
11	Throughput	25-30 persons per minute

12	MCBF	10 million cycles
13	The selective, bi-directional movement.	It lets you choose the entrance direction in the following way: ENTRANCE, EXIT or only ENTRANCE / EXIT.
14	IP Rating	IP54
15	Humidity	< 95% non-condensing
16	Certification	CE
17	Warranty	Minimum 5 years

#### 6. Boom Barrier Specifications:-

SL.NO	PARAMETRS	
1	Max. net clearance width (m)	3.75
2	Protection rating (IP)	54
3	Power supply (V - 50/60 Hz)	230 AC
4	Power supply to motor (V )	24DC
5	MCBF	10 million cycles
6	Power (W)	Stand By: <20W, Operating: <100W
7	Opening time at 90° (s)	3 to 6 Sec
8	Duty/cycle (%)	100%
9	MTTR	< 30 min
10	Operating temperature (°C)	-20 ÷ +55
11	Built-in LED flashing light requires no maintenance and ensure total visibility	
12	Luminous cord intermittent signal lights, for enhanced visibility of the boom and absolute duration of the lighted bodies	
13	Boom cover guard	
14	Net clearance width of up to 3.75 m	
15	Die-cast aluminium guard to protect the command and control electronics and make any maintenance job extremely easy	
16	Built-in safety photocells fit directly onto the barrier cabinet	



17	Oval boom with anti-impact rubber edge. Maximum sail-effect reduction, to ensure proper operation even in areas swept 6 by strong winds	
18	Boom Length	Max 6 meter
19	Certification	CE
20	Warranty	Minimum 5 years

## 7. Cables:-

- Laying of power & control cables underground by excavation of soil and refilling earth, compaction of earth is in the scope of contractor.
- The power cables to be laid underground shall be of armoured type. The control cables shall be laid underground through seamless alkathene pipes of suitable size. The power & control cables shall be laid underground atleast 30cm depth. The power and control cables shall be laid through suitable size Hume pipe while crossing the road/concrete. The necessary road/concrete cutting is in the scope of contractor. The road/concrete to be made good after laying the cable.
- The conduits used for laying cables shall be sealed in all joints and ends to protect from the ingress of rain water.
- The power & control laying on the walls/poles shall be clamped with GI clamps for every 50cm of length.
- The outdoor power cable end shall be terminated at the FRP outdoor type IP 65 terminal box. FRP box shall be provided with suitable connectors. The terminal box shall be installed using necessary GI clamps.
- Power cable & control cable route Indicators shall be provided.
- The power & control cables shall be terminated with necessary glands & lugs at both ends.

## **Part B**

### **Biometric Attendance System**

#### **2.0. Scope of Work:**

- I. Supply Installation Testing and Commissioning (SITC) of the Biometric Attendance system with Face Recognition readers having provision for selecting Option for RFID card & Finger Print for registering attendance in case of Face recognition fails, which shall be linked to local server of MPA with two years guarantee period followed by three years of Comprehensive Maintenance Contract. The existing Ports LAN connectivity may be used by the Vendor to connect the devices to the Internet. However, if any other components are required to connect Readers to the local server of MPA, the Vendor shall supply the same and the cost for such items shall be considered while submitting their offer. The Face Recognition attendance system shall have additional features such as storage of data, easy Integration with MPA's applications such as Payroll, leave and holidays, etc.
- II. The devices/equipment shall be supplied along with requisite software and performance of the equipment shall be checked along with software.
- III. The Biometric cards shall integrate with RFID gate access readers and the system should capture and process biometric card details and accordingly operate boom barrier/Turnstile.

#### **2.1. Bidder shall be responsible for the following scope of services:**

- a. System Study, Design and Development of web based real time Face Recognition attendance system (BAS) for MPA as stipulated.
- b. Supply and installation of Face Recognition based readers/ machines at MPA, Transportation charges shall be borne by Bidder.
- c. Existing LAN communication link available shall be used for data transfer between remote locations in the Port area & to the central server.
- d. Building Master Data by registering all the employees biometrically in the system.
- e. Post implementation Guarantee of 2 Year period, free of Cost.
- f. Comprehensive Maintenance Contract for the entire system for 3 years after guarantee period.
- g. Helpdesk support during guarantee and Comprehensive Maintenance period.
- h. IT Cyber security Audit certification by CERT-IN Empaneled certified agencies shall be submitted by the firm before integration.
- i. The successful Bidder should ensure proper functioning of the devices. Spare devices to be kept by vendor in case of failures/ equivalent or higher Specs as replacement.
- j. The successful bidder should give comprehensive guarantee that, the devices and other equipment's/ components supplied continue to conform to the description and quality for a period of 2 year from the date of installation and commissioning.

- k. The bidder shall be competent to develop API's Integration, develop software and coding. Shall have a reliable software development team to carry out any software related activity as and when required.

## **2.2. Installation of Biometric Devices:**

Supply and installation of **Face Recognition based** Biometric Attendance devices at MPA conforming to the Technical specifications mentioned at 2.8 Technical Specification: Part-A. The installed Face Recognition attendance readers should have features as under:

- a. The Face Recognition attendance readers should be of good quality with proper display screen enclosed in a tamper proof box.
- b. The devices should be covered under guarantee for a minimum period of 2 year and subsequently, Comprehensive maintenance for period of 3 years.

## **2.3. Design, Development and Implementation of a Face Recognition attendance system application:**

Development of Application Software having features as under;

- a. Storage of Attendance information at the central server located at MPA. In case of internet disconnection, the data should be saved on local system and on restoring of connectivity the data should be ported to central server.
- b. The Face Recognition attendance readers should support the Technical and Software Specifications as desired.
- c. Testing: The Bidder shall thoroughly test the software for load, quality and performance along with proper functioning at its site before deployment of the software on production environment.
- d. Hands on training over the Application Software;
- e. The Bidder shall provide hands on user training to the MPA staff for proper functioning of attendance system.
- f. The training shall be conducted at MPA.
- g. The training plan shall be mutually decided between MPA and the Bidder.
- h. Training shall be provided on the basis of Training to Tutor model.
- i. During training, user manuals for the Application Software shall be provided by the Successful Bidder.
- j. The Bidder should include all Travelling, boarding, lodging cost in financial bid.
- k. At least 4 session of training shall be conducted by the bidder.
- l. During the guarantee period it is responsibility of the bidder to apply patches/software/ upgrades, vulnerability patches without any extra cost burden to the Port

#### **2.4. Post implementation Guarantee Period:**

- i. The Vendor shall be responsible for administration and maintenance of the entire system for a period of 02 year after successful implementation at MPA.
- ii. During the guarantee term, the Bidder shall update/ upgrade new version as necessary at his own risk and cost without any financial burden to Port and after training on application software on changes made.
- iii. The response to put back the system in service should be of 4 hours. Within this time, the machine/ equipment should be replaced and integrated with the system if any damage or fault occurs to the existing machine otherwise penalty clause shall be invoked.
- iv. One full time qualified engineer as per qualification mentioned at Part C and handling complete Biometric Attendance system along with Access control system mentioned at part A related software and hardware should with the following responsibilities;
  - a. Manage the Project/Devices/integration/Installation, etc. during the Guarantee and Comprehensive Maintenance period.
  - b. Provide timely reports from the system to the Concerned Authority/Representative of MPA.
  - c. He/ She shall be single point of communication between MPA and Bidder for complete Contract period.
  - d. Provide necessary support for ensuring the Integrity of Data.
  - e. He would be responsible for co-ordination for Hardware support as well as application support.

#### **2.5. Application software:**

- a. Ensuring uptime of the application.
- b. Troubleshooting/Bug removal: The successful Bidder is required to provide troubleshooting support if any bugs are encountered during implementation of the software.
- c. Upgradation of software: Any modifications and/or enhancements / upgradation required by MPA in the software during support period shall have to be incorporated by the successful Bidder free of cost.
- d. The successful Bidder shall incorporate amendments and enhancements from time to time and also attend to any problem in day to day functioning of the system during the and CMC period free of cost.
- e. The successful Bidder would be responsible for deputing experienced virtual/ remote System Administrator (offsite) during the period of guarantee/Comprehensive Maintenance Contract period for smooth implementation of application software during the entire period of the contract
- f. The successful Bidder shall be responsible for providing monthly/ yearly backups for application software.
- g. The successful Bidder shall maintain a Maintenance/ call register for logging complaints during post implementation and CMC period. The firm shall essentially provide complaint number for each complaint call made by the user.

## 2.6. Service Level bench mark parameters

- ▶ 24 hour / 365 day emergency response.
- ▶ Replacement of spares/units/accessories to rectify the system.
- ▶ Adhere of Pre-planned preventative maintenance schedule as per the Engineer in- charge direction.
- ▶ Inspection of all major components (include Face Recognition based readers/ devices, cabling & connectors etc) for signs of deterioration or damage and rectify as necessary.
- ▶ Quick response in attending breakdown with quality in work and adhering to all unit safety/security norms.

## 2.7. Technical Specification

### I) HARDWARE

An integrated **Face Recognition readers/ devices** for recoding attendance, meeting following configurations / requirements;

#### 1. Face Recognition readers/ devices

Category	Specification	Details
<b>Hardware &amp; System</b>	CPU	2.2GHz Quad-core or higher
	GPU	ARM G52 MP4 GPU
	Memory (RAM + Storage)	2GB RAM + 16GB eMMC
<b>Face recognition</b>	Face detection	Support multiple people detection and tracking
	Face Database Capacity	20000 / 50000
	1:N Face Recognition	20000 / 50000
<b>Display &amp; Touch</b>	Display Size & Resolution	5-inch, 1080x1920 Full View IPS TFT Display
	Touch Screen	Multi-point capacitive touch with toughened glass
<b>Camera</b>	Camera Type	Dual RGB and Near Infrared Camera
	Pixel Resolution	2M (1920x1080)
	Frame Rate	30 FPS
	Minimum Illumination	0.1 LUX
	Dynamic Range	45dB Linear, 100dB HDR supported
	Focus Distance	30 - 150 cm
	Photo Flood Light	Visible & IR dual Flood Light
<b>Interfaces</b>	Network	1x RJ45 10M/100M
	RS232 / RS485	1 x RS232 / 1 x RS485

	Wiegand Interface	Supported
	Relay Interface	2x Relay (NC, NO, COM)
	GPIO	5x GPIO
<b>Environmental Specifications</b>	Operating Temperature	-10°C to 60°C
	Storage Temperature	-20°C to 60°C
	Operating Humidity	10%-90% RH (Non-condensing)
<b>Certifications</b>	Certification	CE, RoHS, BIS, IP65, IK05
<b>Operating System &amp; Software</b>	Operating System	Customized Android
<b>Other Specifications</b>	Proximity Sensor	IR Sensor
	Smart Card Reader	ISO14443 Type A/B Cards, Mifare Classic / Desfire
	4G Module	Nano SIM Slot, 150Mbps Download/50Mbps Upload

## 2. Biometric attendance Server:

Server Sizing are as under

1. No. of Entity = 5000 (Max)
2. No. of Facial Device = 20
3. Application Users 30 (assumed)

Production	<ul style="list-style-type: none"> <li>• Application / Device Services / Deduplication/Database</li> <li>• Windows Server 2022 Standard(*64 bit) or higher SQL SERVER 2022 STANDARD EDITION OR HIGHER (Licensed version)</li> <li>• SSD <ul style="list-style-type: none"> <li>○ C (System) 150 GB</li> <li>○ D (Data) 700GB</li> <li>○ L (Log) 100GB (optional)</li> <li>○ T (Temp) 100GB (optional)</li> <li>○ B (Backup) 1 TB (optional)</li> </ul> </li> <li>• 32 GB RAM</li> <li>• 12 Core</li> <li>• Application Port: 8020,8021 Service Port: 8022,8025 Troubleshooting Port: 8024</li> <li>• IIS 8.0 or above .NET Framework 3.5, 4.5 &amp; 4.7.2</li> </ul>
QA	<ul style="list-style-type: none"> <li>• Application / Database</li> <li>• Windows Server 2022 Standard(*64 bit) or higher SQL SERVER 2022 STANDARD EDITION OR HIGHER (Licensed version)</li> <li>• SSD <ul style="list-style-type: none"> <li>○ C (System) 150GB</li> <li>○ D (Data) 350GB</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• 16 GB RAM</li> <li>• 8 Core</li> <li>• Application Port: 8020,8021 Service Port: 8022,8025 Troubleshooting Port: 8024</li> <li>• IIS 8.0 or above .NET Framework 3.5, 4.5 &amp; 4.7.2</li> </ul>
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Face Reader - Server	
SI No	Features
1	Minimum 12 core or better dual socket with Processor and base frequency 2.8 GHz, or higher
2	32 GB UDIMM DDR4 3200 MT/s (2x 16 GB)
3	Embedded 1Gb 2-Port Ethernet Adapter
4	Embedded Intel VROC SATA software RAID
5	1TB SATA 6G Midline 7.2K LFF RW HDD
6	4 LFF HDD Bays (Non Hot Plug)
7	1 PCIe 4.0 slots, 3 PCIe 3.0 slots
8	1 350W ATX Power Supply
9	18"/24" LED Display
10	1 Optical Mouse
11	1 standard keyboard
12	Windows Server 2022 Standard(*64 bit) or higher, SQL SERVER 2022 STANDARD EDITION OR HIGHER (Licensed version)

### 3. Biometric Face attendance registration Desktop:

Face Reader - Desktop	
SI No	Features
1	Intel® i5 Processor min (2-Core, 2.7 Ghz or above)
2	8 GB: 1 x 8 GB, DDR4, 3200 MT/s
3	Embedded 1Gb Ethernet Adapter
4	OS Microsoft Windows 11 Antivirus loaded
5	Graphics adapter with 256 MB RAM
6	1 TB SSD
7	LED Display, Optical Mouse & Keypad

## II) SOFTWARE

### Software specifications

- i. Defining and managing Holidays, Day offs and weekly offs Special duties at department/ division/ section levels/ Category/ Grade/ Group.
- ii. Data Fields which need to be integrated shall have provision for Name of Employees, Designation, EDP Number, Date of Birth, Department, Vehicle details, etc.
- iii. Defining and managing of shift duties/Continuity duties and Shift Substitution duties at department/division/section levels/ Category/Grade/Group.
- iv. Defining of departments, roles and rights to various users of BAS.
- v. Creation and management of attendance rules, leave rules, declared Holiday and Special Holiday rules, Individual rules.
- vi. Provision for employees to enter various Types of leaves, OOD etc.
- vii. Provision for multiple punches (Single, Two Punch, Four Punch and No Punch/ Multiple Punch). Addition and managing of multiple locations and departments at a Location (Including Listing and De Listing of employees Location wise) and data transfer utility to copy all the data of a device to new device easy synchronization.
- viii. Generation of reports of late-arrival, early-departure, special duty, on leave, overtime, employee-wise/department-wise/division-wise attendance etc.
- ix. IT Security Audit Certification from CERT-In empaneled Vendors for the complete system.
- x. In case of problem during marking of attendance, there should be facility of employee ID based attendance and the firm shall take necessary action to ensure that the system recognizes the biometric details of every employee so as to mark the attendance thereby to generate the pay bills and employees accurately as per the attendance recorded.
- xi. MIS Reports: Option in Text & Excel Form, Shorted Footing Total Footing Total;
  - a. Daily Attendance Report with Shift timings.
  - b. Parameter based Attendance Report (To and From Date).
  - c. Machine wise Attendance Report.
  - d. Leave status report of employee/s.
  - e. Employee Check-in and Check-out Log Report.
  - f. Summary of Late coming employees/Early Departure.
  - g. Summary report of punctual Employees for a specified period.
  - h. Attendance Summary Report (Continuous late arrival, early departure, absentee and time loss) etc.
  - i. Manual punch attendance report.
- xii. Linkage of Biometric Attendance System to ERP/SAP for payroll processing.
  - a. Integration of attendance data/ tables with ERP/ HRMS so that employees can see their attendance in the ERP.
  - b. Attendance recorded would be the input for monthly pay bill processing.
- xiii. Machine wise data migration.
- xiv. Data recovery.
- xv. Employee search.
- xvi. Data restoration.
- xvii. Data Backup.



- xviii. Linkage of FACE RECOGNITION based Attendance System to local server
- xix. Integration is required with ERP for real time data transfer (and not batch wise) and should be part of the scope.
- xx. The System should have its own database and MPA will not provide Sharing of existing SQL data base
- xxi. The application software of attendance system should be user friendly and minimum manual intervention in processing the data.
- xxii. GUI is to be provided to the user i.e., department who generate the attendance report of their departmental employees and user should be able to enter the following information through GUI screen.
  - a. Setting up the weekly off.
  - b. Insert/update the duty roster information.
  - c. Any rectification required in attendance data with the approval of competent authority same has to be carried out at the department level only and GUI is to be provided and it should contain the following information: 1. Edited by, 2. Data and Time, e-office file no for approving authority.
  - d. If any modification carried out, same has to be reflected in the report also.
  - e. At present duty roster modifications carried out is manually pushes the data to ERP system; it should be automatically pushed to HRMS.
  - f. GUI is to be provided to the departmental user to enter transfer information. If attendance location changes employee information removed from the previous location to be inserted to m/c. at transferred location.
- xxiii. System is to be provided with power back up as part of BO
- xxiv. If a user fails to register attendance 3 times through face recognition. User should be instructed to use dual authentication by his card and Finger as biometric input to register his attendance.

## **2.8. STANDARDS and CODES:**

The design, manufacturing, supply, installation, testing and Commissioning of the accessories covered in this specifications shall comply with relevant IS standards with latest amendments / BUREAU OF INDIAN STANDARDS (BIS) and shall be UL/CE and FCC Certified

## **2.9. ALLIED Works:**

- a. All allied Attendance system works as per the Bill of Quantities to be carried out by the Contractor in all respects invariably mentioned or not in the specification to complete the work in all respects.
- b. The materials required/intended for the work should be handled carefully and neatly installed/laid/commissioned and any damages during installation will be Contractors account and same shall be rectified immediately to its original condition.

- c. The Miscellaneous works to be carried out invariably whether clearly mentioned or not in the specifications and BOQ and the Project to be completed in all respects for successful implementation.
- d. All the supply, installation, testing & commissioning of power, control & network cables for required for system wiring for installation BAS are in the scope of contractor.

#### **2.10. General Notes:**

- a. The Vendor is required to offer rates as per Port's format "**Schedule-A1**".
- b. Technical and Commercial condition shall be clearly furnished in the quotation
- c. All the drawings, catalogues/Brochures of FACE RECOGNITION based readers/ devices, related Test certificates should be submitted by the contractor in **THREE** sets invariably mentioned or not in the Tender Schedule.
- d. All the drawings & specifications to be got approved by the Engineer-in-charge before Supply & installation etc.
- e. All the works of installation, testing and commissioning to be carried out in the presence of Engineer-in-charge.
- f. The items / components not specifically mentioned but required, shall be considered and included in the quoted price at the time of submission of bid. No claim will be entertained after opening of Price bid.
- g. All the Hardware materials/Miscellaneous materials should be got approved by the Engineer – in-charge before installation and commissioning.
- h. The FACE RECOGNITION based readers/ device to be supplied for the work should confirm to Applicable Standards as per Technical specifications of Tender Document & offered items shall be inspected at site by Engineer in charge at site. Related Test certificates / specification of major components shall be furnished. The contractor should provide all facilities to test the materials at MPA site.

## **Part C**

### **Comprehensive Maintenance Contract (CMC)**

The CMC shall be for the period of 03 years from the date of expiry of the guarantee period. All the hardware/spares must be in sound and good working condition during the contract period.

All repairs/services to be carried out through OEM's /authorized service agencies. The successful bidder shall also be required to arrange for the integration of the software with any other software/ 3<sup>rd</sup> party software that is presently in use at MPA or would installed at later stage at no additional cost to MPA. Necessary API's required shall be developed by successful bidder at his own cost.

#### **3.0 Scope of work**

- 3.1 The comprehensive maintenance shall begin from date of expiry of the guarantee period, which shall comprise replacement of all defective components of the system including the ANPR cameras, RFID Card Readers Displays Biometric attendance reader and Servers etc.
- 3.2 Manning at the Gates Admin Office, for issue of dock entry permits for individuals/persons and vehicles round the clock (24X7) and at Harbour Entry Permit (HEP) Section from 0900 to 1700hrs on all Port working days throughout the year
- 3.3 During the CMC period, the Vendor has to deploy 06 Nos. employees, as mentioned below
  - 1) Engineer – 1 No
  - 2) Data Entry Operator—5 nos (4 at Gate no 9 and 1 at HEP)

The Engineer should be having experience of minimum 02 years in maintenance of RFID/Time attendance system and minimum qualification of BE/B-Tech/BCA in Electronics/Computer/IT with hardware and networking knowledge and RFID system experience. The Data Entry operators should be having experience of minimum 01 years in operation of RFID/Time attendance system and minimum qualification of Graduation and basic knowledge of Computers

During CMC staff should be reporting exclusively to MPA daily and should be permanently stationed at the HEP and Gate no 9 (round the clock) during working hours so as to ensure attending to any breakdown calls promptly. The staff so posted should be capable of carrying out any kind of troubleshooting which may include re-configuration/software upgrades etc. of the existing system. Generation and issue of RFID Passes. Updating of Biometric data of the employees, changing working schedule of employees. The Vendor should take cognizance of the fact that they are handling Port's highly confidential data which is critical and important. In

this regard, Police verification of the deployed staff has to be furnished within 30 days of placement of work order.

During the CMC period if any of the equipment/ component are found defective, same has to be repaired/ replaced by the Tenderer free of cost. Therefore, Bidders shall access the environmental conditions, and other site conditions.

### **3.4. Activities carried out by Manpower during Guarantee and CMC period**

#### **GATE 9: DATA ENTRY OPERATOR (DEO)**

- Reports to the Engineer as per respective shifts schedules
- Generate the harbor entry permit passes
- Maintain daily reports and posting shift reports on each shift to
- User registrations
- User pass request
- Monitoring of all locations network connectivity/hardware checklist and filings of related docs.
- Change/Modification of master data if any changes required to the users
- Issue of pre-owned cards
- Maintaining stocks inventory of all gates.

#### **HEP: (DEO) RFID work**

- Reports to the Engineer as per respective shifts schedules
- Generate the harbor entry permit passes
- Maintain daily reports and posting shift reports on each shift to
- User registrations
- User pass request
- Monitoring of all locations network connectivity
- Change/Modification of master data if any changes required to the users
- Issue of pre-owned cards
- Maintaining stocks inventory of all gates

#### **Biometric Work: DEO**

- Port Employees Facial recognition registration
- Enrollments of employee finger prints
- Issuing Biometric cards to employees'
- Templates design and printing of attendance bio cards to port employees
- Change in locations of employees as per relieving/posting orders issued by the concerned dept.
- Activation/Deactivation of Retired employee's data
- Updating of printed employees cards data in excel.

#### **Engineer:**

- Gathering requirements from client and delegating work to related staff
- Coordinating developers and resolve the software/hardware issues

- Application installation and software testing
- Application training to client/RFID staff and users
- Maintaining data base backups
- Troubleshooting software/hardware issues
- Generating reports as per client request
- Preparing shift schedule for staffs
- Cross check all the reports given by RFID staff
- To do Site level installation
- Attending the client meetings as well as head office
- Raising monthly invoices and submits to concerned dept.
- Payment follow up
- Staff recruitment
- Monitoring shift wise gate activities
- Preparing and maintain staff master rolls and process the salaries
- Maintain staff documentation
- Maintain User manual for RFID and Biometric application
- Maintaining daily checklist of all location at site
- Check network connectivity
- Regular site visit and maintain site report
- Maintain hardware inventory
- Updating of OS/Antivirus whenever require
- Daily monitoring of surveillances cameras at all locations.

- 5.5** The firm's Engineer shall maintain log book with entries of down time, nature of preventive maintenance attended, overall status, any special technical observations, complaint received from other end users with time log. This log book shall be made available to the MPA Nodal Officer in charge for review as and when desired. In case need arises, the technicians should be present after office hours and during holidays without any extra cost and liability to the Port. The tenderer shall provide contact telephone number/fax/mobile/E-mail address to also register complaints at his office.
- 3.6** The Vendor shall maintain bare minimum and critical spares. These spares shall be stocked by the successful tenderer at all times at Port premises in the custody of the Engineer deputed. The spares so stocked shall be recorded in the inspection register.
- 3.7** Any other works assigned by the Nodal Officer related to other RFID and Biometric attendance system in the Port from time to time.
- 3.8** All tools and tackles required for effective maintenance such as Laptop, LAN tester, Crimping tools, line tester, etc. or any other tools required besides these shall be provided by the Vendor and should be available at site till completion of the contract period.
- 3.9** The Tenderer shall quote for maintaining the entire system offered for a period of 03 years.

- i) Preventive and breakdown maintenance should be carried out to maintain the equipment's in healthy operating condition. All the PM works shall be carried out as per checklist formulated by the Vendor and concurred by the Port.
- ii) Preventive Maintenance (PM) shall be carried out strictly in four equal intervals of time per annum. The Vendor's staff deputed to the Port shall ensure prompt attending to any breakdown calls and carry out any other regular maintenance that is required such as cleaning of the cameras front glass, cleaning of reader, switches maintenance of boom barrier drive. Records of which are to be maintained.
- iii) Attending to all emergency breakdown calls even beyond working hours, on Sundays or Holidays.
- iv) Providing Telephonic support service in case of need and early resolution of issues.
- v) Maintaining operation and maintenance logbooks and records of preventive maintenance, non-availability of the system. The Vendor shall upgrade firmware and security patches from time to time and maintain updated records of the same
- vi) The complement of manpower engaged during the guarantee period shall be same as during CMC period.

### **3.10 PERIOD:**

The Comprehensive Maintenance Contract (CMC) is for a period of 03 years from the date of expiry of guarantee period.

### **3.11 PENALTY CLAUSE:**

The Contractor shall be penalized on following accounts;

- 3.11.1 In case of failure to commence the work within schedule date from the date of LOA, a penalty at a rate equal to the per day contract value on pro-rata basis shall be levied for the each day of delayed period and no payment shall be made to the Contractor for said period. The payment will be effected from the date of actual commencement of the work by the Contractor.
- 3.11.2 In case of failure to deploy Engineer, the Contractor shall be penalized at a rate equal to one day salary in force during that period. This will be in addition to the one day salary deduction from the monthly bill for each day of non-deploying Engineer.
- 3.11.3 It is required to maintain 100% availability of all systems except in case of unavailability of Port's network. However, Port's security should not be compromised. If, the site engineer fails to attend/resolve the fault, if any, the Contractor shall make own arrangements for the experts and rectify the fault within 24 hours. In case of

failure to attend the fault within 24 hours, Port shall impose the penalty of Rs.3,000/- per day or part thereof.

- 3.11.4 The Engineer deployed for the CMC of hardware of RFID and Biometric Gate Access System shall be as per the qualifications prescribed at clause (xviii) of Scope of Work in this tender document. If the Engineer deployed under contract misbehaves/ doesn't obey the orders of EIC, the contractor shall be intimated to issue warnings to the concerned staff. If the concerned Engineer doesn't change his attitude of disobedience/ misbehavior; a second notice shall be served to the contractor, to terminate the concerned Engineer. The contractor upon receipt of the second notice shall immediately remove the Engineer from the contract and provide a replacement within 3 days from the date of issuance of the second notice. Wages pertaining to the concerned Engineer shall not be paid during this period. If the contractor fails to provide a suitable replacement within 3 days from the date of issuance of the second notice, penalty as per clause No 3.11.4 shall be imposed from the 1st day of issuance of second notice to the contractor, from the payment due to the contractor till such appointment has been made.
- 3.11.5 Contractor's Engineer shall not claim any type of compensation/ Absorption/ Regularization/ Benefit (Health related also) of service from MPA under Industrial Dispute Act 1947 & Contract Labour Act 1970. Same shall be ensured by the Contractor. Further, the contractor shall ensure that, the deployed Engineer are not affiliated to any unions etc.
- 3.11.6 The Contractor shall at all times during the continuance of the Contract comply fully with all existing Acts, Regulations and bye law as including all statutory amendments and re-enactment of state or Central Government and other local authorities and any other enactment and acts that may be passed in future either by the State or the Central Government or local authority, including Indian Workmen's Compensation Act, Labour Laws and Equal Remuneration Act, 1976, Factories Act, Minimum Wages Act, IE Act 1956, etc.
- 3.11.7 The Contractor shall pay the labourer engaged by him on the work not less than a fair wage, which expression shall mean, whether for time or piece work, rate of wages as may be fixed by the Labour Department of the State as per the Minimum wages Act. The payment made to the labours by the contractor to be compulsorily made in digital mode.

### **3.12 OTHER TERMS AND CONDITIONS:**

- i. The Vendor is required to offer rates as per Port's format "**Schedule-A1**
- ii. Technical and Commercial condition shall be clearly furnished in the quotation

- iii. RFID and BAS system should be handed over to Port in working condition after completion of CMC period of 3 years in good working condition.
- iv. Advance information of at least 24 hours shall be given by the Vendor before undertaking maintenance and servicing works.
- v. The Vendor should engage skilled service personnel with the relevant required tools and instruments for attending the faults and commissioning the same. Also, should submit escalation matrix.
- vi. The Vendor has to follow all safety, security and General Rules as per relevant IS standards and environmental regulations enforced by Mormugao Port Authority.
- vii. Port shall not provide labor, Materials, Testing Equipment's, calibration and Transport throughout the contract period.
- viii. The Port will not be responsible for any loss or injury of the personnel / materials / tools / plants engaged by the Vendor during the work at site / transportation during the currency of the contract.
- ix. The payment for the CMC shall be made on monthly basis.
- x. Necessary entry passes shall be obtained by the firm at their own cost with the approval of Port Officials.

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