

NOTICE INVITING BUDGETORY OFFERS

Name of Work	“SITC of Face Recognition based Biometric Attendance System at various locations in Port Areas with two years guarantee period followed by five years of Comprehensive Maintenance Contract”
Budgetary offer No	CME/XEN (E-HR)/H-5/2024/B2
Date of submission of budgetary quotation	On or Before 07.03.2025 at 15:00 Hrs.
Address for communication	Executive Engineer (E-HR), Electrical Harbour Section Mechanical Engg. Dept. SARASI 2 nd 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	www.mptgoa.gov.in

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

Sub: "SITC of Face Recognition based Biometric Attendance System at various locations in Port Areas with two years guarantee period followed by five years of Comprehensive Maintenance Contract"

Mormugao Port Authority proposes to install Face Recognition Biometric Attendance System at various locations in Port Areas with two years guarantee period followed by five years of Comprehensive Maintenance Contract.

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

Your budgetary offer should reach to this office on or before 07.03.2025 at 15:00 Hrs.
Email at mohamed.shaik@mptgoa.gov.in.

Thanking you,

Yours sincerely,

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

Annexure I

Sub: “SITC of Face Recognition based Biometric Attendance System at various locations in Port Areas with two years guarantee period followed by five years of Comprehensive Maintenance Contract”

GENERAL: Mormugao Port Authority intends to take up the work of SITC of Face Recognition based Biometric Attendance System at various locations in Port Areas with two years guarantee period followed by five years of Comprehensive Maintenance Contract.

The work is described in 2 PARTS namely

PART A: SITC of Face Recognition Biometric Attendance System

PART B: Guarantee Period & 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 in the BOQ for successful commissioning of the BAS as per relevant standards, incorporating the cost in the offer.

Part A

Biometric Attendance System

1.0. Scope of Work:

- a. Supply Installation Testing and Commissioning (SITC) of the Face Recognition Biometric Attendance system (FRBAS) with two years guarantee period followed by five years of Comprehensive Maintenance Contract. The FRBAS shall have facility to record attendance of employees by Face recognition and shall be linked to local server of MPA. The existing Ports LAN connectivity shall be used by the Bidder to connect the devices to the Internet. However, if any other components are required to connect Readers to the local server of MPA, the Bidder shall supply the same and the cost for such items shall be considered while submitting their offer. The FRBAS shall have additional features such as storage of data, easy Integration with MPA's applications such as Payroll, leave, holidays, etc.
- b. The devices/equipment shall be supplied along with requisite software and performance of the equipment shall be tested by the contractor along with software before installation.

1.1. Bidder shall be responsible for the following scope of services:

- a. System Study, Design and Development of web based real time Face Recognition Biometric Attendance system (FRBAS) 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. Data to be displayed on the screen are Captured photo, Employee number, Date, Time, Status of recognition/ attendance.
- f. FRBAS Device Manufacturer (Hardware) & Algorithm manufacturer (Software) should be from the same OEM.
- g. Post commissioning Guarantee of 2 Year period, free of Cost.
- h. Comprehensive Maintenance Contract for the entire system for 5 years after guarantee period.
- i. Helpdesk support shall provide troubleshooting, remote assistance, software updates, hardware repairs, technical guidance, new enrolment's, and updates to employee details for the installed FRBAS during Guarantee and Comprehensive Maintenance period.

- j. IT Cyber security Audit certification by **CERT-IN** Empanelled certified agencies shall be submitted by the firm before integration.
- k. The successful Bidder should ensure proper functioning of the devices. Sufficient spares should be kept by the bidder at MPA site. Devices should be of equivalent or higher Specs can be accepted as replacement.
- l. The bidder shall be competent to develop API's & Integration with SAP ERP, develop software and coding. Bidder shall have a reliable software development team to carry out any software related activity as and when required.
- m. Supply of RFID card lanyards of 4 to 5 colours with good quality stainless steel hook along with plastic card holders of Size 90X60mm (PVC) printed as per specifications to be provided by MPA. The samples of the lanyards & holders shall be submitted for approval prior to supply.
- n. The supplied RFID cards must be of superior quality. The samples of RFID cards shall be submitted for approval prior to supply. The employee details such as Name, Designation, Photo, EDP no., vehicle no. etc., as desired by MPA should be clearly visible and printable on either sides of RFID cards. The template of the same shall be provided by MPA.
- o. The bidder shall develop, supply, and install a customized mobile application for face recognition-based attendance registration. The application shall support multiple of users and shall be compatible with Android and iOS platforms. The app shall enable real-time face recognition attendance marking, ensuring seamless integration with the existing Biometric attendance system and ERP/SAP solutions. It must include user authentication, geo-location tagging, offline mode with auto-sync, and secure encrypted data transmission. The vendor shall provide complete source code of the application along with documentation, allowing full ownership and future scalability. Any required API integrations, updates, and security patches shall be maintained by the vendor for the entire contract duration. The mobile application must comply with CERT-IN cybersecurity guidelines and ISO 27001 security standards.

1.2. Installation of Biometric Devices:

Supply and installation of Face Recognition Biometric Attendance system at MPA, conforming to the Technical specifications. The details of installation of Face Recognition attendance readers is given below:

- a. The Face Recognition attendance readers should be of good quality with proper display screen enclosed in a tamper proof IP 65 box with good finish and aesthetics.
- b. The devices should be covered under guarantee for a minimum period of 2 year and subsequently Comprehensive maintenance contract for period of 5 years.
- c. Biometric devices shall be installed on the wall at designated places. Power supply points for the devices will be provided by Port. All the accessories such mounting clamps, brackets, power adaptor, controller, network switches, routers etc., shall be in the scope

of the bidder. Each devices shall be provided and connected with UPS. Necessary power cables/network cables is in the scope of bidder.

- d. The biometric devices shall be connected to the nearest point of Port's network. The bidder is advised to inspect the site and assess the work involved in detail.
- e. The servers shall be installed on the existing network racks.
- f. 01 no. face recognition biometric attendance reader from the total supplied readers, shall be kept exclusively for enrolment/ registration and modification of the particulars of employees during the currency of the contract and the same shall be stationed at designated location. Any additional accessories required for the above reader is in the scope of bidder.
- g. The bidder shall take into account of software/licence charges, if any towards additional installation of biometric readers during guarantee period and Comprehensive Maintenance period.
- h. The bidder shall take into account any fittings, accessories, apparatus, modifications or any other works not specifically indicated in the tender but otherwise essential for overall completion of the work before submitting the offer and the same shall be deemed to have been included in the scope of supply. The bidder shall carry out the work as directed by Engineer in charge.
- i. Camera, network switch and UPS shall be installed near FRBAS devices, NVR and UPS (3KVA) shall be installed in the Ports control room and shall be connected to the existing TV or video wall.

1.3. Design, Development and Implementation of a Face Recognition Biometric 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 vendor shall provide the complete source code of the application along with documentation, allowing full ownership to MPA and future scalability. Any required API integrations, updates, and security patches shall be in the scope of the bidder for the entire contract duration. The mobile application must comply with CERT-IN cybersecurity guidelines and ISO 27001 security standards.
- c. The Face Recognition Biometric Attendance readers should support the Technical and Software Specifications as desired.
- d. 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.
- e. Hands on training over the Application Software;

- i. The Bidder shall provide hands on user training to the MPA staff for proper functioning of attendance system.
 - ii. The training shall be conducted at MPA.
 - iii. The training plan shall be mutually decided between MPA and the Bidder.
 - iv. Training shall be provided on the basis of Training to Tutor model.
 - v. During training, user manuals for the Application Software shall be provided by the Successful Bidder.
 - vi. The Bidder should include all Travelling, boarding, lodging cost in financial bid.
 - vii. At least 4 session of training shall be conducted by the bidder.
- f. 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

1.4. 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. Up-gradation of software: Any modifications and/or enhancements / up-gradation 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.

1.5. Service Level bench mark parameters

- a. 24 hour / 365 day emergency response.
- b. Replacement of spares/units/accessories to rectify the system.
- c. Adhere of Pre-planned preventative maintenance schedule as per the Engineer in- charge direction. The preventive maintenance shall be as per OEM specified standards &

checklists. Records of which are to be maintained during the entire currency of the contract.

- d. Inspection of all major components (include Face Recognition based readers/ devices, cabling & connectors etc.) for signs of deterioration or damage and rectify as necessary.
- e. Quick response in attending breakdown with quality in work and adhering to all unit safety/security norms.

1.6. Commissioning

- a. The contractor shall be solely responsible for successful commissioning of the system. The completion period for SITC of FRBAS is 60 days from placement of Letter of Acceptance (LoA) by the Port. The completion period of the Project will be 60 days which shall include 07 days acceptance period.
- b. All the employees shall be enrolled into new FRBAS prior to commissioning, in coordination with MPA.
- c. During this acceptance period of 7 days, the complete system will be monitored for its healthy functioning and only then, the system will be accepted as commissioned to the satisfaction of the EIC. The contractor shall provide 2 year guarantee with on-site support after successful commissioning of work. At the time of commissioning the contractor shall share source codes, login credentials, passwords, rights, licenses, etc with MPA which is mandatory requirement for acceptance of the system.

1.7. Technical Specification

a. HARDWARE

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

i. Face Recognition readers/ devices

Category	Specification	Details
Hardware & System	CPU	1.4GHz Quad-core+1.8GHz Dual core or higher
	Memory (RAM + Storage)	4GB DDR RAM + 16GB eMMC
Face recognition	Recognition Distance	Within 0.6 to 1.0 m
	Recognition Height	1.0 to 1.9 m
	Matching speed	Within 0.3 seconds
	Live Face Detection	Must support anti-spoofing mechanism against Selfie, Photo, 3D Mask or 3D Face Replica Model based fake-face

		attacks
	Face Database Capacity	20000
	1:N Face Recognition	20000
Display & Touch	Display Size & Resolution	8-inch, 1080x1920 Full View IPS TFT Display
	Touch Screen	Multi-point capacitive touch with toughened glass
Camera	Camera Type	Dual lens camera RGB + IR (2MP +1.3MP)
	Frame Rate	30 FPS
	Minimum Illumination	0.1 LUX
	Focus Distance	30 - 150 cm
	Photo Flood Light	Visible & IR white LED
Interfaces	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
Certifications	Certification	CE, RoHS, BIS, IK05, STQC
Operating System & Software	Operating System	Android
Other Specifications	Proximity Sensor	IR Sensor
	Smart Card Reader	ISO14443 Type A/B Cards, Mifare Classic / Desfire, Mifare1KCard
	4G & 5G Compatible Module	Nano SIM Slot, 150Mbps Download/50Mbps Upload
Ingress Protection	IP 65	

ii. Biometric attendance Server:

Production	<ul style="list-style-type: none"> • Rack server Intel Xeon 12 core 2.0GHz or higher • Application / Device Services / Deduplication/Database • Windows Server 2022 Standard(*64 bit) or higher SQL SERVER 2022 STANDARD EDITION OR HIGHER (Licensed version) • SSD – 2TB usable • (2x32 GB) Dual RANK DDR5 4800 RAM • Application Port: 8020,8021 Service Port: 8022,8025 Troubleshooting Port: 8024
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	<ul style="list-style-type: none"> • IIS 8.0 or above .NET Framework 3.5, 4.5 & 4.7.2 • Antivirus loaded and should be valid during the entire contract period. • 800w X 2 Hot plug power supply Redundant
QA	<ul style="list-style-type: none"> • Rack server Intel Xeon 8 core 2.0GHz or higher • Application / Database • Windows Server 2022 Standard (*64 bit) or higher SQL SERVER 2022 STANDARD EDITION OR HIGHER (Licensed version) • SSD – 1TB usable • (2x16 GB) Dual RANK DDR5 4800 RAM • Application Port: 8020, 8021 Service Port: 8022, 8025 Troubleshooting Port: 8024 • IIS 8.0 or above. NET Framework 3.5, 4.5 & 4.7.2 • Antivirus loaded and should be valid during the entire contract period. • 800w X 2 Hot plug power supply Redundant

iii. Biometric Face attendance registration Desktop:

Face Reader - Desktop	
SI No	Features
1	Intel® i5 Processor min (2-Core, 2.7 Ghz or above)
2	16 GB, DDR4, 3200 MT/s
3	Embedded 1Gb Ethernet Adapter
4	OS Microsoft Windows 11 pro with MS Office & Antivirus loaded (Licensed version)
5	Graphics adapter with 256 MB RAM
6	1TB SSD
7	22" or higher LED Display, Optical Mouse & Keyboard
8	Webcam (1080p resolution, autofocus & 30fps)

iv. RFID card:

Product Name	Mifare1KCard
Material	PVC
Colour	White
UserMemory	1KByte
Thickness	0.8 mm

Size(inmm)	85mmX54mm
OperatingFrequency	13.56MHz
Standard/Protocols	ISO14443A:MIFARE
Temperature	-15°Cto+65°C

v. Smart card printer & PVC sticky cards:

- Single- or dual-sided printing. Capable on printing PVC sticky cards also.
- Thermal/ Dye sublimation printing, 100 card covered feeder (30 mil).
- Min 30 Card capacity output hopper (30 mil)
- 16-Character LCD operator control display
- 300 dpi (11.8 dots/mm) print resolution
- Print speed: Min 180 Cards per hour, Built-in 10/100 Ethernet connectivity.
- PVC sticky cards of 200-250gsm with one side sticky surface. Size 85x54mm

vi. 16 Channel NVR:

- 16 Channel NVR,
- Storage loaded 48TB or better. eSATA/ External iscsi storage support required, Onvif Supported,
- Live Display-VGA/ DVI/ HDMI with Dual Display Video Codec-H.264, H.265 or better, VMS PreInstalled with Cyber Security Complied and Certified from Third Party, Calendar / Event / Bookmark / Smart Search required, Bandwidth 120 Mbps or better,
- Operating System-Windows,
- PoE Budget -200W or better (Built in or external POE Switch), Backup AVI, SEC, Manual backup, Onetime schedule backup, Audio-G.711 u-law (PCM), G723, G726 (ADPCM), AAC, Bidirectional for all channels,
- Camera Setup-Auto/ Manual Camera Features Automatic device IP scan, Profile edit, Resolution, Fisheye dewarping, Hallway/ Corridor view, Brightness / Contrast, Device setup page, Exporting / Importing devices settings,
- Device firmware update, Controller, Preset, Redundancy-NTP server, Protocol Support-CP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTSP, NTP, HTTP, DHCP (Server,Client), PPPoE, SMTP, ICMP, IGMP, ARP, DNS, DDNS, uPnP, HTTPS, SNMP, ONVIF (Profile-S), API (Server, Client), DDNS IPv4, IPv6 supported, Security-IP address filtering, User access log, 802.1x authentication, Encryption,

Signed Firmware, Viewer Software-Web Viewer and application software shall be provided, Network-RJ-45 (1000 Base-T) x2, Certification CE, FCC, UL, BIS, NDAA

vii. 2MP IR Bullet Camera:

- 2MP, IR Bullet Cameras.
- Image Sensor-1/2.8" CMOS,
- Minimum Illumination- Color: 0.1Lux(F1.6), White Balance -ATW / AWC / Manual / Indoor / Outdoor, Lens-4-9(±1) mm Motorized Varifocal, IR -Min. 20mtr or better, Gain Control (AGC)-Auto/Manual,
- Video Compression-H.265/H.264, Built in lens, , Protocol-HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; IPv4/v6; QoS; UPnP; NTP; Multicast; HTTPS; FTP; ICMP; IGMP; ONVIF (Profile S, Profile G, Profile T), Ethernet-1 RJ-45 (10/100Base-T), Power Source -12V DC/PoE,
- Weatherproof Standard-IP65 , IK10, Certifications-BIS, FCC, CE, UL, RoHs, NDAA.
- The Bidder shall furnish Declaration by the OEM on their letter head for CAMERAS and NVR as regards to the below mentioned criteria at the time of submission of offer but not limited to only the vulnerabilities listed by NIST & CERT-IN through CVE's on their website, <https://www.cert-in.org.in/>
 - ✓ Does not contain malicious code and is not embedded in the firmware or software in any form.
 - ✓ Does not contain HiSilicon chipset in the products.
 - ✓ Does not contain any component/ hardware /parts / assembly/ software including firmware used in the offered solutions (hardware or software) complying to GB28181, GB/T 28181-2011:GB/T28181-2011:GBT 28181-2011 standards. There should be no option to activate or deactivate these standards in the webpage /Settings.
 - ✓ MAF declaration by OEM.

viii. UPS for Biometric reader:

- Online UPS for Biometric reader.
- Input Voltage AC 120-280V, 50 Hz,
- Output Power as per requirement of new biometric reader
- Battery backup Time - Minimum 120 minutes or higher, Battery Level Indicator Yes, helps check charge/backup level, Backup Mode Indicator-Red LED indicator,
- Certifications-BIS, CE, FCC, ROHS Certified, Complete with mounting arrangement.

ix. UPS for NVR:

- Online UPS for NVR.
- Power: 3KVA
- Input Voltage AC 120-280V, 50 Hz,
- Output voltage 230Vac with a stable sinusoidal output
- Sufficient number of SMF VRLA batteries which provides backup time minimum 120 minutes or higher, Battery Level Indicator: Yes, helps check charge/backup level, Backup Mode Indicator-Red LED indicator,
- With battery Racks, links & connectors

x. UPS for Network switch:

- Online UPS for Network switch.
- Power: 600VA
- Input Voltage AC 120-280V, 50 Hz,
- Output voltage 230Vac with a stable sinusoidal output
- Inbuilt battery of 7AH, Auto switch facility in case of power failure

xi. Network rack:

- 6U Wall mount Rack Network Rack, fully loaded with cooling fans & 06nos power outlets
- Racks are fabricated out of CRCA steel CNC Programmed, punched, bent, Welded and powder coated with highest quality standards
- Front Glass door with lock and key provides visibility and security for your equipments.

xii. Network switch (24x):

- L2 -Managed Switches POE with SFP Port Compatible with MPA's existing CISCO network ,
- Ports – 24 x Ethernet 10/100/1000 Ports Up Link Port – 2 x 10/100/1000 uplink SFP Port.

xiii. Network switch (8x):

- L2 -Managed Switches POE with SFP Port Compatible with MPA's existing CISCO network ,
- Ports – 8x Ethernet 10/100/1000 Ports Up Link Port – 2 x 10/100/1000 uplink SFP Port.

xiv. Incident management laptop:

- Core i7 12th Gen - 16 Gb/512 GB or higher SSD/Windows 11 Pro with MS Office (Licensed versions)
- Antivirus loaded (Licensed version)

b. 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, OD 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 Bidders 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;
 1. Daily Attendance Report with Shift timings.
 2. Parameter based Attendance Report (To and From Date).
 3. Machine wise Attendance Report.
 4. Leave status report of employee/s.

5. Employee Check-in and Check-out Log Report.
6. Summary of Late coming employees/Early Departure.
7. Summary report of punctual Employees for a specified period.
8. Attendance Summary Report (Continuous late arrival, early departure, absentee and time loss) etc.
9. Manual punch attendance report.
- xii. Linkage of Biometric Attendance System to ERP/SAP for payroll processing.
 1. Integration of attendance data/ tables with ERP/ HRMS so that employees can see their attendance in the ERP.
 2. 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.
- 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.
 1. Setting up the weekly off.
 2. Insert/update the duty roster information.
 3. 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.
 4. If any modification carried out, same has to be reflected in the report also.
 5. At present duty roster modifications carried out is manually pushes the data to ERP system; it should be automatically pushed to HRMS.
 6. 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 per BOQ
- xxiv. If a user fails to register attendance 3 times through face recognition. User should be prompted to use dual authentication by his card and Finger as biometric input to register his attendance.

1.8. Cables:-

- a. Laying of power & control cables underground by excavation of soil and refilling earth, compaction of earth is in the scope of bidder.
- b. 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 at least 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 bidder. The road/concrete to be made good after laying the cable.
- c. The conduits used for laying cables shall be sealed in all joints and ends to protect from the ingress of rain water.
- d. The power & control laying on the walls/poles shall be clamped with GI clamps for every 50cm of length.
- e. 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.
- f. Power cable & control cable route Indicators shall be provided.
- g. The power & control cables shall be terminated with necessary glands & lugs at both ends.

1.9. 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

1.10. ALLIED Works:

- a. All allied Attendance system works as per the Bill of Quantities to be carried out by the Bidder 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 Bidders 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 FRBAS are in the scope of bidder.

Part B

Guarantee Period (GP) & Comprehensive Maintenance Contract (CMC)

2.0 The FRBAS shall be under Guarantee Period of 02 year after successful commissioning of the system. The Bidder shall be responsible for administration and maintenance of the entire system during this period.

2.1 The CMC shall be for a period of 05 years from the date of expiry of the Guarantee Period. All the devices associated with the system must be in sound and good working condition during the CMC period.

2.2 Scope of work

- a. Bidder shall replace all defective devices/ components of the system including the Biometric attendance reader, Servers etc. during GP and CMC period at his own risk and cost without any additional cost to MPA.
- b. During the GP/CMC, 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.
- c. In case of breakdown which are attributable to contractor's account, the response to put back the system in service should be of 4 hours. Within this time, the machine/ equipment should be repaired/replaced and integrated with the system otherwise clause for Damage charges shall be invoked.
- d. Manning at Harbour Entry Permit (HEP) Section from 0900 to 1710 hrs from Monday to Saturday excluding all Port holidays throughout the year for issue/modifications of Biometric passes.
- e. During the GP/CMC period, the Bidder shall deploy a minimum of two employees as per the Qualification Criteria for the maintenance of the FRBAS:
 - 1) Data Entry Operator 01 No.
 - 2) Site Engineer 01 No.
- f. Responsibilities of the engineer shall include the following
 - 1) The Engineer shall be responsible to manage the complete Face Recognition Biometric Attendance system along with its software and hardware.
 - 2) Manage the Project/Devices/integration/Installation, etc. during the Guarantee and Comprehensive Maintenance period.
 - 3) Provide timely reports from the system to the Concerned Authority/Representative of MPA.
 - 4) The Engineer shall be the single point of communication between MPA and Bidder for complete Contract period.
 - 5) Provide necessary support for ensuring the Integrity of Data.

- 6) Engineer shall be responsible for co-ordination for Hardware support as well as application support.
- g. During GP/CMC, both staff shall report exclusively to MPA daily and shall be permanently stationed at the HEP center during working hours so as to ensure attending breakdown calls promptly. The staff so posted should be capable of carrying out any kind of trouble shooting which may include re-configuration/software upgrades etc. of the existing system. Generation and issue of Biometric Passes. Updating of Biometric data of the employees, changing working schedule of employees. The Bidder 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.
 - h. During the GP/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.
 - i. All repairs/services shall 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/ 3rd 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.

2.3 Qualification Criteria

- a. 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/Diploma in Electronics/Computer/IT with hardware and networking knowledge.
- b. The Data Entry operator should be having experience of minimum 01 years in operation of RFID/Time attendance system and minimum qualification of Graduation with basic knowledge of Computers

2.4 Activities carried out by Manpower during Guarantee and CMC period

Data Entry Operator

- a. Port Employees Facial recognition registration
- b. Enrollments of employee details.
- c. Issuing Biometric cards to employees'
- d. Templates design and printing of attendance bio cards to port employees
- e. Change in locations of employees as per relieving/posting orders issued by the concerned dept.
- f. Activation/Deactivation of Retired employee's data

- g. Updating of printed employees cards data in excel.

Engineer

- a. Application installation and software testing
- b. Maintaining data base backups
- c. Troubleshooting software/hardware issues
- d. Generating reports
- e. To do Site level installation
- f. Attending meetings.
- g. Maintain staff documentation
- h. Maintain User manual for Biometric application
- i. Maintaining daily checklist of all location at site
- j. Check network connectivity
- k. Regular site visit and maintain site report
- l. Maintain hardware inventory
- m. Updating of OS/Antivirus whenever require
- n. Daily monitoring of surveillances cameras at all locations.

- 2.5** 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 Engineer 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.
- 2.6** The Bidder 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.
- 2.7** Any other works assigned by the Nodal Officer related to Biometric attendance system in the Port from time to time.
- 2.8** 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 Bidder and should be available at site till completion of the contract period.
- 2.9** The Bidder shall quote for maintaining the entire system during GP & CMC.
 - a. 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 Bidder and concurred by the Port.

- b. Preventive Maintenance (PM) shall be carried out strictly in four equal intervals of time per annum. The Bidder'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, etc. Records of which are to be maintained.
- c. Attending to all emergency breakdown calls even beyond working hours, on Sundays and Holidays.
- d. Providing Telephonic support service in case of need and early resolution of issues.
- e. Maintaining operation and maintenance logbooks and records of preventive maintenance, non-availability of the system. The Bidder shall upgrade firmware and security patches from time to time and maintain updated records of the same
- f. The complement of manpower engaged during the guarantee period shall be same as during CMC period.

2.10 PERIOD of CMC:

The Comprehensive Maintenance Contract (CMC) is for a period of 05 years from the date of expiry of guarantee period.

2.11 DAMAGE CHARGES:

The Bidder shall pay damage charges on following accounts;

- a. In case of failure to deploy Engineer, the Bidder shall pay MPA damage charges of Rs 500/ day. This will be in addition to the one day salary deduction from the monthly bill for each day of non-deploying Engineer.
- b. It is required to maintain 100% availability of the entire system 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 Bidder shall make own arrangements for the experts and rectify the fault within 4 hours. In case of failure to attend and resolve the fault within 4 hours, beyond 4 hours Port shall impose damage charges of Rs.100/- per hour or part thereof till rectification is completed.
- c. The Engineer deployed for the CMC of hardware of Biometric Gate Access System shall be as per the qualifications prescribed above. If the Engineer deployed under contract misbehaves/ doesn't obey the orders of EIC, the bidder 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 bidder, to terminate the concerned Engineer. The bidder 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 bidder fails to provide a suitable

replacement within 3 days from the date of issuance of the second notice, damage charges as per relevant clause shall be imposed from the 1st day of issuance of second notice to the bidder, from the payment due to the bidder till such appointment has been made.

- d. Bidder'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 Bidder. Further, the bidder shall ensure that, the deployed Engineer are not affiliated to any unions etc.
- e. The Bidder 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.
- f. The Bidder 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 bidder to be compulsorily made in digital mode.

2.12 OTHER TERMS AND CONDITIONS:

General Notes:

- a. The Bidder is required to offer rates as per Port's format "**Schedule-A1**".
- b. BOQ shall be read in conjunction with the Technical specification and Scope of work.
- c. All the drawings, catalogues/Brochures of FACE RECOGNITION based readers/ devices, related Test certificates should be submitted by the bidder in **THREE** sets invariably mentioned or not in the Tender Schedule.
- d. All Technical 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 bidder should provide all facilities to test the materials at MPA site.

- i. FRBAS system should be handed over to Port in working condition after completion of CMC period of 5 years in good working condition.
- j. Advance information of at least 24 hours shall be given by the Bidder before undertaking maintenance and servicing works.
- k. The Bidder 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.
- l. The Bidder has to follow all safety, security, environment, statutory and general rules/regulations as per relevant IS standards enforced by Mormugao Port Authority.
- m. Bidder shall make his own arrangement at his own risk and cost for labour, Materials, Testing Equipment's, calibration and Transport throughout the contract period. Port shall not provide the same.
- n. The Port will not be responsible for any loss or injury of the personnel / materials / tools / plants engaged by the Bidder during the work at site / transportation during the currency of the contract.
- o. The payment for CMC shall be made on monthly basis.
- p. Necessary entry passes shall be obtained by the firm at their own cost with the approval of Port Officials.
- q. Removing of all the old BAS equipment's and handing over to the Port at MM, Baina is in the scope of contractor.
- r. Existing MPA data network can be used for transmission from server/central locations to local site. The local FRBAS shall be connected to the local MPA network system.
- s. The consumable items viz printer cartridges etc. have to be provided by the successful Bidder during the entire currency of the contract.
- t. MPA reserves right to change locations of the FRBAS devices as per operational convenience during the contract period, through the successful bidder without incurring additional cost to MPA.

Schedule A1

BOQ for the Work of "SITC of Biometric attendance System with two years guarantee period followed by Five years of Comprehensive Maintenance Contract"

SR. No.	DESCRIPTION	UNIT	QTY	Rate/ unit (Rs) Excl. of GST	Amount (Rs) Excl. of GST	GST%
PART A (BIOMETRIC ATTENDANCE SYSTEM)						
1	Providing customized software for registration, interface, SAP integration, reporting etc. as per scope of work & technical specifications.	LS	1			
2	Developing & deploying customized face recognition app for installing in the mobile phones for registering day to day attendance of the employee & viewing individual attendance details as per scope of work & technical specifications.					
	a) Developing the customized app	LS	1			
	b) Deploying the app on the mobile phones	No.	10			
3	Supply, Installation, Testing & Commissioning of Face Recognition Biometric Reader including customized software & license for readers and as per scope of work & technical specifications					
	a) Supply	No.	19			
	b) Installation, Testing & Commissioning	No.	19			
4	Supply of Pre-printed RFID Cards for Employees compatible with the Biometric Card Reader as per scope of work & technical specifications	No.	1200			
5	Supply of Card holders & Lanyards as per colour specified with pre-printed MPA Logo and as per scope of work & technical specifications.	No.	1200			
6	Supply, Installation, Testing & Commissioning of Biometric Registration PC as per scope of work & technical specifications	No.	1			
7	Supply, Installation, Testing & Commissioning of Production server as per scope of work & technical specifications.	No.	1			
8	Supply, Installation, Testing & Commissioning of QA Server as per scope of work & technical specifications.	No.	1			
9	Supply, Installation, Testing & Commissioning of Network Video Recorder(NVR). 16 Channel NVR, as per scope of work & technical specifications.	No.	2			
10	Supply, Installation, Testing & Commissioning of 2MP, IR Bullet Cameras as per scope of work & technical specifications					
	a) Supply	No.	18			
	b) Installation, Testing & Commissioning	No.	18			

11	Supply, Installation, Testing & Commissioning of UPS for Biometric reader as per scope of work & technical specifications.	No.	19			
12	Supply, Installation, Testing & Commissioning of UPS for NVR as per scope of work & technical specifications.	No.	1			
13	Supply, Installation, Testing & Commissioning of UPS for Network switch as per scope of work & technical specifications.	No.	19			
14	Supply, Installation, Testing & Commissioning of 6U Network rack as per scope of work & technical specifications.	No.	18			
15	Supply, Installation, Testing & Commissioning of network switch. (24x) as per scope of work & technical specifications.	No.	3			
16	Supply, Installation, Testing & Commissioning of network switch. (8x) as per scope of work & technical specifications.	No.	16			
17	Supply, Installation, Testing & Commissioning of smart card printer including 200nos of PVC sticky cards as per scope of work & technical specifications.	No.	1			
18	Incident management laptop as per scope of work & technical specifications.	No.	1			
			Sub-total 'A'			
PART B (CMC)						
19	CMC charges of 1st year after 2 year GP	month	12			
20	CMC charges of 2nd year after 2 year GP	month	12			
21	CMC charges of 3rd year after 2 year GP	month	12			
22	CMC charges of 4th year after 2 year GP	month	12			
23	CMC charges of 5th year after 2 year GP	month	12			
24	Charges for providing 01no. site engineer during 1st year of GP	month	12			
25	Charges for providing 01no. site engineer during 2nd year of GP	month	12			
26	Charges for providing 01no. site engineer for 1st year CMC	month	12			
27	Charges for providing 01no.site engineer for 2nd year CMC	month	12			
28	Charges for providing 01no.site engineer for 3rd year CMC	month	12			
29	Charges for providing 01no. site engineer for 4th year CMC	month	12			
30	Charges for providing 01no.site engineer for 5th year CMC	month	12			
31	Charges for providing 01no.Data Entry Operator during 1st year of GP	month	12			
32	Charges for providing 01no. Data Entry Operator during 2nd year of GP	month	12			
33	Charges for providing 01no. Data Entry Operator for 1st year CMC	month	12			
34	Charges for providing 01no.Data Entry Operator for 2nd year CMC	month	12			
35	Charges for providing 01no.Data Entry Operator for 3rd year CMC	month	12			
36	Charges for providing 01no. Data Entry Operator for 4th year CMC	month	12			

37	Charges for providing 01no.Data Entry Operator for 5th year CMC	month	12			
	Sub-total 'B'					
	TOTAL AMOUNT (A+B) (Exclusive of GST)					

Rupees _____ **Only Exclusive of GST**

Note: The rates quoted shall be inclusive of transportation, lodging and boarding, out-of- pocket expenses (OPE) on conveyance, communication expenses, 3rd party expenses and subsistence expenses on site but exclusive of GST. Applicable GST shall be paid extra as applicable.