# Indian Ports Association

# Request for Proposal (RFP)

Selection of a system integrator for design, supply, installation, integration, testing, commissioning and maintenance of hardware infra for automated port access control system (APACS) in Chennai Port Authority or at any such other Port Authority as may be required

TENDER NOTICE NO: IPA / APACS / ChPA / 2026 Dated: 19/11/2026

1st Floor, South Tower, NBCC Place
B.P Marg, Lodhi Road
New Delhi – 110003
Phone: 011-24369061

November, 2026

## Contents


| Chapter | Content Details | Page No. |
|---|---|---|
| | Disclaimer | 3 |
| | RFP Notice | 4 |
| 1 | Introduction | 6 |
| 2 | Glossary | 6 |
| 3 | Instructions to Bidders | 9 |
| 4 | Selection Process | 22 |
| 5 | Terms of Reference | 30 |
| 6 | General Conditions of Contract | 38 |
| 7 | Special Conditions of Contract | 44 |
| 8 | Annexures and Forms | |
| | Annexure – A | 54 |
| | Form – 1 | 56 |
| | Form – 2 | 59 |
| | Form – 3 | 60 |
| | Form – 4 | 61 |
| | Form – 5 | 62 |
| | Form – 6 | 63 |
| | Form- 6A | 64 |
| | Form – 7 | 65 |
| | Form – 8 | 66 |
| | Form - 8A | 67 |
| | Form – 8B | 68 |
| | Form – 9 | 69 |
| | Form – 10 | 70 |
| | Form – 11 | 72 |
| | Form – 12 | 73 |
| | Form – 13 | 74 |
| | Annexure – B | 152 |
| | Annexure – B1 | 153 |
| | Annexure – C | 154 |
| | Annexure – D | 156 |
| | Annexure – E | 158 |

## Disclaimer

This RFP is being issued by the Indian Ports Association (IPA) to the interested and eligible agencies for supply, installation,, integration, testing and commissioning of hardware infra for automated port access control system (APACS) in Chennai Port Authority under buy back scheme of the existing old QR/RFID readers alongwith 3 years CAMC after completion of one year free warranty period and deployment of one manpower personnel on a 24x7 basis for 4 years, a on such terms and conditions and for the achievement of objectives of the Project set forth in this RFP or that may subsequently be provided to Bidder(s) whether verbally or in documentary form by or on behalf of IPA or any of its authorized employees or advisors.

It is hereby clarified that this RFP is not an agreement and is not an offer or invitation by IPA to any parties hereunder. The purpose of this RFP is to provide the Bidder(s) with information to assist in the formulation of their proposals. While, the IPA has taken due care in the preparation of information contained herein and believes it to be accurate, neither the IPA or any of its representatives, officers, employees, agents or advisors gives any warranty or make any representations, express or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

The information is not intended to be exhaustive and interested parties are required to make their own inquiries that it may require in order to submit the bid. The information is provided on the basis that it is non–binding on the IPA, any of its authorities or agencies or any of their respective officers, employees, agents or advisors.

IPA reserves the right not to proceed with the bidding process at any stage without assigning any reasons thereof, to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the bid further with any party submitting a bid.

No reimbursement of cost of any type will be paid to persons or entities submitting the Bid.

**Managing Director,**
**Indian Ports Association**

IPA / APACS / ChPA / 2026 Date: 20/11/2026

**RFP Notice**

**SUPPLY, INSTALLATION, INTEGRATION, TESTING AND COMMISSIONING OF HARDWARE INFRA FOR AUTOMATED PORT ACCESS CONTROL SYSTEM (APACS) IN CHENNAI PORT AUTHORITY OR AT ANY SUCH PORT AUTHORITY AS MAY BE REQUIRED**

Indian Ports Association (IPA) invites Requests for Proposal (RFP) from interested eligible agencies for undertaking the subject work.

The RFP document providing the Term of Reference (ToR), pre-qualification criteria, terms and conditions including evaluation criteria and application fee are available on the web site http://ipa.nic.in and https://eprocure.gov.in/eprocure/app. Reputed and interested agencies may download the RFP from the above websites.

The details of RFP are as follows:

| | |
|---|---|
| Name of work | Supply, Installation, Integration, Testing and Commissioning of Hardware Infra for Automated Port Access Control System (APACS) in Chennai Port Authority or at any such other Port Authority as may be required |
| Tender Notice No. | IPA/APACS/ChPA/2026 Dated: 19/11/2026 |
| Cost of Tender Document | Rs. 20,000/- (Rs. Twenty Thousand Only) (Non-refundable) |
| EMD | Rs. 30,00,000/- (Rs. Thirty Lakhs Only) |
| Performance Guarantee | 5% (Five Percent) of the awarded cost / agreement value |
| Method of Selection | QCBS 60:40 |
| Contract Period | 60 days |
| RFP / Tender availability Date | 20/11/2026 by 15:00 hrs. |
| Last Date of receiving queries | 25/11/2026 |
| Pre-Bid Meeting Date and venue | 26/11/2026 at 15:00 hrs., Indian Ports Association, New Delhi |
| Response to Queries | 30/11/2026 |
| Proposal Due Date | 06/12/2026 by 15:00 hrs. |
| Opening of Technical Bid | 06/12/2026 by 15:30 hrs. |
| Opening of Financial Bid | To be notified |

| | |
|---|---|
| Letter of Award | To be intimated to Selected Bidder |
| Date of Start of Work | To be intimated to Selected Bidder |
| Validity of Tender | 180 days from due date |
| Contact Details | 1. Prema Kumar Pillai<br>Prema.pillai@ipa.org.in<br>Mobile: 9822388841<br><br>2. Monu Joon<br>monu.joon@ipa.org.in<br>Mobile: 8447627544 |
| Communication Address | The Managing Director,<br>Indian Ports Association,<br>1st floor, South Tower, NBCC Place,<br>Bhisham Pitamah Marg, Lodi Road,<br>New Delhi – 110 003.<br>Tel. No. 0091-011-24369061/63, 24368334,<br>FAX: 011-24365866<br>Email: md.ipa@nic.in |

**Managing Director,**
**Indian Ports Association**

# 1. Introduction

This RFP document has been issued by IPA to undertake a work at Chennai Port Authority (ChPA) or at any such other Port Authority as may be required to carry out supply, installation, integration, testing and commissioning of hardware infrastructures to be used in the Automated Port Access Control System project (APACS) for various stake holders at various entry/exit gates of Port Authority including comprehensive annual maintenance contract ( CAMC ) for a period of three (3) years, along with One manpower personnel support (1 Person per shift x 3 shifts x 7 days ) on a 24X7 basis for 4 years, from the date of Go-live certificate issued by Port Authority The work will be undertaken by IPA on behalf of Chennai Port Authority or at any such other Port Authority as may be required.

# 2. Glossary

In this bid document and in the 'Contract', unless the context otherwise requires:

i) "Authorized representative" means any Officer of IPA authorized by the Competent Authority, who is responsible for supervising, administering the Contract, certifying payments due to the agency, and other functions as specified in this contract.

ii) "Bid" (including the term 'tender', 'offer', 'quotation' or 'proposal' in certain contexts) means an offer for rendering services or execution of works made in accordance with the terms and conditions set out in the bid document.

iii) "Bid documents" (including the term 'bid documents' or 'Request for Proposal Documents' in certain contexts) means a document issued by IPA, including any amendment thereto, that sets out the terms and conditions of the given e- tender and includes the invitation to bid.

iv) "Bidder" (including the term 'tenderer', Agency in certain context) means any person (in the form of sole proprietor) or firm or company or any other legal entity (registered under the Companies Act, Societies Registration Act, etc), participating in the e-tendering process with IPA;

v) "Bidder registration document" means a document issued by IPA, including any amendment thereto, that sets out the terms and conditions of registration proceedings and includes the invitation to register for the e-tender;

vi) "Competent authority" means the Managing Director or any officer(s) authorized by the Managing Director of Indian Ports Association, New Delhi which is registered in Delhi under the Societies Registration Act, 1860.

vii) 'ChPA' means Chennai Port Authority a Major Port of India.

viii) "Contract" (including the terms 'Work Order' under certain contexts), means a formal legal agreement as may be amended, supplemented or modified in accordance with the terms of contract in writing relating to the subject matter of the tender, executed between Indian Ports Association and the agency together with the documents referred to therein including general conditions, special conditions of Contract, Priced and instructions issued from time to time by IPA and all these documents taken together shall be deemed to form one contract and shall be complementary to one another, which are in compliance with all the relevant

provisions of the laws of India.

ix) "Construction Period" a period up to **60 days** from the date of signing of contract agreement during which period the agency shall complete all the works and services as stipulated in the scope of work.

x) "Contract price" means the sum named in the tender subject to such additions thereto or deductions there from as may be made under the provisions herein after contained.
"Contract Period" a period up to 4 years from the date of signing of contract agreement which includes one year free maintenance period and subsequent 3 years comprehensive annual maintenance period which may be extendable for a further period on the requirement of IPA on mutually agreed basis if the services are required by IPA and the performance of the Contractor is found satisfactory.

xi) "Contractor"/"Agency" means the person or persons, firm or company whose tender has been accepted by the competent authority and includes its representative, successors and/or permitted assigns for the subject Contract.

xii) "Cost of Tender Document & Bid Processing Fee" means an amount of Rs.20,000 (Rupees Twenty Thousand Only) to be paid as one-time non-refundable payment to participate in tender process for any work undertaken by IPA for which **no exemption shall be provided on any ground.**

xiii) "Day" means a day of 24 hours from midnight to the next midnight irrespective of the number of hours worked in that day.

xiv) e-Tender" means conducting of procurement processes by IPA with bidders for the acquisition of works and services using information and communication technology (specially the internet) with the aim of open, non-discriminatory, and efficient procurement through transparent procedures.

xv) "Earnest Money Deposit'(EMD)" means a security from a bidder securing obligations resulting from a prospective contract award with the intention to avoid; the withdrawal or modification of an offer within the validity of the bid, after the deadline for submission of such documents; failure to sign the Contract or failure to provide the required security for the performance of the Contract after an offer has been accepted; or failure to comply with any other condition precedent to signing the contract specified in the Bid documents.;

xvi) "Head of the Department" means Executive Director / Chief Administrative Officer / Head Officer (Procurement) or any other officer assigned such duties by Managing Director of the Indian Ports Association.

xvii) "Head of the Organization" means Managing Director of the Indian Ports Association.

xviii) 'IPA' means the Indian Ports Association

xix) "Month" means a month according to Christian calendar.

xx) "Notice inviting tenders" (including the term 'Invitation to bid' or 'request for proposals' in certain contexts) means a document and any amendment thereto published or notified by IPA, which informs the potential bidders that it intends to procure services and/or works.;

xxi) "Pre-qualification document" means the document including any amendment thereto issued by IPA, which sets out the terms and conditions of the pre- qualification bidding and includes the invitation to pre-qualify;

xxii) "Responsive bid", in relation to a bidder, means a bid submitted by a bidder that conforms to all material aspects and conditions specified in the Bid document. If any requirements

specified in the Bid document are not complied with or changes are made by the bidder in the tender document or if there is non-usage of the prescribed forms stipulated in the bid document, the bid shall be considered as non-responsive and shall be summarily rejected.

xxiii) "Tender" means the Agency's priced offer to IPA for the execution and completion of the works and the remedying of any defects therein in all accordance with the provisions of the Contract, as accepted by the Work order.

xxiv) The 'Site' shall mean the land and /or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract

xxv) The 'Works' shall mean the works to be executed in accordance with the contract or part(s)thereof as the case may be and shall include all extra or additional, altered or instituted works or temporary and urgent works as required for performance of the contract

xxvi) Urgent works' shall mean any urgent measures which in the opinion of the Engineer-in-charge, become necessary during the progress of the work to obviate any risk or accident or failure or which become necessary for security.

xxvii) "Week" means seven days without regard to the number of hours worked in any day in that week.

# 3. Instructions to the Bidders

### A. General:

Electronic Tenders (Online) are invited by INDIAN PORTS ASSOCIATION (IPA) from eligible bidders to carry out supply, installation, integration, testing and commissioning of hardware infrastructures to be used in the Automated Port Access Control System project (APACS) for various stake holders at various entry/exit gates of Chennai Port Authority or at any such other Port Authority as may be required including comprehensive annual maintenance contract ( CAMC ) for a period of three (3) years, along with One manpower personnel support (1 Person per shift x 3 shifts x 7 days ) on a 24X7 basis for 4 years, from the date of Go-live certificate issued by the concerned Port Authority.

i) The bid document containing the entire details is available at the E-Tender Portal www.ipa.nic.in or www.eprocure.gov.in for downloading during the period specified in the RFP Notice.
ii) The Bidders must fulfil the techno-commercial criteria for pre-qualification and other requirements stipulated in the bid document. The tender shall remain valid for a period of **180 days** from the date of opening of the Technical Bid / Techno–commercial bid.
iii) The Construction period will be 60 days from the date of issue of the Work Order. The work has to be completed within this period.

### 3.1 Pre-Bid Meeting

A pre-bid meeting will be conducted on the date, time and place as specified in **RFP Notice.** Interested bidders can send their queries to the designated e-mail by and may participate in the pre- bid meeting. The meeting can be attended physically or through Video Conference. The replies to queries will be published on the website, which shall form part and parcel of the contract agreement.

### 3.2 Registration of Bidders on the Portal

The intending Bidders are required to register on the website https://eprocure.gov.in/eprocure/app by clicking **"Online Bidder Enrolment"** option in order to obtain user-id and password at first and then to activate their respective user-id by using Digital Signature Certificate (Class III).

### Cost of Tender Document & Bid Processing Fee

Bid document will be issued by IPA. Applicants shall have to furnish a non-refundable cost of tender document & bid processing fee amounting to Rs. 20,000/- (Rupees Twenty Thousand only) pledged in favour of Indian Ports Association through NEFT in the designated bank account of IPA for which **no exemption on any ground shall be provided**.

### 3.3 Earnest Money Deposit (EMD)

In order to be considered for the bid, the Bidder shall remit EMD of Rs. 30,00,000/- (Rupees Thirty Lakhs only) through RTGS/NEFT to the account as per the following terms and conditions.

i) While submitting their bid, the bidder shall upload the scanned Unique Transaction Reference (UTR) number details or any other electronic transaction details to confirm the

successful remittance of the Earnest Money Deposit (EMD).

ii) The Earnest Money Deposit (EMD) furnished by all unsuccessful bidders will be returned through an e-payment system, but not later than 30 (thirty) days after award of Contract or signing of the Contract Agreement, whichever is earlier. The Earnest Money Deposit (EMD) of the successful bidder shall be adjusted against the Performance Guarantee.

iii) The EMD will be forfeited, if the bidder withdraws or modifies an offer within the validity period of the bid, after the deadline for submission of such documents.

iv) If the successful bidder fails to remit the Performance Security after the issue of letter of intent within the specified or extended time, the EMD shall be forfeited and the bidder shall be debarred/ black listed for a period of three years.

v) No interest shall accrue or is payable on the EMD from the date of its remittance till it is returned to the bidders.

vi) Any bidder who is claiming exemption from payment of EMD based on any Central/State Government certification, the same shall be considered for such exemption provided that the firm uploads the said valid certificate copy at the time of submission of their bid documents along with the details duly filled in Form – 6A. Please provide option of exemption certificate upload with inclusion of exemption as part of the bid submission completion.

### 3.4 Designated bank account details of IPA

All payments related to bid process like cost of tender document/processing fee, EMD shall be done through RTGS/NEFT to the account below;

| | | |
|---|---|---|
| I | Name and address of the bank | Indian Overseas Bank, Lok Kala Manch, Lodhi Colony, New Delhi- 110003. |
| Ii | Name of the branch | Lok Kala Manch Branch. |
| Iii | IFSC code | IOBA0001498 |
| Iv | Account Number | 149801000002360 |
| V | Type of Account | Savings Account |
| Vi | Contact Details | ipa@nic.in |

### 3.5 Performance Security

The Selected bidder shall submit performance security, which shall be 5% of the accepted tender cost/ awarded cost/ agreement value and shall be in form of irrevocable an irreversible bank guarantee/Demand Draft/Insurance surety bonds/Fixed Deposit Receipt. The performance security shall be submitted by the selected bidder within 07 working days from receipt of Letter of Award, pursuant to which the Agreement shall be signed within 15 working days from issuance of letter of award.

The performance security shall remain with IPA for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the contractor, including Defects Liability Period (DLP) and the CAMC.

On expiry of a period of 60 days beyond the Defects Liability Period, the Engineer-In-Charge shall, on demand from the Contractor, refund to him the performance security (without any interest) provided the Engineer-in-Charge is satisfied that there is no demand outstanding against the Contractor.

The performance security will be forfeited and credited to the IPA's account in the event of a breach of contract by the contractor/ termination of contract under any clause(s) of the contract. The Applicant, by submitting its Application pursuant to this RFP, shall be deemed to have acknowledged that without prejudice to IPA's any other right or remedy hereunder or in law or otherwise, the Performance Security, as available, shall be forfeited and appropriated by IPA in lieu of compensation and damage payable to IPA for, inter alia, the time, cost and effort of IPA in regard to the RFP including the consideration and evaluation of the Proposal under the following conditions:

a) If an Applicant engages in any of the Prohibited Practices as specified in this RFP;

b) If the Applicant is found to have a Conflict of Interest as specified in this RFP;

The Bank Guarantee shall be submitted as per format provided in **Annexure – C** for performance security.

### 3.6 Expenses incurred by the Bidder

i) IPA shall not be responsible for any direct or indirect expenses incurred by the Bidders in preparing, submitting and/or personally attending at the time of opening the techno- commercial bid / price bid or at any other time.

ii) The Applicants shall be responsible for all of the costs associated with the preparation of their Proposals and their participation in the Selection Process including subsequent negotiation, and visits to IPA. IPA will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Selection Process.

### 3.7 Bidder's Responsibility

i) The bidder, at the bidder's own responsibility and risk are encouraged to examine the requirements of IPA and obtain all information that may be necessary for preparing the bid and entering into a contract.

ii) Applicants must read carefully the minimum conditions of eligibility (the "Pre-qualification criteria") provided in this document Proposals of only those Applicants who satisfy the Conditions of Minimum Eligibility will be considered for evaluation.

iii) It is implied that on submission of the tender, the Bidder is deemed to have clearly understood and satisfied himself regarding the work and all conditions likely to be encountered during the execution of the work thereof.

iv) Further the Bidder undertakes (if his tender is accepted) that he has to enter into and execute when called upon to do so, a Contract Agreement as provided in the document with such modifications as agreed upon. Until the formal Contract Agreement is prepared and executed, this tender document together with the written acceptance shall form a binding agreement between IPA and the agency.

v) The Bidder shall furnish a certificate of Acceptance on technical and commercial terms and conditions in the enclosed **Form - 10.**

vi) Any bidder who is claiming exemption from payment of EMD based on any Central/State Government certification, shall furnish a declaration and undertaking as in the enclosed **Form – 6A.** *Please note that such exemptions will be only for the EMD and does not cover the cost of tender document and bid processing fee which is payable and non-refundable.*

vii) The Bidder shall submit a declaration as provided in the **Form - 10** of the bid document that the Bidder has no litigation or arbitration proceedings against IPA and that the bidder has not been blacklisted or debarred as on the date of submission of bid from providing service by any of the Central / State Government / Nationalized Banks/ Autonomous bodies / PSEs/PSUs and any other organizations in India prior to the submission date of tender mentioned in the NIT and the same shall be uploaded along with the bid document in the E-tender portal.

viii) The Applicant should submit a Power of Attorney as per the format at **Form – 4** provided, however, that such Power of Attorney would not be required if the Application is signed by the proprietor of the company.

### 3.8 Number of Proposals

No Applicant shall submit more than one Application for the proposed work.

### 3.9 Acknowledgement by Applicant

It shall be deemed that by submitting the Proposal, the Applicant has:

i) made a complete and careful examination of the RFP;

ii) received all relevant information requested from IPA;

iii) accepted the risk of inadequacy, error or mistake in the information provided in the RFP or furnished by or on behalf of IPA or relating to any of the matters referred to in the RFP document;

iv) satisfied itself about all matters, things and information, necessary and required for submitting an informed Application and performance of all of its obligations there under;

v) acknowledged that it does not have a Conflict of Interest; and

vi) agreed to be bound by the undertaking provided by it under and in terms hereof.

IPA shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP or the Selection Process, including any error or mistake therein or in any information or data given by IPA.

### 3.10 Declaration by the Bidder

The bidder, shall furnish a declaration to the effect, that he has completely read the bid documents and found himself to be eligible before submission of the bid, as specified in **Form - 9.**

### 3.11 Transfer of Bid Documents

Transfer of bid documents downloaded by one intending Bidder to another is not permissible.

### 3.12 History of Litigation

A consistent history of litigation or arbitration awards against the applicant/bidder may result in disqualification.

### 3.13 Right to reject any or all Proposals

Notwithstanding anything contained in this RFP, IPA reserves the right to accept or reject any Proposal and to annul the Selection Process and reject all Proposals, at any time without any liability or any obligation for such acceptance, rejection, or annulment, and without assigning any reasons thereof.
Without prejudice to the generality of the Clause, the IPA reserves the right to reject any Proposal if:

i) at any time, a material misrepresentation is made or discovered, or

ii) the Applicant does not provide, within the time specified by IPA, the supplemental information sought by IPA for evaluation of the Proposal.

Misrepresentation/ improper response by the Applicant may lead to the disqualification of the Applicant. If such disqualification / rejection occurs after the Proposals have been opened and the highest-ranking Applicant gets disqualified / rejected, then IPA reserves the right to consider the next best Applicant, or take any other measure as may be deemed fit in the sole discretion of the IPA, including annulment of the Selection Process

### 3.14 Incomplete Details and Canvassing

IPA does not bind itself to accept the lowest tender and may reject any or all tenders received without assigning any reason, whatsoever. Tenders in which any of the particulars and prescribed information is inadequate or incomplete in any respect and / or prescribed conditions are not fulfilled, such tenders are liable to be rejected. Canvassing in any form by the Bidders shall result in their tender being rejected.

### 3.15 Fraud And Corrupt Practices

The Applicant and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary

contained in this RFP, the IPA shall reject a Proposal without being liable in any manner whatsoever to the Applicant, if it determines that the Applicant has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process. In such an event, the IPA shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Performance Security, if available, as mutually agreed genuine pre-estimated compensation and damages payable to the IPA for, inter alia, time, cost and effort of the IPA, in regard to the RFP, including consideration and evaluation of such Applicant's Proposal.

Without prejudice to the rights of the IPA hereinabove and the rights and remedies which the IPA may have under the LOA or the Agreement, if an Applicant is found by the IPA to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOA or the execution of the Agreement, such Applicant shall not be eligible to participate in any tender or RFP issued by the IPA during a period of 2 (two) years from the date such Applicant as the case may be, is found by the IPA to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:

a) "corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the IPA who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOA or has dealt with matters concerning the Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the IPA, shall be deemed to constitute influencing the actions of a person connected with the Selection Process; or save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical agency/ adviser of the IPA in relation to any matter concerning the Project;

b) "Fraudulent practice" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;

c) "coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process;

d) "undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by the IPA with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and

e) “restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

### 3.16 Amendments of RFP

At any time prior to the deadline for submission of Proposal, IPA may, for any reason, whether at its own initiative or in response to clarifications requested by an Applicant, modify the RFP document by the issuance of Addendum/ Amendment and posting it on the Website/portal.

All such amendments will be notified in writing through e-mail to all Applicants who have purchased the RFP document. The amendments will also be posted on the IPA Website and CPP Portal and will be binding on all Applicants.

In order to afford the Applicants a reasonable time for taking an amendment into account, or for any other reason, IPA may, in its sole discretion, extend the Proposal Due Date.

Addenda/Corrigenda/clarification, if any to the bid documents will be issued by the IPA only in the E-tender portal and IPA’s website, prior to the date of opening of the tenders.

### 3.17 Clarifications

Applicants requiring any clarification on the RFP may email their queries to IPA before the date mentioned in the Schedule of Selection Process. IPA will reply to all such queries at its own discretion.

IPA reserves the right not to respond to any queries or provide any clarifications, in its sole discretion, and nothing in this document shall be construed as obliging IPA to respond to any question or to provide any clarification.

### 3.18 Language

The Proposal with all accompanying documents (the “Documents”) and all communications in relation to or concerning the Selection Process shall be in English language and strictly on the forms provided in this RFP. No supporting document or printed literature shall be submitted with the Proposal unless specifically asked for and in case any of these Documents is in another language, it must be accompanied by an accurate translation of all the relevant passages in English, in which case, for all purposes of interpretation of the Proposal, the translation in English shall prevail.

### 3.19 Format and Signing of Proposal

The Applicant shall provide all the information sought under this RFP. IPA would evaluate only those Proposals that are received in the specified forms and complete in all respects.

The Proposal shall be typed or written in indelible ink and signed by the authorised signatory of the Applicant who shall initial each page. All the alterations, omissions, additions, or any other amendments made to the Proposal shall be initialled by the person(s) signing the Proposal. The Proposals must be properly signed by the authorised representative (the “Authorised Representative”) as detailed below:

a) by a partner, in case of a partnership firm and/ or a limited liability partnership;

or

b) by an authorized representative possessing a valid Power of Attorney, in the case of a company or corporation, or by the owner in the case of a proprietorship firm

**A copy of the Power of Attorney certified by a notary public in the Form - 4 shall accompany the Proposal.**

Applicants should note the Proposal Due Date, as specified in the RFP document, for submission of Proposals. Except as specifically provided in this RFP, no supplementary material will be entertained by IPA, and that evaluation will be carried out only based on documents received by the closing time of Proposal Due Date. Applicants will ordinarily not be asked to provide additional material information or documents after the date of submission, and unsolicited material if submitted will be summarily rejected.

### 3.20 Correction / Variation

i) All corrections and alterations in the entries of the bid documents shall be attested with full signature of the Bidder with date. No erasures or over-writings shall be made.

ii) The Bidders should not upload any revised or amended offers after the opening of the tender. If any such document is found in the bid, the same shall be rejected.

iii) The bidder's proposal is deemed to include, all prices for the **Scope of Work** specified in the RFP bid document and no arithmetical correction or price adjustments are allowed.

iv) Tender should be complete in all respects for taking a decision immediately on opening of the tender.

### 3.21 Conflict of Interest

i) An Applicant shall not have a conflict of interest that may affect the Selection Process (the "Conflict of Interest"). Any Applicant found to have a Conflict of Interest shall be disqualified. In the event of disqualification, IPA shall forfeit and appropriate the Performance Security, as available, as mutually agreed genuine pre-estimated compensation and damages payable to IPA for, inter alia, the time, cost and effort of IPA including consideration of such Applicant's Proposal, without prejudice to any other right or remedy that may be available to IPA hereunder or otherwise.

ii) IPA requires that the Agency provides professional, objective, and impartial advice and always hold IPA's interest paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Agency shall not accept or engage in any assignment that would conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of IPA.

iii) An Applicant shall be deemed to have a Conflict of Interest affecting the Selection Process, if:

a) the Applicant or Associates (or any constituent thereof) and any other Applicant or Associate (or any constituent thereof) have common controlling shareholders or other ownership interest;

provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Applicant or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Applicant or Associate, as the case may be) in the other Applicant or Associate is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof. For the purposes of this Clause (a), indirect shareholding held through one or more intermediate persons shall be computed as follows:

(aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person") shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and subject always to Sub-clause (aa) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this if the shareholding of such person in the intermediary is less than 26% (twenty six per cent) of the subscribed and paid up equity shareholding of such intermediary; or

b) a constituent of such Applicant is also a constituent of another Applicant;

c) such Applicant or its Associate receives or has received any direct or indirect subsidy or grant from any other Applicant or its Associate; or

d) such Applicant has the same legal representative for purposes of this Application as any other Applicant; or

e) such Applicant has a relationship with another Applicant, directly or through common third parties, that puts them in a position to have access to each other's information about, or to influence the Application of either or each of the other Applicant; or

f) there is a conflict among this and other assignments of the Applicant (including its personnel and other members, if any) and any subsidiaries or entities controlled by such Applicant or having common controlling shareholders. The duties of the will depend on the circumstances of each case. While providing goods or services to IPA for this particular assignment, the Agency shall not take up any assignment that by its nature will result in conflict with the present assignment; or

g) a firm which has been engaged by IPA to provide goods or works or services for a project, and its Associates, will be disqualified from providing goods or services for the same project save and except as provided in the RFP document; conversely, a firm hired to provide goods or services for the preparation or implementation of a project, and it's or Associates, will be disqualified from subsequently providing goods or works or services related to the same project; or

h) the Applicant or Associate (or any constituent thereof), and the Applicant or concessionaire if any, for the Project, its contractor(s)or sub-contractor(s) (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not

apply in cases where the direct or indirect shareholding or ownership interest of an Applicant or Associate (or any shareholder thereof having a shareholding of more than 5% (five per cent) of the paid up and subscribed share capital of such Applicant or Associate, as the case may be,) in the Applicant or concessionaire, if any, or its contractor(s) or sub-contractor(s) is less than 5% (five per cent) of the paid up and subscribed share capital of such concessionaire or its contractor(s) or sub- contractor(s); provided further that this disqualification shall not apply to ownership by a bank, insurance company, pension fund or a Public Financial Institution referred to in section 2 (72) of the Companies Act 2013. For the purposes of this Sub-clause (h), indirect shareholding shall be computed in accordance with the provisions of Sub-clause (a) above.

For purposes of this RFP, Associate means, in relation to the Applicant, a person who controls, is controlled by, or is under the common control with such Applicant, or is deemed or published as an "Associate Office"; or has a formal arrangement such as tie up for client referral or technology sharing, with the Applicant (the "Associate"); As used in this definition, the expression "control" means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law or by contract.

An Applicant eventually appointed as contractor for this Project, its Associates, affiliates and the Agencies, shall be disqualified from subsequently providing goods or works or services related to the assignment and any breach of this obligation shall be construed as Conflict of Interest; provided that the restriction herein shall not apply after a period of 3 (three) years from the completion of this assignment or to any other assignments granted by banks/ lenders at any time; provided further that this restriction shall not apply to works, goods and services performed for IPA in continuation of this assignment or to any subsequent assignment performed for IPA in accordance with the rules of IPA. For the avoidance of doubt, an entity affiliated with the Agency shall include a partner in the firm or a person who holds more than 5% (five per cent) of the subscribed and paid up share capital of the firm (to which Agency belongs), as the case may be, and any Associate thereof. For the avoidance of doubt, in the event that:

i) any member of an Applicant was a partner or an employee of another firm, which attracts the provision relating to Conflict of Interest hereunder; and

ii) was directly or indirectly associated with any assignment that causes a Conflict of Interest hereunder, then such Agency shall be deemed to suffer from Conflict of Interest for the purpose hereof.

If the Agency, its Associates or affiliates are auditors or financial advisers to any of the Applicants for the Project, they shall make a disclosure to IPA as soon as any potential conflict comes to their notice but in no case later than 7 (seven) days from the opening of the RFP applications for the Project and any breach of this obligation of disclosure shall be construed as Conflict of Interest. IIPA shall, upon being notified by the Agency under this Clause, decide whether it wishes to terminate this assignment or otherwise, and convey its decision to the firm within a period not exceeding 15 (fifteen) days.

### 3.22 Signing of the Bid Documents

All pages of the bid documents and the documents submitted in support of the eligibility of the Bidder pre-qualifying in the tender (as stated in Annexure - A) to be uploaded by the Bidder, which shall be originally signed with date and seal at the lower right hand corner and shall be serially numbered, wherever required by the Bidder himself or a person holding power of attorney duly authorized and competent to do so on behalf of the Bidder, as furnished in Form – 4 of the bid document, before submission of the tender.

### 3.23 Bid Submission

a. Such of the registered bidders, who intend to bid, are required to download and print out the bid document along with its Annexures and forms and fill up the same. A scanned copy of such filled up bid document shall be submitted online through the CPP Portal using their respective user-id and password in order for their bid to be considered. The bidders shall also upload the scanned copies of the supporting documents in the form and manner as mentioned in the "**Qualification and Responsiveness Information of Annexure - A**" of the bid document.

b. The bid follows e-tender system and bidders are required to submit techno commercial / qualification details in Technical Bid and Price bid separately in Financial Bid electronically. Both shall be submitted simultaneously.

c. Both Part I and Part II bid documents are required to be submitted only through the above mentioned electronic mode and tender submitted through any other mode will be summarily rejected and no correspondence on such matter will be entertained for the reasons whatsoever.

d. The Applicants shall submit the Proposal with all pages numbered serially and by giving an index of submissions only in the CPP Portal. There will be no hard copy submissions.

e. The Technical Proposal shall be signed by the Authorised Representative of the Applicant. All pages of the original Technical Proposal must be numbered and initialled by the person or persons signing the Proposal.

f. The completed Proposal must be submitted on the CPP Portal before the specified due date. Proposals submitted in any other form shall not be entertained.

g. The Proposal shall be made in the Forms specified in this RFP. Any attachment to such Forms must be provided on separate sheets of paper and only information that is directly relevant should be provided. This may include copies of the relevant pages of printed documents. No separate documents like printed annual statements, firm profiles, copy of contracts etc. will be entertained.

### 3.24 Proposal Due Date

Proposal should be submitted by the due date specified in RFP Notice in the manner and form as detailed in this RFP.

IPA may, in its sole discretion, extend the due date by issuing an Addendum uniformly for all Applicants.

**3.25 Late Proposals**

Proposals received by IPA after the specified due date shall not be eligible for consideration and shall be summarily rejected.

**3.26 Uploading of Bid Documents**

i) The Bidder shall on its own responsibility have to download and upload the bid document in the provided E-tender portal. The Bidder has to make his own arrangements to overcome the internet, electricity or other connectivity failures to complete the tender filling online at his own risk and cost and IPA will not be responsible for such failures or shall not be liable to extend or accept such delayed or incomplete tender, for reasons whatsoever.

ii) The terms of the tender schedule, conditions of ccontract any other documents attached to the bid document shall not be defaced or detached from it and the same has to be uploaded in whole as per the instructions provided in the bid document or in the E-tender portal or format for Tenders Acceptance letter is attached **Form 5.**

iii) In order to file an error-free tender, the bidders may make use of the qualification documents to be uploaded list provided in the **Qualification and Responsiveness Information in Annexure A** of the bid document to identify the documents to be scanned and uploaded in support of their bid. The list is not exhaustive and only indicative. Hence the Bidder is advised to read the entire bid document carefully and determine any other documents which need to be uploaded, as a support to their qualification to the bid.

**3.27 Quoting for the Price Bid**

i) The bidder shall quote the rate /price for the assignment as per format specified in "**Part – II Price Bid ( Annexure – B 1)" only in the CPP Portal. The Technical bid shall not contain and price and such bids will be rejected.**

ii) Applicable taxes, if any payable, shall be reimbursed over and above the quoted rates on production of documentary evidence.

iii) The Bidder shall quote the rate / prices in figures as well as in words in English. In case of any discrepancy between figures and words, the rates in words shall prevail.

**3.28 Bid Opening**

The Part I – Technical Bid containing the techno-commercial documents listed in the Qualification and Responsiveness Information in Annexure - A and any other documents uploaded by the Bidders will be opened through online on the scheduled date and time as indicated in the NIT

**3.29 Bid Validity**

The Bid Proposal shall be valid for a period of not less than 180 days from the date of Bid opening.

**3.30 Payments Currency**

All payments will be made only in Indian Rupees and no foreign exchange is available for this work.

**3.31 Communication for Information**

All communications should contain the following information at the top in bold letters:

REQUEST FOR PROPOSAL (RFP) for **Supply, Installation, Integration, Testing and Commissioning of Hardware Infra for Automated Port Access Control System (APACS) in Chennai Port Authority or at any such other Port Authority as may be required.** All communications including the submission of Proposal should be addressed to;

Managing Director,
Indian Ports Association,
1st Floor, South Tower,
NBCC Place, Bhisham Pitamah Marg,
Lodhi Road, New Delhi - 110003.
Tel. No. 0091-011-24369061/63, 24368334

# 4 Selection Process

The selection will be based on the evaluation framework defined in the document. All bids will primarily be evaluated based on pre-qualification Criteria. Those bidders who meet the Pre-Qualification Criteria will be eligible for next set of evaluations. The Commercial Proposal of Bidders who do not meet the Pre-Qualification criteria will not be opened in tender process.

## 4.1 Brief Description of the Selection Process

IPA has adopted a single-stage two-cover process (collectively the "Selection Process") in evaluating the Proposals comprising technical and financial bids to be submitted in the CPP Portal. In the first stage, a Technical Evaluation will be carried out to assess the eligibility and technical capability of the Applicants in accordance with the criteria specified in this RFP. Based on the Technical Evaluation, a list of technically qualified Applicants shall be prepared.

In the second stage, the Financial Bids of only those Applicants who are found technically qualified shall be opened and evaluated. Based on the Techno - Financial Evaluation, the Applicants shall be ranked accordingly. For the purpose of ranking of the bidders Quality and Cost Based Selection (QCBS) method shall be followed. Weightage to Technical and Financial Evaluation shall be in the ratio of 60:40 respectively.

## 4.2 Technical Proposal

Applicants shall submit the technical proposal in the formats as specified at **Annexure – A.** While submitting the Technical Proposal, the Applicant shall ensure that:

a) all forms are submitted in the prescribed formats and signed by the prescribed signatories;
b) power of attorney, if applicable, is executed as per Applicable Laws;
c) The RFP document duly signed on all pages is submitted;
d) The Technical Proposal shall not include any financial information relating to the Financial Proposal.

Failure to comply with the requirements spelt out above shall make the Proposal liable to be rejected.

IPA reserves the right to verify all statements, information and documents, submitted by the Applicant in response to the RFP. Any such verification or the lack of such verification by IPA to undertake such verification shall not relieve the Applicant of its obligations or liabilities hereunder nor will it affect any rights of IPA there under.

In case it is found during the evaluation or at any time before signing of the Agreement or after its execution and during the period of subsistence thereof, that one or more of the eligibility conditions have not been met by the Applicant or the Applicant has made material misrepresentation or has given any materially incorrect or false information, the Applicant shall be disqualified forthwith if not yet appointed either by issue of the LOA or entering into of the Agreement, and if the Selected Applicant has already been issued the LOA or has entered into the Agreement, as the case may

be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by IPA without the IPA being liable in any manner whatsoever to the Selected Applicant.

In such an event, IPA shall forfeit and appropriate the Performance Security, as available, as mutually agreed pre-estimated compensation and damages payable to the IPA for, inter alia, time, cost and effort of IPA, without prejudice to any other right or remedy that may be available to IPA.

### 4.3 Financial Proposal

Applicants shall submit the financial proposal in the formats specified at **Annexure – B 1 only in the CPP Portal,** clearly indicating its quote for the assignment in Indian Rupees.

While submitting the Financial Proposal, the Applicant shall ensure the following:

a) All the costs associated with the assignment shall be included in the Financial Proposal. The total amount indicated in the Financial Proposal shall be without any condition attached or subject to any assumption and shall be final and binding. In case any assumption or condition is indicated in the Financial Proposal, it shall be considered non-responsive and liable to be rejected.

b) The Financial Proposal shall consider all expenses and tax liabilities excluding GST. For the avoidance of doubt, it is clarified that all taxes shall be deemed to be included in the costs shown under different items of the Financial Proposal. Further, all payments shall be subject to deduction of taxes at source as per Applicable Laws. GST will be paid only after submission Tax Invoice and proof of filing returns (GSTR-1 & GSTR-3B) and appearing of same in GSTR-2A.

c) Costs (including break down of costs) shall be expressed in INR.

### 4.4 Pre-Qualification (PQ) Criteria

The bidder shall demonstrate legal eligibility, financial capability, relevant integration experience, technical resources and capability to undertake this assignment. Pre-Qualification (PQ) criteria for System Integrator (SI) to manage and deliver this project shall be as follows:

| | Basic Criteria | Description | Documents Required |
|---|---|---|---|
| 1 | Statutory Requirements | • The bidder must be an Indian entity registered under applicable laws and has been in existence for more than five years.<br><br>• The bidder must have a valid GST Number and PAN Card in India.<br>• The bidder must have completed balance sheets for the past three years, and any other financial statements that demonstrate its financial stability and compliance | • Copy of Certificate of Incorporation/Registration<br>• Copy of the work orders / completion certificates<br><br>• Valid GSTIN and copy of GST Registration Certificate<br>• Valid PAN Card<br>• Copy of audited Profit & Loss Statement OR |

| | | | |
|---|---|---|---|
| | | | Certificate from the Statutory Auditor |
| 2 | Blacklisting | The bidder shall not be under declaration of ineligibility for corrupt or fraudulent practices with any Central / State Government Organization and should not have been blacklisted as on the date of submission of bid. | Undertaking to this effect on company's letter head signed by company's authorized signatory |
| 3 | Litigations | The bidder should not have any pending litigation or disputes that could adversely impact the performance of the contract and should disclose pending litigation or disputes against him before any court of law or tribunal or arbitrator or any other institution / organisation. | Undertaking to this effect on company's letter head signed by company's authorized signatory |
| 4 | Past performance of the Applicant | A bidder or its Associate should not have been imposed any penalty by an arbitral or judicial authority through a judicial pronouncement or arbitration award. | Undertaking to this effect on company's letter head signed by company's authorized signatory. |
| 5 | Technical Capability | The bidder must have following technical capability:<br>• Similar Work Experience<br>(i) Three similar works costing not less than Rs. 6.00 crores each, or<br>(ii) Two similar works costing not less than the amount of Rs. 7.50 crores each or<br>(iii) One similar work costing not less than Rs. 12.00 crores<br>The values mentioned above are excluding Service Tax / GST. Similar work means experience in undertaking supply, installation, testing and commissioning of hardware infra for any access control system / Common infrastructure / Command Control Centre etc. | • Previous Work Orders and Completion Certificates or any other evidence document<br>(works awarded during the last 7 years only will be considered)<br>• In case of work undertaken for the private sector 26AS forms shall be enclosed |

| | | | |
|---|---|---|---|
| | | • At least one similar work costing not less than Rs.6.00 crores should have been in port and shipping sector | |
| 6 | Financial Capacity | • The Bidder must have an average annual turnover of ₹ 4.5 crores or more over last three financial years (audited) i.e. (FY 2023-24, 2024-25, 2025-26).<br>• The net worth of the bidding company must be positive. | • Copy of audited Profit & Loss Statement OR Certificate from the Statutory Auditor<br>• Audit Reports: Access to recent audited financial statements that demonstrate transparency and financial soundness. |
| 7 | Key Personnel Requirement | • Project Manager having at least 10 years of relevant experience.<br>• Technical / Integration Lead having at least 05 years of relevant experience.<br>• Security Specialist having at least 05 years of relevant experience .<br>• Port & Shipping Sector specialist having at least 05 years of relevant experience.<br>• Logistics & Infrastructure Sector specialist preferably with Gate Management expertise having at least 05 years of relevant experience. | • Certificate from the Head of HR / Director / President of the organization that the key personnel is on organisation payroll as on the day of bid submission or will be on organisation payroll as on the day of commencement of assignment.<br>• Self attested CV's of the Key personnel as described in the RFP to be submitted along with bid which shall be integral part of bid document and evaluation. No changes shall be allowed in the Key Personnel after the bid has been submitted without the approval from IPA.<br>• Relevant experience certificates for the proposed key personnel. |
| 8 | Other Requirements | • The bidder shall have minimum CMMI Level 5, ISO 27001or other relevant certifications. | • Valid certificates issued by accredited certification bodies<br>• The bidder may be asked to demonstrate these |

| | | | |
|---|---|---|---|
| | | • The Bidder shall meet all the security requirements indicated in the IT Act 2000.<br>• Security capability suitable for the Gate Automation platform, Mandatory certifications etc. is a must requirement. | capabilities during evaluation.<br>• Any other evidence document |

**4.5 Technical Evaluation criteria**

IPA shall evaluate technical proposals of bidders meeting the Pre-Qualification Criteria. Assessment shall address capability to meet required platform integration, maritime data coverage, analytics, security, operations and the proposed delivery approach. If required, IPA may seek specific clarifications from any or all Applicant(s) at this stage. The technical score of all the bidders would be calculated as per the criteria mentioned below and bidders who score a minimum 70 marks in the overall Technical Evaluation would be eligible for the next stage, i.e. Financial Bid opening:

| S. No | Details of Criteria | Max Score | Scoring Guidelines | Supporting documents |
|---|---|---|---|---|
| 1 | Combined value of similar work experience<br>(Each work should cost at least Rs. 6 Crores) | **20** | More than Rs. 12 Crores and up to Rs. 18 Crores – **12 Marks**<br>More than Rs. 18 Crores and up to Rs. 25 Crores – **16 Marks**<br>More than Rs. 25 Crores – **20 Marks** | Work order + Project Completion Certificate / Award from the client. (Only completed projects will be considered for evaluation) |
| 2 | Similar work experience in Port & Shipping Sector<br>(Each work should cost at least Rs. 6 Crores) | **15** | Up to 01 work – **09 Marks**<br>More than 01 and up to 03 works – **12 Marks**<br>More than 03 works – **20 Marks** | Work order + Project Completion Certificate / Award from the client. (Only completed projects will be considered for evaluation) |
| 3 | Financial Capacity of the Bidder •<br>(Average annual turnover of last three financial years (audited) i.e. (FY 2023-24, 2024-25, 2025-26) | **10** | More than Rs. 4.5 Crores and up to Rs. 10 Crores – **06 Marks**<br>More than Rs. 10 Crores and up to Rs. 15 Crores – **08 Marks**<br>More than Rs. 15 Crores – **10 Marks** | |

| S. No | Details of Criteria | Max Score | Scoring Guidelines | Supporting documents |
|---|---|---|---|---|
| | | | | |
| 4 | Combined experience, capability & suitability in terms of years of domain expertise of all Key Personnel taken to gather subject to each key personnel meeting the experience criteria as defined in Pre-Qualification Criteria. (Experience, Capability & Suitability of the Key Personnel shall be taken in to account only when domain expertise of the personnel is substantiated beyond doubt. For this purpose the committee constituted by IPA may hold a physical / virtual interaction with proposed key personnel.) | **15** | More than 30 and up to 40 Years of Domain Expertise **– 09 Marks**<br>More than 40 and up to 50 Years of Domain Expertise **– 12 Marks**<br>More than 50 Years of Domain Expertise **– 15 Marks** | CV's of the Key personnel as described in the RFP to be submitted along with bid which shall be integral part of bid document and evaluation. No changes shall be allowed in the Key Personnel after the bid has been submitted without the approval from IPA. For Options 2 and 3, CVs of the JV member's and Analytics Partner's personnel shall be evaluated on the same basis. |
| 5 | Proof of Concept, Live Demonstration and Presentation of the proposed solution including but not limited to Functional demonstration against defined use cases, solution architecture, | **40** | Technical Presentation shall be reviewed by the committee constituted by IPA which shall assign score to each bidder's presentation. | • The bidder must submit training plan, preventive maintenance plan and helpdesk approach, monthly SLA reporting system and monitoring evidence along with presentation which shall |

| S. No | Details of Criteria | Max Score | Scoring Guidelines | Supporting documents |
|---|---|---|---|---|
| | integration capabilities, exception handling, scalability, functional capability, cyber security, OEM back up support, O&M capability, SLA monitoring, risk management, approach & methodology for completing the work and exit approach. | | | form integral part of technical evaluation.<br>• Technical Presentation along with relevant attachments to be submitted along with bid which shall be presented in IPA. No changes shall be allowed in the PPT after the bid has been submitted. |
| **Total marks** | | **100** | | |

**4.6 Quality-Cost Based Selection (QCBS):**

The method of Selection is **Quality Cum Cost Based Selection (QCBS)** with weights distributed between technical & financial bid shall be used to evaluate the proposals as mentioned under:

- Technical Evaluation: 60% weightage
- Financial Evaluation: 40% weightage

Technical Bid Score: The bidder who secures maximum marks shall be given a Technical score of 100 and then pro-rata calculations for successive bidders with respect to their technical score.

The technical scores of other Bidders for the project shall be computed as follows.

Ts (bidder) = 100 * (T (bidder)/ T (highest technical score amongst all bidders) (Adjusted to two decimal places)
Only those Bidders who have secured Technical Score of **70 or above** shall be declared as qualified for evaluation of their 'Financial Bid'. Bidders who have secured less than **70 f**or Technical Score shall be rejected.

Financial Bid Score: 20 % (with full marks to lowest financial bidder and then pro-rata calculations for successive bidders with respect to their financial bids).

Financial Quote of any bidder = F

Fs (bidder) = 100 * (F(lowest financial quote amongst all bidders)/ F(bidder) (Adjusted to two decimal places)

Any monetary figure in decimal shall be rounded off to the nearest INR. In cases of discrepancy between the prices quoted in words and in figures, lower of the two shall be considered. For any other calculation/ summation error etc. the bid may be rejected.

**Total Evaluated Score = 0.6 Ts + 0.4 Fs**

### 4.7 Methodology for selection of successful bidder

After the total evaluated score is computed as explained in 4.6 above, for bidders who have qualified, scores will be tabulated based on the marks obtained with the highest score at first place and subsequent scores below in descending order. At this stage, the brand of the material proposed to be provided by the bidders will also be noted. The price quoted by each bidder, item wise as per the BOQ will be examined and the lowest price quoted by each bidder item wise will be tabulated (**referred as consolidated L1 list**). The bidder who has scored the maximum score in accordance with clause 4.6 will be offered the opportunity to match the prices from the consolidated list for each item of the BOQ. IPA will also decide the brand of the material to be provided. The bidder who has received the highest score will have to agree not only to match the lowest price for each item but also agree to provide the brand selected by IPA. In case both these aspects are accepted by the said bidder, he will be declared the successful bidder. In case the offer is not accepted by the said bidder, the bidder who has scored the second highest score in accordance with the evaluation criteria at 4.6 will be considered and made the same offer. This process will be repeated till the time a successful bidder emerges.

# 5 Terms of Reference (TOR)

## 5.1 Introduction

Indian Ports Association on behalf of Chennai Port Authority proposes to carry out supply, installation, integration, testing and commissioning of hardware infrastructures to be used in the Automated Port Access Control System project (APACS) for various stake holders at various entry/exit gates of Chennai Port Authority including comprehensive annual maintenance contract ( CAMC ) for a period of three (3) years, along with One manpower personnel support (1 Person per shift x 3 shifts x 7 days) on a 24X7 basis for 4 years, from the date of Go-live certificate issued by ChPA/IPA.

## 5.2 Existing system overview

a. At present, 27 out of 36 RFID readers have been installed and are functioning at various entry/exit gate locations in Chennai Port Authority for the implementation of the RFID/QR Code-enabled HEP System. The remaining 9 RFID readers are kept as standby units. The existing RFID Card Readers for the HEP System were installed at Chennai Port Authority in the year 2019.

b. It has been proposed to carry out the work of Supply, Installation, Testing and Commissioning of Infrastructure associated with HEP, Automated Number Plate/Container capturing Cameras for vehicles and AI based Face Recognition (Face Reader) with QR code for various stakeholders at various Entry/Exit gates of Chennai Port Authority with 3 subsequent years CAMC after completion of first 1 year free warranty period & Provide 1 No. competent Support Engineer for 4 years from the date of Go-Live.

## 5.3 Scope of work

### 5.3.1 Supply, Installation, Integration, Testing, commissioning of the Infrastructure & ensure proper integration with APACS:

- Supply, installation, integration, Testing & commissioning of hardware such as ANPR & Container Number Recognition, FASTag Reader, Face Recognition Readers, Smart Cards with QR/RFID Code readers, 42" LED screens, Boom Barriers, Tripod barriers, Surveillance Camera, other accessories.

- CAMC support for 3 subsequent years after the completion of first One-ChPA.

- Mobile scanners should be used during system downtime.

- Supply, Operate and maintain adequate number of photo capturing web/digital cameras, computers, show card capturing device, Display Screens, and other accessories, and software (operating system and applications) for issue of dock entry permits to visitors and vehicle and must be in sound and good working conditions.

- High end Smart cameras should be integrated with APACS & used to capture the movement of vehicles & pedestrian; also to be in the proximity of CISF to verify whether the container is loaded or empty and also for video analytics.

- Maintaining the installations under this Access control and Surveillance System round the clock (24x7) all through the year.

- Supply of Personal Computers at different locations for operation of Access Control System for various verification and online approval.

- One year free warranty period for the hardware commences from the date of Go Live.

- Necessary interfacing with the ChPA LAN/WAN shall be carried out by the contractor. The contractor shall be fully responsible for providing all required interconnectivity and cabling between the network switches installed at the gate end and all associated field devices including Controllers, Turnstile Barriers, Boom Barriers, Biometric Readers, Long Range Readers, Face Recognition Readers, ANPR Cameras, Surveillance Cameras, Servers and all hardware items related to this project without any additional Cost.

- Further, the contractor shall provide alternate/redundant network connectivity along with all necessary network switches and allied accessories to ensure uninterrupted operation of the system, at no additional cost to Chennai Port Authority.

- The architecture should be built-in with redundancy and at all Gates.

- It will be the responsibility of the vendor to provide and fix the shelters for Card / QR Readers, Face Recognition, ANPR, Surveillance cameras, Turnstile- barriers/ Boom Barriers, Long Range Readers & any other infrastructure exposed to open weather. All associated civil works (major or minor) for fixing and installation of Turnstile barriers/tripod, boom barrier, UVSS and any other infrastructure must be carried out by the successful vendor without any additional Cost in coordination with CE & CME. All materials and equipment including labour required for Civil or Mechanical related works of this Project has to be brought/transported by the successful bidder only.

- The selection of the location in fixing and commissioning of the related equipment should be selected in a such a way that the Project work gets completed in a seamless manner.

- During the handover process, all equipment shall be inspected and tested for any failures in the presence of the IPA and ChPA Authority representatives and a certificate has to be obtained from ChPA that all equipment are in good condition.

- The successful bidder should coordinate with the Civil, Mechanical, Traffic Departments of the ChPA and with M/s. C-DAC throughout the contract period.

### 5.3.2 Man Power Support

- The operations shall be carried out in three shifts per day, each consisting of 8 (eight) hours. One support engineer shall be deployed in each shift to ensure uninterrupted operation and maintenance of the system for 4 years from the date of Go-Live who shall act as the single point of contact during the contract period.

- The deployed support engineer shall be duly certified by the respective OEM(s), certifying that they possess the requisite skills, technical competence and hands-on experience in the operation, configuration, troubleshooting, preventive maintenance, and corrective maintenance of Automatic Number Plate Recognition (ANPR) Systems, Face Recognition Readers, Boom Barrier, QR Code Readers and Under Vehicle Surveillance Systems (UVSS). The support engineer shall be fully competent to carry out all assigned activities under the Contract without requiring additional technical assistance.

- Man power support becomes payable only from the date of Go-Live.

- Currently, the requirement is one (1) manpower per shift, i.e., 1 × 3 shifts × 7 days a week. The tender is on a cafeteria basis (Authority will pay based on the actual manpower/service requirement consumed). Accordingly, if any additional manpower is required during the operational period to meet operational requirements, the successful bidder shall provide such additional manpower, with the prescribed qualifications, at no additional cost and at the same quoted contract price for the entire contract period.

- They should be competent enough to address the day- to-day issues related with hardware and hardware function.

- They should monitor the entire Project Hardware items vigilantly and should respond immediately in the event of any outage in the respective groups.

- The entire work shall be done on a turnkey basis and it shall be operated round the clock. The bidder shall provide the required manpower for the contract period including IT support and the maintenance of the equipment supplied by the bidder.

- As this is a real time system, the Support Engineer posted on site are responsible for any sort of trouble shooting.

- Any kind of issue including integration that is being faced in the gate locations has to be addressed immediately.

- The Contractor shall ensure the deployment of a sufficient number of qualified Support engineer at all times to provide uninterrupted support and maintenance services. The Contractor shall make appropriate backup arrangements to ensure continuity of services during the absence of any Support engineer due to leave, illness, resignation, or any other

reason. Under no circumstances shall support services be disrupted due to the non-availability of service personnel.

- Support Engineer should closely co-ordinate and work with hosting infra team and APACS system engineer to ensure proper functioning of the APACS system.

**5.3.3 Hardware**

- As regards the hardware supplied, preventive maintenance should be carried out regularly without causing any interruption to the APACS (Automated Port Access and Control System) activity.

- Any materials and transport required to do the maintenance job should be taken care by the bidder only.

- During CAMC, all installed equipment should be maintained properly.

- Any kind of network points that is required should be taken care without any additional cost.

- Any kind of fault or repair found at any time of the contract period, has to be either repaired or replaced within the time frame as per the SLA without any additional cost.

- All cameras to be procured vide this tender such as AI based smart camera, ANPR, UVSS should be STQC certified.

- The OEMs related to ANPR, AI based smart camera, UVSS and Face Reader should have Technical/Support/Service center in India. The certification for the same endorsed by the OEM should be given along the Bid.

- The successful bidder shall ensure that all hardware, firmware, software, APIs, integration components and associated support services supplied under this tender comply with the cybersecurity and information security requirements of Chennai Port Authority. The bidder shall coordinate with ChPA and C-DAC for security hardening, vulnerability assessment and penetration testing (VAPT), security patch management and timely remediation of identified vulnerabilities. All devices and systems shall be securely configured by disabling unnecessary services, ports and default credentials, and appropriate access control, strong password policies, privileged access management and secure remote access mechanisms shall be implemented. All communication between APACS and integrated systems through APIs shall use secure authentication and encrypted communication wherever applicable. The bidder shall ensure appropriate logging and monitoring of user activities, administrative actions, system events and security incidents, and shall immediately report any suspected or confirmed cybersecurity incident, unauthorized access, malware infection or data breach to IPA.

- The successful bidder shall also ensure the confidentiality, integrity and security of all data handled under the contract, including ANPR data, facial recognition data, vehicle details, access records, images and system logs, and shall comply with the IT Security Policy and cybersecurity requirements of ChPA and applicable Government of India guidelines. The bidder shall provide necessary cooperation and support to ChPA and C-DAC for cybersecurity audits, VAPT, vulnerability remediation and incident response throughout the warranty and CAMC periods.

**5.4 PAYMENT TERMS**

**For Supplies:**

1. The Contractor shall submit a valid Tax Invoice along with all relevant supporting documents, including bills, delivery challans, installation and commissioning reports, acceptance certificates, work completion reports, and any other documents as required by the Chennai Port Authority, for processing of payments.

2. No payment shall be processed unless the Contractor submits the complete set of prescribed documents in all respects. Any delay in submission of the required documents or submission of incomplete or incorrect documents shall result in a corresponding delay in the processing of payment, for which the Chennai Port Authority shall not be held responsible.

3. This is a cafeteria basis Tender. Charges will be calculated on Pro-rate basis.

4. The SDK/ Bridge Tool should support for integration with CDAC software (The compliance to integration is subject to the approval of CDAC and CDAC's approval is final and binding).

5. The purpose of this proposal is to support the CDAC software with the accessories as required as per BOM in totality and the vendor should confirm in writing that all the proposed items are in line with this agreement.

6. All products should accompany OEM certificate favoring CHPA in the format provided.

7. Payments to the delivery of the items mentioned in Schedule A1 will be released on Pro rate basis including CAMC.

**No Advance Payment will be made**

**For Items No. 1.01 to 1.23 & 1.25 of the BOQ**

Payment will be made phase wise after successful completion of each phase. The bill shall be submitted after successful completion of each phase and payment will be made within 30 days from the submission of the bill. However, the bill will be verified and after acceptance by the EDP officials, the payment will be made through e-payment.

The Phase wise payment schedule is as follows:

| Phase wise Payment Schedules | | | |
|---|---|---|---|
| | **Phase** | **Milestone** | **Payment %** |
| 1. | First (1.01 to 1.23 & 1.25) | Supply of all materials (Items from 1.01 to 1.22 & 1.25) at ChPA's Site with necessary warranty /guaranty certificates, Test Certificates, User manuals if any etc., and proof of delivery | 60 % of [Total Order value (after deduction of buyback value) – (Items from Sl.No.1.24, 2.01 to 3.03 + Applicable GST)] |
| 2. | Second (1.01 to 1.23 & 1.25) | Physical Mounting, Installation, Testing, Commissioning and completing API development on the hardware side | 35 % of [Total Order value (after deduction of buyback value) – (Items from Sl.No.1.24, 2.01 to 3.03 + Applicable GST)] |
| 3. | Third & Final (1.01 to 1.23 & 1.25) | Successful Go-Live & acceptance of ChPA for items under Sl.No. 1.01. to 1.22 & 1.25 as per the Tender requirement. | 5 % of [Total Order value (after deduction of buyback value) – (Items from Sl.No.1.24, 2.01 to 3.03 + Applicable GST)] |

**For Items No. 1.24 of the BOQ**

| Phase wise Payment Schedules | | | |
|---|---|---|---|
| | **Phase** | **Milestone** | **Payment %** |
| 1. | First (1.24) | Operationalization of 10th Gate with all functionalities | 90% of the Project Management charges (Item under Sl.No.1.24) |
| 2. | Second & Final (1.24) | Upon Go-Live & acceptance of ChPA in total | 10% of the Project Management charges (Item under Sl.No.1.24) |

**For Item No. 2.01 of the BOQ**

The payment for Deployment of Support Engineer will be made Quarterly post successful completion of the quarterly period. The bill should be submitted along the copy of respective month attendance report duly certified by the firm, and subscription payment details of previous month PF, ESI etc.,

However, the bill will be verified and after acceptance by IPA, the payment will be made through e-payment.

**For Items No. 3.01 to 3.03 of BOQ**

The Payment for CAMC will be made Half yearly post successful completion on pro rate basis after satisfactory completion of the maintenance work. The bill should be submitted along with copy of monthly service report which was duly signed by the EDP division.

However, the bill will be verified and after acceptance by the EDP officials, the payment will be made through e-payment.

Payment will be made upon submission of **clear and unambiguous bill with all supporting documents,** duly signed & dated along with separate Chennai Port Authority bill in the prescribed format after deducting Income Tax, Penal charges and other applicable deductions, etc.,

**NOTE:**

(a) The system should be available on all the days of the year. (24X7)

(b) In the event of occurrence of consistent default on the part of the operator, IPA shall without prejudice to any other right and remedies, terminate the license by giving 30 days' notice.

(c) The Integrated Access control and Surveillance system of Chennai Port Authority shall be manned by the staff engaged by the operator.

(d) The successful bidder shall re-locate the installation, during the period of contract, when desired by the Chief Mechanical Engineer, ChPA to a new location.

(e) After completion of Contract Period, the successful Tenderer shall peacefully vacate and handover the premises to ChPA immediately.

(f) IPA shall not be responsible for the any liability to the employees engaged by the licensee for carrying out the work.

(g) The entire tender process is to be in cafeteria model and therefore the future requirement for the next one year are to be supplied at the same price.

**Note:**

The Payment will be made based on the submission of **clear and unambiguous bill with all supporting documents,** duly signed & dated in the prescribed format after deducting Income Tax, Penal charges and other applicable deduction etc., The bill should be submitted along with copy of monthly service report which was duly signed by the IPA officer. The rate quoted by the successful bidder shall be inclusive of all taxes and duties other than GST. Applicable GST will be paid by IPA based on the tax invoice.

## 5.5 TECHNICAL SUPPORT AND SERVICE CENTRE

During the one-year free warranty period and three years of CAMC period, the defective components should be replaced with a genuine spare, the same with similar configuration or a compatible higher configuration at free of cost.

“Any demand/Interest/Penalty etc. arising to IPA due to non-compliance of Statutory requirements with reference to Income Tax and GST Laws by the Contractor/Suppliers/Port Users shall be borne by the Contractor/Supplier/Port Users. The firm shall indemnify the Port against such non fulfillment of obligations.”

# 6. General Conditions of Contract

The Contractor is the successful bidder in the subject E-Tender published by IPA and being the successful bidder has agreed to the terms and conditions specified in the bid document for completing the above-mentioned work more specifically detailed as per Scope of Work in the bid document. These General terms and conditions of this Contract shall also form part of this tender.

### 6.1 Consideration

The price to be paid by IPA to the Contractor for the whole of the work to be done and the performance of all the obligations undertaken by the Contractor as per the terms of the Contract Agreement shall be ascertained by the application of the rates provided and quoted by the Contractor in the tender.

### 6.2 Period of Contract

The Contract is for a period 2 months from the date of award of work. During this period, the contractor shall complete the supply, installation, commissioning, end-to-end testing, hardware-side API/SDK/Bridge integration and all other activities falling within the scope of this Tender..

The successful bidder shall coordinate with C-DAC and extend all necessary cooperation for integration of the supplied hardware with the APACS software developed by C-DAC. The final Go-Live of the integrated APACS system shall be carried out after successful completion of the end-to-end integration, testing and User Acceptance Testing (UAT) of the complete system.

No manpower or transport facilities will be provided by IPA for the movement or handling of materials.

### 6.3 Non-performance of Contract/ Breach of Contract

In the event of unsatisfactory performance or non-compliance with regard to the provisions of the Contract or if any breach is committed by the Contractor of the terms and conditions of the Contract, the IPA will issue notice to the contractor indicating such unsatisfactory performance or non-compliance by the Contractor, for compliance and if the Contractor fails to comply within a period of 7 days from the date of issue of notice by the IPA, the IPA reserves the right to terminate the contract. In such event, the Performance Security will be forfeited, for the loss or damages suffered by the IPA due to the breach of the Contract committed by the Contractor.

### 6.4 Malpractice or furnishing of false information

In case of suppressing of any facts or furnishing of false information or malpractice committed by the Contractor anytime during the tender process and/or during the contract period, the IPA shall reject the bid in whole or terminate the Contract Agreement. In the event of such omission, the IPA reserves right to forfeit the EMD and/or Performance

Security lying with the IPA. In addition to the above, the IPA may also black list or suspend or debar the Contractor from participating in future tenders, as the IPA thinks deem fit.

### 6.5 Negotiations

The Selected Bidder may, if necessary, be invited for negotiations for exploring possibility of arriving at a reasonable better offer and for re-confirming the obligations of the Contractor under this Bid.

### 6.6 Termination of Contract in Full or in Part

The Contract will be liable to be terminated if:

i) At any time makes defaults in proceeding with the Works with due negligence and continues to do so even after a notice in writing of 7 days from the Engineer-in-Charge

ii) Commits default in complying with any of the terms and conditions of Contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge; or

iii) Fails to complete the works or items of work on or before the date(s) of completion, and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge; or

iv) Enters into a contract with IPA in connection with which commission has been paid to any person(s) or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the term of payment have previously been disclosed in writing to the Accepting Authority/Engineer-in-Charge; or

v) Offers or gives or agrees to give to any person in IPA's service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or for bearing to do or having done any act in relation to the abstention or execution of this or any other Contract for IPA

vi) Obtains a Contract with IPA as a result of ring tendering or other non-bonafide methods of competitive tendering; or

vii) Being an individual or any of its partner (in case of the Contractor is a partnership firm)at any time is adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any insolvency Act for the time being in force or make any conveyance or assignment of his affective or composition or arrangement of the benefit of his creditors or purport so to do, or if any Application be make under any insolvency Act for the time being in force for his estate or if a trust deed be executed by him for benefit of his creditors; or

viii) Being a company, passes a resolution or the Court makes an order for liquidation

of its affairs, or a receiver or manager on behalf of the debenture holders is appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or manager; or

ix) Assigns, transfers sublets (engagement of labour on a piece-work basis or of labour with materials not be incorporated in the work shall not be deemed to be subletting) or attempts or assign, transfer or sublet the entire works or any portion thereof without the prior written approval of the Accepting Authority.

x) The Competent Authority may, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to IPA by written notice cancel/ terminate the contract as a whole or in part as it may deem appropriate.

6.7 The Competent Authority shall on such cancellation/termination, be entitled to:

i) Take possession of the site and any materials, construction plant, implements, stores, etc., there on; and/or

ii) Carryout the incomplete work by any means at the risk and cost of the Contractor.

6.8 On cancellation/ termination of the Contract, in full or in part, the Accepting Authority shall determine the quantum of amount, if any, recoverable from the Contractor for completion of Works or part of the works or in case the works or part of the works is not completed, the loss or damage suffered by IPA. In determining the amount credit shall be given to the Contractor for the value of the work, if any, executed by him up to the time of cancellation of the contract, the value of contractors material taken over and incorporated in the work and use of tools & tackle and machinery belonging to the Contractor.

6.9 Any excess expenditure incurred or to be incurred by IPA in completing the Works or part of the Works or the excess loss or damages suffered or may be suffered by IPA as aforesaid after allowing such credit shall be recovered from any money due to the Contractor or any account, and if such money is not sufficient the Contractor shall be called upon in writing to pay the same within 30 days.

6.10 If the Contractor shall fail to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the Contractor's unused materials, constructional plant, implements, temporary buildings, etc. and apply the proceeds of sale thereof towards the satisfaction of any sums due form the Contractor under the contract and if there after there be any balance outstanding from the Contractor, it shall be recovered in accordance with the provisions of the Contract.

6.11 Any sums in excess of the amounts due to IPA on unsold materials, constructional plant, etc. shall be returned to the Contractor, provided always that if

cost or anticipated cost of the completion by IPA of the works or part of the works is less than the amount which the Contractor would have been paid had he completed the works or part of the works such benefit shall not accrue to the Contractor.

### 6.12 Discontinuance by the Contractor

If the contractor is not in a position to continue the contract, the Contractor should give a notice of 60 (sixty) days in writing, prior to the proposed date of discontinuance of the contract to the IPA. In such case, the Performance Security shall be forfeited.

### 6.13 Foreclosure of the Contract by IPA

The Contract may be foreclosed by the IPA by giving 30 (thirty) days advance notice to the contractor during the subsistence of the contract period without assigning any reasons. In such cases, the Performance Security will be refunded to the Contractor.

### 6.14 Change in Constitution

The Contractor / Contracting entity shall not make change in the formation, constitution or composition of its business or its name without the written consent of the IPA, during the existence of the Contract.

### 6.15 Insolvency / Bankruptcy / Winding up, etc.,

The IPA shall be entitled to cancel / terminate the Contract before expiry of contract period, if the Contractor is declared as insolvent or bankrupt or is unable to pay its debts or makes a composition with its creditors or if a trustee, liquidator, receiver or administrator is appointed to take over the assets or the business or the undertaking of the Contractor or if a substantial portion of the assets, property, revenues or business of the Contractor is confiscated or expropriated by the Central / State Government or any governmental agency or third party or if the law relating to the sick organization applies to the Contractor or the Contractor is dissolved or wound up or if an order shall be made or an effective resolution is passed for the winding up of the Contractor or the Contractor is reconstituted or the business or operations of the Contractor is closed either due to disputes inter-se amongst its stakeholders or otherwise.

### 6.16 Liquidated damages (LD)

If the Contractor fails to adhere to the timelines prescribed for any stage of the assignment, a penalty of **0.5% of the total Contract Price per week** (or part thereof) shall be levied, subject to a cumulative maximum of **10% of the total Contract Price** across all stages. In case IPA incurs any additional cost due to such delay, the same shall be recoverable from the Contractor's Performance Security or any amount due or becoming due to the Contractor, in addition to the recovery of LD.

### 6.17 Force Majeure

If the progress of work is held up owing to circumstances which, in the opinion of IPA are beyond the control of the Tenderer, such as war, stormy weather etc., IPA may at its discretion, grant to the Tenderer such extension of time as he considers reasonable for the

completion of the works. The grant of such extension of time shall not bestow on them for any claim or compensation/extra payment at a future date whatsoever.

### 6.18 Penalty

The assignment shall be undertaken as per the scope of work defined in this RFP document. If the development does not take place as per the scope of work or is of inferior quality not acceptable to IPA then a penalty equivalent to the double value of such omission / reduction in the scope of work or quality shall be imposed on Contractor subject to a maximum of 10% of the total value of Contract Price. In case IPA decides to develop the product for such scope of work or improve the quality of the product, any such additional cost incurred on it above the contract price shall be at the risk and cost of the contractor and shall be recovered from the Performance Security or any amount due or become due to be payable to the Contractor.

### 6.19 Confidentiality

The Contractor shall keep confidential, all the data and other information of the IPA shared or obtained during the course of work in any form during and after expiry/termination/cancellation of the Contract, except that which are available in the public domain.

### 6.20 Damage to IPA

The Contractor shall be responsible for making good to the satisfaction of the IPA, any loss or damage caused to IPA/ChPA if such loss or damage is due to fault and/or the negligence or wilful acts or omission of the Contractor or his agents/ representatives. The contractor shall make good the loss as assessed by the IPA.

### 6.21 Indemnification

The Contractor shall defend, indemnify and keep indemnified and hold the IPA, its officers and employees harmless from any and all claims, demands, injuries, damages, costs, charges, compensation, losses, expenses, proceedings or suits including attorney fees, arising from any breach or default in the performance of any obligation on the Contractor's part to be performed under the terms and conditions of this Contract or arising from any negligence of the Contractor, or any of its agents or the person provided for the purpose of this Contract or non-fulfilment / non-adherence / non- compliance of any statutory provisions which is as per law the contractor is required to comply with. The provisions of this section shall survive even after the expiration or termination of this Agreement.

### 6.22 Changes in terms of a concluded Contract

No variation in the terms of a concluded contract can be made without the consent of both the parties.

### 6.23 Dispute Resolution

i) In the event of any dispute or difference of whatsoever nature between the parties arising out of, in relation to, or in connection with the contract, including any dispute or

difference arising from or in connection with termination, the parties shall, at the outset, attempt to resolve the said dispute or difference amicably.

ii) Any claim, dispute or difference relating to or arising out of this contract /tender shall be settled amicably between the parties as per the guidelines issued by Ministry of Finance vide OM No. F 11212024-PDD Dated 03.06.2024, as amended/superseded from time to time.

iii) The contract shall be subject exclusively to the laws of India. Subject to the clause, the Courts at Chennai shall have exclusive jurisdiction with respect to the disputes or differences of whatsoever nature between the parties arising out of, in relation to, or in connection with the contract.

**6.24 Doubt and clarifications**

In case of any doubts on the terms and condition of the tender, the same may be referred to the Managing Director, Indian Ports Association, New Delhi in writing for clarification, whose interpretation shall be final and binding.

**6.25 Notice**

Any notice to the contractor shall be deemed to be sufficiently served to the Contractor directly or to any person declared as his authorised representative in **Form – 5**, if given or left in writing at the address or sent through E-mail ID given in response to the bid document declared in the **Form - 2**. Responsibility to notify any change in address and/or email- id, entirely lies with the Contractor.

**6.26 Joint Venture**

Joint Ventures including Consortium (that is an association of several persons or firms or companies) are not permitted to participate in this tender.

**6.27 Sub-contracting**

The Contractor can assign, transfer, pledge or sub-contract all or part of the performance or services awarded by the IPA to any other party with written consent of IPA for the purpose of better execution of contract.

**6.28 Applicable Law and Jurisdiction**

The contract shall be governed by and constructed according to the laws in force in India. The Contractor shall hereby submit to the jurisdiction of the courts situated at Chennai for the purpose of actions and proceedings arising out of this contract.

**6.29 Adoption**

The Contract shall be governed by the provisions or amendments or clarifications issued by Indian Ports Association and any other relevant Acts and directives issued by the Government of India from time to time. It shall be binding upon the Contractor to comply with all such acts, rules, regulations and directives issued by the Government of India and/or others communicated by the IPA from time to time.

# 7 Special Conditions of Contract

7.1 The Contractor being the successful bidder has agreed to these Special conditions of the contract as specified in the bid document for completing the work specifically detailed as per Scope of Work in the bid document. These Special conditions of the Contract shall also form part of this tender.

7.2 The ownership and Intellectual Property rights for all the documents and data generated shall lie with Indian Ports Association (IPA) including any data sets, data analysis or any other relevant document/data.

7.3 IPA will nominate one or more of his representatives to supervise the work and to satisfy about the quality as required by the relevant regulation and as mentioned in technical specifications. The decision of IPA shall be final as regards the quality of work and shall be binding on the contractor.

7.4 The prices shall be firm and not subject to fluctuation at any stage till the completion of the contract. There will not be hard copy submission. Tender will have to be submitted in the CPP Portal.

7.5 It will be entirely the Tenderer's responsibility to take required steps to adequately safeguard the personnel carrying out the work and to ensure that the work is carried out in such a manner that maximum safety to the personnel is assured.

7.6 All materials and components included in the contract shall conform to the relevant Indian Standard Specification wherever they exist.

7.7 The decision of IPA regarding the quality of any materials used on the work will be final and binding on the Tenderer. The Tenderer shall remove from the site of work any material rejected as unfit for use on the work at his own cost as soon as he is ordered to do so, failing which IPA shall remove such material from the site of work and shall deduct the cost incurred by such removal from any money due to the Tenderer.

7.8 The Tenderer shall co-ordinate his work with that of other Tenderers executing other works in the site and plan his work as to minimise inconvenience to others in the work site.

7.9 The watch and ward and storage of materials will be Tenderer's responsibility and IPA shall not be held responsible for any loss of the material.

7.10 The Tenderer shall be deemed to have satisfied himself before submitting the tender as to the correctness and sufficiency of his tender for the work and of his price stated in the schedule as to cover his entire obligation under the contract for completion of the work.

**A. Program to be furnished**

As soon as practicable, after the acceptance of his tender, the successful bidder shall, if required, submit to IPA for approval a detailed programme showing the order of procedure and method in which he proposes to carry out the works and shall whenever required by IPA furnish for information particulars in writing of the successful bidder's arrangements for carrying out the

works and approval by IPA of such programme or furnishing of such particulars shall not relieve the Contractor of any of his duties or responsibilities under the contract.

**B. Quality of material used**

The materials used on the work must be of first class variety corresponding to relevant ISS and other specifications laid in the contract. The work must be carried out in a workman like and expeditious manner and quality of work at each stage shall be subject to approval of IPA. IPA's decision as to the quality of such materials and work shall be final and binding on the contractor. The contractor shall maintain at the site or work an Inspection Register, which must be produced by him or his agent whenever called upon to do so during their inspection of the work. If the rectifications ordered to be done are not carried out within the time specified IPA shall have the right to get such work done by any other agency and to recover the cost thereof from the contractor. This inspection register shall be the duplicate copying type so that one copy of the entries get recorded in the IPA's Office. The contractor shall not make any entry of any kind in this register.

**C. Contractor's superintendence**

The contractor shall give or provide all necessary superintendence to the complete satisfaction of IPA during the execution of the works and as long thereafter as the IPA Officer may consider necessary. The contractor or a competent and authorised agent or representative approved in writing by IPA which approval may at any time be withdrawn is to be constantly on the work and shall give his whole time to the superintendence of the same. Such authorised agent or representative shall receive on behalf of the contractor directions and instructions from IPA Officer.

**D. IPA's Representative**

The duties of the IPA Officer's Representative are to oversee and supervise the works, and to inspect and evaluate the workmanship employed in connection with the project. He shall have no authority to relieve the Contractor of any of the duties or obligations under the contract, nor shall he, except as expressly provided herein, order any work that may cause delays, involve additional payment, or result in any variation to the works.

**E. Work to be undertaken to the satisfaction of IPA:**

The contractor shall execute, complete and maintain the works strictly in accordance with the contract to the satisfaction of the IPA Officer and shall comply with and adhere strictly to the IPA Officer's instructions and directions on any matter (whether mentioned in the contract or not). The contractor shall take instructions and directions only from the IPA Officer or his representatives.

**F. Acceptance certificate**

Final Acceptance Test Certificate will be given by IPA or any Team constituted by IPA, after successful completion of supply, installation, end to end testing, commissioning of base infrastructures, submission of Technical Documentation, and uninterrupted operation of the entire system for minimum 15 days.

**G. Removal of Workmen**

i. The contractor shall employ in and about the execution of the works only such persons as are

careful, technically skilled and experienced. IPA officer shall be at liberty to object to and require the contractor to remove from the works any persons employed by the contractor in or about the execution of the works who in the opinion of the Officer, misconducts himself or incompetent or negligent in the proper performance of his duties and such persons shall not be again employed upon the works without the written permission of IPA Officer.

ii. The contractor shall confirm to and comply with the regulations and by laws of the State or Central Government or IPA and of all other local authorities such as Corporation of Chennai, the Tamil Nadu Electricity System, the Chief Electrical Inspector to the Government of Tamil Nadu, the Government Customs and Police Departments, Fire Services, the provisions contained in the various Labour Acts enacted by the State Legislature and Central Parliament in force and the rules made thereunder including those under Minimum Wages Act, Factories Act, the Indian Electricity Act and rules framed under it, Workmen Compensation Act, Provident Fund Regulations Act, Employees Provident Fund Act, 1961 and scheme made under the said Act, Health and Sanitary arrangements for workers etc. and Contract Labour (Regulation and Abolition) Act, 1970 and the Contract (Regulation and Abolition) Central Rules, 1971 etc. for welfare and protection of works, workers or for the safety of the public and other insurance provisions.

iii. IPA shall not be liable for the failure of the contractor in confirming to the provision of the Acts, Rules and regulations etc., referred to in the above para and in case of any contravention of the provisions of the Acts, Rules regulations etc. the contractor shall keep IPA indemnified against any loss, cost and damage in the event of any action being taken for contravention.

iv. If any enhancement in the rates of wages becomes payable as a result of the implementation of the Chief Labour Commissioner's interpretation of the Contract Labour (Regulation and Abolition) Central Rules, 1971 upto and including an increase of 10% of the wages shall be borne by the Tenderer and enhancement in excess of 10% would be borne by the Port Authority.

**H. ESI Act**

The contractor shall comply with the ESI Act and furnish all necessary documents in this regard. IPA shall be kept indemnified against all injuries which may happen to the any personnel.

**I. Employees P.F. & Miscellaneous Provision Act 1952:**

The contractor shall comply with all the requirements of the employees P.F. and misc. provision act and keep IPA indemnified.

**J. Insurance**:

The contractor is advised to take necessary insurance at his cost for his employees, materials and machineries etc.

**K. First aid facilities**

The contractor shall provide and maintain upon the work sufficient proper and efficient lifesaving appliances and first aid equipment to the approval of the IPA and in accordance with the requirements of International Labour Organization (I.L.O). Convention No.62. The appliances and equipment shall be available for use at all times. For work carried out within the dock area or in

the vicinity of any wharf or quay, the contractor shall abide by all the provisions of Dock workers (Safety, Health and Welfare) Scheme,1961. The contractor's particular attention is drawn to Clause 43 of the above said Regulation in respect of erection and maintenance of staging. Contractor shall indemnify the Port from the cases booked by the Labour Enforcement Officer (L.E.O) for his negligence.

**L. Safety and security measures**

i. The method of work for successful completion of work shall be at the sole responsibility of the contractor. The contractor shall take all preventive and precautionary measures to ensure complete safety of all site personnel, inhabitants of the buildings including any third party, together with all buildings on or around the site. Temporary and permanent including adjacent building and buildings completed or partly completed by any third party, till satisfactory completion of work in respect to each existing building.

ii. The contractor shall comply with all applicable laws, Regulations and Standards. The contractor shall be responsible for the coordination of all safety matters and shall promptly comply with any specific safety instructions given by the Employer's Engineer or by the respective authorities.

iii. When any work is performed at night or where day light is shut off or obscured, the contractor shall, at his cost provide appropriate lighting facilities to continue execution and permit inspection. During such periods the access to the place of work shall also be clearly illuminated. All wiring for electric lights and power shall be installed and maintained, securely fastened in a place at the points and shall be kept away as far as possible from telephone and signal wires. All wiring shall be subject to approval by the Employer's Engineer.

iv. The successful bidder shall adequately safeguard the site, products, materials, plant and the works from the damage and theft. The contractor shall provide his and his subcontractor's staff and work people with permits required for admittance to restricted areas. Any security procedures as demanded by local authorities / Port Authority such as passes, badges interruptions to work etc., shall be strictly adhered to. The cost for security measures under this Clause shall be borne by the contractor.

**M. SAFETY PRECAUTIONS:**

a) Proper Personnel Protective Equipment such as Fire resistance Aprons, Welding Shields, safety Goggles, Helmets and safety shoes, Hand Gloves shall be worn by all staffs at site.

b) All practicable safety measures have to be taken to prevent accident of fire.

c) Contractor shall comply with provisions of Dock Workers (Safety, Health and Welfare) Act and Rules & Regulation made there under, as applicable, as amended from time to time**.**

d) The successful bidder shall be solely responsible for any accident, damage or injury caused to any of his employees or the IPA/ChPA employees in the execution of the works and shall hold IPA blameless in respect thereof and also in respect of any claims made by any person in the employment of the Tenderer for any reason whatsoever.

e) The successful bidder shall be solely responsible for reporting to the IPA and Police Department immediately any serious or fatal accidents at any place within ChPA premises including premises leased by ChPA to any of his employees / workmen engaged by him.

**N. Key Features of Proposed Solution:**

The proposed solution should have the following features:

1) Live Dashboard for all subsystems. (ANPR, Container Number Recognition, QR, RFID, FR). Further, it should have notification and alerts for any non-communication.
2) It should have anti pass back.
3) It should synchronize the timing of all subsystems from the server such that all subsystems should not have different time.
4) The access systems should have provision to operate on standalone mode.
5) Any new subsystem if implemented by ChPA should be integrated with the proposed access control solution.
6) Additionally, it should be integrated with the TAB/Mobile mechanism provided by the C-DAC for opening of the barriers (Both Tripods and Boom Barriers)
7) Access application should have unified interface for C-DAC to query the device status and transaction.
8) The Access control module should be GDPR compliant and also VAPT certified by Competent agency.
9) Similarly, The FR/RFID ID card should work on standalone mode for only ChPA employees and dignitaries.
10) RAW punch details reports along with basic MIS should be provided by the proposed access control system.
11) Should have full event log and audit trail for forensic investigation.
12) The system should have fail over mechanism automatically.

**O. Conditions for first year free warranty period and comprehensive annual maintenance contract for 3 subsequent years**

**For First year free warranty period:**

a.The supply & work shall be under warranty for 12 months (one year) from the date of Go-Live.

b.Any issue observed during the warranty period, the same shall be rectified by the firm at free of cost.

c.The contractor shall ensure no damage to any ChPA properties during contract period. If any, the same shall be rectified and / or replaced at free of cost by the Tenderer.

d. If during this Twelve Months Warranty period, any major issues are noticed, which in the opinion of the Sr. Deputy Director(EDP) are due to inferior or poor quality of the product installed, the Tenderer shall be requested to carry out rectification at the Tenderer's cost to ChPA, as the Senior Deputy Director(EDP) considers necessary or in the event of the Tenderer failing to do this within a notified time the FA&CAO may arrange to correct the issue and deduct the cost thereof from the amount that may have been spent in excess of the deposit or collect the cost

thereof from the guaranteeing bank before discharging the Guarantee Bond without prejudice to the recovery of any amount that may have been spent in excess of the amount recoverable as per the guarantee bond directly from the Contractor.

**P. Conditions for Comprehensive Annual Maintenance Contract for 3 subsequent years:**

a. After completion of first one-year free warranty period, the firm shall enter into the Comprehensive Annual Maintenance Contract for 3 subsequent years.

b. It shall include the supply of all the necessary updates, patches, required for smooth functioning of the infra during the CAMC period at free of cost.

c. Preventive maintenance of the hardware infrastructures software system, including infra health checks, infra log analysis, performance tuning, and security patch updates, shall be carried out at least once every month during the maintenance/CAMC period.

d. In the event of any hardware malfunction and integration issues, the Bidder shall promptly diagnose, rectify, and restore full functionality within the defined Service Level Agreement (SLA) timelines.

e. The firm must obtain the signature & seal in their service report from the EDP division for the infra maintenance service. One copy of service report should be submitted to the EDP division every month after completing the monthly service.

f. The Chennai Port Authority (ChPA) shall not be responsible for supplying any software licenses, updates, or related components; all such requirements shall be the responsibility of the Bidder under the CAMC.

g. Any irregularities, or security incidents detected during such reviews shall be immediately reported to the Authority, along with corrective actions taken.

h. The additional infrastructure-related materials supplied by the contractor at their own cost shall be maintained by them in good working condition during the free warranty period as well as the CAMC period for 3 subsequent years. Any faults arising, irrespective of the cause, in the additional infrastructure-related materials supplied by the contractor at their own cost shall be rectified or replaced by the bidder at their own cost. All such rectification or replacement activities shall be carried out without affecting the functioning or continuity of the APACS software.

i. The ChPA reserves the right to cancel the Comprehensive Annual Maintenance Contract if the service rendered is not satisfactory, the security deposit paid by the contractor will be forfeited.

**Q. Coordination with C-DAC**

The successful bidder shall coordinate with C-DAC and extend all necessary cooperation for integration of the supplied hardware with the APACS software developed by C-DAC. The final **Go-Live of the integrated APACS system** shall be carried out after successful completion of

the end-to-end integration, testing and User Acceptance Testing (UAT) of the complete system.

**R. Conditions for Go-Live (Project Commissioning)**

**Definition of Go-Live**

**Go-Live** means the date on which the entire Gate Automation System is fully operational across all designated gates, has successfully completed Functional Testing, Integrated Testing and User Acceptance Testing (UAT), all observations have been rectified, training and documentation have been completed, and Chennai Port Authority has issued the Go-Live/Commissioning Certificate. Mere installation or supply of equipment shall not constitute Go-Live. At present the software part of (Automated Port Access and Control system (APACS ) is developed by C-DAC.

The project shall be considered to have gone "**Live"** only after successful completion of all the following conditions to the satisfaction of Chennai Port Authority:

i) Completion of Supply & Installation

All hardware, software, networking equipment, peripherals, UPS systems, boom barriers, ANPR cameras, AI cameras, Face Recognition Readers, QR Readers, UHF (FASTag) Readers, Smart Card Readers, UVSS, traffic lights, displays and all other project components shall be supplied, installed and commissioned at all designated locations.

ii) Completion of System Integration

Integration with all field devices and external/internal systems specified in the Scope of Work shall be completed successfully.

Real-time communication between all devices and the central application shall function without interruption.

iii) Device Configuration

All field devices shall be configured, calibrated and synchronized with the application software.

Lane-wise configuration and operational parameters shall be verified.

iv) Successful Functional Testing

Each equipment and software module shall successfully pass functional testing individually.

All identified defects shall be rectified before proceeding to integrated testing.

v) Successful Integrated System Testing

End-to-end testing covering all operational scenarios shall be completed successfully.

- Entry and exit transactions shall be processed seamlessly without manual intervention except where specifically permitted.

vi) **Successful User Acceptance Test (UAT)**

- User Acceptance Testing shall be conducted by Chennai Port Authority.
- All observations raised during UAT shall be rectified by the successful bidder.
- Go-Live shall be permitted only after written acceptance of the UAT by Chennai Port Authority.

vii) **Training Completion**

- Training shall be imparted to all designated Port officials, operators and system administrators.
- Training manuals, SOPs and user documentation shall be handed over.

viii) **Submission of Documentation**

The successful bidder shall submit:

- As-built drawings
- Network diagrams
- Equipment inventory
- Configuration documents
- Source code (if applicable under contract)
- Administrator manuals
- User manuals
- Test reports
- Warranty certificates
- Asset Register

ix) **Performance Demonstration**

The Complete Gate Automation System shall demonstrate stable and uninterrupted operation under actual working conditions for a continuous period specified by Chennai Port Authority (recommended: 15 consecutive days) without any critical failure.

x) **Final Acceptance**

The project shall be deemed Go-Live only after issuance of a Go-Live Certificate/Commissioning Certificate by Chennai Port Authority confirming that all contractual requirements have been fulfilled.

**S. Contractor's Responsibilities in certain cases and situations:**

a. The contractor shall not construct any structure even of a temporary nature for any other purpose on ChPA's premises except with the written permission of ChPA/IPA and any such construction so put up shall be removed by the contractor whenever the ChPA/IPA calls upon the contractor to remove.
b. g) It must be clearly understood that the rates quoted in the tender are to include everything required to be done by the contractor as per conditions of the contract and specification or by the drawings therein referred to and also all such work as is necessary for the proper

completion of the entire work, although special mention thereof may have been omitted in the specification.

c. Free Warranty Certificate for a period of first 1 year against any manufacturing defect should accompany the supply for the infrastructures associated with the project.
d. The warranty period of all base infrastructures will start after successful completion of supply, installation, commissioning and the issue of Go-Live certificate for the infrastructure in Chennai Port Authority.
e. The prices shall be firm and not subject to fluctuation at any stage till the completion of the contract.
f. For any additional items that are essential for the complete, safe, reliable, and efficient installation, integration, testing, commissioning, and operation of the system, but which have not been specifically included in the technical specifications or Bill of Quantities, the rates can be worked out through mutual agreement between IPA and the contractor. IPA shall be furnished with detailed technical specifications, make, model, quantity, catalogues, brochures, drawings, and sketches, wherever applicable, to facilitate comprehensive technical evaluation.
g. It will be entirely the Tenderer's responsibility to take required steps to adequately safeguard the personnel carrying out the work and to ensure that the work is carried out in such a manner that maximum safety to the personnel is assured.
h. All materials and components included in the contract shall conform to the relevant Indian Standard Specification wherever they exist.
i. The decision of IPA regarding the quality of any materials used on the work will be final and binding on the contractor. The contractor shall remove from the site of work any material rejected as unfit for use on the work at his own cost as soon as he is ordered to do so, failing which IPA shall remove such material from the site of work and shall deduct the cost incurred by such removal from any money due to the contractor.
j. The contractor shall co-ordinate his work with that of other contractor executing other works in the site and plan his work as to minimise inconvenience to others in the work site.
k. The watch and ward and storage of materials will be contractor's responsibility and IPA shall not be held responsible for any loss of the material.
l. The contractor shall be deemed to have satisfied himself before submitting the tender as to the correctness and sufficiency of his tender for the work and of his price stated in the schedule as to cover his entire obligation under the contract for completion of the work.

**T. Miscellaneous**

The IPA, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:

a) call the contractor physically or through VC in order to receive updates, clarification or further information related to project;

b) retain any information and/or evidence submitted to the IPA by, on behalf of and/or in relation to the project;

c) independently verify, disqualify, reject and/or accept any and all submissions or other information and/or evidence submitted by or on behalf of the contractor.

The Contractor shall be accessible through E-mail/Fax/Special Messenger/Phone from the IPA, which shall be acknowledged and responded immediately on receipt, on the same day, by the Contractor.

## Annexures and Forms

**Annexure - A**

### Qualification and Responsiveness Information
### (List of Documents to be enclosed)

The bidders shall upload necessary documents to determine their qualification and responsiveness of Technical Bid by using their user-id and password in the E-tender portal on or before the last date of submission of tender as mentioned in the RFP Notice. All documents mentioned in the check list of **Annexure – A** shall be uploaded with the proposal. If some document is not applicable for any bidder, then that document shall be strike through as **"Not Applicable"** and then uploaded with other documents. If any bidder wants to attach any supplementary document / information other than that is mentioned in **Annexure – A**, the same may be uploaded in the last after uploading all documents as per checklist. All bidders shall upload the following documents and other necessary information with their bids by scanning the relevant documents after being filled, signed with seal and serially numbered by the Bidder:

| S. No. | Documents detail | Document Reference | Uploaded Page Ref No. |
|---|---|---|---|
| **1** | Bidder's Bid cover letter | **Form -1** | |
| **2** | Particulars of the Bidder | **Form -2** | |
| **3** | Statement of Legal Capacity | **Form -3** | |
| **4** | Power of Attorney | **Form -4** | |
| **5** | Declaration of Authorised Representative | **Form -5** | |
| **6** | Transaction details for remittance of Earnest Money Deposit (EMD) | **Form -6** | |
| **7** | Declaration & Undertaking by the Bidder claiming exemption from EMD payment based on any Central/State Government certification | **Form -6A** | |
| **8** | Financial Capability of the Bidder | **Form -7** | |
| **9** | Past Experience of the Bidder | **Form -8** | |
| **10** | Experience / Completion / Performance Certificate | **Form -8A** | |
| **11** | Details of TDS certificate | **Form -8B** | |
| **12** | Declaration by the Bidder | **Form -9** | |
| **13** | Tender Acceptance and Declaration on Litigation & Blacklisting | **Form -10** | |
| **14** | Bank Mandate Form | **Form -11** | |
| **15** | Pre-Bid Query Form | **Form-12** | |
| **16** | Technical and software Specifications check list | **Form -13** | |

| | | | |
|---|---|---|---|
| | **Statutory and Supporting Documents** | | |
| **17** | Certificate of Incorporation / Registration | | |
| **18** | Valid GST Registration Certificate | | |
| **19** | Valid PAN Card | | |
| **20** | Audited Profit & Loss Statements for FY 2022–23, 2023–24, 2024-25 | | |
| **21** | Work Orders / Completion Certificates | | |
| **22** | TDS Certificates (for private sector experience) | | |
| **23** | Any other evidence documents supporting eligibility and experience | | |
| | | | |

**(Fill the page numbers where the documents have been uploaded in the table provided above)**

*The above qualification documents to be uploaded list is subject to changes as per the requirement of the concerned department

Place: …….

Date: ……..

Signature and seal of the Authorized Representative of Bidder

**Form - 1**

**Bidder's Bid Cover Letter**

(To be provided on the bidder's company letter head with signature and seal)

(Date and Reference)

1. Registered Business Name :
2. Registered Business Address :
3. Name of the Contract person to whom all references shall be made regarding this tender:
4. Description and address of the person to whom all references shall be made regarding this tender:
5. Telephone :
6. Mobile :
7. E-Mail :

To,
The Managing Director
Indian Ports Association
1st Floor, South Tower
NBCC Place, Bisham Pitamah Marg
Lodhi Road, New Delhi 110003

Dear Sir,

With reference to your RFP Document dated……..., after having examined all relevant documents and understood their contents, I/We hereby submit our Proposal for the subject assignment

Further That,

1. I/We acknowledge that the IPA will be relying on the information provided in the Proposal and the documents accompanying the Proposal for selection of the Agency, and we certify that all information provided in the Proposal and in the Appendices is true and correct, nothing has been omitted which renders such information misleading; and all documents accompanying such Proposal are true copies of their respective originals.
2. This statement is made for the express purpose of selection as the Agency for the aforesaid Project.
3. I/We shall make available to the IPA any additional information it may deem necessary or require for supplementing or authenticating the Proposal.
4. I/We acknowledge the right of the IPA to reject our application without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.
5. I/We hereby give our consent to the IPA or its authorized Representatives to conduct any investigations to verify the statements, documents and information submitted and to clarify the financial and technical aspects of this application. For this, we hereby authorize (any Public Official, Engineer, Bank, Depository, Manufacturer, Distributor, etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by the IPA to verify statements and information provided in this application or regarding our competence and standing.
6. I/We certify that in the last three years, we or any of our Associates have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial Board or a judicial pronouncement or arbitration award against the Applicant, nor been

expelled from any project or contract by any public Board nor have had any contract terminated by any public Board for breach on our part.

7. I/We declare that:

a. I/We have examined and have no reservations to the RFP Documents, including any Addendum issued by the IPA;

b. I/We do not have any conflict of interest in accordance with the provisions mentioned in the RFP Document;

c. I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the RFP document, in respect of any tender or request for proposal issued by or any agreement entered into with the IPA or any other public sector enterprise or any government, Central or State; and

d. I/We hereby certify that we have taken steps to ensure that in conformity with the provisions of the RFP, no person acting for us or on our behalf will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

8. I/ We understand that you may cancel the Selection Process at any time and that you are neither bound to accept any Proposal that you may receive nor to select the agency, without incurring any liability to the Applicants in accordance with provisions of the RFP document.

9. I/ We declare that we are not a Sub-Agency in any other Proposal applying for Selection as a Agency under this RFP.

10. I/ We certify that in regard to matters other than security and integrity of the country, we or any of our Associates have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory Board which would cast a doubt on our ability to undertake the Publication Services for the Project or which relates to a grave offence that outrages the moral sense of the community.

11. I/ We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our Associates.

12. I/ We further certify that no investigation by a regulatory Board is pending either against us or against our Associates or against our CEO or any of our Directors/ Managers / employees.

13. I/ We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by IPA [and/ or the Government of India] in connection with the selection of agency or in connection with the Selection Process itself in respect of the above mentioned Project.

14. I/ We agree and understand that the proposal is subject to the provisions of the RFP document. In no case, shall I/we have any claim or right of whatsoever nature if the Publication Services for the Project is not awarded to me/us or our proposal is not opened or rejected.

15. I/ We agree to keep this offer valid for 120 (one-hundred twenty) days from the Proposal Due Date specified in the RFP.

16. A Power of Attorney in favour of the authorised signatory to sign and submit this Proposal and documents is attached herewith in **Form - 4**.

17. In the event of my/our firm being selected as the Agency, I/ we agree to enter into an Agreement with IPA. We agree not to seek any changes in the form and agree to abide by the same.

18. In the event of my/ our firm being selected as the agency, I/ we agree and undertake to provide the services of the Team Leader in accordance with the provisions of the RFP and that the Team Leader shall be responsible for providing the agreed services himself and not through any other person or Associate.
19. I/ We have studied RFP and all other documents carefully. We understand that except to the extent as expressly set forth in the Agreement, we shall have no claim, right or title arising out of any documents or information provided to us by IPA or in respect of any matter arising out of or concerning or relating to the Selection Process including the award of Publication Services.
20. The Financial Proposal is being submitted in the CPP Portal. This Technical Proposal read with the Financial Proposal shall constitute the Application which shall be binding on us.
21. I/ We agree and undertake to abide by all the terms and conditions of the RFP Document.

In witness thereof, I/ we submit this Proposal under and in accordance with the terms of the RFP Document.

Yours faithfully,

(Signature, name and designation of the authorized signatory)
(Name and seal/ stamp of the Applicant)

**Form-2**

**Particulars of the Bidder**

(To be provided on the bidder's company letter head with signature and seal)

| S.No. | Particulars | Details |
|---|---|---|
| i. | Name of Firm: | |
| ii. | Country of incorporation: | |
| iii. | Registered address: | |
| iv. | Year of Incorporation: | |
| v. | Year of commencement of business: | |
| vi. | Principal place of business: | |
| vii. | Name, designation, address and phone numbers of authorized signatory of the Applicant: | |
| viii. | Name: | |
| ix. | Designation: | |
| x. | Company: | |
| xi. | Address: | |
| xii. | Phone No.: | |
| xiii. | Fax No.: | |
| xiv. | E-mail address: | |

(Signature, name and designation of the authorized signatory)
For and on behalf of
…….....

**Form-3**

**Statement of Legal Capacity**

(To be provided on the bidder's company letter head with signature and seal)

(Date and Reference)

To,
The Managing Director
Indian Ports Association
1st Floor, South Tower
NBCC Place, Bisham Pitamah Marg
Lodhi Road
New Delhi 110003

Dear Sir,

I/ We hereby confirm that we, the Applicant, satisfy the terms and conditions laid down in the RFP document.

I/ We have agreed that (insert individual's name) will act as our authorized Representative and has been duly authorized to submit our Proposal. Further, the authorized signatory is vested with requisite powers to furnish such proposal and all other documents, information or communication and authenticate the same.

Yours faithfully,

(Signature, name and designation of the authorized signatory)
For and on behalf of .....

**Form - 4**

**Power of Attorney**

Know all men by these presents, We, (name of Firm and address of the registered office) do hereby constitute, nominate, appoint and authorize Mr/Ms..... son/daughter/wife and presently residing at……., who is presently employed with/ retained by us and holding the position of ..... as our true and lawful attorney (hereinafter referred to as the "Authorised Representative") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Proposal for and selection, as the Agency, to work as agency Indian Ports Association, New Delhi, "Supply, Installation, Integration, Testing and Commissioning of Hardware Infrastructure for Automated Port Access Control System (APACS) in Chennai Port Authority **or at any such other Port Authority as may be required** " including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre-bid and other conferences and providing information/ responses to IPA, representing us in all matters before IPA, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with IPA in all matters in connection with or relating to or arising out of our Proposal for the said Project and/or upon award thereof to us till the entering into of the Agreement with IPA.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, ..... THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS ..... DAY OF ,2025

For .....

(Signature, name, designation and address)

Witnesses:

1

2

Notarized Accepted

.....

(Signature, name, designation and address of the Attorney)

Note:

I. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal/ stamp affixed in accordance with the required procedure.

II. For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Applicants from countries that have signed the Hague Legislation Convention, 1961 are not required to be legalized by the Indian Embassy if it carries a conforming Apostille certificate.

**Form – 5**

**Declaration of Authorised Representative**

(To be provided in Rs.100 /- non-judicial stamp paper)

(Separate Forms to be submitted for each Signatory with details of Proprietor or Partner or Managing Director)

I/We..... (Name) being the (Proprietor/Partners/Karta/Managing Directors and whole time Director/Members of Managing Committee of Associations/Board of Trustees etc.) of ..... (Name of the Bidder), hereby solemnly affirm and declare that the (Authorized Signatory) is hereby authorized, vide resolution No. (Resolution Number) dated. (Resolution Date) (copy submitted herewith), to act as an authorized signatory for the business (Name of the Bidder) for which submission of bid is being filed under the tender. All his actions in relation to this tender will be binding on me/us.

Signature of the person competent to sign
Name:.....
Description:.....
Name of the Business Entity:.....

**Acceptance as an Authorized Signatory**

I (Authorized Signatory) hereby solemnly accord my acceptance to act as authorized signatory for the above referred business and all my acts shall be binding on the business.

Signature of Authorized Signatory
Name:.....
Description: .....
Place: .....
Date: .....

**Note:**

1. For the purpose of this tender and the Agreement, the tender, forms, Agreement and other documents shall be signed only by the persons, who are themselves in a position to undertake the work and possessing all other resources required for the purpose. The tender shall contain the name, residence and place of business of the person or persons submitting the tender and shall be signed by the Bidder with his usual Authorized representatives followed by the name and Description of the person signing the document along with a copy of the partnership deed. A copy of the constitution of the firm with the names and addresses of all the partners shall be furnished.
2. Tender by a corporation shall be signed in the name of the corporation by a duly authorized representative, and a power of attorney in that behalf shall accompany the tender. In the case of company, a copy of the Memorandum and Articles of Association shall be furnished.
3. Tenders may be submitted by agents on behalf of their principals, but in such cases the Board reserves the right to enter into contract with the principals, Director, with the principals and agents jointly as deemed appropriate.

**Form - 6**

**Transaction details for remittance of Earnest Money Deposit (EMD)**

The bidder shall provide the details of remittance of Earnest Money Deposit (EMD) as per the bid document as follows:

| S. No. | Unique Transaction Reference (UTR) No. | Date of transfer | Amount (in INR) | Uploaded page No. reference |
|---|---|---|---|---|
| 1 | | | | |

(Signature, name and designation of the authorized signatory)
For and on behalf of .....

**Form – 6A**

**Declaration & Undertaking by the Bidder who is claiming exemption from payment of EMD based on any Central/State Government certification**

(To be provided on the bidder's company letter head with signature and seal)

Date: ……

| S.No. | Particulars | Details |
|---|---|---|
| 1 | Is your organization Proprietary / Partnership / Private Limited Company / Public Limited Company / Others | …… |
| 2 | Does your organization belong to Micro / Small / Medium scale Industry / Start-ups/ others (Please tick mark appropriate box. If bidder is Start-up & MSE, then please tick mark both) | ○ Micro<br>○ Small Scale<br>○ Medium<br>○ Startup Company<br>○ Others |
| 3 | Attach the copy of the certificate | O |

**Note:**

The above details are furnished only for the purpose of claiming exemption from Earnest Money Deposit and no exemption shall be given for payment of Cost of Tender Document and the application will not be considered for evaluation in case the cost of tender document is not paid.

**Declaration:**

We declare that the above details are true. In case any of the details are found to be false/untrue, our offer will be liable for rejection /cancellation of order/ subjected to appropriate actions as per tender Terms & Conditions.

(Signature, name and designation of the authorized signatory)
For and on behalf of .....
(With Company Seal & Signature)

**Form - 7**

## Financial Capability of the Bidder

The details of Summary of Annual Turnover of the Bidder on the basis of the Audited Balance Sheet/Chartered Accountant's Certificate with UDI No. for the last four financial years shall be given as under

| S.No. | Financial year | Total Turnover (in INR) | Uploaded page no. reference |
|---|---|---|---|
| 01 | Year 2023-24 | Rs..... | |
| 02 | Year 2024-25 | Rs..... | |
| 03 | Year 2025-26 | Rs…… | |
| 04 | Year 2026-27 | | |

Note: The Profit & Loss statement and Balance sheet to be uploaded shall be duly certified by the Chartered Accountant.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

For and on behalf of .....
Place: ……. Name
…….

Date: …….. Designation
……..

Business Address:
……

Seal ……

**Form - 8**

## Past Experience of the Bidder

The Bidder's experience in similar work carried out each in any Central / State Government / Autonomous bodies / PSEs/PSUs / Nationalized Banks / Public Limited or Private Limited Companies, etc., for evaluating the Eligibility Criteria for pre-qualification to be provided using the format as below in compliance with the Bid document as on (date):

**Details of Similar Past Experience**

| S. No. | Name of work | Value of work executed (in Rs.) | Work order reference No. | Contract period | | Date of completion certificate | Name and address of the Client | Uploaded page no. reference |
|---|---|---|---|---|---|---|---|---|
| | | | | Commencement | Completion | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |

**Note:**

1. The copies of the documents containing above information like work order and completion certificate in the format attached Form IV (A) have to be uploaded duly self-attested.
2. In case of experience other than Central / State Government / Autonomous bodies / PSEs/PSUs/ Nationalized Banks / Public Limited Companies, the bidder has to submit TDS certificate for the past experience to be uploaded, as provided in form IV (B), only then the experience will be considered.

Yours faithfully,

(Signature, name and designation of the authorized signatory)
For and on behalf of .....
Place: ……. Name
…….
Date: …….. Designation
……..

Business Address:
……
Seal ……

**Form – 8A**

**Experience / Completion / Performance Certificate**

***(To be issued in the Company's official letter head)***

This is to certify that M/s ---------- awarded the contract ---------- and executed in this organization as per the details furnished below:

1. Name of the work :
2. Work order number/ agreement number and date :
3. Date of commencement of execution of Contract :
4. Date of completion of Contract :
5. Date of extension, if any :
6. Value of the Work :
7. Scope of Work:
8. Executed value :
9. Period of contract :
10. Performance of the Contractor : Satisfactory/ Not Satisfactory
11. Whether any penalty is imposed:
12. Actual payment made:

(Signature)

Place: …….. Name …….

Date: …….. Designation ……..

Organization with Address...……

…… Seal

…….

**Note:**

(i) Furnishing the information in the format is preferable.

(ii) However certificate(s) submitted in any other format should contain all the required information as in the Form.

**Form – 8B**

**Details of TDS Certificate**

In case of experience in organization other than Central / State Government / Autonomous bodies / PSEs/PSUs/ Nationalized Banks / Public Limited Companies, the bidder has to provide the details of the TDS certificate in the form provided below and shall submit TDS certificate for the past experience to be uploaded, only then the experience will be considered.

| S.No. | Name of work | Value of work executed (In Rs.) | Work order reference No. | TDS Certificate | | Name and address of the Client | Uploaded page no. reference |
|---|---|---|---|---|---|---|---|
| | | | | No. | Amount | | |
| 1 | | | | | | | |

Yours faithfully,

(Signature, name and designation of the authorized signatory)
For and on behalf of .....
Place: ……. Name
…….
Date: …….. Designation
……..

Business Address:
……
Seal ……

**Form – 9**

**Declaration by the Bidder**

(To be provided in Rs.100 /- non-judicial stamp paper)

To

The Head of the Organization.

I/We M/s. represented by its Proprietor / Managing Partner /Managing Director having its Registered Office at and do declare that I/We have carefully read all the conditions of tender with NIT No……, dated……., and accepts all conditions of the tender including amendments/corrigendum subsequently issued by the tender inviting authority, if any. Further I/we confirm our eligibility for this tender and quoted as per the tender condition and Governing laws of India, in case of typographical error found in submitted documents/affidavits/declarations, in this case we accept all the Terms and conditions of bid documents and hereby confirm as under.

1. I/We have not made any counter conditions stipulation and conditions and I/We agree that in the event of any such counter conditions my/our tender will be summarily rejected and such offer will not be evaluated and considered at all by you.
2. I/We do hereby declare that we have not been blacklisted/ debarred by any Central / State Government / Autonomous bodies / PSEs/PSUs / Nationalized Banks / Public Limited or Private Limited Companies, etc., from taking part in the tendering process.
3. I/We do hereby declare that we have not been imposed any penalty by an arbitral or judicial authority through a judicial pronouncement or arbitration award.
4. I/We have not made any payment or illegal gratification to any person/authority connected with the tendering process so as to influence the tendering process and have not committed any offence under the Prevention of Corruption Act in connection with the tender.
5. I/We hereby declare that, all information furnished by me/us with this tender is true to best of my/our knowledge, belief and in case, if it is found that, the information furnished is not true or partially true or incorrect, I/We agree that my/our tender shall be summarily rejected without prejudice to the right of the board of Trustees of Indian Ports Association to take further action in to the matter.

**Witness's Signature**
Name:
Address:
Address:
Tel. /Mobile No:
Tel./Mobile No:
Date:
Date:

**Bidder's Signature**
Name:

**Form - 10**

**Tender Acceptance and Declaration on Litigation & Blacklisting**
**(To be provided on the bidder's company letter head with signature and seal)**

To
The Managing Director
Indian Ports Association
1st Floor, South Tower
NBCC Place, Bisham Pitamah Marg
Lodhi Road
New Delhi 110003

Sub:

Sir,

WE DECLARE THAT:

1. I/We have not been involved in any litigation as on the date of submission of the bid that may have an impact of affecting or compromising the delivery of service as required under this tender.

2. Information regarding any litigation and arbitration against the IPA as on the date of submission of the bid, the parties concerned and disputed amount is as given below:

i) _____
ii) _____

3. I/We am / are not blacklisted or debarred as on the date of submission of bid from providing service by any Central / State Government / Autonomous bodies / PSEs / PSUs /Nationalized Banks / Public Limited or Private Limited Companies, etc., in India.

4. I/We have downloaded / obtained the tender document(s) for the above mentioned Tender / work from the website(s) namely: as per your advertisement, given in the above mentioned website(s).

5. I/We hereby certify that I/we have read the entire terms and conditions of the tender documents from Page No. to (including all documents like annexure(s), schedule(s), etc.,), which form part of the contract agreement and I/we shall abide hereby and agree the terms / conditions / clauses contained therein.

6. The corrigendum(s) issued from time to time by Indian Ports Association for the above subject work has also been taken into consideration, while submitting this acceptance letter.

7. I / We hereby certify that there is no deviation from the Tender conditions either technical or commercial or tender enquiry.

8. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

9. I / We certify that all information furnished by me / us is true & correct and in the event that the information is found to be incorrect / untrue or found violated, then Indian Ports Association shall without giving any notice or reason therefore, summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full earnest money deposit absolutely.

Yours faithfully,

(Signature of the Bidder, with Official seal)

Witness with signature

1) Name & Address 2) Name & Address

**Form – 11**

**Bank Mandate Form**

(Bank account details of the bidder)

1. Name of the company:
2. Status:
3. Bank Name, Address & Branch:
4. IFSC Code:
5. MICR Code:
6. Account No.:
7. Branch Code:
8. Name of the Authorized Person:
9. Signature of the Authorized person as per Bank:
10. E-Mail ID of Authorized Person:
11. Contact No. Landline/Mobile:

Copy of cancelled cheque may be enclosed if Bank signature not obtained.

Name & Seal of the Bank with Date

-

**Form - 12**

**Prebid Query Form (in word format)**

| S.No. | Page No/ Clause No. | Clause | Query |
|---|---|---|---|
| 1 | | | |

(Signature, name and designation of the authorized signatory)

For and on behalf of .....

**Form 13**

**TECHNICAL & SOFTWARE SPECIFICATIONS OF INFRASTRUCTURE:**

**a) ANPR & CONTAINER NUMBER RECOGNITION: QTY. 30 Nos.**

**b) Technical Specifications: ANPR**

| | **Parameters** | **Minimum Specifications** | **Make/brand if applicable** | **Compliance (Yes/No)** | **Remarks** |
|---|---|---|---|---|---|
| 1 | Vehicle Detection by color and logo / Color and number plate | • The system shall detect the color of all vehicles in the camera view during daytime and label them as per the predefined list of configured system colors. The system shall store the color information of each vehicle along with the license plate information for each transaction in the database.<br>• The system shall have options to search historical records for post event analysis by the vehicle color or the vehicle color with license plate and date time combinations<br>• The system shall detect make of vehicle by logo detection.<br>• The system shall classify the vehicles in minimum 4 (four) categories (2-wheeler, 3-Wheeler/Auto, LMV, HMV at any given point in time.) (these are non-working analytics and will not work in night, dawn and dusk) | | | |
| 2 | Alert Generation | • The system should have option to input certain license plates according to the hot listed categories like “Wanted”, “Suspicious”, “Stolen”, etc., by authorized personnel.<br>• The system should be able to generate automatic alarms to alert the control room personnel for | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | further action, in the event of detection of any vehicle falling in the hot listed categories | | | |
| 3 | Vehicle Status Alarm Module | • On successful recognition of the number plate, system should be able generate automatic alarm to alert the control room for vehicles which have been marked as "Wanted", "Suspicious", "Stolen", "Expired". (System should have provision/expansion option to add more categories for future need). The Instantaneous and automatic generation of alarms. In case of identity of vehicle in any category which is define by user. | | | |
| | | The system should be able to work day & night. The system should be able to read and process number plates of vehicles on high speed more than 200 km/hr. External IR illuminator shall be used for accurate detection of number plates in night condition. | | | |
| 4 | VehicleLog Module | • The system shall enable easy and quick retrieval of snapshots, video and other data for post incident analysis and investigations.<br>• The system should be able to generate suitable MIS reports that will provide meaningful data to concerned authorities and facilitate optimum utilization of resources. These reports shall include.<br>• Report of vehicle flow at each of the installed locations for Last Day, Last Week and Last Month.<br>• Report of vehicles in the detected categories at each of the | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | installed locations for Last Day, Last Week and Last Month.<br><br>• Report of Vehicle Status change in different Vehicle Categories.<br><br>• The system shall have Search option to tune the reports based on license plate number, date and time, site location as per the need of the authorities.<br><br>• The system shall have option to save custom reports for subsequent use.<br><br>• The system shall have option to export report being viewed to common format for use outside of the ANPRS or exporting into other systems• The system should provide advanced and smart searching facility of License plates from the database. There should be an option of searching number plates almost matching with the specific number entered (up to 1 and 2-character distance) | | | |
| 5 | Vehicle Category Editor | • The system should have option to input certain license plates according to category like "Wanted", "Suspicious", "Stolen", “Expired" etc.by Authorized personnel.• The system should have an option to add new category by authorized personnel.• The system should have option to update vehicle status in specific category by authorized personnel .e.g. on retrieval of stolen vehicle, system entry should be changed from "Stolen" to "Retrieved".• System should have option to specify maximum time to retain vehicle records in specific categories. | | | |

| | | | | | |
|---|---|---|---|---|---|
| 6 | General Specification | The system should be capable of generating video and minimum 5 or more snapshots in any of the standard industry formats MJPEG, .JPG, AVI, .mp4, .mov etc.) with atleast 10 frames per second. | | | |
| 7 | | The system should be able to perform ANPR on all the vehicles passing the site and send alert on detection of any hot listed vehicle. The system should have ANPR/ OCR to address the alpha numeric character of irregular font sizes | | | |
| 8 | | In case of network issue all the ANPR transaction should be store on industrial grade local processing unit. Local processing unit should be protected from electronics failure at outdoor locations due to vibrations & shocks produced due to movement of heavy vehicles. MIL-STD-810G standard test report/certificate should be submitted for LPU along with the bid. | | | |
| 9 | Central Management Module | The Central Management Module shall run on the ANPR Central Server in control booth. `It should be possible to view records and edit hotlists from the Central Server | | | |
| 10 | Traffic Analytics | (a)The system shall detect the color (RGB combination) of all vehicles in the camera view during daytime and label them as per the predefined list of configured system colors. The system shall store the color information of each vehicle along with the license | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | plate information for each transaction in the database.<br><br>(b). The system shall have options to search historical records for post event analysis by the vehicle color or the vehicle color with license plate and date time combinations and vehicle make.<br><br>(c). The system shall classify the vehicles in minimum 4 (four) categories (2-wheeler, 3-Wheeler/Auto, LMV, HMV at any given point in time.) | | | |
| 11 | (LPU) Processor | Intel core i7, 12th Generation or better. It shall support GPU Intel® HD Graphics 630 min | | | |
| 12 | RAM | DDR5 4800MHz SODIMM, up to 32 GB | | | |
| 13 | Storage | SSD for 15 days violations data | | | |
| 14 | Communication Ports | It should have 2 x 1G LAN ports, 16 Bit DIO, SATA, 4 COM, 6-48V DC Wide Voltage Input | | | |
| 15 | Display Ports | Display Port- 1 nos. VGA, 1 nos. HDMI, 1 nos. DP | | | |
| 16 | USB | 4 x USB 3.0 or higher | | | |
| 17 | Network | 2 x Network Adapter (NIC). 100 / 1000 base T | | | |
| 18 | OS | Operating System: Linux/windows | | | |
| 19 | Temperature | Operating temperature -20°C ~ 65°C | | | |
| 20 | Vibration- Proof | It shall withstand vibrations as per 5 grms / 5 ~ 500Hz /in work status (SSD)<br><br>1 grms / 5 ~ 500Hz / in work status (SSD) | | | |

| | | | | | |
|---|---|---|---|---|---|
| 21 | Shock proof | It shall withstand shock as per 50g peak acceleration (duration 11ms) (SDD)<br>20g peak acceleration (duration 11ms) (SDD) | | | |
| 22 | MAC | MAC of the LPU should be on the name of Traffic Enforcement OEM | | | |
| 23 | Environmental Protection/ certifications | CE, FCC, BIS & MIL-STD-810 G | | | |

**UHF READER :**

**TECHNICAL SPECIFICATION OF UHF READER : QTY: 15 Nos.**

| | **Parameter** | **Particulars** | **Make/brand if applicable** | **Compliance (Yes/No)** | **Remarks** |
|---|---|---|---|---|---|
| 1. | Type | UHF ISO 18000 | | | |
| 2. | Effective Read Range | 2 to 4 meters of read range | | | |
| 3. | Communication | TCP/IP or acceptable equivalent | | | |
| 4. | Memory | Not less than 50000 Card holder and 100000 Transaction | | | |
| 5. | Display | LED Display 8 mm Character height, 2 lines * 16 characters with external tower light for RED and Green indication | | | |
| 6. | Protection | IP 65 Protection | | | |
| 7. | Features | Network reader should give full distributed processing of all access control functions<br>Should provide offline transactions when not in communication with the software<br>Should have relays to control Boom barriers and traffic lights | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | With built in Stand & Hood for outdoor use | | | |
| 8 | Certifications | BIS, CE and ROHS must | | | |
| 9 | Country of origin | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**FACE READERS: Qty: 39 Nos.**

**a) Technical Specifications:**

| Category | Feature | Specification | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| Credential | Biometric | AI based Face Recognition - Should have NPU inbuilt | | | |
| | Barcode and QR code | Device should be QR code Supported | | | |
| | RF Option | Universal Multi Card Reading module (125kHz EMProx & 13.56MHz , DESFire, DESFire EV1/EV2/EV3, FeliCa) | | | |
| | RF detection distance | Minimum 30 mm | | | |
| | Mobile Credential | Frequency: 13.56MHz NFC | | | |
| | | Frequency: 2.4GHz BLE | | | |
| | | Certificates: ISO 27001 | | | |
| | | Encryption: AES-128/256 | | | |
| | | Compatible devices: iOS 7.0 above, Android 9.0 above | | | |
| General | CPU | 1.5 GHz Quad Core or better | | | |
| | Memory | 32 GB Flash + 4 GB RAM or higher | | | |
| | Algorithm | Algorithm used | | | |

| Category | Feature | Specification | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| | Benchmarking | should be NIST Listed | | | |
| | Database Encryption | AES 128 bit /256-bit method | | | |
| | Single OEM for Software and Hardware | Device Manufacturer & Algorithm manufacturer should be from the same OEM. | | | |
| | GDPR or Personal Data Protection (PDPB India) | Must be supported with ToC (Face Template on card) | | | |
| | Components not used from countries, which sharing land border with India | NDAA compliance is must | | | |
| | Product Certified UL/ETL | UL294 / ETL Listed | | | |
| | Crypto chip | Supported | | | |
| | LCD type | Minimum 5.5 inch IPS color LCD | | | |
| | LCD resolution | Minimum 720 x 1280 pixels | | | |
| | Sound | 16bit | | | |
| | Operating temperature | -20°C to 50°C | | | |
| | Storage temperature | -40°C to 70°C | | | |
| | Operating humidity | 0% to 80%, non-condensing | | | |
| | Storage humidity | 0% to 90%, non-condensing | | | |
| | Camera | 2MP 2EA | | | |
| | Dimension | Compact form-factor | | | |
| | Weight | Not more than 500 grams | | | |
| | IP rating (without external enclosure) | IP65 or higher | | | |
| | IK rating | IK06 | | | |
| | Certificates | BIS, CE, FCC, RoHS, REACH, | | | |

| Category | Feature | Specification | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| | | WEEE, UKCA, RCM | | | |
| Face | Recognition Distance | 0.6 to 1.0 m | | | |
| | Recognition Height | 1.4 to 1.9 m | | | |
| | Mask detection | Must support variety of masks (N95, 3-ply,Fabric) | | | |
| | Matching speed | Within 0.3 seconds | | | |
| | Enrollment Methods | Must support upload a photo or drag & drop | | | |
| | | Must support enrollment through an email link | | | |
| | | Must support Bulk enrollment through CSV import | | | |
| | | Must have integration with DB/ERP/HRMS for photo importing | | | |
| | Live Face Detection | Must support anti-spoofing mechanism against Selfie, Photo, 3D Mask or 3D Face Replica Model based fake-face attacks | | | |
| Storage capacity | Max. User | 50,000 | | | |
| | 1:N Matching | Face: 50,000 | | | |
| | 1:1 capacity | Face: 100,000 | | | |
| | | Card: 100,000 | | | |
| | | PIN: 100,000 | | | |
| | Text logs | 50,00,000 or higher | | | |
| | Max. Image Logs | 50,000 or higher | | | |

| Category | Feature | Specification | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| Capacity | Ethernet | Supported (10/100/1000 Mbps, automatic MDI/MDI-X). IPv6 compliant | | | |
| | RS-485 | 1ch Host / Slave (Selectable) | | | |
| | OSDP | Must support OSDP ver. 2.0 or higher | | | |
| | Wiegand | 1ch Input, 1ch Output | | | |
| | Aux Inputs | 3ch Inputs | | | |
| | Relay | 1 Relay | | | |
| | Intercom | Supported - Should able to have two way communication | | | |
| | RTSP | Supported - to connect with Any Video Management System | | | |
| | USB | USB 2.0 (Host) | | | |
| | USB expansion port | Must support for future expansion | | | |
| | Tamper Detection | Supported | | | |
| Electrical | Power | DC 12 V DC 24 V (current: 1.2 A) | | | |
| | Relay | 2 A @ 30 VDC Resistive load | | | |
| | | 1 A @ 30 VDC Inductive load | | | |
| Integration | Data transfer | Seamless integration with 2-way data transfer capability | | | |
| | Enrollment | Seamless integration with direct enrollment from Master software | | | |
| Origin | Country of Origin | Declare the country of origin. | | | |

| Category | Feature | Specification | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| | Critical Components like, Network, Wi-Fi and device | Critical components like Network card, Wi-Fi, MAC address should not be from countries share land border with India | | | |
| | Local Presence in India –OEM must have direct office and support function in India. | Direct OEM Presence | | | |
| | Land border Sharing | Make in India preferred. In case of Non-Indian origin, then OEM country. Must not share land-border with India | | | |

**AI BASED SMART CAMERA:** **QTY 63 Nos.**

**TECHNICAL SPECIFICATIONS OF SMART CAMERA**

| S.No | Description | Parameters | Make /brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| Camera | Image Sensor | 1/1.8inch progressive scan CMOS | | | |
| | Min. Illumination | Colour:0.01Lux@(F1.2,AGCON),0.0 Luxwith IR | | | |
| | Shutter Speed | 1~ 1/60,000 | | | |
| | Slow Shutter | Supported | | | |
| | Day & Night | IR Cut Filter supported | | | |
| | Digital Noise Reduction | 3D Noise Reduction | | | |
| | WDR | 120dB /HDR | | | |

| S.No | Description | Parameters | Make /brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| | Focal length | 4-11 mm Motorized Lens | | | |
| | Aperture | F1.5 | | | |
| | Focus | Auto | | | |
| | Auto-iris | P iris | | | |
| | FOV | 47.1° (tele) - 111° (wide)/26.6° (tele) - 60° (wide) | | | |
| | IR View Range of Camera | Minimum 50m | | | |
| | Wavelength | 850 nm | | | |
| | Video Compression | Upto 4 Individually Configurable Streams in H.265/H.264/MJPEG | | | |
| | H.264Type,H.265 Type | Baseline profile/Main profile/High-profile | | | |
| | | | | | |
| | Image Enhancement | BLC,HLC,3DDNR | | | |
| | Video Compression | H.264 and H.265 | | | |
| | Edge Storage | Min 1.5TB | | | |
| | Protocols | ARP, PPPoE, IPv4/v6, ICMP, IGMP, QoS, TCP, UDP, DHCP, UPnP, SNMP, SMTP, RTP, RTSP,HTTP, HTTPS, FTP, NTP, DDNS, ONVIF: S, G, T, M | | | |

| S.No | Description | Parameters | Make /brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| | Security Measures | IP address filtering, HTTP/HTTPS server certificate validation, SSL, multi-user authority, SMTP server certificate validation, SFTP server host key fingerprint, password security, CA certificate, HTTPS/IP filter/IEEE 802.1x, TLS 1.3, AES 256, user access log, TPM 2.0, FIPS 140 Level 2 | | | |
| | Operating Conditions | (-30° to 60° C) | | | |
| | | Operating Conditions Essential, Humidity:95%orless(non-condensing) | | | |

**SMART CARD WITH QR CODE READERS:** **Qty.: 39 Nos.**

**TECHNICAL SPECIFICATION:**

| | Parameter | Particulars | Make/ brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1. | Type | Contactless smart card reader conforming to ISO 14443-A Type 1,2&3 (should read both Mifare & Desfire) | | | |
| 2. | Effective Read Range | Upto 40 mm and Minimum 3.7 to 4.6 inch for QR code size 1.27Sq.mm | | | |
| 3. | QR module specification | Micro QR Code conforming to ISO 15415/416 at 25degree C, Micro QR Code conforming to ISO 15415/416 at 25degree C. Camera based QR will not be considered | | | |
| 4. | Communication | TCP/IP | | | |
| 5. | Memory | 50000 Card holder and 100000 Transaction | | | |

| | Parameter | Particulars | Make/ brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 6. | Display | • LED Display 8 mm Character height, 2 lines * 16 characters with external tower light for RED and Green indication | | | |
| 7. | Protection | • IP 65 External Protection | | | |
| 8. | Features | Network reader should give full distributed processing of all access control functions,<br>Should provide offline transactions when not in communication with the software<br>Should have relays to control Boom barriers and traffic lights<br>With built in Stand & Hood for outdoor use | | | |
| 9. | Certifications | CE, RoHS, BIS | | | |
| 10. | Make | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**DISPLAY:** **Qty.: 20 Nos.**

**TECHNICAL SPECIFICATION:**

| | Parameters | Particulars | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1 | Screen Size | 42 inch or higher | | | |
| 2 | Resolution( Pixels) | 1920 x 1080 UHD | | | |
| 3 | Category | 24/7 operation display | | | |
| 4 | Typical Brightness | 500 or higher | | | |
| 5 | Wattage of speaker | 10 W x 2 inbuilt speaker | | | |
| 6 | Type of Display Technology | LED Backlit LCD | | | |
| 7 | Operating System in case of Smart TV | Web OS | | | |

| | Parameters | Particulars | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 8 | Static contrast Ratio | 1200:1 | | | |
| 9 | Mount Type | Wall Mount only | | | |
| 10 | Number of HDMI Ports | 3 | | | |
| 11 | Number of USB Ports | 1 | | | |
| 12 | Number of Ethernet Ports | 1 | | | |
| 13 | Build in Wi-Fi | Yes | | | |
| 14 | Wi-Fi Direct | Yes | | | |
| 15 | RF Input | | | | |
| 16 | Technology | ADS or better | | | |
| 17 | Origin | Make in India preferred. In case of Non Indian origin, then OEM country. Must not share land-border with India | | | |

**TECHNICAL SPECIFICATIONS OF BOOM BARRIER:**

**(4 Nos. of 1.5 M, 10 Nos. of 3.5 M & 4 Nos. of 6.0 M) Total 18 Nos.**

| | Technical Specifications | Data | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1 | Application | Outdoor | | | |
| 2 | IP Rating & Wind Speed Rating | IP 54 & 10 Beaufort scale. TUV / BIS certificate for IP rating to be submitted. | | | |
| 3 | Housing | Barrier Housing Unit**:** All Aluminum Housing; Powder Coated | | | |
| | | Boom: Powder Coated White RAL 9010 with Red reflective strips. | | | |
| 4 | Housing Dimension | Modular | | | |
| 5 | Housing Material Of Construction | All Aluminum Housing with Base frame in SS-304 for high protection against corrosion. | | | |

| | Technical Specifications | Data | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 6 | Protection | All Housing and internal parts will be rust & corrosion free metals or alloys of high strength with suitable Epoxy coating as applicable. | | | |
| 7 | Housing Dimension (W X D X H) | 315mm X 360mm X 915mm approximately | | | |
| 8 | Boom Specifications | The Booms shall be extruded aluminum with octagonal profile (straight/articulated) 100mm. X 55mm. X 1.6 mm. shall be the structure of the profile/ Alternatively the boom may also be offered as extruded aluminum with round profile of dia 74 mm X 1.4 mm | | | |
| 9 | Intelligence | The barrier shall use a Blockable DC High Torque Drive in combination with CAN bus communication standard interfaced Controller. It shall offer LCD Display & Graphic User Interface for easy control setting. Possibility for integration via standard user interfaces. Control Panel Should be at the TOP of the housing | | | |
| 10 | Digital Inputs | Minimum 8 | | | |
| 11 | Digital Outputs | Minimum 4 | | | |
| 12 | Relay Outputs | At least 6 | | | |
| 13 | Compliance & Safety | Compliance to CE. | | | |
| | | Adherence to Safety Requirements of the | | | |
| | | EMC Directive 2004/108/EC, | | | |
| | | Low Voltage Directive 2006/95/EC and | | | |
| | | The basic requirements of the Machinery Directive 2006/42/EC | | | |
| 14 | Power Supply | 230+/- 10% VAC, 50 Hz. | | | |
| 15 | Maximum Power Consumption | 100 Watts. | | | |
| 16 | Opening & Closing Time | 1.3 seconds for Boom Length up to 3.5 Meters | | | |

| | Technical Specifications | Data | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| | | 4 seconds for Boom Length Between 3.5 to 6 Meters. TUV certificate for opening/ closing time to be submitted | | | |
| 17 | Operating Temperature | -30 Degree Celsius to + 50 Degree Celsius | | | |
| 18 | Safety | S/W for Detection of Presence of Vehicle in Loop or in the path of Infrared Safety Sensors available. Loops or Sensors to be used to prevent barriers from closing on the vehicle. | | | |
| 19 | Duty Cycle | 100%. Barriers should work 24 Hrs*7 *365 days without any resting time. | | | |
| 20 | Integration | Shall function in integration with Smart cards, proximity reader based access control systems etc., | | | |
| 21 | Performance Requirement | MCBF- 10 Mil Cycles | | | |
| | | MTBF- 50,000 Hours | | | |
| | | MTTR- 30 Minutes | | | |
| 22 | Certificates Required | TUV certificate For Opening & Closing time | | | |
| | | | | | |
| | | TUV Certification for Ingress Protection | | | |
| | | EMC Test report | | | |
| 23 | Make | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**TRIPOD BARRIER:**

**TECHNICAL SPECIFICATIONS OF TRIPOD BARRIER: Qty.: 4**

| | Item | Description | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1 | Application | Indoor | | | |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Motor | Servo Motor, Motorized | | | |
| 3 | Locking and Driving Force | Locking is achieved by Tooth Clutch , Driving by Servo Motors | | | |
| 4 | Throughput | Minimum 20 persons per minute (excluding card validation time) | | | |
| 5 | Operation | Bi-directional | | | |
| 6 | Dimension | Housing dimensions (L x W x H)- 1300x260x1035 mm | | | |
| 7 | Lane Width | 515 mm | | | |
| 9 | Power Supply | 230+/- 10% VAC, 50 Hz. | | | |
| 10 | Finish | SS-304 | | | |
| 11 | Protection | All Housing and internal parts will be rust & corrosion free metals or alloys of high strength or with suitable epoxy coating | | | |
| 12 | Power–Off/ Emergency | In the event of an emergency or power supply off, Tripod can be configured to Fail-Safe i.e. rotates freely or Fail-Lock i.e. locks in the HOME position. Either option is available in both or one direction. | | | |
| 13 | Duty Cycle | 100% | | | |
| 14 | Ingress Protection | IP 44 minimum | | | |
| 15 | Mean Cycle between Failures (MCBF) | Minimum 10 Million Cycles | | | |

| | | | | | |
|---|---|---|---|---|---|
| 16 | Construction | Housing material- Stainless Steel | | | |
| 17 | Integration | Shall function in integration with proximity/smart card reader based access control systems/ Bio-metric systems etc. | | | |
| 18 | Fail Safe / Free moving during Fire | Fail safe / free moving of equipment & deactivation of access control in case of emergency/fire conditions is must required | | | |
| 19 | Certified | CE | | | |
| 20 | Make | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**POWER BACKUP UPS (5 KVA & 10 KVA)**

**TECHNICAL SPECIFICATIONS OF POWER BACKUP UPS (8 Nos. of 5 KVA & 1 Nos. of 10 KVA): TOTAL 9 Nos.**

| | **DESCRIPTION** | **Specification** | **Make/ brand if applicable** | **Compliance (Yes/No)** | **Remarks** |
|---|---|---|---|---|---|
| 1 | Capacity | 5kVA/ 10kVA | | | |
| 2 | Design | True online double conversion design | | | |
| | **Input Characteristics.** | | | | |
| 3 | Nominal Input Voltage | 230Vrms | | | |
| 4 | Nominal Input Frequency | 50Hz. | | | |
| 5 | Input Power Factor | 0.99 | | | |
| 6 | Type of Rectifier | IGBT Based PWM Rectifier | | | |
| 7 | Input Voltage Range | 110 Vac to 300 Vac with with 50% load | | | |

| | DESCRIPTION | Specification | Make/ brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 8 | Voltage Detection Tolerance ±3% Calibration | ±3% Calibration | | | |
| 9 | Input Frequency Range | 40-70Hz | | | |
| 10 | Inrush Limitation | 3.5 *IRMS_Nom | | | |
| 11 | Current Protection | With Fuse. | | | |
| | **Battery Parameters** | | | | |
| 12 | Charging Method | Constant voltage constant current (CVCC) | | | |
| 13 | Charging current Capacity | Settable 1/2/4/6 | | | |
| 14 | Type of Batteries | SMF VRLA,Li-ion,Tubular | | | |
| 15 | Number of batteries | 16 or 20 | | | |
| 16 | Maximum Battery Leakage Current | 500uA | | | |
| 17 | Charge Voltage Accuracy | ±1% | | | |
| | **Output Parameters** | | | | |
| 18 | Load power factor | 0.8 | | | |
| 19 | Nominal Output voltage | 208/220/230/240VAC Settable | | | |
| 20 | Output Frequency | Frequency Range (Batt. Mode): 50 Hz ± 0.1 Hz ; Frequency Range (Synchronized Range): 46Hz ~ 54 Hz @ 50Hz system | | | |
| 21 | Output Waveform | Pure sine wave | | | |
| 22 | Total Harmonic distortion (THD) | Less than 3% for Linear Load and Less than 6% for RCD Load | | | |
| 23 | Inverter | IGBT based PWM with Instantaneous Sine wave control | | | |
| 24 | Power Rating | 5kVA/ 10kVA | | | |
| 25 | Dynamic response | IEC62040-3 Classification 1 | | | |
| 26 | Crest factor | 3:1 | | | |
| 27 | Duty. | Continuous duty | | | |
| 28 | Overload Capacity | AC mode:105%~110%: 10min、110%~130%: 1min 、>130% : 1sec ; | | | |
| 29 | Frequency synchronization | 46 - 54Hz | | | |

| | DESCRIPTION | Specification | Make/ brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| | Band for Static. Bypass | | | | |
| 30 | Transfer (Inverter to Bypass) | 0 ms | | | |
| 31 | Retransfer ( Bypass to Inverter) | 0 ms | | | |
| 32 | Automatic Bypass | Inbuilt | | | |
| 33 | Overall efficiency (AC to AC) | 90%. | | | |
| | **Miscellaneous Function** | | | | |
| 34 | Intelligent Fans Speed Control | Yes. With forced air | | | |
| 35 | Auto Restart Function | Yes. | | | |
| | **Physical and Environmental Characteristics.** | | | | |
| 36 | Acoustic Noise Level | Less than 58dB @ 1 Meter | | | |
| 37 | Ambient Temperature | 0 - 40 Deg C | | | |
| 39 | Storage Temperature | 0°C~70°C | | | |
| 40 | Humidity | <95 % and non-condensing | | | |
| 41 | Altitude | <1000m | | | |
| 42 | Enclosure Protection Grade | IP 20 | | | |
| 43 | Cooling | Forced Air | | | |
| | **Metering (Digital display)** | | | | |
| 44 | Input voltage | Advanced LCD based Display System, able to monitor Input Voltage/Battery Voltage/Output Voltage/Output Frequency/Input Frequency/Ambient Temperature. | | | |
| 45 | Battery voltage | | | | |
| 46 | Output voltage | | | | |
| 47 | | | | | |
| 48 | Output frequency | | | | |
| 49 | Input Frequency | | | | |
| 50 | | | | | |
| 51 | Fault indicated on Digital Display Alarms | LED indication display | | | |
| 52 | input fail | Inbuilt and accessible on LCD Display. | | | |
| 53 | Battery Low | | | | |
| 54 | Transfer to bypass and system fault | | | | |

| | DESCRIPTION | Specification | Make/ brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 55 | LED Indications | | | | |
| 56 | Protection | Overload/Short Cut/Battery Deep Discharge/Low Battery/Reverse Battery/Inverter Current Limitation/Over Temperature/Output Overvoltage. | | | |
| 57 | Communication | Smart RS 232 & USB. Communication slot available for optional SNMP/ Modbus & relay card. | | | |
| | **Standards** | | | | |
| 58 | Low voltage directive | EN IEC 62040-1:2019 | | | |
| 59 | EMC Directives | EN IEC 62040-2:2018 | | | |
| | | EN IEC 61000-3-2:2019/A1:2021 | | | |
| | | | | | |
| 60 | Protection | IP-20 | | | |
| 61 | ISO certifications | ISO 9001, ISO14001,ISO27001,ISO 45001:2018 | | | |
| 62 | BIS registration | Available | | | |
| 63 | Country of origin | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**TRAFFIC LIGHT:**

**SPECIFICATIONS OF TRAFFIC LIGHT: 17 Nos.**

| S.No | Technical Specifications | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| 1 | Lowest power consumption for all colours, maximum 8 watts for each color | | | |
| 2 | Uniform appearance light diffusing | | | |
| 3 | Should be EN 12368 compliant | | | |
| 4 | All units operate at voltage of - 12 / 24 volts DC or 40V AC/ 230 V AC | | | |
| 5 | Pedestrian traffic lights should be provided with clearly audible signals for the benefit of pedestrians with visual impairments | | | |
| 6 | Size of LED Aspect 300 MM die housed in IP 65 rated UV stabilized Polycarbonate housing | | | |
| 7 | Operating Temperature Range: 0 degree Celsius to 55 degrees Celsius Turn Off/Turn on Time: 75 milliseconds max | | | |
| 8 | Minimum Luminous Intensity (measured at intensity point) (cd):<br>· Red 250<br>· Green Arrow 250 | | | |
| 9 | Dominant Wavelength (nm):<br>· Red 630<br>· Green 490 | | | |
| 10 | Make: Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**GIGABIT (8 PORT & 24 PORT) SWITCH**

**TECHNICAL SPECIFICATIONS OF GIGABIT (3 Nos. of 8 Port & 8 Nos. OF 24 PORT) SWITCH: 11 NOS.**

| S.No | Parameters | Specifications | Make/ brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1 | Standards | IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet, IEEE 802.3ab 1000BASE-T Gigabit Ethernet, IEEE 802.3z Gigabit Ethernet, IEEE 802.3x Flow Control, 802.1p priority, Energy Efficient Ethernet | | | |
| 2 | Cabling Type | Category 5e or better | | | |
| 3 | LED indicators | System/PWR, link/activity, 100M*, cable diagnostics, loop detection, gigabit, * mini-GBIC* | | | |
| 4 | Ports | 10/100/1000 Ethernet, power port for AC adapter or power cord | | | |
| 5 | Power supply | SF95D-05, SF95D-08: DC 12V, 500mA<br>SF95D-16, SG95D-08, SG95D-05: DC 12V, 1.0A<br>SF95-24, SG95-16, SG95-24: 110-240VAC, 50-60 Hz, internal, universal | | | |
| 6 | Operating temperature | 32° to 104°F (0° to 40°C) | | | |
| 7 | Operating humidity | 10% to 90%, relative, noncondensing | | | |
| 8 | Ports | 16 or 24 as per requirement | | | |
| 9 | Make | CISCO, HP, D-Link, Netgear or reputed | | | |
| 10 | Country of origin | Must not share land border with India | | | |
| 11 | Make | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**DESKTOP:**

**TECHNICAL SPECIFICATIONS OF PC: QTY.: 5 Nos.**

| S.No | Description | Particular | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1. | Processor | Core Ultra 5 or above | | | |
| 2. | Graphics | Integrated HD Graphics | | | |
| 3. | Memory | 16 GB up to 4800 MHz DDR5 Ram with 64GB expandability | | | |
| 4. | Hard Disk Drive | 1 TB 7200 RPM SSD | | | |
| 5. | Monitor | 60.47 CM (23.8 inch) LED TCO-08 Certified | | | |
| 6. | Keyboard | 104 Keys or better | | | |
| 7. | Mouse | Optical scroll mouse | | | |
| 8. | Ports | 6 USB ports (With at least 2 in front, Minimum 2 USB 3.0) 1 Serial audio port for microphone and headphone in front | | | |
| | | | | | |
| 10. | Network | 10/100/1000 on board integrated network port | | | |
| 11. | Operating System | Windows 11 Pro (64 Bit) Preloaded | | | |
| 12. | Make | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**1 KB SMART CARDS: QTY. 1000 Nos.**

**TECHNICAL SPECIFICATIONS OF 1 KB SMART CARD:**

| S.No | CONTACTLESS HIGH-SECURITY SMART CARD (1 KB ) | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| 1. | The contactless smart card shall function as an access control card, used with access readers to gain entry to controlled | | | |

| S.No | CONTACTLESS HIGH-SECURITY SMART CARD (1 KB ) | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| | areas and to hold identification information specific to the use. | | | |
| 2. | The contactless smart card shall be a passive device, with an operating frequency of 13.56 MHz, and shall meet the contactless cards (14443 Type 1, 2 &3 A) Generic command set should be based on ISO/IEC 7816-4. | | | |
| 3. | The card shall be available as a single RFID solution designed for interoperability with 13.56 MHz readers | | | |
| 4. | A presentation within the typical maximum read range of 3-4" to the access control reader shall result in an exact reading of the card. | | | |
| 5. | The card shall offer a memory size of 1K-Bytes | | | |
| 6. | It should be at least 820 GSM thick so that it can take normal wear and Tear | | | |
| 7. | Contactless smart card shall meet the following environmental specifications:<br>a. Operating temperature: -40ºF to 158ºF (-40ºC to 70ºC).<br>b. Operating humidity: 5% to 95% relative humidity non-condensing. | | | |
| 8. | All cryptographic algorithms, modes of operation, protocols and mechanisms used by the card shall be based on the standards | | | |
| 9. | The smart card shall support ISO/IEC 14443 specifications parts 1-4(with communication type A) and exposes a random UID. It can be programmed with different card data formats (with variable length) including standards-based and secure data object credentials. | | | |
| 10. | The card shall be loaded with an application that leverages existing standards for maximum interoperability and heightened protection against attacks. | | | |
| 11. | Programmable Platform: The card shall use a microprocessor to support post- | | | |

| S.No | CONTACTLESS HIGH-SECURITY SMART CARD (1 KB ) | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| | issuance update in the field and support retrieval of protected data formats. The card shall be ready to support future applications. | | | |
| 12. | All contactless communications shall be secured by a secure messaging established after mutual authentication between the card and the off-card application. Each secure session relies on diversified AES keys that are setup at the start of each session. Keys are 64 bit. | | | |
| 13. | The card shall support multiple applications as part of the available memory. Each application can be loaded with different data set and memory size. | | | |
| 14. | The card shall support adding or removing applications after the card has been issued, with full support for data integrity and consistency and confidentiality of any secrets such as authentication keys contained in the applications. The application management commands shall be based on ISO/IEC 7816-13:2007. | | | |
| 15. | The card shall include multi-application support for on-card database application with a firewalled architecture (to ensure data separation between applications). To increase return on investment, the default application can be updated to support other services without card replacement. | | | |
| 16. | The card memory shall guarantee a data retention of 10 years. Card data integrity and consistency shall be preserved at all time during the life span of the card. | | | |
| 17. | Make: Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**DESKTOP PERSONALIZATION READERS: QTY 2 Nos.**

**TECHNICAL SPECIFICATION OF DESKTOP PERSONALIZATION READER:**

| | **Parameter** | **Particulars** | **Make/brand if applicable** | **Compliance (Yes/No)** | **Remarks** |
|---|---|---|---|---|---|
| 1. | Type | Contact less smart card reader conforming to ISO 14443-A Type 1,2&3 | | | |
| 2. | Effective Read Range | 10 to 20 mm | | | |
| 3. | Communication | USB | | | |
| 4. | Polarization | Circular Polarization | | | |
| 5. | Operating Temperature | -5 to 55 degree centigrade | | | |
| 6. | Protection | Indoor use, IP 54 and above | | | |
| 7. | Features | Should be able to write CARD serial number of 12 bytes<br>Should communicate real time with the software<br>Should include sagem, morpho biometric sensor. | | | |
| 8. | Make | Make in India preferred. In case of Non Indian origin, then OEM country must not share land-border with India | | | |

**WEB CAMERA: QTY 5 Nos.**

**Technical specification of Web Camera:**

| | Description | Particular | Make /brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1. | Min. resolution | Full HD 1080p video calling (up to 1920 x 1080 pixels. | | | |
| 2. | Focus type | Fixed | | | |
| 3. | Compression | H.264 | | | |
| 4. | Zoom | Min 4X | | | |
| 5. | Field of view | 90 degrees | | | |
| 6. | Features | Autofocus, HI speed USB 2.0 output, min 1.5 meters cable length, Pan tilt and zoom camera settings, external privacy shutter, mic inbuilt | | | |

| | | | | | |
|---|---|---|---|---|---|
| 7. | Make | Make in India preferred. In case of Non Indian origin, then OEM country Must not share land-border with India | | | |

**LED DISPLAY:** **QTY: 24 Nos.**

**Specifications of LED Display:**

| | Features | Technical Specifications | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| 1 | Standard features | • Real Time Information<br>• Display systems controlled by latest micro controller-based technology<br>• Indoor & Outdoor Display Boards<br>• Available in English / Hindi or any Regional language<br>• Reliable LED display<br>• High readability<br>• User friendly software with manual/ automatic data updating<br>• Multiple displays can show the same data<br>• Synchronization with platform announcement system<br>• High quality MS powder coated casing<br>• Environment: Temperature 0ºC – 50º C<br>• Humidity 0% to 95% non-Condensing<br>• Require Power Input 220 V +/- 10 % 50 Hz<br>• Interface Communication: RS 485/ RS232 or TCP/IP | | | |
| 2 | Origin | Make In India | | | |
| 3 | Display Type | LED – 4 inch character height | | | |
| 4 | Technology | 7 Segment | | | |
| 5 | Pixel Pitch | 3mm | | | |
| 6 | Connectivity | TCP/IP | | | |
| 7 | Frequency | 50Hz minimum | | | |

| | | | | | |
|---|---|---|---|---|---|
| 8 | Read Range | Min 10 meters | | | |
| 9 | IP rating | IP 65 | | | |
| | | | | | |

**UNDER VEHICLE SCANNING SYSTEM (UVSS): 17 Nos.**

| | Features | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| 1 | The UVSS should have a feature to play any particular/specific zoom area of 3D video. | | | |
| 2 | The UVSS should have a feature to magnify (zoom) the composite image (left & right) and 3D video upto 24x in order to facilitate a closer view of any part of the composite image and 3D video. | | | |
| 3 | If found anything suspicious, the UVSS should have a feature to view 3D video from left & right image in order to minimize the threat. | | | |
| 4 | The UVSS must also provide a 3D video of the complete underside of any vehicle. | | | |
| 5 | The UVSS must have a dynamic multi-view feature and it can be dynamically controlled by the user. (the operator should be able to view the underside by hovering the mouse from left to right of the image) | | | |
| 6 | The UVSS should produce videos of suspicious objects that are hard to see via single view scanning systems, including visual access to cavities and niches, areas around suspensions, below the engine areas, side wall of fuel tanks & exhaust pipes etc. | | | |
| 7 | The UVSS should produce a fully scanned pre-processed ready to use 3D footprint model of the vehicle's undercarriage. | | | |
| 8 | The UVSS should not use either a digital Line-Scan camera based technology or any type of | | | |

| | Features | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| | analog cameras to form composite image without any distortions or Fish-eye" effect. | | | |
| 9 | The UVSS should be capable of producing a clear and undistorted images of the vehicle underside, even when a vehicle completely stops / halts over the scanning unit, i.e it must be able to produce seamless and perfect composite images of the underside irrespective of stoppage or non-uniform motion of the vehicle over the scanner. | | | |
| 10 | Each of the dual imaging cameras should be of high resolution Area-scan, GigE type with XGA resolution of (1920 x 1200) or above | | | |
| 11 | The UVSS should be capable of handling vehicles moving at different speeds ranging from Zero (0) to 25 Km/hr, while the morphed composite images so captured by it should be automatically and dynamically adjusted according to the speed of the vehicle using multiple induction loop based sensors. | | | |
| 12 | The UVSS should produce multiple angular view of high resolution 3D COLOR images of the complete under-body of any vehicle passing over it using dual Area-scan camera based technology. | | | |
| 13 | The UVSS should compare both (left & right) view with the help of license plate/type database of underside images. | | | |
| 14 | 1. The underside illumination must be adequate and obtained through a dual array of long life, LED lighting modules. Halogen or CFL based array of lighting elements for the purpose of illumination of the underside will not be accepted. | | | |
| 15 | 1. The UVSS should also provide a feature to capture the image of the driver of all RHS driven vehicles, captured through a suitable driver view camera. | | | |

| | Features | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| 16 | 1. The system should have an Automated Number Plate Reading System (ANPRS) tuned to the Indian license plates, i.e. it should be able to automatically read and record a wide range of vehicle registration number plates' alpha-numeric characters, written in English. Also, the frontal image view of the vehicle to be provided in the GUI, to facilitate manual viewing of the license plate image. | | | |
| 17 | 1. The UVSS must give output of all the data simultaneously i.e. the composite images, driver photos, vehicle's frontal image and its number display – all should be displayed on the monitor almost instantaneously after the vehicle cross the unit. Also, the system should have a facility to view the composite image, off-line also, for all vehicles. | | | |
| 18 | 1. The UVSS applications & operating software should be LINUX based only. preferably be based on open architecture on Linux platform. It must have a user friendly Graphical User Interface (GUI) with provision for multiple users logging of events and search facility. The UVSS GUI should be available in multi language. | | | |
| 19 | The UVSS application shall be VAPT (Vulnerability Assessment and Penetration Testing) certified by a CERT-In empanelled security auditing organization. The VAPT shall be conducted in accordance with the latest OWASP Top 10, CERT-In Cyber Security Guidelines, NIC Cyber Security Guidelines (as applicable), and other industry best practices. A valid VAPT/Security Audit Certificate shall be enclosed with the bid | | | |
| 20 | The UVSS should automatically detect the make & model of the vehicle with Artificial Intelligence and compare the respective model from the standard library and highlight | | | |

| | Features | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| | the differences of original make and present vehicle with Audio and Video alert. | | | |
| 21 | The UVSS should have capability to control/integrate with third party security equipment like boom barrier/bollard/tyre killer/rfid etc. | | | |
| 22 | UVSS will have operating mode like free flow mode,security mode and emergency mode.System should acts as per the respective mode. User(Admin) can defined mode based on weekly/daily time schedule and manual overwrite should be possible. | | | |
| 23 | 24. System should have Artificial image based comparison. System should pick the respective model even without number plate also. | | | |
| 24 | The UVSS system must have a facility to take back-up of all the transactions to storage media. | | | |
| 25 | The overall UVSS must be CE Certified. A certificate issued by a competent certifying agency, must be attached with the tender. | | | |
| 26 | 27. The underground cameras & lighting units of the UVSS must be enclosed in a suitable all-weather-proof housing of IP 68 equivalent or higher standard. A valid certificate in this regard, after requisite testing carried out, issued by a Govt. / NABL accredited laboratory in India, must be attached with the tender, without which the bid is liable to be rejected. | | | |
| 27 | The UVSS should be equipped with proper water draining mechanism and should be drain water automatically with 1HP or better pump , The PIT design should be provisioned for that | | | |

| | Features | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| 28 | The UVSS Should have Cleaning mechanism for cleaning the Surface of camera with Compressed Air/ Water cleaning system, it should work automatically at desired intervals. | | | |
| 29 | The overall installed unit should be properly designed, and its structure should be able to withstand a vehicle axle-load up to 20-Tons at any point over the structure, so as not to suffer any accidental physical damage to the unit and the components under the pit cover. | | | |
| 30 | The UVSS must be aesthetically designed so that it must blend seamlessly with the landscape, forming a natural look with no discomfort for the driver / passengers of the vehicle being scanned. | | | |
| 31 | The bidder should be able to show a live working demo of the system in India at any actual equipment user's premises. | | | |
| 32 | The UVSS should capture the co passenger of the vehicle additional to driver image and store it in respective database for post event analysis | | | |
| 33 | The OEM / Bidder should submitted proof of supplying and maintaining similar equipment make and model in last 5 years, Respective Proof of supply and installation should be submitted. | | | |
| 34 | The OEM must have supplied same or similar equipment for last 10 years | | | |
| 35 | The OEM / Bidder should submitted Satisfactory performance report from at-least 3 different organization supplied & maintained for minimum of five years in Ports/PSU/Central/State/Railway/MNC/Public listed companies & other reputed companies. | | | |

| | Features | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| 36 | The UVSS must be of Indian origin, with regards to its design, development, & manufacturing and the original equipment manufacturer (OEM) should preferably be an Indian, ISO-9001 certified company. The quoted OEM's UVSS brand should have at least fifty (25) or more 3D Area scan UVSS such references anywhere within India. A list of such references must be furnished. The OEM country should not share land border with India | | | |
| 37 | UVSS Camera :<br>a) Type - Gigabit Ethernet progressive camera<br>b) Sensor - CMOS XGA resolution (1920 x 1200) or better<br>c) Field of View - > 135<br>d) Format - GiGE Vision compliant specifications<br>e) Composite Image resolution of the underside - 4 MP or above<br>f) Camera certification - CE<br>g) Camera casing ingress protection rating - IP 67 or better, duly certified by NABL accredited lab<br>h) Effective Range - 4 to 5 meters for Frontal camera & 0.5 to 1 meter for Driver camera<br>i) Camera Resolution - 25fps @ 1 megapixel or higher<br>j) Power Consumption - <12W<br>k) Power Supply - 12V DC<br>l) Operating Temperature - 0°C to +50°C<br>m) Camera Software: Linux<br>n) Plate Types: English fonts<br>o) Image Input - Still image & Live video input | | | |

**Specification sheet (Non -Rugged Tablets) Qty: 15 Nos.**

| Features | Remarks | Description | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|---|
| OS | Android | Android 16 | | | |
| Processor | CPU Speed | Up to 2.5GHz (base 2GHz) | | | |
| | CPU Type | MediaTek MT8755 | | | |
| Display | Size (Main Display) | 11 inches (27.82cm) | | | |
| | Resolution (Main Display) | 1920 x 1200 pixels | | | |
| | Technology (Main Display) | LCD | | | |
| | Color Depth (Main Display) | Not specified in website | | | |
| Camera | Rear Camera – Resolution | 8 MP | | | |
| | Rear Camera - Auto Focus | Not specified in website | | | |
| | Front Camera – Resolution | 5 MP | | | |
| | Rear Camera – Flash | Not specified in website | | | |
| | Video Recording Resolution | FHD 1080p | | | |
| Storage/Memory | Memory_(GB) | 6 GB | | | |
| | Storage (GB) | 128 GB | | | |
| | Available Storage (GB) | Not specified in listing | | | |
| | External Storage Support | microSD, up to 2TB | | | |

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|---|---|---|---|---|---|
| Network/Bearer | 2G/3G/4G/5G | Wi-Fi + 5G | | | |
| Connectivity | USB Version | USB 2.0, Type-C | | | |
| | Location Technology | Not specified in website | | | |
| | Earjack | 3.5mm | | | |
| | MHL | Not specified in website | | | |
| | Wi-Fi | 802.11ac | | | |
| | Wi-Fi Direct | Not specified in website | | | |
| | Bluetooth Version | Bluetooth (version not specified in website) | | | |
| | NFC | Not listed as a feature on this listing | | | |
| | Bluetooth Profiles | Not specified in website | | | |
| | PC Sync. | Not specified in website | | | |
| General Information | Form Factor | Tablet | | | |
| Physical specification | Dimension (HxWxD, mm) | 257 x 169 x 7 mm (25.7 x 16.9 x 0.7 cm) | | | |
| | Weight (g) | 482 g | | | |
| Battery | Typical | 7040 mAh (42.21 Wh), 25W fast charging | | | |
| | Removable | No — built-in, non-removable | | | |
| Audio and Video | Speakers | Quad speakers with Dolby Atmos | | | |
| | Video/Audio Playing Format | Not specified in website | | | |

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|---|---|---|---|---|---|
| Rating | Rating | Not rated — no IP rating listed on this product page | | | |
| | Certificates | None listed (not a rugged / MIL-STD device) | | | |
| Commercial | Price (India, Amazon) | ₹24,635 | | | |
| | Model Number | SM-X236B | | | |
| | Warranty | 1 Year Manufacturer Warranty (device), 6 Months (in-box accessories) | | | |

The SIM card and the associated mobile network connection required for the above device shall be provided, activated, and maintained by the Hardware Supplier throughout the contract period without any additional cost.

**VMS associated with the solution:**

**Video Management Software**

| | **Technical Specifications** | Make/brand if applicable | Compliance (Yes/No) | Remarks |
|---|---|---|---|---|
| | **Architecture** | | | |
| 1 | The system must be an open platform. | | | |
| 2 | It should have a fully distributed architecture. | | | |
| 3 | It should include an integrated single-server application that includes all components such as video management, hybrid NVR/DVR, video analytics, video streamer, and gateway. | | | |
| 4 | The system should not have a single point of failure; it should continue to function even if all other servers go offline and only a single server is active. | | | |

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| 5 | It should have a built-in video analytics module with a seamless user interface. | | | |
| 6 | The system should use advanced algorithms to utilize multiple resolution streams supported by the cameras for automated system optimization and minimum resource utilization. | | | |
| 7 | It should be optimized for multi-core processors. | | | |
| 8 | The system should have a scalable and expandable architecture, allowing cameras, servers, and clients to be added without affecting the existing functional system. | | | |
| 9 | It should support fully backward-compatible software upgrades. | | | |
| | **Simultaneous Functioning** | | | |
| 1 | The system must provide recording capabilities. | | | |
| 2 | It should be able to handle alarms. | | | |
| 3 | The system should handle client software requests. | | | |
| 4 | It should provide live view functionality. | | | |
| 5 | The system should allow for camera control. | | | |
| 6 | It should include a map view feature. | | | |
| 7 | The system should support video analytics. | | | |
| 8 | It should provide playback functionality. | | | |
| 9 | The system should allow for configuration. | | | |
| 10 | It should include report generation capabilities. | | | |
| 11 | The system should have failover management. | | | |
| 12 | It should support redundant recording. | | | |
| | **Video Input** | | | |
| 1 | The system must be a hybrid solution supporting both analog video and IP video. | | | |
| 2 | It should be capable of capturing video from a wide range of IP video sources, including video cameras, video encoders, and video servers. | | | |

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| 3 | It should also be able to capture video from analog cameras through a variety of video capture devices, such as PCI video capture cards, USB video capture cards, and video capture cards supporting on-board video compression. | | | |
| 4 | The system should support video capture from DVRs. | | | |
| 5 | It must support video sources compliant with ONVIF specifications. | | | |
| 6 | It should support video formats including H.264, MPEG4, MJPEG, and MxPEG. | | | |
| 7 | The system should be able to handle mega-pixel cameras (up to 10 megapixels), IR/thermal cameras, fixed cameras, PTZ cameras, and 360-degree/fish-eye cameras. | | | |
| 8 | It should have built-in video capture algorithms to minimize bandwidth usage. | | | |
| 9 | The system should allow independent settings for FPS, resolution, and bit rate for display stream, recording stream, and video analytics stream. | | | |
| 10 | It should have auto search/camera discovery for IP video devices and digitized inputs from analog cameras. | | | |
| 11 | The system should allow adding multiple cameras with a single button click and editing video capture settings for multiple cameras with a single button click. | | | |
| 12 | It should allow adding linked cameras from a single video source (like video server or DVR) with a single button click. | | | |
| 13 | The system should provide recommended settings guidance for each type of video source when adding cameras. | | | |
| 14 | It should capture and record audio streams. | | | |
| 15 | Optional GPS coordinate specification should be available for every camera. | | | |

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| 16 | The system should allow user-configurable 'Channel name' for every camera. | | | |
| 17 | It should support Y-flip video to manage differences in coordinate systems. | | | |
| 18 | The system should automatically restore video connection. | | | |
| 19 | It should have a flexible architecture to quickly integrate any new cameras. | | | |
| 20 | **Multi-stream Cameras** | | | |
| a | The system must include advanced algorithms for optimized handling of multiple streams from cameras. | | | |
| b | It should offer flexible stream selection options to assist in designing the solution exactly as per the project requirements. | | | |
| c | The system should allow for the selection of two streams for live video display, with the software intelligently selecting the best stream for each display operation to minimize resource utilization. | | | |
| d | It should allow for the selection of the recording stream for every camera. | | | |
| e | The system should allow for the selection of the stream for motion detection and video analytics processing for every camera. | | | |
| f | It should allow for the selection of the stream for live video display on mobile clients | | | |
| 21 | **360 Degree Cameras** | | | |
| a | The system must provide full support for 360-degree panoramic view cameras (and 360-degree lenses). | | | |
| b | It should offer client-side (display time) de-warping of fish-eye streams for both live video and recorded video. | | | |
| c | The system should allow for complete control over de-warping parameters, such as camera mounting type, de-warping mode (fish-eye, virtual PTZ, half panorama, full panorama, etc.), | | | |

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| | and image parameters (brightness, contrast, etc.). | | | |
| d | It should provide virtual PTZ control for de-warped video streams. | | | |
| e | The system should support interactive virtual PTZ on de-warped streams using a mouse. | | | |
| f | It should allow for capturing different channels directly from a 360-degree camera, including fish-eye stream, virtual PTZ stream, half panorama, full panorama, etc., if the camera supports these channels. | | | |
| g | The system should support independent recording for one or more channels captured from a 360-degree camera, with independent recording configuration for each channel. | | | |
| h | It should provide seamless PTZ control on channels that support PTZ operations. | | | |
| i | The system should allow for independent PTZ control for each channel. | | | |
| j | It should support capturing multiple video resolution streams for each channel to work with optimization algorithms. | | | |
| k | The system should automatically link channels from a 360-degree camera. | | | |
| l | It should allow for configuring a name for each linked group of channels. | | | |
| m | The system should provide a single-click operation to switch to any of the linked channels. | | | |
| 22 | **Video Sequences** | | | |
| a | The system must support the definition of a video sequence, which includes a list of cameras and dwell time for each camera. | | | |
| b | During the display of a video sequence, the list of cameras should be iterated cyclically, with each camera being displayed for the specified dwell time. | | | |

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| c | There should be no limit on the number of video sequences that can be defined. | | | |
| d | Video sequences can be defined in the server software and should be available for all connected clients based on privilege definitions. | | | |
| d | Local video sequences should be definable in the client software. | | | |
| f | All defined video sequences should be available in the tree controls associated with various screens, and video sequences should be viewable using normal drag and drop operations. | | | |
| g | The system should have optimized processing of video sequences to use minimal resources | | | |
| 23 | **External Devices** | | | |
| a | The system must be able to manage external devices such as access control cards, motion sensors, fire alarms, fence control devices, zone controllers, etc. | | | |
| b | It should support TCP/IP MODBUS communication. | | | |
| c | The system should allow for the association of primary and secondary videos with external devices. | | | |
| d | It should provide video evidence for alerts and logs generated by external devices. | | | |
| e | The system should be able to capture alarms from connected external devices. | | | |
| f | It should offer full alarm handling configuration for alarms captured from connected external devices, similar to internal alarms generated from the software. | | | |
| g | The system should have a flexible architecture to quickly integrate any new external device. | | | |
| 24 | **Audio Devices** | | | |
| a | The system must have the ability to add independent audio devices. | | | |

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| b | Audio data captured from audio devices should be recorded independently. | | | |
| C | Recorded audio data should be able to be played back and synchronized in time with video devices and audio streams associated with video sources. | | | |
| 25 | **Device Groups** | | | |
| a | The system must allow for the definition of one or more device groups to associate related devices together. | | | |
| b | All defined device groups should be available in the tree controls associated with various screens as a single node, with all devices added to that device group as sub-nodes. | | | |
| c | There should be an 'Exclusive device selection' option to easily define device groups with no devices included in more than one group. | | | |
| d | An 'All devices' device group should be available by default and should include all devices. | | | |
| e | Device groups should be used for user privilege assignments. | | | |
| f | Device groups should be used for categorizing devices displayed in the tree controls associated with various screens. | | | |
| 26 | **Type of Alarms** | | | |
| a | The system must support detection and handling of network loss. | | | |
| b | It should also support network recovery. | | | |
| c | The system must be capable of detecting video loss. | | | |
| d | It should support video recovery. | | | |
| e | The system should provide alerts for low disk space. | | | |
| f | It should support disk space recovery. | | | |
| g | The system must provide alerts for recording failure. | | | |

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| h | It should support restoration of recording. | | | |
| i | The system should detect motion and provide alerts accordingly. | | | |
| j | It should also provide alerts for no motion. | | | |
| k | The system must support camera tampering detection. | | | |
| l | It should provide alerts for video analytics alarms. | | | |
| m | The system must be able to handle alerts generated by cameras and video servers. | | | |
| n | It should also handle alerts generated by integrated external devices such as access control systems and fence control systems. | | | |
| o | The system must support external digital alarm input. | | | |
| p | It should handle alarms from relay devices. | | | |
| q | The system should handle alarms from devices supporting the MODBUS protocol. | | | |
| 27 | **Alarms Management** | | | |
| a | The system must allow for user-configurable alarm handling for each type of alarm. | | | |
| b | It should support alarm handling rules to configure alarm handling for specific types of alarms generated from each device independently. This provides complete flexibility to configure alarm handling for each type of alarm and to customize alarm handling for alarms generated by specific devices. | | | |
| c | The system should support alarms stacking/queuing. | | | |
| d | It should have alarm categories such as Logs, Warnings, and Alerts. | | | |
| e | The system must allow for user-configurable colors for alarm categories. The alarms list should use these colors to indicate the alarm category. | | | |

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| f | It should have an advanced alarm acknowledgement screen displaying the active alarms queue, with live video and alarm videos associated with each alarm in the queue. It should provide quick access to multi-channel playback and video export associated with search results. | | | |
| g | The system should have a dedicated recent alarms screen, with support for alarm video view with navigation controls. It should also provide quick access to multi-channel playback and video export associated with search results. | | | |
| h | It must allow for user-configurable 'Alarm name' definition for specific types of alarms generated from specific devices. This allows operators to understand alarms more clearly and improves the alarm reports output. | | | |
| i | The system should offer a wide range of alarm handling options configurable for each type of alarm from individual sources. | | | |
| J | It should have a video overlay indicator for alarms. | | | |
| k | The system should provide a pop-up alarm acknowledge window. | | | |
| l | It should support manual alarm acknowledgement. | | | |
| m | The system must support time threshold-based automatic alarm acknowledgement. | | | |
| n | An alarm should be acknowledged from any computer displaying the alarm acknowledgement for that alarm, and the acknowledged alarm should be removed from the active alarms list of all computers. | | | |
| o | The system should be able to play sound/audio for alarms. | | | |
| p | It should provide indicators on the map, such as blinking icons or alarm indication on videos embedded in the map. | | | |

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| q | The system should be able to start multi-channel recording for alarms. | | | |
| r | It should have the ability to move one or more PTZ cameras to pre-defined presets for alarms. | | | |
| s | The system should be able to start pre-defined tours for one or more PTZ cameras for alarms. | | | |
| t | It should be able to send a digital output signal for alarms. | | | |
| u | The system should provide a pop-up live video screen for alarms. | | | |
| v | It should be able to send an email through a standard SMTP server or Microsoft Exchange Server for alarms. | | | |
| w | The system should be able to save an image for alarms. | | | |
| x | It should be able to execute user-defined macros for alarms. | | | |
| y | The system should be able to send to FTP for alarms. | | | |
| z | It should be able to send SMS through a 'Phone network gateway' application for alarms. | | | |
| aa | The system should be able to initiate a phone call through a 'Phone network gateway' application for alarms. | | | |
| ab | It should be able to publish as RSS feed, with options to configure the alarms to be included in the RSS feed response for alarms. | | | |
| ac | The system should be able to generate test alarms for quick tests of alarm handling configurations. | | | |
| 28 | **Recording** | | | |
| a | The system must allow for user-configurable video resolution, frame-rate, and bit-rate settings for each channel independent of other channels. | | | |

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| b | It should have the ability to configure recording settings for a video channel group with a single button click. | | | |
| c | The system should support multiple recording modes, including continuous, scheduled, alarm-based, and combined 'scheduled and alarm based'. | | | |
| d | Scheduled recording should include weekly schedule configuration with the ability to select or de-select any hour within a week for recording. | | | |
| e | Scheduled recording should also include day-specific overrides for up to 5 dates, with the original weekly schedule remaining unchanged to eliminate the risk of accidental changes and maintenance activities. | | | |
| f | The system should support pre-event and post-event recording up to 99 minutes. | | | |
| g | There should be an option for full FPS recording on alarm and low FPS recording in non-alarm conditions, with pre-alarm and post-alarm period configuration up to 99 minutes. | | | |
| h | The system should support operator-activated recording. | | | |
| i | It should support audio stream recording. | | | |
| j | The system should include video overlay text capabilities. | | | |
| k | It should provide indicators for available disk space and expected recording time. | | | |
| l | The system should include a recording history timeline. | | | |
| m | It should support watermarking on recorded video. | | | |
| n | The system should have recorded data tampering detection capabilities. | | | |
| o | Automatic storage space recycling should be included, with user configuration for finer control over the recycling process. | | | |

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| p | The system should allow for user-configurable thresholds for 'recycle start threshold', 'recycle stop threshold', and 'low disk space alarm threshold'. | | | |
| q | There should be an option to exclude data associated with alarms during recycling operations. | | | |
| r | The system should support network time server synchronization. | | | |
| s | It should allow for multiple drives selection for recording, with all selected drives used simultaneously to distribute the load, with each drive processed independently. | | | |
| t | The system should intelligently allocate video channels to recording drives to distribute the load and maximize recording duration for all cameras. | | | |
| u | There should be a manual override for recording drive selection for any camera. | | | |
| v | The system should allow for re-assigning recording drives for all cameras at any stage. | | | |
| w | It should support recording on local hard disks, USB storages, Direct-attached Storage (DAS), Network-attached storage (NAS), and Storage Area Networks (SAN). | | | |
| x | The system should support iSCSI. | | | |
| y | It should support network shared drives. | | | |
| z | The system should support RAID-configured storage devices. | | | |
| aa | It should include fail-over recording with fully automatic data synchronization. | | | |
| ab | The system should support redundant recording. | | | |
| ac | There should be an option to use recorded data from a video source (e.g., DVRs) and not record it locally to save bandwidth and storage space. | | | |
| 29 | **Video Search** | | | |

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| a | The system must provide a recorded data report for a specified camera. | | | |
| b | It should allow for the selection of any camera from a drop-down menu. | | | |
| c | The system should include a calendar displaying the recorded data availability state for each day, indicating whether full data is available, no data is available, or partial data is available. | | | |
| d | It should include a recording history timeline indicator. | | | |
| e | The system should have a 24-hour video history timeline indicating time periods for which recorded data is available. | | | |
| f | It should include a video timeline focus indicator with the option to select a focus duration interval and quick access buttons for the next interval and previous interval. | | | |
| g | The system should have a video timeline with 1-second intervals indicating recorded video availability for each second. | | | |
| h | Video playback should be synchronized with timeline indicators. | | | |
| i | There should be an option to use the original aspect ratio for video display. | | | |
| j | Users should be able to click on the recording history timeline to view associated video, with video navigation controls such as play, pause, rewind, fast forward, slow rewind, and slow forward. | | | |
| k | The timelines should indicate the currently displayed video time. | | | |
| l | The system should provide quick access to multi-channel playback and video export. | | | |
| m | It should create an automated recording history cache for fast access to recording history information. | | | |

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| n | There should be an option to manually re-create the recording history cache for a specified camera for a specified duration. | | | |
| 30 | **Playback** | | | |
| a | The system must support synchronized playback of multiple video channels, up to 64 video channels. | | | |
| b | It should support synchronized audio playback with the ability to enable/disable audio playback associated with every video channel being played back. | | | |
| c | The system should provide video navigation controls including play, pause, up to 16X fast forward, and up to 16X rewind. | | | |
| d | It should support slow-speed playback, both fast forward and rewind, up to 0.25X speed. | | | |
| e | The system should support alarm-based playback. | | | |
| f | It should include a 'go-to' specified video time feature. | | | |
| g | The system should provide frame-by-frame playback controls for previous frame and next frame. | | | |
| h | It should include a non-synchronized playback screen where each video can be played for independent video times. | | | |
| 31 | **Video View Screens** | | | |
| a | The system must have separate live video screens and playback video screens. | | | |
| b | It should include a tree view of video channels, sequences, and external devices. | | | |
| c | The system should automatically link video channels from the same video source. | | | |
| d | It should allow for a single-click operation to switch to any of the linked channels. | | | |
| e | The system should support device groups. | | | |

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| f | It should provide indicators for the state of cameras and devices, such as online/offline status. | | | |
| g | Indicators should differentiate between static cameras and PTZ cameras. | | | |
| h | The system should indicate the recording status of every channel, including recording on, recording off, and recording error. | | | |
| i | It should support drag-and-drop camera selection for viewing. | | | |
| j | Double-clicking on a tree control item should allow for viewing the video. | | | |
| k | The system should offer camera selection modes - locked and unlocked. In unlocked mode, the first empty video container is selected for displaying the video. | | | |
| l | It should support virtual matrix operations. | | | |
| m | The system should have a patrolling mode. | | | |
| n | It should provide several screen layout options, such as 1X1, 2X2, 3X3, etc. | | | |
| o | Page navigation within a layout should be possible. | | | |
| p | The system should allow for multiple video view screens, up to 14, with independent control of video screen size and position on the monitors. | | | |
| q | It should support independent layout settings for each video screen. | | | |
| r | The system should be able to view up to 144 live videos and up to 64 playback videos in a single video screen. | | | |
| s | There should be an option to maintain the aspect ratio of the video stream during display. | | | |
| t | The system should have a 'hide user interface' / 'view videos only' mode. | | | |
| u | It should support instant replay with user-configurable instant replay time. | | | |

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| v | The system should include a compact layout button. | | | |
| w | Time indication, including current time and video time, should be provided. | | | |
| x | The system should have a quick access toolbar for each video window. | | | |
| y | It should offer several video overlay options with text font and color configuration support. | | | |
| z | The system should use advanced algorithms to use multiple video resolution streams from video sources for minimum resource utilization. | | | |
| aa | Double-clicking should allow for viewing high-resolution video. | | | |
| ab | There should be an option to initialize the high-resolution video window with the currently displayed video stream until the high-resolution video stream is available from the server/camera. | | | |
| ac | The high-resolution video window should have size control options - full screen or user-defined size. | | | |
| ad | Right-clicking on each video should provide a menu for quick access to various features. | | | |
| ae | The system should allow for image snapshot from live video and playback video. | | | |
| af | It should provide the option to copy the image to the clipboard. | | | |
| ag | Users should be able to add video bookmarks. | | | |
| ah | There should be a single-click video export option. | | | |
| ai | A single-click video export for all videos displayed in the video screen should be available. | | | |
| aj | The system should have Y-flip video control for every video. | | | |

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| ak | Quick switch to linked channels should be possible. | | | |
| al | There should be a single-click 'close all videos' option. | | | |
| am | On-screen camera PTZ control using the mouse should be supported. | | | |
| an | The system should include a camera PTZ control window that can be moved to any desired location on the monitor. | | | |
| ao | A recording history calendar with access to the video search screen should be provided. | | | |
| ap | Quick access to video source information, digital operation configuration, and camera PTZ, preset, and tours control should be available. | | | |
| aq | The system should support multiple monitors. | | | |
| ar | There should be an option to select hardware acceleration for video display operations. | | | |
| 32 | **Video Overlay Options** | | | |
| a | Video overlay text color configuration should be provided. | | | |
| b | The system should support camera name overlay. | | | |
| c | Timestamp overlay should be available. | | | |
| d | Camera IP address overlay should be supported. | | | |
| e | Bandwidth usage overlay should be provided. | | | |
| f | Video resolution overlay should be available. | | | |
| g | Video frame rate overlay should be supported. | | | |
| h | Recording state indicator overlay should be included. | | | |
| i | Audio play state indicator overlay should be provided. | | | |
| j | Video loss indication should be supported. | | | |
| k | Audio loss indication should be provided. | | | |

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| l | Server disconnection indication should be included. | | | |
| m | Motion detection overlay with configuration for overlay level - no overlay, only motion indicator, motion grids, full overlay. | | | |
| 33 | **Video Screen Layout Profiles** | | | |
| a | The system must support layout profiles to configure different layouts on a single screen. | | | |
| b | Layout profiles should include the layout grid selection and camera selection for every video container. | | | |
| c | The system should allow for single-click switching between layout profiles. | | | |
| d | There should be no limit on the number of layout profiles that can be defined. | | | |
| e | The system should support layout profile sequences to change the layout profile automatically after a 'dwell time'. | | | |
| f | The layout profile sequence should support cyclic operation. | | | |
| g | The system should allow for pausing the layout profile sequence. | | | |
| h | It should provide options to move to the next layout profile in the sequence and move to the previous layout profile in the sequence. | | | |
| i | There should be no limit on the number of layout profile sequences that can be defined. | | | |
| 34 | **Video Panorama (Video Stitching)** | | | |
| a | The system must support defining the relative arrangement of videos from multiple cameras to create a single stitched video view. | | | |
| b | It should allow for simple configuration with 2 point association and an advanced algorithm to arrange the video orientation based on 2 point association input from the user. | | | |

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| c | The system should support video panorama for both live video and playback video. | | | |
| d | It should provide full video navigation control for panorama, including play, pause, fast forward, rewind, slow forward, and slow rewind. | | | |
| e | The system should support instant replay for panorama | | | |
| 35 | **Camera Control** | | | |
| a | The system must support camera pan-tilt-zoom (PTZ) control. | | | |
| b | It should allow for camera PTZ speed control . | | | |
| c | The system should support camera PTZ auto-zoom, where the user can select a rectangle and the camera is zoomed to show the video for the selected rectangle . | | | |
| d | It should include PTZ priority setting for users, with PTZ lock time, which locks camera PTZ access for the next user if another user with higher priority is controlling camera PTZ. | | | |
| e | The system should have the ability to move a PTZ camera to the home position. | | | |
| f | It should support on-screen camera PTZ control using the mouse . | | | |
| g | The system should include a camera PTZ control window that can be moved to any desired location on the monitor . | | | |
| h | It should allow for camera PTZ mode selection - manual or automatic, for cameras which support camera PTZ mode selection feature. | | | |
| i | The system should include iris control. | | | |
| j | It should include focus control. | | | |
| k | The system should provide control over image parameters such as color/black and white video, brightness, saturation, contrast, sharpness, and hue. | | | |

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| l | It should allow for managing presets - add, remove, go-to. | | | |
| m | The system should support preset image capture and display for better indication of camera position in that preset. | | | |
| n | It should support tours - add, modify, start, stop. | | | |
| o | Tour configuration should be possible by specifying presets and dwell time. | | | |
| p | There should be no limit on the number of presets that can be added to a tour. | | | |
| q | The system should allow for configuring video stream parameters for every video channel independently. | | | |
| r | It should allow for configuring video stream parameters for a video channel group, with a single button click. | | | |
| s | The system should allow for configuring on-screen display parameters for a video channel group, with a single button click. | | | |
| t | It should allow for configuring camera time for a video channel group, with a single button click. | | | |
| u | The system should support importing camera names defined inside video sources to VMS for a video channel group, with a single button click. | | | |
| v | It should support exporting camera names defined inside VMS to individual video sources for a video channel group, with a single button click. | | | |
| 36 | **CCTV Keyboards and Joysticks** | | | |
| a | The system must support all standard USB joysticks and gaming controllers compliant with the Microsoft Windows operating system. | | | |
| b | It should allow for configuration of zoom direction (zoom in and zoom out) with respect to joystick clock-wise or anti-clockwise rotation, for uniform user experience independent of the make and model of the joystick controller. | | | |

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| c | The system should support CCTV keyboards. | | | |
| d | It should have an open platform architecture that allows for quickly supporting any new custom CCTV keyboard or joystick. | | | |
| e | The system should support video screen selection. | | | |
| f | It should allow for video camera selection in the selected video screen. | | | |
| g | The system should support PTZ control of the selected video camera. | | | |
| h | It should provide communication status logs to assist during initial setup and maintenance | | | |
| 37 | **Digital Operations:** | | | |
| a | The system should support digital PTZ. | | | |
| b | It should allow for on-screen digital PTZ using the mouse. | | | |
| c | The system should provide the option to switch to the home position (full video display) for digital PTZ. | | | |
| d | It should support digital PTZ speed control. | | | |
| e | The system should support digital PTZ on paused video. | | | |
| f | It should include a magnification glass with zoom and size control. | | | |
| g | The system should allow for interactive digital PTZ using mouse controls. | | | |
| h | It should support digital PTZ auto-zoom, where the user can select a rectangle and the display is zoomed to show the video portion from the selected rectangle. | | | |
| i | The system should support digital auto-tracking, where an object in the video is tracked by digitally zooming in on it and continuously following it. | | | |
| j | It should include vibration removal functionality. | | | |

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| k | The system should support display-time (client-side) de-warping for 360-degree cameras. | | | |
| 38 | **Users and Privileges** | | | |
| a | The system must support multiple user levels and privileges. | | | |
| b | It should have built-in standard privileges. | | | |
| c | The system should allow for defining custom privileges. | | | |
| d | It should allow for enabling or disabling features for every custom privilege. | | | |
| e | The system should allow for enabling or disabling device group access for every custom privilege. | | | |
| f | It should have built-in standard user roles. | | | |
| g | The system should allow for defining custom user roles. | | | |
| h | There should be no limit on the number of users that can be added. | | | |
| i | The system should allow for associating or changing privileges for any user. | | | |
| j | There should be no limit on the number of users that can be associated with a privilege. | | | |
| k | The system should allow for disabling a user and deleting a user. | | | |
| **l** | Administrator control should be available to change the password for any user. | | | |
| m | The system should allow for user information registration such as name, address, phone number, etc. | | | |
| n | It should support Active Directory integration. | | | |
| 39 | **Video Bookmarks** | | | |
| a | Operators must be able to quickly bookmark video from any camera, for a specific timestamp, along with a comment. | | | |

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| b | The system should support searching video bookmarks to generate reports. | | | |
| c | Video bookmarks should be searchable based on bookmark source, bookmark creator user, bookmark comment (with wildcard search), and time duration. | | | |
| d | Video bookmark search should include bookmark video display with video navigation controls for play, pause, fast forward, rewind, slow play, and slow rewind. | | | |
| e | The system should provide quick access to multi-channel playback and video export for video bookmark search results | | | |
| 40 | **Video Export** | | | |
| a | Quick export mode: The system must support quick export mode, which starts video export for a selected camera and continues until the user ends the playback. Default video export parameters should be used for quick export mode. | | | |
| b | Advanced export mode: The system should include an advanced export mode with all export parameters available for user configuration. | | | |
| c | Video export based on time duration or alarm: The system should allow for exporting video based on either a specified time duration or an alarm trigger. | | | |
| d | Export video for multiple cameras simultaneously: The system should support exporting video from multiple cameras simultaneously. | | | |
| e | Watermarking: The system should provide the option for watermarking on exported video, including custom text, camera name, timestamp, with an option to set watermark text color. | | | |
| f | File naming: The system should allow the user to specify the file name for exported video. | | | |
| g | Standard format video export: Exported video should be in a standard format that can be | | | |

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| | played in any standard media player like Windows Media Player. | | | |
| h | Video quality selection: The system should allow the user to select the quality of video exported in standard format, with options for high quality and standard quality. This should also allow for controlling the file size of the exported video file. | | | |
| i | Native format video export: The system should support native format video export along with a player application. | | | |
| j | Password protection: The system should include an option to add password protection for native video export. The exported native video should only be accessible after providing the correct password. | | | |
| 41 | **Reports and Logs** | | | |
| a | Current session logs view: The system should provide a view for viewing current session logs. | | | |
| b | Current session alarms view: The system should provide a view for viewing current session alarms. | | | |
| c | Detailed user logs, activity reports, system logs: The system should provide detailed user logs, activity reports, and system logs. | | | |
| d | Search user logs to generate reports: The system should allow searching user logs to generate reports. | | | |
| e | User logs search based on user and time duration: The system should allow searching user logs based on user and time duration. | | | |
| f | Report details: Reports should include details like activity description, along with the IP address of the computer which initiated the activity. | | | |
| g | Alarms search to generate alarm reports: The system should allow searching alarms to generate alarm reports. | | | |

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| h | Alarm search criteria: Alarms can be searched based on alarm type, alarm source, alarm name (with wildcard search), and time duration. | | | |
| i | Alarm search features: Alarm search should include alarm video display with video navigation controls and quick access to multi-channel playback and video export associated with search results. | | | |
| j | Export video for all alarms: The system should allow exporting video for all alarms in the search result with a single button click. | | | |
| k | Print logs and reports: The system should allow printing logs and reports. | | | |
| l | Save logs and reports: Logs and reports should be savable in TXT, CSV, or PDF formats. | | | |
| m | PDF format reports: PDF format reports should include associated images embedded inside the PDF file. | | | |
| n | Automated daily reports creation and save: The system should support automated daily reports creation and saving. | | | |
| o | Automated daily reports e-mailing: The system should support automated daily reports emailing. | | | |
| p | Print images: The system should allow printing images. | | | |
| q | Video bookmarks search to generate reports: The system should allow searching video bookmarks to generate reports. | | | |
| r | Video bookmark search criteria: Video bookmarks can be searched based on bookmark source, bookmark creator user, bookmark comment (with wildcard search), and time duration. | | | |
| s | Video bookmark search features: Video bookmark search should include bookmark video display with video navigation controls and quick access to multi-channel playback and video export associated with search results. | | | |

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| 42 | **Status reports** | | | |
| a | Detailed status reports: The system should provide detailed status reports that indicate the system state. | | | |
| b | Save report' option: The system should have a 'Save report' option for all status reports displayed in the software. These saved reports should be useful for offline custom analysis of the site. | | | |
| c | Video channel availability: The system should display the online/offline status for all streams from each of the video channels. | | | |
| d | Recording status: The system should display the recording status for all channels. | | | |
| e | Video analytics status: The system should display the video analytics status for all channels. | | | |
| f | Bandwidth utilization status: The system should display the bandwidth utilization status for all streams from each of the video channels. | | | |
| g | Storage space utilization graph: The system should provide a graph showing storage space utilization, viewable by video channel and time interval. | | | |
| h | Video stream parameters: The system should display video stream parameters such as resolution, FPS, bitrate, etc., for all streams from each of the channels. | | | |
| i | User configurable parameters summary: The system should provide a summary of user-configurable parameters for all channels. | | | |
| j | List of current client requests: The system should display a list of current client requests being processed by the server. | | | |
| k | Phone network gateway communication status: The system should display the communication status of the phone network gateway. | | | |
| l | CCTV keyboards and joysticks communication status: The system should display the | | | |

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| | communication status of CCTV keyboards and joysticks. | | | |
| 43 | **Interactive Maps** | | | |
| a | Multiple map view screens: The system should support multiple map view screens.<br>. Interactive maps – Google maps and Openstreet maps<br>. Live video display on map – for both static as well as interactive maps | | | |
| b | Multi-level maps: The system should support multi-level maps with hyperlinks for quick navigation between levels. | | | |
| c | Static image maps: The system should support industry-standard image formats like BMP and JPEG for static image maps. | | | |
| d | Multiple image support: The system should support multiple images for maps. | | | |
| e | Dynamic maps: The system should support dynamic maps using OpenStreet Maps. | | | |
| f | Tree view of cameras and devices: The system should provide a tree view of cameras and devices. | | | |
| g | Drag and drop selection: The system should allow for drag and drop selection of cameras, devices, and video sequences. | | | |
| h | Camera and device indicators: The system should display indicators for cameras and devices on the map. | | | |
| i | Alarm indication: The system should indicate alarms on the map. | | | |
| j | Embedded live video display: The system should support embedded live video display of multiple channels and sequences on the map. | | | |
| k | High-resolution video view: The system should provide an option for high-resolution video view for any camera. | | | |
| l | Predefined video screen: The system should allow sending camera video to a predefined | | | |

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| | video screen, which can be resized and positioned anywhere. | | | |
| m | Field of view configuration: The system should allow configuring the field of view for each camera, including direction, angle, and range. | | | |
| n | User configurable map overlay indicators: The system should allow configuring map overlay indicators such as static camera, PTZ camera, map link, video sequences, and external devices. | | | |
| o | User configurable map overlay text: The system should allow configuring map overlay text including font, color, and background color. | | | |
| p | User configurable camera field of view indication: The system should allow configuring camera field of view indication for each camera, including on/off, color, and fill mode. | | | |
| q | Privilege function: The system should have a privilege function to enable/disable map settings configuration for a logged-in user. | | | |
| r | Lock settings' mode: The system should have a 'Lock settings' mode to test camera configuration, as an operator with no access to map settings. | | | |
| s | Export/import map configuration: The system should allow exporting map configuration to the server as a map configuration template and importing map configuration template from the server for quick synchronization of map settings between multiple clients. | | | |
| t | Hide user interface' mode: The system should have a 'Hide user interface' mode. | | | |
| u | Digital PTZ for map image: The system should support digital PTZ for map images. | | | |
| v | Interactive digital PTZ on map image: The system should support interactive digital PTZ on map images using the mouse, with PTZ speed control. | | | |

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| w | Map location presets: The system should support map location presets for adding, editing, and going to preset locations. | | | |
| x | Combining multi-level maps and map location presets: The system should provide complete flexibility to define quick links to map views of any target region. | | | |
| 44 | **User Interface** | | | |
| a | Multiple monitors and video walls support: The system should support multiple monitors and video walls. | | | |
| b | Virtual matrix operations: The system should support virtual matrix operations. | | | |
| c | Video thumbnail display: The system should support video thumbnail display to identify the specified camera. | | | |
| d | Full-screen view: The system should support full-screen view of any video channel. | | | |
| e | Quick setup wizard: The system should have a quick setup wizard for easy initial configuration. | | | |
| f | Customizable screen sizes: All screens in the system should be resizable to custom sizes. | | | |
| g | Fit to screen size' support: The system should support a single click 'Fit to screen size' option for all screens. | | | |
| h | Simultaneous functioning: All features of the system should be able to function simultaneously. | | | |
| i | View options: The system should allow viewing video channels as a list or as thumbnails. | | | |
| j | Reconnect to all cameras' button: The system should have a 'Reconnect to all cameras' button for easy reconnection. | | | |
| k | Save report' option: The system should have a 'Save report' option for all lists displayed in the software, useful for offline custom analysis. | | | |

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| l | Lock server': The system should have a 'Lock server' feature to restrict unauthorized changes to server configuration. | | | |
| m | Device state indication: The tree control in the system should display a list of devices and indicate the device state (online/offline, recording ok/recording error, PTZ camera/fixed camera) with different images for each state | | | |
| 45 | **Multi-Language Support** | | | |
| a | Supports multiple languages: The system should support multiple languages. | | | |
| b | Advanced internationalization framework: The system should have an advanced internationalization framework to quickly support a new language. | | | |
| c | Supported languages: The system should support the following languages - Arabic, Bengali, Bulgarian, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Estonian, Filipino, Finnish, French, German, Greek, Haitian Creole, Hebrew, Hindi, Hmong Daw, Hungarian, Indonesian, Irish, Italian, Japanese, Kannada, Korean, Latvian, Lithuanian, Marathi, Norwegian, Persian (Farsi), Polish, Portuguese, Portuguese (Brazil), Romanian, Russian, Slovak, Slovenian, Spanish, Swahili, Swedish, Tamil, Telugu, Thai, Turkish, Ukrainian, Vietnamese. | | | |
| 46 | **Data Management** | | | |
| a | Archiving or deleting older recorded data: The system should support archiving or deleting older recorded data. | | | |
| b | Manual data clean up: The system should support manual data clean up. | | | |
| c | Scheduled data clean up: The system should support scheduled data clean up, with options for daily, weekly, or monthly schedules, and the ability to clean up data older than a specified number of days. | | | |

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| d | Manual data archiving: The system should support manual data archiving. | | | |
| e | Scheduled data archiving: The system should support scheduled data archiving, with options for daily, weekly, or monthly schedules, and the ability to archive data older than a specified number of days. | | | |
| f | Video player application: The system should provide a video player application along with the archived data for accessing archived data. | | | |
| g | Offline data viewer screen: The system should provide an offline data viewer screen for accessing archived data. | | | |
| h | Exclusion of data associated with alarms: The system should provide an option to exclude data associated with alarms from clean up and archive operations. | | | |
| i | Automatic storage space recycling: The system should support automatic storage space recycling, with user configuration options for finer control over the recycling process. | | | |
| j | User configurable thresholds: The system should allow users to configure thresholds for recycle start, recycle stop, and low disk space alarms. | | | |
| k | Exclusion of data associated with alarms during recycling: The system should provide an option to exclude data associated with alarms during recycling operations. | | | |
| l | User activity logs recycling: The system should support user activity logs recycling, with user configurable options to control the recycling process. | | | |
| 47 | **Network Configuration** | | | |
| a | Support for configuring three types of networks as completely independent networks: input network, output network, and storage network, to allow for a fully flexible network design. | | | |

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| b | Input network: This network connects cameras and the server computer. | | | |
| c | Output network: This network connects the server computer and the client computer(s). | | | |
| d | Storage network: This network connects the server computer and the storage device(s). | | | |
| e | Allows keeping the input network completely free of network bandwidth utilization fluctuations due to client connections, ensuring reliable video capture from cameras. | | | |
| f | Allows keeping the storage network completely free of network bandwidth utilization fluctuations due to client connections, ensuring reliable data storage. | | | |
| g | User-configurable IP address selection for the input network and output network. | | | |
| h | If an IP address is not available or valid when the server software is executed, it automatically switches to the available IP address and provides notification. | | | |
| 48 | **Fail-safe Operation** | | | |
| a | Watchdog: A feature to continuously monitor the application's health. | | | |
| b | Automatic saving of all settings, including user interface settings, screen sizes, and screen locations across multiple monitors. | | | |
| c | Automatic full system restore after unexpected events such as power loss. | | | |
| d | Display of system diagnostics parameters. | | | |
| e | Fully distributed architecture with no single-point failure. | | | |
| f | Automatic optimization to lower resource usage after the settings are done. | | | |
| g | One-click import and export of all settings for backup or for replicating the same setup on another computer. | | | |

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| h | Failover management server. | | | |
| i | Redundant recording server. | | | |
| j | Automated application maintenance and computer maintenance. | | | |
| k | Designed to work 24x7 without requiring human inputs. | | | |
| 49 | **Client Applications** | | | |
| a | Standard Server-Client Architecture: The system will be based on a standard server-client architecture. | | | |
| b | Encrypted Data Communication: Data communication between the server and clients will be encrypted to ensure security. | | | |
| c | Support for Port Forwarding: The system will support port forwarding to allow remote clients to connect when the server computer is behind NAT. | | | |
| d | User Configurable Site Name: Users will be able to configure a unique site name to easily identify each site or server. | | | |
| e | Automatic Time Synchronization: The system will automatically synchronize its time with the server computer. | | | |
| f | Windows PC Client: An application will be provided for Windows PC client workstations. | | | |
| g | Integrated Web Server: The system will have an integrated web server supporting HTTP clients, including standard browsers like Internet Explorer, Mozilla Firefox, Google Chrome, and Apple Safari. | | | |
| h | Smartphone Client: A smartphone client will be provided, offering real-time alert notification with sound alarm and the ability to view alert camera video. | | | |
| i | Support for Apple Safari on iPhone and iPad: The system will support Apple Safari browser on iPhone and iPad as an HTTP client. | | | |

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| j | Video Quality and Bandwidth Settings: Users will have settings to control video quality and bandwidth utilization for HTTP client and smartphone client video requests. | | | |
| 50 | **Workstation Client Application** | | | |
| a | The application should support full operator features including viewing, browsing, and report generation | | | |
| b | Connect to server using IP address or server computer domain name | | | |
| c | Can connect to server software running on a computer in same network as client computer | | | |
| d | Can connect to server software running on a computer which is behind NAT and available through port forwarding | | | |
| e | Client software can be download from server URL | | | |
| f | Automatic version check and client software version upgrade, if required | | | |
| g | 'Site book' feature which can list multiple servers with the connection information. Without typing complete connection information every time, client can quickly connect to a server available in the site book . | | | |
| h | Multi-site monitor - connect to multiple servers and view combined data . | | | |
| i | Simultaneously view live videos from multiple servers . | | | |
| j | Simultaneously view time synchronized playback videos from multiple servers . | | | |
| k | Automatic time synchronization between multiple connected server computers . | | | |
| l | Quick configuration wizard for one time configurations . | | | |
| m | Multiple screens concept which includes one main screen and optional one or more additional screens . | | | |

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| n | Main screen has compact user interface, including tree control listing all devices, camera control console, video display layout, alarms history list, alarm acknowledgement console and menus to access various client functions | | | |
| o | Ability to set main screen as live video screen or playback video screen . | | | |
| p | Alarms history list supports right click menus to quickly export alarm video, to display alarm video in playback video screen, to clear alarms list | | | |
| q | Supports multiple monitors | | | |
| r | Ability to configure number of live video screens, number of playback video screens, number of map screens, maximum number of cameras in a live screen and maximum number of cameras in a playback screen – to control resources utilization and restricting operators for performing operations which may affect resource utilization . | | | |
| s | Client specific CCTV keyboard and joystick configurations | | | |
| t | Client specific alarms handling configuration | | | |
| u | Option to reset server features and server application from client application, if privileges are available for the user logged in to the client application . | | | |
| 50 | **Failover Management** | | | |
| a | Ability to Support 1:1 failover configuration and 1:N failover configuration | | | |
| b | Implement fully automated failover operations, requiring no human inputs after one-time failover management configuration is done | | | |
| **c** | Automatically synchronize VMS configurations between failover server and main servers. | | | |
| d | Automatically switch processing to the failover management server when one of the monitored main servers fails . | | | |

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| e | Automatically redirect client applications to the failover server . | | | |
| f | Failover server should start monitoring all main servers again . | | | |
| g | It should Automatically redirect client applications to the main server. | | | |
| h | It should Automatically synchronize data recorded during failover processing with the main server. | | | |
| i | Ensure best possible bandwidth utilization for synchronization operation to ensure primary VMS activities shall not affected. | | | |
| j | Should Provide two configuration modes for the failover management server: shared storage and non-shared storage. | | | |
| k | In shared storage mode, the physical location of the storage shall shared between the failover server and the main server, eliminating the need for data synchronization after failover processing cycle . | | | |
| l | Use non-shared storage mode for storage devices that should support shared access to the storage space from two computers . | | | |
| m | Shall Ensure compliance with all relevant standards and regulations . | | | |
| 52 | **Redundant Recording** | | | |
| a | The system should allow for the association of a redundant recording server with every main server to ensure redundancy and failover capabilities . | | | |
| b | The system should be fully automated, requiring no human inputs once the initial configuration is completed. This includes automated recording operations and failover mechanisms. | | | |
| c | The system should automatically synchronize VMS configurations between the redundant recording server and the main server to ensure consistency and reliability. | | | |

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| d | The redundant recording server should replicate the main server and run as a copy of the main server, ensuring that a copy of the recording is always available without interruption. | | | |
| 53 | **Calculators and Tools** | | | |
| a | System should provide the tool to calculate the required storage space based on various parameters such as video resolution, frame rate, and retention period. | | | |
| b | Ability to test the storage system's throughput to ensure it meets the VMS requirements. | | | |
| c | It should provide calculate the required network bandwidth based on the number of cameras, video resolution, and frame rate . | | | |
| d | It should provide an application to test the network throughput and identify any bottlenecks that may affect video streaming . | | | |
| e | It should provide tool to monitor and report the computer resources (CPU, memory, disk usage) used by the VMS and associated applications . | | | |
| f | It should provide tool to test the availability of cameras on the network and their responsiveness. | | | |
| g | It should provide tool to manage and configure camera parameters such as resolution, frame rate, and compression settings. | | | |
| h | It should provide tool to perform health checks on the VMS components and generate reports on their status. | | | |
| i | It should provide tool to manage and configure VMS resources such as recording servers, storage devices, and network settings. | | | |
| j | System should provide tool to diagnose VMS issues and automatically repair common problems. | | | |
| 54 | **Quick and Smooth Deployments** | | | |
| a | The software should have a straight forward installation process with automatic detection | | | |

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| | and communication of all dependencies to the user. | | | |
| b | The software should be self-contained, requiring no external software dependencies for synchronization or maintenance. | | | |
| c | The software should integrate all components, including video management, hybrid NVR/DVR, video analytics, video streamer, and gateway, into a single server application. | | | |
| d | The software should have a simple and intuitive user interface with advanced options for fulfilling deployment site-specific requirements . | | | |
| e | The software should have a minimal learning curve, requiring no formal training for first-time users . | | | |
| f | The software should include quick configuration wizards to streamline the setup process . | | | |
| g | The software should have a system notifications window that indicates warnings and errors, with some notifications requiring user acknowledgment. Notifications should be automatically removed when the warning/error condition is resolved . | | | |
| h | The software should monitor computer resources and generate reports in the form of graphs and tables. This includes total CPU utilization, CPU core utilization, memory utilization, network utilization, hard disk utilization, number of threads, number of handles, number of GDI objects, and CPU utilization by the VMS application . | | | |
| i | The software should have advanced resource utilization fine-tuning options to handle all deployment situations . | | | |
| j | The software should allow for the configuration of background operations priority to ensure that main VMS operations always have the highest priority and required resources available . | | | |

| | | | | |
|---|---|---|---|---|
| k | The software should include a diagnostic check tool that analyzes the software configuration, computer configuration, and complete system to suggest possible improvements . | | | |
| l | The software should have automated application and computer maintenance capabilities . | | | |
| m | The software should perform automated daily backups of configuration data to a storage drive . | | | |

| Infra Server Split Up Between APACS and LAMS ( If applicable) | | | | | |
|---|---|---|---|---|---|
| **S. No.** | **Parameters** | **Minimum Specifications** | **Make/brand if applicable** | **Compliance (Yes/No)** | **Remarks** |
| 1 | Physical Server details | CPU : 2 * Intel I6526Y 2.8GHz/195W 16C/37.5MB DDR5 5200MT/s<br>Disk : SSD 240GB x3<br>Network : Dual-port 10G SFP+ NICx2, 1Gig Base-T Quad Port x1 on board with Management console, Dual-port 16GFC HBA x1,<br>RAM : 256GB DDR5<br>PSU : 1600W AC PSU Platinum x2<br>2 U Rack Mounted, RAID Controller | | | |
| **Infra Server Split Up for FR/ANPR Application** | | | | | |
| 2 | Server role Application + AI processing node Qty. : 02 | 2 × server-grade CPU sockets or equivalent; 32–48 physical CPU cores total; 256 GB ECC RAM; 2 × 1.92 TB enterprise SSD in RAID 1 for OS; 2 × NVIDIA L4 24 GB GPUs (or equivalent inference accelerators) per node; dual 10/25 GbE; redundant hot-swap PSUs | | | Run application services and ANPR/FR inference. Configure as active-active or active-standby according to software licensing and tested throughput. Each node should be load-tested against the agreed failover target. |
| 3 | Server role Database node Qty. : 02 | 24–32 physical CPU cores; 128–256 GB ECC RAM; 2 × 1.92 TB enterprise SSD in RAID 1 for OS; 4 × 3.84 TB enterprise SSD/NVMe in RAID 10 for database/data and logs; dual 10/25 GbE; redundant hot-swap PSUs | | | Primary/standby or clustered database, subject to application/database support. Final usable capacity depends on RAID, database growth, event metadata and image retention policy. |
| 4 | Backup target / backup server | Separate backup target with capacity based on database size, configuration, audit retention and | | | Backup infrastructure is by the other infrastructure team and is not priced in |

| | | | | | |
|---|---|---|---|---|---|
| | 1 logical role; hardware by infrastructure team | recovery-point requirements; encryption and immutable/offline copy recommended | | | the application BOQ. Do not treat VMS video retention as application database storage |

**Note : Bidders shall fill the check list in above format and submit it as part of the Technical Bid.**

Name:

Designation:

Mobile No. and email id:

Place:

Date:

**Annexure - B**

## Financial Proposal

To,
The Managing Director
Indian Ports Association
1st Floor, South Tower
NBCC Place, Bisham Pitamah Marg
Lodhi Road, New Delhi 110003

Sub:
Sir,
I/ We, ..... (Applicant's name) herewith upload the Financial bid in the CPP Portal which is inclusive of all expenses and taxes excluding GST for selection of my/our firm .
I/ We agree that this offer shall remain valid for a period of 120 (One-hundred twenty) days from the Proposal Due Date or such further period as may be mutually agreed upon.

Yours faithfully,
(Signature, name and designation of the authorized signatory)

**Notes:**

1. The amount payable to the Contractor in accordance with the Financial bid, shall cover all the costs including all taxes and duties except GST. No additional charges in respect thereof shall be due or payable. The amount shall be limited to the amounts indicated in the financial quote and no escalation on any account will be payable on the above amounts.
2. All payments shall be made in Indian Rupees and shall be subject to applicable Indian withholding taxes if any.
3. There will be no hard copy submission and the price bid shall be uploaded only in the CPP Portal

**Annexure B1**

# Format of Price Bid

(To be submitted on the CPP Portal only)

Validate | Print | Help

Item Rate BoQ

**Tender Inviting Authority: Indian Ports Association**

**Name of Work:** Selection of a system integrator for design, supply, installation, integration, testing, commissioning and maintenance of hardware infra for automated port access control system (APACS) in Chennai Port Authority or at any such other Port Authority as may be required

**Contract No: IPA / APACS / CHPA / 2026 Dated: 13/11/2026**

**Name of the Bidder/ Bidding Firm / Company :**

**PRICE SCHEDULE**

**(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)**

| NUMBER | TEXT | NUMBER | TEXT | NUMBER | NUMBER | NUMBER | TEXT |
|---|---|---|---|---|---|---|---|
| Sl. No. | Item Description | Quantity | Units | Estimated Rate | BASIC RATE in Figures To be entered by the Bidder Rs. P | TOTAL AMOUNT Without Taxes | TOTAL AMOUNT In Words |
| 1 | 2 | 4 | 5 | 6 | 13 | 53 | 55 |
| 1 | **Infrastructure associated with APACS** | | | | | | |
| 1.01 | ANPR & Container Number Recognition | 30.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.02 | UHF Reader | 15.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.03 | Fsco Reader | 39.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.04 | AI based Smart Camera | 63.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.05 | Smart card with QR Code Reader | 39.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.06 | Display | 20.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.07 | 1.5 M Boom barrier | 4.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.08 | 3.5 M Boom barrier | 10.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.09 | 6.0 M Boom barrier | 4.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.1 | Tripod barrier | 4.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.11 | 5 KVA UPS | 8.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.12 | 10 KVA UPS | 1.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.13 | Traffic Light | 17.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.14 | 8 Port Switch | 3.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.15 | 24 Port switch | 8.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.16 | Desktop | 5.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.17 | 1 KB Smart Card with CHPA sanctioned lanyard | 1000.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.18 | Desktop Personalization Readers | 2.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.19 | Web Camera | 5.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.2 | LED Display | 24.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.21 | UVSS | 17.000 | Nos. | | | 0.00 | INR Zero Only |
| 1.22 | Tablet | 15.000 | Nos. | | | 0.00 | INR Zero Only |
| 2 | **SDK Integration/Bridge tool development (completing** | | | | | | |
| 2.01 | ANPR & Container Number Recognition | 30.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.02 | UHF READER | 15.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.03 | Fsco Reader | 39.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.04 | AI based Smart Camera | 63.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.05 | Smart card with QR Code Reader | 39.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.06 | Display | 20.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.07 | 1.5 M Boom barrier | 4.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.08 | 3.5 M Boom barrier | 10.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.09 | 6.0 M Boom barrier | 4.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.1 | Tripod barrier | 4.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.11 | 5 KVA UPS | 8.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.12 | 10 KVA UPS | 1.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.13 | Traffic Light | 17.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.14 | 8 Port Switch | 3.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.15 | 24 Port switch | 8.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.16 | Desktop | 5.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.17 | 1 KB Smart Card with CHPA sanctioned lanyard | 1000.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.18 | Desktop Personalization Readers | 2.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.19 | Web Camera | 5.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.2 | LED Display | 24.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.21 | UVSS | 17.000 | Nos. | | | 0.00 | INR Zero Only |
| 2.22 | SDK Integration/ Bridge tool development charges | 1.000 | LS | | | 0.00 | INR Zero Only |
| 3 | **Project Management charges & other items required** | | | | | | |
| 3.01 | Project Management charges (Planning, schedule and stakeholder coordination, risk/issue management, progress reporting, quality | 1.000 | LS | | | 0.00 | INR Zero Only |
| 3.02 | Any other item required for 100% service but not mentioned above shall be mentioned here. (The rate should be included for supply, | 1.000 | LS | | | 0.00 | INR Zero Only |
| 4 | **CAMC** | | | | | | |
| 4.01 | 2nd year CAMC charges | 1.000 | Year | | | 0.00 | INR Zero Only |
| 4.02 | 3rd year CAMC charges | 1.000 | Year | | | 0.00 | INR Zero Only |
| 4.03 | 4th year CAMC charges | 1.000 | Year | | | 0.00 | INR Zero Only |
| 5 | **Buyback Material** | | | | | | |
| 5.01 | Existing & Old RFID & QR Code Readers | 36.000 | Nos. | | | 0.00 | INR Zero Only |
| **Total in Figures** | | | | | | 0.00 | INR Zero Only |
| **Quoted Rate in Words** | | | | | | INR Zero Only | |

**Rate Entry**
Please enter Basic Rate in Rupees for this item.

**Rate Entry**
Please enter Basic Rate in Rupees for this item.

**Annexure - C**

**Form of Bank Guarantee**
**(For Performance Security)**

1. In consideration Head of Indian Ports Association (hereinafter called as "IPA") represented by its Managing Director having agreed to exempt M/s (hereinafter called "contractor") from the demand, under the Term and conditions of contract awarded with number---------- made between IPA and the Contractor for selection of _____ (hereinafter called "Agreement") of Performance Security for the due fulfilment by the said Contract of the terms and conditions contained in the said Agreement, on production of Bank Guarantee for Rs. _____ (Rupees only).

2. We ,..... (hereinafter referred to as the Bank) at the request of the Contractor(s) do hereby undertake to pay to the IPA an amount not exceeding Rs...../- (Rupees..... only) against any loss or damage caused to or suffered or would be caused to or suffered by the IPA by reason of any breach or non-performance by the said Contractor(s) of any of the terms and conditions contained in the said Agreement.

3. We, the Banker of the Contractor do hereby undertake to pay the amounts due payable under this Guarantee without any demur, merely on a demand from the IPA stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the IPA by reason of any breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However our liability under this Guarantee shall be restricted to an amount not exceeding Rs……/-.

4. We undertake to pay to the IPA any money so demanded not withstanding any dispute or disputes raised by the Contractor(s) in any suit or proceedings before any Court of Tribunal relating thereto our liability under this present being absolute and unequivocal.

5. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

6. This Bank Guarantee shall be valid upto..... (“Period”). We, the Bank further agree that the Guarantee herein contained shall remain in full force and effect during the Period and that it would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the IPA under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till the IPA certified that the terms and condition of the said Agreement have been fully and properly carried out by the said Contractor's and accordingly discharges this Bank Guarantee. Unless a demand or claim under this Guarantee is made on us in writing within three months from the date of expiry of the validity of the Bank Guarantee period we shall be discharged from all liability under this Guarantee thereafter provided

further that the Bank shall at the request of the IPA but at the cost of Contractor renew or extend this Guarantee for such further period or periods as the IPA may require.

7. We, the Bank further agree the IPA, that the IPA shall have the fullest liberty without consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the IPA against the said Contractor(s) or for any forbearance, act or omission on the part of the IPA or any indulgence by the IPA to the said Contractor(s) or by any such matter or thing whatsoever which under the Law relating to sureties would but for this provision, have effect of so relieving us.

8. This Guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

9. We, the Bank hereby undertake not to revoke this Guarantee during its currency except with the previous consent of the IPA in writing.

Dated the ..... day of ..... month of 20..... at .....

Name & Seal of the Bank with Date

**Annexure - D**

**Contract Agreement Form**

(To be entered in Rs. 100/ - non-judicial stamp paper)

This AGREEMENT is made on this ..... day of .....Month of Two Thousand ..... ( , 24) between Indian Ports Association, an apex body of Major Ports constituted in 1966 under Societies Registration Act, represented by its Management Director having its office at 1st Floor, South Tower, NBCC, Bhisham Pitamah Marg, Lodhi Road, New Delhi 110 003(herein after referred to as the Association which expression shall unless excluded by or repugnant to the subject or context be deemed to include the successor in office) of the one part

and

M/s....., (a partnership firm / proprietorship firm / company registered under the laws of India) having its place of business at ..... represented by its (Description) Shri....., s/o..... (hereinafter referred to as 'Contractor' which expression shall, unless excluded by, or repugnant to the context be deemed to include his heirs, executors, administrators, representatives and assigns or his successors in office) of the other part

**WHEREAS** Indian Ports Association, New Delhi is desirous of the work comprising selection

_____

**WHEREAS** the Contractor has offered to execute and complete such works and whereas IPA has accepted the tender of the Contractor and

**WHEREAS** the Contractor has furnished a sum of Rs /-

(Rupees..... only) as Earnest Money Deposit (EMD) at the time of tendering, which will be adjusted against Performance Security as stipulated in the bid document, at the rates mentioned therein for the due fulfilment of all the conditions of the Contract.

**NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:**

In this agreement words and the expressions shall have the same meanings as are respectively assigned to them in the conditions of the contract hereinafter referred to. The following documents shall be deemed to form and be read and construed as part of this Agreement:

1. Disclaimer
2. RFP Notice
3. Introduction
4. Glossary
5. Instructions to Bidders
6. Selection Criteria for MSP
7. Scope of Work
8. General Conditions of Contract
9. Special Conditions of Contract
10. Annexures and Forms
11. Any Corrigenda / Addenda / Clarifications issued by IPA

12. Any response to Pre-Bid Queries issued by IPA
13. Price Bid
14. Work Order No.....
15. Any correspondences and documents that are touching the RFP/Contract.

The Contractor hereby covenants with IPA to develop the product in conformity and in all respects with the provisions of this Agreement.

IPA hereby covenants to pay the Contractor in consideration of such services for the “Contract Price” at the time and in the manner prescribed in the Tender/Agreement.

**IN WITNESS WHERE OF** the parties here into have set their hands and seals the day and year first written.

The seal of the Head of Indian Ports Association was here into affixed and

The thereof, has set his Hand in the presence of

Indian Ports Association

Signed and sealed by

The Contractor in the presence of

Witness with signature

1) Name & Address 2) Name & Address
.....
.....

**Annexure E**

**Schedule of Quantities and Technical Specifications**

| | Product | | Unit | Quantity | Specifications |
|---|---|---|---|---|---|
| 1 | Infrastructure associated with APACS | | | | |
| | 1.01 | ANPR & Container Number Recognition | Nos. | 30 | IP-based ANPR/OCR; vehicle/container number capture, day/night operation, event snapshots, timestamps, logs and API/SDK integration. Confirm resolution, capture distance, accuracy and environmental rating with OEM. |
| | 1.02 | UHF Reader | Nos. | 15 | Industrial UHF RFID reader compatible with approved tags; Ethernet/API or SDK integration, event logs and health monitoring. Confirm frequency, antenna ports and read range. |
| | 1.03 | Face Reader | Nos. | 39 | Face-recognition terminal with camera, configurable matching threshold, access interface, event logs and network/API integration. Liveness detection where supported; follow Port-approved biometric data policy. |
| | 1.04 | AI based Smart Camera | Nos. | 63 | IP camera with AI analytics, day/night operation, WDR, event detection, secure network access and API/ONVIF support where available. Confirm resolution, FPS, lens, IR range and IP/IK rating. |
| | 1.05 | Smart card with QR Code Reader | Nos. | 39 | Reader supporting the approved smart-card technology and QR/2D codes; configurable access interface, event logging and API/SDK integration. Confirm card technology and interface protocol. |
| | 1.06 | Display | Nos. | 20 | Commercial/industrial display for gate instructions/status; suitable brightness and viewing angle, HDMI/DisplayPort or approved interface, mounting support and required duty cycle. |
| | 1.07 | 1.5 M Boom barrier | Nos. | 4 | Automatic motorized barrier with approximately 1.5 m arm, open/close status, manual release and safety inputs for loop/photocell. Confirm duty cycle and opening time. |

| | | | | | |
|---|---|---|---|---|---|
| | 1.08 | 3.5 M Boom barrier | Nos. | 10 | Automatic motorized barrier with approximately 3.5 m arm, open/close status, manual release and safety inputs for loop/photocell. Confirm duty cycle and opening time. |
| | 1.09 | 6.0 M Boom barrier | Nos. | 4 | Automatic motorized barrier with approximately 6.0 m arm, status output, manual release and safety inputs. Confirm wind rating, arm support and duty cycle. |
| | 1.1 | Tripod barrier | Nos. | 4 | Electromechanical tripod turnstile for pedestrian access; configurable access input, direction control, emergency/manual release and event output. |
| | 1.11 | 5 KVA UPS | Nos. | 8 | Online double-conversion UPS, 5 kVA class, with battery runtime sized to load, overload/bypass protection, alarms and replaceable batteries. |
| | 1.12 | 10 KVA UPS | Nos. | 1 | Online double-conversion UPS, 10 kVA class, with battery runtime sized to load, overload/bypass protection, alarms and replaceable batteries. |
| | 1.13 | Traffic Light. | Nos. | 17 | LED lane traffic signal with red/green indications (amber if required), controller interface, weatherproof housing and visibility suitable for installation location. |
| | 1.14 | 8 Port Switch | Nos. | 3 | Managed 8-port Ethernet switch with VLAN, QoS, secure management and monitoring. Confirm PoE budget, uplinks and industrial-temperature requirements. |
| | 1.15 | 24 Port switch | Nos. | 8 | Managed 24-port Ethernet switch with VLAN, QoS, SNMP/health monitoring and suitable uplinks. Confirm PoE/PoE+ and uplink speed. |
| | 1.16 | Desktop | Nos. | 5 | Business desktop with multi-core CPU, 16 GB RAM minimum, 512 GB SSD minimum, Gigabit Ethernet, keyboard/mouse and supported Windows OS. |
| | 1.17 | 1 KB Smart Card with ChPA sanctioned lanyard | Nos. | 1000 | Approved smart card with required encoding/personalization and ChPA-approved lanyard. Confirm chip type, security features, print design and encoding format. |

| | | | | | |
|---|---|---|---|---|---|
| | 1.18 | Desktop Personalization Readers | Nos. | 2 | USB or approved desktop smart-card encoder/reader compatible with selected card chip; read/write capability, drivers and personalization software/SDK support. |
| | 1.19 | Web Camera | Nos. | 5 | USB webcam, Full HD 1080p minimum, compatible drivers, autofocus or suitable fixed focus; built-in microphone/privacy control if required. |
| | 1.2 | LED Display | Nos. | 24 | LED information/status display with Full HD minimum where applicable, suitable brightness, HDMI/DisplayPort and mounting accessories. Confirm screen size and duty cycle. |
| | 1.21 | UVSS | Nos. | 17 | Under Vehicle Surveillance System with under-vehicle image capture, illumination, image display/stitching, event association, search/retrieval and API integration. Confirm vehicle clearance and load rating. |
| | 1.22 | Tablet | Nos. | 15 | Business tablet with Wi-Fi/cellular as required, recommended 8 GB RAM and 128 GB storage, camera, secure device management and compatible OS/application. |
| | 1.23 | SDK Integration/Bridge tool development (completing API development on the hardware side) charges and installation and commissioning charges | | | |
| | | 1.23.01 ANPR & Container Number Recognition | Nos. | 30 | SDK/API bridge for ANPR/container recognition; event mapping, device association, error handling, logging and integration testing. Confirm whether quantity is per device, lane or endpoint. |
| | | 1.23.02 UHF READER | Nos. | 15 | SDK/API bridge for UHF tag reads; event normalization, timestamps, reader health, retries/error handling and logs. Confirm OEM SDK/protocol. |
| | | 1.23.03 Face Reader | Nos. | 39 | SDK/API bridge for face-reader events/results; approved matching workflow, access decision exchange, audit logs and error handling. Apply Port-approved biometric controls. |
| | | 1.23.04 AI based Smart Camera | Nos. | 63 | SDK/API bridge for camera events and health; maps camera IDs, timestamps events, handles delivery retries and logs. Confirm OEM API/ONVIF support. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1.23.05 | Smart card with QR Code Reader | Nos. | 39 | SDK/API bridge for card/QR events; validates formats, maps reader IDs, records access outcomes and handles retries/errors. |
| | | 1.23.06 | Display | Nos. | 20 | Interface to send approved status/messages to displays; message templates, device addressing, delivery feedback and error logging. |
| | | 1.23.07 | 1.5 M Boom barrier | Nos. | 4 | Barrier command/status integration, authorized open/close commands, safety-interlock handling, position/status feedback and audit trail. |
| | | 1.23.08 | 3.5 M Boom barrier | Nos. | 10 | Barrier command/status integration, authorized open/close commands, safety-interlock handling, position/status feedback and audit trail. |
| | | 1.23.09 | 6.0 M Boom barrier | Nos. | 4 | Barrier command/status integration, authorized open/close commands, safety-interlock handling, position/status feedback and audit trail. |
| | | 1.23.10 | Tripod barrier | Nos. | 4 | Integration for turnstile access commands and status/events, direction mapping, emergency state where available and audit logging. |
| | | 1.23.11 | 5 KVA UPS | Nos. | 8 | UPS monitoring where supported: input/output state, battery/health alarms and logs via SNMP, USB or OEM interface. |
| | | 1.23.12 | 10 KVA UPS | Nos. | 1 | UPS monitoring where supported: input/output state, battery/health alarms and logs via SNMP, USB or OEM interface. |
| | | 1.23.13 | Traffic Light | Nos. | 17 | Signal-state command/status integration, red/green/amber mapping as approved, interlocks and event logging. |
| | | 1.23.14 | 8 Port Switch | Nos. | 3 | Switch monitoring via supported SNMP/API: device health, port status, alerts and inventory; read-only monitoring preferred. |
| | | 1.23.15 | 24 Port switch | Nos. | 8 | Switch monitoring via supported SNMP/API: device health, port status, alerts and inventory; read-only monitoring preferred. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 1.23.16 | Desktop | Nos. | 5 | Desktop client/application configuration and integration as applicable, including device registration, access, logging and testing. |
| | | 1.23.17 | 1 KB Smart Card with ChPA sanctioned lanyard | Nos. | 1000 | Card personalization integration for approved card technology; validates card-data format and records personalization outcome. Confirm whether per-card or integration quantity. |
| | | 1.23.18 | Desktop Personalization Readers | Nos. | 2 | SDK/driver integration for desktop card reader/encoder, including read/write workflow, error handling and test-card validation. |
| | | 1.23.19 | Web Camera | Nos. | 5 | Webcam capture integration, device selection, image capture/quality checks and secure transfer/storage where applicable. |
| | | 1.23.20 | LED Display | Nos. | 24 | Interface for approved messages/status to LED displays, with device addressing, templates, delivery status and logs. |
| | | 1.23.21 | UVSS | Nos. | 17 | Integration for UVSS images/events, vehicle association, image retrieval/search and status/error reporting. Confirm OEM API and storage responsibilities. |
| | | 1.23.22 | SDK Integration/ Bridge tool development charges | LS | 1 | Lump-sum development/ commissioning of reusable SDK/API bridge components, interface mapping, retries, logging, configuration, integration tests and handover. |
| | 1.24 | Project Management charges | | LS | 1 | Planning, schedule and stakeholder coordination, risk/issue management, progress reporting, quality tracking and commissioning oversight. |
| | 1.25 | Any other item required for 100% service but not mentioned above shall be mentioned here. [The rate should be included for supply, installation, testing, commissioning and integration (completing API development on the hardware side) charges] | | LS | 1 | Bidder to itemize additional items required for complete supply, installation, testing, commissioning and integration, with quantities, assumptions and exclusions. |

| | | | | | |
|---|---|---|---|---|---|
| 2 | Man power Support | | | | |
| | 2.01 | One Competent Support Engineer Support 24 X 7 (1 person per shift X 3 shift X 7 days) | Month | 48 | 24×7 support with one engineer on duty per shift; roster/reliever coverage, incident logging, escalation matrix, preventive checks and labour-law compliance. Quantity retained as provided: 48 months. |
| | ** the successful bidder is to ensure that, in all the 3 shifts, 1 Support Engineer is to be deployed and should be in full compliance with the Wages & Labour Act 2019. | | | | |
| 3 | CAMC | | | | |
| | 3.01 | 2nd year CAMC charges | year | 1 | Annual maintenance with preventive checks, corrective support, health checks, updates where licensed, incident response and service reporting under agreed SLA. |
| | 3.02 | 3rd year CAMC charges | year | 1 | Annual maintenance with preventive checks, corrective support, health checks, updates where licensed, incident response and service reporting under agreed SLA. |
| | 3.03 | 4th year CAMC charges | year | 1 | Annual maintenance with preventive checks, corrective support, health checks, updates where licensed, incident response and service reporting under agreed SLA. |
| 4 | Buyback Material | | | | |
| | 4.01 | Existing & Old RFID & QR Code Readers | Nos. | 36 | Inspect and identify existing readers; quote per-unit buyback value and describe collection, data sanitization and disposal/reuse process where applicable. |