WEBEL TECHNOLOGY LIMITED

NOTICE INVITING e-TENDER

Online Tender documents are invited for Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore, Bidhannagar and Howrah Police Commissionerates, West Bengal

Reputed System Integrators having sufficient experience and credentials for successful completion of **"Similar Nature"** of work in a Government Department/PSU/Autonomous Body or any reputed organization. Bidder must have adequate Service Engineer for providing on-site warranty service within the stipulated time.

1.	Tender No. & Date	WTL/PC/CCTV/23-24/029 dated 21.09.2023
2.	Tender Version No.	1.0
3.	Brief description of Job	Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore, Bidhannagar and Howrah Police Commissionerates, West Bengal.
4.	Tender Fee	Rs.10,000.00 (Rupees Ten Thousand Only) The amount to be transferred online through e-tender portal.
5.	Earnest Money Deposit	Rs. 20,00,000.00 (Rupees Twenty Lakhs Only). The amount to be transferred online through e-tender portal.
6.	Date of Downloading	21.09.2023
7.	Pre-Bid Meeting date & time	26.09.2023 at 15:00 Hrs. (Off-Line Meeting) • Pre-Bid meeting will be organizing offline only. Only queries as per format (Section - N) reaching WTL by 26.09.2023 at 12:00 noon will be taken for decision. Interest bidders are requested to send mail to purchase@wtl.co.in for participation of offline pre-bid meeting. If there is any change in date and time, then will inform accordingly. • Only queries as per format (Section – N) reaching WTL by 26.09.2023 at 12.00 noon will be taken for decision. Queries will be sent to Manager (Purchase) (purchase@wtl.co.in).
8.	Bid Submission Start date & time	06.10.2023 at 14:00 Hrs
9.	Last date & time of EMD & Tender Fee submission	Before Uploading of Tender.
10.	Last date & time of Bid Submission	11.10.2023 at 13:00 Hrs.
11.	Date & time of Technical Bid Opening	13.10.2023 at 13:00 Hrs.
12.	Venue of Pre-Bid Meeting & submission of EMD & Tender Fee	WEBEL TECHNOLOGY LIMITED (A Govt. of West Bengal Undertaking) Plot - 5, Block – BP, Sector – V, Salt Lake City, Kolkata – 700091.
13.	WTL Contact Person	033-23673403-06

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1. Intending bidder may download the tender documents from the website **https://wbtenders.gov.in** directly with the help of Digital Signature Certificate. Necessary Tender fee may be remitted online through e-tender portal in favour of "Webel Technology Limited" and also to be documented through e-filling. Necessary Earnest Money Deposit (EMD) may be remitted online through e-tender portal in favour of "Webel Technology Limited" and also to be documented through e-filling.

2. Both Techno Commercial Bid and Financial Bid are to be submitted concurrently duly digitally signed in the website **https://wbtenders.gov.in**

3. Tender documents may be downloaded from website and submission of Techno Commercial Bid and Financial Bid will be done as per Time Schedule stated in Section – C of this Tender Document.

4. The Financial Bid of the prospective Bidder will be considered only if the Techno Commercial Bid of the bidder is found qualified by the Tender Committee. The decision of the 'Tender Committee' will be final and absolute in this respect. The list of Qualified Bidders will be displayed in the website.

5. All clarifications / corrigenda will be published only on the **https://wbtenders.gov.in**.

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CONTENTS OF THE TENDER DOCUMENT

The Tender document comprises of the following:

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SECTION – B   ELIGIBILITY CRITERIA

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SECTION – I   TECHNICAL SPECIFICATION WITH COMPLIANCE STATEMENT

SECTION – J   DETAILS OF ORDERS EXECUTED BY BIDDER

SECTION – K   FINANCIAL CAPABILITY OF BIDDER

SECTION – L   BIDDER'S DETAILS

SECTION – M   MANUFACTURER'S AUTHORIZATION FORM

SECTION – N   PRE-BID MEETING QUERY

SECTION – O   LOCATIONS FOR INSTALLATION & LOCATION DETAILS FOR BUY-BACK

SECTION – P   LIST OF CLIENTS OF SIMILAR ORDERS

SECTION – Q   PROFORMA FOR PERFORMANCE BANK GUARANTEE

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SECTION – S   NIT DECLARATION FOR BIDDER

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SECTION – A

SCOPE OF WORK & RESPONSIBILITY

Introduction

"Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & CP Office under Barrackpore, Bidhannagar and Howrah Police Commissionerates, West Bengal"

The System Integrator is responsible for end-to-end execution of the turnkey project from procurement of Software and Hardware Items, Installations and commissioning and making necessary arrangement for feeding data from these cameras and analyzing the data through application and presenting the dashboard for easy decision making. The solution should also be capable of generating Status reports, duration of the day, date wise etc.

The SDK and API should be available for third party integration as on demand.

The System integrator needs to conduct a periodic preventive Checking of the entire system and prepare a Quarterly report. A Quarterly periodic maintenance should be organized and report to be submitted to the concerned Police Authority.

The Police Authority may provide further AMC to the existing system integrator after satisfactory completion of 3 Years' project period.

Existing infrastructure of all Municipalities or Panchayats (Like Poles, Clamps) should be used to install the camera and other accessories to reduce the project cost and increase the feasibility.

The system integrator will be responsible to setup below mention control rooms:

Server / Storage Room:

Barrackpore Police Commissionerate (Zone-1):	• Bhatpara Police Station • Barrackpore Police Station • Titagarh Police Station • Khardha Police Station • Nimta Police Station • Baranagar Police Station • Belghoria Police Station • Kamarhati Police Station • Dakshineswar Police Station
Bidhannagar Police Commissionerate (Zone-2):	• North Police Station • NSCBI Police Station
Howrah Police Commissionerate (Zone-3):	• City Police Control Room (Shibpur Police Line)

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Control / Monitoring Room:

Barrackpore Police Commissionerate (Zone-1)	• Central Control Room (CP office at Barrackpore) • Bhatpara Police Station • Barrackpore Police Station • Titagarh Police Station • Khardha Police Station • Baranagar Police Station • Nimta Police Station • Belghoria Police Station • Kamarhati Police Station • Dakshineswar Police Station
Bidhannagar Police Commissionerate (Zone-2)	• CP Office • South Police Station • Baguihati Traffic Guard
Howrah Police Commissionerate (Zone-3):	• Traffic Control Room (Belilious Road Howrah) < Network Management Room & Control / Monitoring Room> • Howrah Traffic Guard • Dasnagar Traffic Guard • 2nd HB Traffic Guard • Golabari Traffic Guard • Bally Traffic Guard

1) **Acceptance:** After successful Delivery & installation, installation reports prepare by WTL, signed and sealed by Concerned Police Commissionerate.

2) **Warranty:** All hardware component service items should have minimum warranty period of period i.e. 36 months from the date of final acceptance of the system by the user or 38 months from date of delivery, whichever is earlier. Within warranty period, entrusted OEM will replace, re-integrate faulty, buggy components.

3) Bidder should do the preventive maintenance in every quarter and report to the concerned authority of respective Police Commissionerate.

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<u>Project Highlight</u>

A) Consider 30 Days storage facility under RAID 5 Configuration.

B) Consider Edge storage (Micro SD Card) within the camera as redundancy backup.

C) Consider Failover UPS Backup

D) Consider Voltage Stabilizer

E) Own 1Gbps Dark Fiber Network Backbone with failover ring topology at PS label connectivity.

F) Redundancy Network Infrastructure

G) Consider Ultra High Resolution 5 Megapixel IR Cameras for General Surveillance.

H) Consider High Resolution PTZ Camera for 360-degree surveillance.

I) Consider 2 Lane Automatic Number Plate Detection Camera.

J) Consider 24x7 Air Condition facility with auto changeover controller between two AC for Halishaahar, Titagarh & Khardha PS & Central Control Room at Barrackpore CP Office.

K) Consider Network Based Monitoring System through Client Version with different login credentials under Server Client Architecture

The job description under the Maintenance Contract:

1. The system integrator should respond within 24 hrs after receive a complaint from control room.
2. Sufficient spare parts for necessary rectification for minor fault should be available with the system integrator and any kind of minor fault should be rectified within 48 hrs.
3. The system integrator should arrange vehicles, machineries, tools & tackles, ladders & scaffoldings for maintenance work during the contract period maintaining all safety precaution.
4. During any type of major fault, the system integrator should inform the Authority within 24 hours along with plan of action for necessary rectification / restoration. The authority will take the decision about maximum permissible time for that particular rectification and they will also communicate to other stack holders if required.
5. Authority will provide constant stable electricity to all the location's junction box and do the all official formalities for the process along with recurring expenditure for electricity cost. SI will only do the co-ordination part during execution of the project for smooth arrangement.

4) **Delivery:** All materials are initially to be delivered at the locations mentioned in the Consignee list enclosed. After necessary checking, testing, marking of the all materials, successful bidder will take necessary step to transport the material at installation site and take up the installation there at their own cost. Any sticker/ stationery item required to complete the marking will be provided by successful bidder.

5) **Warranty Certificate**: On successful installation bidder to get installed equipments with actual serial no. duly certified by respective OEM for three years warranty coverage. Any change in equipment serial

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no. should be reflected in OEM website or OEM declaration in their Letter head. Final Bills will be submitted after completion of this activity.

5) **Service Level Agreement (SLA):** Agreement for SLA will be signed between WTL, selected bidder after final work order.

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SECTION – B

ELIGIBILITY CRITERIA

1. The bidder must be a company registered under Companies Act, 1956/2013 or Partnership or LLP or OPC or Proprietary Firm. Documentary (Certificate of incorporation/ relevant document) evidence to be submitted.

2. The bidder must be a System Integrator in IT/ ITeS/ ICT sector. Relevant document to be submitted. Consortium or Joint venture bidding is not allowed.

3. The bidder should have been operating for the last 5 (five) years in India. Certificate of Incorporation or Certificate of Commencement of Business, as issued by the Registrar of Companies/ Registered Partnership Agreement/ Sole Proprietary registration under the Shops & Establishments Act to be submitted.

4. The bidder must have their Registered/ Branch presence in West Bengal. Valid trade license and local GST Registration Certificate are to be submitted.

5. The bidder may bid for zones as their preference and credentials. Zone details are as follows:

Zone Details		Applied for the Zone (Yes/No)
Zone 1	Barrackpore Police Commissionarate	
Zone 2	Bidhannagar Police Commissionarate	
Zone 3	Howrah Police Commissionarate	

   Bidders may submit their bids for one Zone or two zones or three zones. An undertaking on bidder's letter head to be submitted as mentioned above.

6. The bidder should submit copies of valid GST Registration Certificate & PAN.

7. The bidder should submit copy of valid Quality Certificate (ISO 9001: 2015).

8. The bidder must submit MAF for Surveillance Camera, NVR, Video Storage Device, CVMS, Networking Items (Passive & Active), UPS, Computer, Server, Display and Firewall (Section - M). Technical Specification with compliance statement (Section – I) is to be issued & signed by the respective OEMs.

9. The bidder shall submit Bid Form (Section – E) duly signed by the authorized signatory of the company as per the format enclosed. Deviation in format may not be accepted.

10. Bidder shall submit NIT Declaration (Section - S) duly signed by the authorized signatory of the company as per the format. Deviation in format may not be accepted.

11. Respective OEM's shall submit NIT Declaration (Section – T) duly signed by the authorized signatory of the company as per the format. Deviation in format may not be accepted.

12. The bidder shall not have been blacklisted by any State/Central Government or PSU Organization or bilateral/multilateral funding agencies for breach of ethical conduct or fraudulent practices as on date of submission of the proposal (as per DIT guidance note issued on 26-Dec-2011). Declaration on bidder's letter head to be submitted.

13. The bidder should comply with the Rule 144(xi) of the GFR-2017 on Land Border Sharing. One Declaration on Bidder's letterhead to be submitted.

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14. The Bidder should have positive Net Worth for the last five financial years ending 31st March 2023. Relevant Auditor's Certificate (with UDIN) to be submitted.

15. The bidder should have minimum annual business turnover in aggregate considering last three financial years ending 31st March 2023:

    - Not less than Rs. 70 crores to bid for three Commissionarates (Three Zones)
    - Not less than Rs. 45 crores to bid for two Commissionarates (Two Zones only)
    - Not less than Rs. 20 crores to bid for one Commissionarate. (One Zone only)

    Audited balance sheets are to be submitted. Clubbing of financials of group companies not allowed.

16. The bidder should have executed "Similar Nature" of order in last five financial years ending 31st March 2023:

Order	To bid for three	To bid for two	To bid for one
Single Order not less than	Rs. 12 crores	Rs. 8 crores	Rs. 4 crores
OR			
Two Orders in total not less than	Rs. 15 crores	Rs. 10 crores	Rs. 5 crores
OR			
Three Orders in total not less than	Rs. 18 crores	Rs. 12 crores	Rs. 6 crores

Supporting documents are required to be submitted.

17. Bidder should have local call center number & OEM should have Central Call Center number. Call Center details for Bidder & OEM with number & detailed to be submitted on letterhead.

18. The Bidder must have own Support Service Center with manpower in Kolkata and own Support Service Center / own Technical support persons stationed at applied respective zone(s) (**Howrah, Bidhannagar and Barrackpore) in West Bengal** so that any call reported is attended within the response time. Details address with contact details for Support Service Center at Kolkata and other Support Service Center / Posting of Technical support person at stated locations to be submitted. Bidder's HR Department should certify the name of the Technical person on bidder's letter head. Outsourced Service center with Technical person / Technical person will not be entertained.

19. OEM should have Authorized service center/replacement centers in Kolkata. Details Service Center/replacement center to be submitted by respective OEMs.

20. No separate cost for manpower will be chargeable if deployed in location. A declaration in this regard is to be submitted in bidder's letter head in original.

21. All CCTV Camera OEM, All Active Network Components OEM, VMS Software OEM, UPS OEM, Display OEM & UPS OEM should have their own Registered office & Fully equipped Service Center in India. A declaration is required on OEM's letterhead.

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SECTION – C

DATE AND TIME SCHEDULE

Sl. No.	Particulars	Date & Time
1	Date of uploading of N.I.T. & other Documents (online) (Publishing Date)	21.09.2023
2	Documents download/sale start date (Online)	21.09.2023
3	Last Date and time of sending the queries	26.09.2023 at 12:00 noon
4	Pre Bid Meeting (Off Line)	26.09.2023 at 15:00 Hrs
5	Corrigendum, if any will be published (On Line)	–
6	Bid Submission start date & time (On line)	06.10.2023 at 14.00 Hrs.
7	Last Date & time of submission of Earnest Money Deposit & submission of remittance details	Before Uploading the Tender
8	Last Date & time of submission of Tender Fee & submission of remittance details	Before Uploading the Tender
9	Bid Submission closing date & time (On line)	11.10.2023 at 13.00 Hrs.
10	Bid opening date & time for Technical Proposals (On line)	13.10.2023 at 13.00 Hrs.
11	Date of uploading the final list of Technically Qualified Bidder (online) after disposal of appeals, if any	–
12	Date for opening of Financial Bid (Online)	–

WTL/PC/CCTV/23-24/029

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SECTION – D

INSTRUCTION TO BIDDER

1. DEFINITIONS

In this document, the following terms shall have following respective meanings:

"**Acceptance Test Document**" means a document, which defines procedures for testing the functioning of installed system. The document will be finalized with the contractor within 7 days of issuance of the Letter of Award.

"**Bidder**" means any firm offering the solution(s), service(s) and /or materials required in the RFP. The word Bidder when used in the pre award period shall be synonymous with Bidder, and when used after award of the Contract shall mean the successful Bidder.

"**Contract**" is used synonymously with Agreement.

"**Contract Price**" means the price to be paid to the Contractor for providing the Solution, in accordance with the payment terms.

"**Contractor**" means the Bidder whose bid to perform the Contract has been accepted by Tender Committee and is named as such in the Letter of Award.

"**Default Notice**" shall mean the written notice of Default of the Agreement issued by one Party to the other.

"**Installation**" shall mean installation of supplied Hardware.

"**Fraudulent Practice**" means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial noncompetitive levels and to deprive the Personnel & Administrative Reforms and eventually Gov. of W. Bengal of the benefits of free and open competition.

"**Good Industry Practice**" shall mean the exercise of that degree of skill, diligence and prudence which would reasonably and ordinarily be expected from a reasonably skilled and experienced Operator engaged in the same type of undertaking under the same or similar circumstances.

"**Government**" / "**Gov. of W. Bengal**" means the Government of West Bengal.

"**GoI**" shall stand for the Government of India.

"**GoWB**" means Government of West Bengal

"**Personnel**" means persons hired by the Bidder as employees and assigned to the performance of the Infrastructure Solution or any part thereof.

"**Similar Nature of Work**" **means** Works entailing completion of a project in the field of CCTV/ VSS/ IT or ICT with Networking/ Telecom for any Govt. Dept. or PSU.

"**Project**" Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore Police Commissionerates, West Bengal.

"**Services**" means the work to be performed by the Bidder pursuant to this Contract, as described in the detailed Scope of Work.

"**Interest rate**" means "364 days Government of India (GoI) Treasury Bills" rate.

"**Law**" shall mean any Act, notification, bye law, rules and regulations, directive, ordinance, order or instruction having the force of law enacted or issued by the Central Government and/or the Government of West Bengal or any other Government or regulatory authority or political subdivision of government agency.

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"LOI" means issuing of Letter of Intent shall constitute the intention of the WTL to place the Purchase Order with the successful bidder.

"**Operator**" means the company providing the services under Agreement.

"Requirements" shall mean and include schedules, details, description, statement of technical data, performance characteristics, standards (Indian as well as International) as applicable and specified in the Contract.

"Service" means provision of Contracted service viz., operation, maintenance and associated services for DEPLOYED SYSTEMS as per Section titled "Scope of Work"

"Termination Notice" means the written notice of termination of the Agreement issued by WTL.

"**Uptime**" means the time period when specified services are available with specified technical and service standards as mentioned in section titled WARRANTY SUPPORT" "**%Uptime**" means ratio of 'up time' (in minutes) as mentioned in section titled "Warranty support"

"**Service Down Time**" (SDT) means the time period when specified services with specified technical and operational requirements as mentioned in section titled "WARRANTY SUPPORT"" are not available to Gov. of W. Bengal and its user departments and organizations.

"WTL" means Webel Technology Limited a Govt. of W. Bengal undertaking.

2. **PRE BID MEETING**

   Pre Bid Meeting will be held on 26.09.2023 at 15:00 hrs. (Off-**Line Meeting**). Bidder can send their queries as per format (Section - N) to Manager (Purchase) (purchase@wtl.co.in) before 26.09.2023 at 12.00 noon. Only the queries received within the stipulated date prior to the Pre Bid Meeting will be answered. Interest bidders are requested to participation in the offline pre-bid meeting. Only bidders who will send the pre-bid queries will be allowed to participate in the pre-bid meeting accompanied with only one person. The venue of the pre-bid meeting will be Board Room, Webel Technology Limited, Plot-5, Block-BP, Sector-V, Salt Lake City, Kolkata – 700091.

3. **COST OF BIDDING**

   The bidder shall bear all costs associated with the preparation and submission of the bid and WTL will no case be responsible for those costs regardless of the conduct or outcome of the bidding process.

4. **BID DOCUMENT**

   Bidder is expected to examine all instructions, forms, terms and requirement in the bid document. The invitation to bid together with all its attachment thereto shall be considered to be read, understood and accepted by the bidder unless deviations are specifically stated in the seriatim by the bidder. Failure to furnish all information required by the bid document or a bid not substantially responsive to the bid document in every respect may result of the bid.

5. **AMENDMENT OF BID DOCUMENT**

   At any time prior to the deadline for submission of proposals, WTL reserves the right to add/modify/delete any portion of this document by issuance of an Corrigendum, which would be published on the website and will also be made available to the all the Bidder who have been issued the tender document. The Corrigendum shall be binding on all bidders and will form part of the bid documents.

6. **MODIFICATION AND WITHDRAWAL OF BIDS**

   As per the bidding process available in the tender. The bidder cannot modify or withdraw its bid after submission.

7. **LANGUAGE OF BID & CORRESPONDENCE**

   The proposal will be prepared by the Bidder in English language only. All the documents relating to the proposal (including brochures) supplied by the firm should also be in English, and the correspondence between the Bidder & WTL will be in English language only. The correspondence by fax/E-mail must be subsequently confirmed by a duly signed formal copy.

8. **BIDDER'S SOLUTION**

   The bidders are requested to study the Bill of Material supplied with this document carefully. While working out the solution the bidder has to work with the broad minimum specification provided in the tender documents, conforming to the model, make and Part number (wherever provided). While submitting the bid the bidder has to detail out all components needed to complete the system BOM. The bidder is required quote for each item retaining

all major components/sub system detailed and specified. As the contractor will be responsible for smooth functioning of the system, availability of spares during the tenure of the warranty period have to be take care by the contractor to maintain the guaranteed uptime.

9. EARNEST MONEY DEPOSIT (EMD) / TENDER FEE

The bidder shall furnish Online Receipt against payment of Tender Fees and Earnest Money Deposit.

10. REFUND OF EMD

EMD will be refunded to the unsuccessful bidders without interest by following guidelines of circular 3975-F(Y) dated 28/07/2016 on final selection of Successful Bidders.

11. FORFEITURE OF EMD

EMD made by Bidder may be forfeited under the following conditions:

If Bidder withdraws the proposal before the expiry of validity period.

During the evaluation process, if a Bidder indulges in any such activity as would jeopardize the process, the decision of WTL regarding forfeiture of EMD shall be final and shall not be called upon question under any circumstances.

If Bidder violates any of the provisions of the terms and conditions of the proposal.

In the case of a successful Bidder, if Bidder fails to:
   a) Accept the work order along with the terms and conditions.
   b) Furnish performance security.
   c) Violates any of the work conditions of this proposal or indulges in any such activities as would   jeopardize the work.
   d) Submitting false/misleading information/declaration/documents/proof/etc.

The decision of WTL regarding forfeiture of EMD shall be final and shall not be called upon to question under any circumstances, besides, forfeiture of EMD even the Bidder will be deferred from participating in any job for a period of one year.

12. FORMS AND FORMATS

The various inputs for the Techno Commercial as Financial Bids are to be submitted in the format specified. The bidder shall use the form, wherever specified, to provide relevant information. If form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the said information. For all other cases, the bidder shall design a form to hold the required information.

13. LACK OF INFORMATION TO BIDDER

The bidder shall be deemed to have carefully examined the Bid document to his entire satisfaction. Any lack of information shall not relieve the bidder of his responsibility to fulfill his obligation under the bid. If bidder has any queries relating to bid document then he can send the queries before the Pre Bid Meeting.

14. CONTRACT EXECUTION

On receipt of the Letter of Award the contractor should submit a Performance Bank Guarantee (PBG) equivalent to 10% of the total contract value within three weeks from the date of receipt of Letter of Award/Order. The PBG should be valid for six months more than the warranty period. All delivery of the material will have to be completed within 12 weeks from the date of acceptance of contract and the System Integrator will be responsible for supply, Installation and Commissioning (SITC) within 16 Weeks from the date of issuance of Work Order/LoI (which is prior)

15. TIME SCHEDULE FOR DELIVERY & INSTALLATION

Materials will be delivered in the below listed PS. SI will be responsible for Installation, Testing and Commissioning (SITC) of the Project as per Scope with 16 weeks from the date of issuance of Work Order/LoI (Which is prior)

16. LIQUIDATED DAMAGE / PENALTY

Be-spoke Software & ICCC Platform:
LD clause: i. 0.5% of the total Software bill value of this segment for every 168 hours delay in meeting the delivery schedule

Hardware: LD clause:

a. 0.5% of the total Hardware bill value of this segment for every 168 hours delay in meeting the delivery schedule
b. 1.0% of the total year wise SLA bill value for the Hardware segment for every cumulative machinehour (machine x hour) fault rectification delay beyond the response time fixed in the SLA c. The maximum deductible is capped at 10% of the total year wise SLA value. Vendor Termination Clause: - i. Termination possibility of MSI in the case of multiple cases of failure to meet SLA terms beyond monthly commitments for 6 continuous months

WTL reserves the right to terminate the contract and WTL will get the job completed by any other competent party. The difference of cost incurred by WTL will be recovered from the contractor and PBG will be invoked.

17. **LIABILITY**

In case of a default on bidder's part or other liability, WTL shall be entitled to recover damages from the Contractor. In each such instance, regardless of the basis on which WTL is entitled to claim damages from the Contractor (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), Contractor shall be liable for no more than:

- Payment referred to in the Patents and Copyrights clause.
- Liability for bodily injury (including death) or damage to real property and tangible personal property limited to that cause by the Contractor's negligence.
- As to any other actual damage arising in any situation involving non-performance by Contractor pursuant to or in any way related to the subject of this Agreement, the charge paid by WTL for the individual product or Service that is the subject of the Claim. However, the contractor shall not be liable for
- For any indirect, consequential loss or damage, lost profits, third party loss or damage to property or loss of or damage to data.

For any direct loss or damage that exceeds the total payment for Contract Price made or expected to be made to the Contractor hereunder.

18. **PATENTS & COPYRIGHT**

If a third party claims that a product delivered by the Contractor to WTL infringes that party's patent or copyright, the Contractor shall defend WTL against that claim at Contractor's expense and pay all costs, damages, and attorney's fees that a court finally awards or that are included in a settlement approved by the Contractor, provided that WTL.

- Promptly notifies Contractor in writing of the claim
- Allows Contractor to control and co-operate with Contractor in the defense and any related settlement negotiations.

Remedies: If such a claim is made or appears likely to be made, WTL would permit Contractor to enable WTL to continue to use the product, or to modify it, or replace it with one that is at least functionally equivalent. If Contractor determines that none of these alternatives is reasonably available, WTL agrees to return the product to Contractor on Contractor's written request. Contractor will then give WTL a credit equal to for a machine. WTL's net book value (provided WTL has followed generally accepted accounting principles for a generally available software product produced by Contractor (Program) the amount paid by WTL or 12 months charges (which ever is lesser) and for materials the amount paid by WTL for the materials. These will be Contractor's entire obligation regarding any claim of infringement.

19. **SUSPENSION OF WORK**

WTL shall have the power at any time and from time to time by notice to the Contractor to delay or suspend the progress of the work or any part of the work due to any other adequate reasons and on receipt of such notice the contractor shall forthwith suspend further progress of the work until further notice from WTL. The Contractor shall recommence work immediately after receiving a notice to do so from WTL. The whole or any part of the time lost for such delay or suspension shall, if WTL in its absolute discretion thinks fit, but not otherwise, be added to the time allowed for completion.

20. **TERMS OF PAYMENT**

Payment terms will be on back-to-back basis; i.e., payment will be made only on receipt of payment from relevant Customer/ Department of GoWB. Payment will be 80% on material delivery and 20% against installation and commissioning. Payment should be through Cheque in favour of "Webel Technology Limited" or through Net Banking.

On successful installation bidder to get installed equipments with actual serial **no. duly certified by respective OEM for Three years warranty coverage. Any change in equipment serial no. should be reflected in OEM website. Final Bills will be submitted after completion of this activity.**

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21. GOVERNING LAWS

This contract should be governed by and interpreted by Arbitration clause in accordance with Laws in force in India. The courts at Kolkata shall have exclusive jurisdiction in all matters arising under the contract. The selected vendor shall keep himself fully informed of all current national, state and municipal law and ordinances. The selected vendor shall at their own expense, obtain all necessary permits and license and pay all fees and taxes required by law. These will be selected vendor's entire obligation regarding any claim of infringement. The selected vendor hereto agrees that it shall comply with all applicable union, state and local laws, ordinances, regulations and codes in performing its obligations hereunder, including the procurement of licenses, permits certificates and payment of taxes where required. The selected vendor shall establish and maintain all proper records (particularly, but without limitation, accounting records) required by any law, code/practice of corporate policy applicable to it from time to time including records and returns as applicable under labor legislation.

22. CORRUPT OR FRAUDULENT

The Tender Committee requires that the bidders under this Tender observe the highest standards of ethics during the procurement and execution of such contracts. For this purpose, the definition of corrupt and fraudulent practices will follow the provisions of the relevant laws in force. The Tender Committee will reject a proposal for award if it detects that the bidder has engaged in corrupt or fraudulent practices in competing for the contract in question. The Tender Committee will declare a firm ineligible, either indefinitely or for a stated period of time, if it at any time determines that the firm has engaged in corrupt and fraudulent practices in competing for, or in executing, a contract.

23. BIDING CLAUSE

All decisions taken by the Tender Committee regarding the processing of this tender and award of contract shall be final and binding on all parties concerned.
The Tender Committee reserves the right:
- To vary, modify, revise, amend or change any of the terms and conditions mentioned above and,
- To reject any or all the Tender/s without assigning any reason whatsoever thereof or to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the grounds for such decision.

24. WORKMEN'S COMPENSATION

In every case in which by virtue of the provision of the workmen's compensation Act 1923 or any other relevant acts and rules, compensation to a workmen employed by the contractor, is payable, then this should be done by the Contractor. If WTL is obliged to make any compensation under the said rules and acts, then the amount shall be recovered without prejudice, from the bills and due of the Contractor. WTL shall not be bound to contest any claim made against the Contractor in respect of workmen's compensation.

25. CONTRACTOR'S EMPLOYEES

The Contractor shall comply with the provision of all labour legislation including the requirement of the payment of Wage Act 1936 and the rules framed there under and modifications thereof in respect of men employed by him in carrying out the contract. The Contractor must ensure that he complies with PF, ESI regulation for all his deployed employees. The Contractor shall see that all authorized Sub Contractors under him similarly complied with the above requirement.

26. SAFETY MEASURES

The Contractor shall in the course of execution of the work take all necessary precaution for the protection of all persons and property. The Contractor shall take adequate measures to protect the work and present accident during the work. In the event of any accident to any person or persons or damage or injury of any description to any person or property due to failure on the part of the contractor in taking proper precautionary measures the contractor shall be responsible for and must make good the loss the damage at his own cost to the satisfaction of the department and employees of the department shall be indemnified from all claims or liabilities arising there from or any expenses incurred on account thereof.

27. EQUIPMENT

All tools & tackles necessary for the work shall have to be procured by the contractor unless other wise specified elsewhere in these tender documents. The equipment used by the contractor for a particular work must be appropriate for the type of work. The contractor shall maintain the equipment used on the work properly so that they are in good working condition. In no case shall the contractor use defective or imperfect equipment in the work. The contractor shall arrange to replace or repair all defective equipment so that the progress of the work is not hampered. No defective equipment should be left at the site of work and the department shall not be responsible for any loss or damage to any of these equipments during the course of the execution of the work.

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28. SUB-CONTRACT

The purchaser (WTL) does not recognize the existence of Sub-Contractors. The Contractor's responsibility is not transferable. No consortium partner is allowed.

29. TERMINATION FOR DEFAULT

WTL may without prejudice to any other remedy or right of claim for breach of contract by giving not less than 30 days written notice of default sent to the contractor, terminate the order in whole or in part. If the contractor materially fails to render any or all the services within the time period specified in the contract or any extension thereof granted by WTL in writing and fails to remedy its failure within a period of thirty days after receipt of default notice from WTL. If the project (delivery, commissioning as well as warranty maintenance support is not carried out according to specification due to deficiency in service as per terms of the contract. In such case WTL will invoke the amount held back from the contractor as PBG.

30. BANKRUPTCY

If the contractor becomes bankrupt or have a receiving order made against him or compound with his creditors or being a corporation commence to be wound up, not being a voluntary winding up for the purpose only or amalgamation or reconstruction, or carry on their business under a receiver for the benefit of their creditors or any of them, WTL shall be at liberty to terminate the engagement forthwith without any notice in writing to the contractor or to the liquidator or receiver or to any person in whom the contractor may become vested and without any compensation to give such liquidator or receiver or other person the option of carrying out the engagement subject to their providing a guarantee for the due and faithful performance of the engagement up to an amount to be determined by WTL.

31. FORCE MAJEURE

It is hereby defined as any cause, which is beyond the control of the Contractor or WTL as the case may be, which such party could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affect the performance of the contract, such as

- War, Hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war.
- Rebellion, revolution, insurrection, mutiny, usurpation of civil or military, government, conspiracy, riot, civil commotion and terrorist area.
- Confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de facto authority or ruler, or any other act or failure to act of any local state or national government authority.
- Strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage of power supply epidemics, quarantine and plague.
- Earthquake, landslide, volcanic activity, fire flood or inundation, tidal wave, typhoon or cyclone, hurricane, nuclear and pressure waves or other natural or physical disaster.

If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances of the event of Force Majeure within fourteen days after the occurrence of such event. The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed.

The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upto its or their performance of the Contract and to fulfill its or their obligation under the Contract but without prejudice to either party's right to terminate the Contract.

No delay or nonperformance by either party to this Contract caused by the occurrence of any event of Force Majeure shall.

- Constitute a default or breach of the contract.
- Give rise to any claim fro damages or additional cost or expense occurred by the delay or nonperformance. If, and to the extent, that such delay or nonperformance is caused by the occurrence of an event of Force Majeure.

32. INSURANCE COVERAGE

Appropriate insurance to cover all solution components for the transit period and until the time of its acceptance at the respective site is to be taken by the contractor. As the contractor will carry the risk for the material in his books during transit, the contractor should arrange insurance for the total system as period from the dispatch till Acceptance Test is successfully achieved. Further the contractor is to take all required insurance coverage in respect of all its personnel who shall be working on this engagement.

33. WARRANTY

The OEM on behalf of bidder will warranty that products supplied under the contract are newly made and are free from defects in the design, engineering and workmanship. The SI would be responsible for the up keep and maintenance of the all types of Surveillance Cameras, ANPR Camera, Storage & VMS and necessary deliverables under the scope of work during the entire warranty period, i.e. 36 months from the date of final acceptance of the system by the user or 38 months from date of delivery, whichever is earlier. Within warranty period, entrusted OEM will replace, re-integrate faulty, buggy components. The Contractor/OEM shall not, without the express prior written consent of WTL, assign to any third party of the contract or part thereof. Service support for the entire warranty period will be on site and comprehensive (including spares) and free of cost for the entire warranty period. Warranty will be invalid if the equipment is serviced by unauthorized personnel of misuse is detected.SI may be kept adequate spare for uninterested support of 3 years.

34. WARRANTY SUPPORT & SLA

As per Section - R

35. PERFORMANCE BANK GUARANTEE (PBG)

As a guarantee for timely delivery, installation and commissioning of equipment as well as performance of on-site warranty support, as mentioned in Bill of Material, from the date of final acceptance of systems and pertaining to proper running of the systems, the bidder will have to submit 10% of the contract value as security in the form of Performance Bank Guarantee from any nationalized bank as per format enclosed (Section – Q).

36. SI/BIDDER/CONTRACTOR'S RESPONSIBILITIES

Refer Section – A (Scope of Work & Responsibility)

37. NO WAIVER OF RIGHTS

Neither the inspection by WTL or any of their agents nor any order by WTL for payment of money or any payment for or acceptance of the whole or any part of the works by WTL, nor any extension of time, nor any possession taken by WTL shall operate as a waiver of any provision of the contract or of any power reserved to WTL, or any right to damages here in provided, nor shall any waiver of any breach in the contract be held to be a waiver of any other subsequent breach.

38. GRAFTS, COMMISSIONS, GIFTS, ETC.

It is the Purchaser's policy to require that bidders, suppliers, contractors and consultants under contracts, observe the highest standard of ethics during the procurement and execution of such contracts. Any graft, commission, gift or advantage given, promised or offered by or on behalf of the contractor or his partner, agent, officers, director, employee or servant or any one on his or their behalf in relation to the obtaining or to the execution of this or any other contract with WTL shall in addition to any criminal liability which it may incur, subject the contractor to the cancellation of this and all other contracts and also to payment of any loss or damage to WTL resulting from any cancellation. WTL shall then be entitled to deduct the amount so payable from any monies otherwise due to the contractor under contract.

39. ENFORCEMENT OF TERMS

The failure of either party to enforce at any time any of the provision of this contract or any rights in respect thereto or to exercise any option here in provided shall in no way be construed to be a waiver to such provisions, rights or options or in any way to affect the validity of the contract. The exercise by either party of any of its rights herein shall not preclude or prejudice either party from exercising the same or any other right it may have hereunder.

40. PERIOD OF VALIDITY OF OFFER

For the purpose of placing the order, the proposals shall remain valid till 180 days. During the period of validity of proposals, the rates quoted shall not change. In exceptional circumstances, WTL may ask for extension of the period of validity and such a request shall be binding on Bidders. WTL's request and the response to such a request by various Bidders shall be in writing. A Bidder agreeing to such an extension will not be permitted to increase its rates.

41. TAXES & DUTIES

- The prices shall be inclusive of all taxes & levies including GST and other statutory duties as applicable. Rate of taxes should be indicated separately in the Price Bid.
- Contract Price specified in Price Bid should be based on the taxes & duties and charges prevailing at the date one day prior to the last date of Bid submission.
- Statutory deduction, wherever applicable, shall be made from invoice as per government rules. Necessary certificate will be issued for such deductions.
- Bidder submitting a bid shall produce valid statutory documents / certificates with respect to GST, Income Tax, ROC, Prof. Tax, Trade License, etc. All such documents / certificates shall remain valid on the last date of tender submission.
- In case of inter-state transaction, WTL will provide "Waybill". However, statutory charges, if any will be borne by the bidder.
- GST component of the invoice of the bidder may be kept on hold in case there ia any mismatch / irregularity in GST return filling on the part of the bidder.

42. DISCREPANCIES IN BID
- Discrepancy between description in words and figures, the rate which corresponds to the words quoted by the bidder shall be taken as correct.
- Discrepancy in the amount quoted by the bidder due to calculation mistake of the unit rate then the unit rate shall be regarded as firm.
- Discrepancy in totaling or carry forward in the amount quoted by the bidder shall be corrected.

43. BID DUE DATE
The online tender has to submitted not later than the due date and time specified in the Important Dates Sheet. WTL may as its discretion on giving reasonable notice by fax, or any other written communication to all prospective bidders who have been issued the bid documents, extend the bid due date, in which case all rights and obligations of the WTL and the bidders, previously subject to the bid due date, shall thereafter be subject to the new bid due date as extended.

44. LATE BID
Any proposal received by WTL after the deadline for submission of proposals may not be accepted.

45. OPENING OF BID BY WTL
Bids shall be opened and downloaded electronically through operation of the process in the e-Tender portal in presence of Tender Committee. Bidders interested to remain present during electronic bid opening may attend the bid opening session at WTL premises at scheduled date & time.

46. CONTACTING WTL
Bidder shall not approach WTL officers beyond office hours and/or outside WTL office premises from the time of the Bid opening to the time of finalization of successful bidder. Any effort by bidder to influence WTL office in the decision on Bid evaluation, Bid comparison or finalization may result in rejection of the Bidder's offer. If the bidder wishes to bring additional information to the notice of WTL, it should be in writing following the procedure mentioned hereinabove.

47. WTL'S RIGHT TO REJECT ANY OR ALL BIDS
WTL reserves the right to reject any bid and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the grounds for such decision.

48. BID CURRENCIES
Prices shall be quoted in Indian Rupees, inclusive of all prevailing GST, levies, duties, cess etc.

49. PRICE
- Price should be quoted in the Price Bid format only. No deviation in any form in the Price Bid sheet is acceptable.
- Price quoted should be firm, inclusive of packing, forwarding, insurance and freight charges.
- Percentage/specified amount of taxes & duties should be clearly mentioned otherwise WTL reserves the right to reject such vague offer.
- Price to be quoted inclusive of supply, installation & commissioning charges.

50. CANVASSING

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Canvassing or support in any form for the acceptance of any tender is strictly prohibited. Any bidder doing so will render him liable to penalties, which may include removal of this name from the register of approved Contractors.

51. NON-TRANSFERABILITY OF TENDER
This tender document is not transferable.

52. FORMATS AND SIGNING OF BID
The original and all copies of the proposals shall be neatly typed and shall be signed by an authorized signatory(ies) on behalf of the Bidder. The authorization shall be provided by written Power of Attorney accompanying the proposal. All pages of the proposal, except for un-amended printed literature, shall be initialed by the person or persons signing the proposal. The proposal shall contain no interlineations, erase or overwriting. In order to correct errors made by the Bidder, all corrections shall be done & initialed with date by the authorized signatory after striking out the original words/figures completely.

53. WITHDRAWAL OF BID
Bid cannot be withdrawn during the interval between their submission and expiry of Bid's validity period. Fresh Bid may be called from eligible bidders for any additional item(s) of work not mentioned herein, if so required.

54. INTERPRETATION OF DOCUMENTS
If any bidder should find discrepancies or omission in the specifications or other tender documents, or if he should be in doubt as to the true meaning of any part thereof, he shall make a written request to the tender inviting authority for correction/clarification or interpretation or can put in a separate sheet along with his technical bid document.

55. SPLITTING OF THE CONTRACT AND CURTAILMENT OF WORK
WTL reserve the right to split up and distribute the work among the successful bidders and to curtail any item of work in the schedule partly or fully.

56. PREPARATION OF TENDER
Tender shall be submitted in accordance with the following instructions:
   a) Tenders shall be submitted in the prescribed forms. Digital signatures shall be used. Where there is conflict between the words and the figures, the words shall govern.
   b) All notations must be in ink or type written. No erasing or overwriting will be permitted. Mistakes may be crossed out and corrections typed or written with ink adjacent thereto and must be initialed in ink by the person or persons signing the tender.
   c) Tenders shall not contain any recapitulation of the work to be done. Alternative proposals will not be considered unless called for. No written, oral, telegraphic or telephonic proposals for modifications will be acceptable.
   d) Tenders shall be uploaded as notified on or before the date and time set for the opening of tenders in the Notice Inviting Tenders.
   e) Tenders subject to any conditions or stipulations imposed by the bidder are liable to be rejected.
   f) Each and every page of the tender document must be signed with company seal by the bidder.
   g) Any bidder may withdraw his tender by written request at any time prior to the scheduled closing time for receipt of tenders and not thereafter.

57. PRE-DISPATCH INSTRUCTION
All materials / equipments supplied against the purchase order shall be subjected to Inspection, check and /or test by the authorized representative from WTL.

58. FINAL INSPECTION
Final inspection will be carried by the authorized representative from WTL.

59. SITE INSPECTION
Bidder can inspect (at their own cost) the sites if required, for which they have to take necessary permission from WTL in writing. WTL will take at least four days to organize such permission.

60. ERASURES OR ALTERNATIONS
The offers with overwriting and erasures may make the tender liable for rejection if each of such overwriting/erasures/manuscript ions is not only signed by the authorized signatory of the bidder. There should be no hand-written material, corrections or alterations in the offer. Technical details must be completely filled up. Correct technical information of the product being offered must be filled in. Filling up of the information using terms

such as "OK", "accepted", "noted", "as given in brochure/manual" is not acceptable. The Customer may treat offers not adhering to these guidelines as unacceptable. The Customer may, at its discretion, waive any minor non-conformity or any minor irregularity in the offer. This shall be binding on all bidders and the Tender Committee reserves the right for such waivers.

61. COMPLIANCE WITH LAW

The contractor hereto agrees that it shall comply with all applicable union, state and local laws, ordinances, regulations and codes in performing its obligations hereunder, including the procurement of licenses, permits certificates and payment of taxes where required. The contractor shall establish and maintain all proper records (particularly, but without limitation, accounting records) required by any law, code/practice of corporate policy applicable to it from time to time including records and returns as applicable under labor legislation.

62. CLARIFICATION OF BIDS

During evaluation of the bids, the Customer/Tender Committee, at its discretion may ask the bidder for clarification of its bid. The request for the clarification and the response shall be in writing (fax/email) and no change in the substance of the bid shall seek offered or permitted.

63. DEEMED ACCEPTANCE

Deliverables will be deemed to be fully and finally accepted by Personnel & Administrative Reforms in the event Personnel & Administrative Reforms has not submitted such Deliverable Review Statement to Bidder/Implementation Partner before the expiration of the 30-days review period, or when Personnel & Administrative Reforms uses the Deliverable in its business, whichever occurs earlier ("Deemed Acceptance").

64. QUALITY CONTROL

- The contractor is obliged to work closely with WTL and/or CTD, act within its authority and abide by directive issued by them on implementation activities.
- The contractor will abide by the safety measures and free WTL and CTD from all demands or responsibilities arising from accident/loss of life, the cause of which is due to their negligence. The bidder will pay all indemnities arising from such incidents and will not hold WTL and CTD responsible.
- The contractor will treat as confidential all data and information about the system, obtained in the execution of its responsibilities in strict confidence and will not reveal such information to any party without the prior written approval of WTL/CTD.
- WTL reserves the right to inspect all phases of contractor's operation to ensure conformity to the specifications. WTL shall have engineers, inspectors or other duly authorized representatives made known to the contractor, present during the progress of the work and such representatives shall have free access to the work at all times. The presence or absence of representatives of WTL does not relieve the contractor of the responsibility for quality control in all phases.
- The Court of Kolkata only will have the jurisdiction to deal with and decide any legal matters or dispute whatsoever arising out of the contract.

65. SITE NOT READY

The bidder shall not be in any manner liable for any delay arising out of concern department inability to make the site ready within the stipulated period.

66. GENERAL TERMS

a) All the pages of the bid document including documents submitted therein must be duly signed and stamped failing which the offer shall be liable to be rejected.

b) All the documents to be submitted by the bidder along with their offer should be duly authenticated by the person signing the offer and if at any point of time during procurement process or subsequently it is detected that documents submitted are forged/tampered/manipulated in any way, the total responsibility lies with the bidder and WTL reserves the full right to take action as may be deemed fit including rejection of the offer and such case is to be kept recorded for any future dealing with them.

c) No Technical/Commercial clarification will be entertained after opening of the tender.

d) Overwriting and erasures may make the tender liable for rejection if each of such overwriting/erasures/manuscription is not only signed by the authorized signatory of the bidder. All overwriting should be separately written and signed by the authorized signatory of the bidder.

e) Quantity mentioned in the tender document is indicative only and orders shall be placed subject to actual requirement. WTL reserve the right to increase or decrease the quantity specified in the tender.

f) WTL reserve the right to reject or accept or withdraw the tender in full or part as the case may be without assigning the reasons thereof. No dispute of any kind can be raised the right of buyer in any court of law or elsewhere.

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g) WTL reserve the right to ask for clarification in the bid documents submitted by the bidder. Documents may be taken if decided by the committee.

h) Supporting technical brochures / catalogues indicating each feature in respect of offered model and make must be submitted along with the offer, in absence of which the offer is liable to be ignored.

i) No dispute by the bidders in regard to Technical/Commercial points will be entertained by WTL and decision taken by the Tender Committee will be final.

j) Discrepancy in the amount quoted by the bidder due to calculation mistake, the unit rate shall be regarded as firm and the totaling or carry in the amount quoted by the bidder shall be corrected accordingly.

k) The price offers shall remain firm within the currency of contract and no escalation of price will be allowed.

l) The acceptance of the tender will rest with the accepting authority who is not bound to accept the lowest or any tender and reserves the right to reject in part or in full any or all tender(s) received and to split up the work among participants without assigning any reason thereof.

m) The customer/WTL at its discretion may extend the deadline for the submission of Bids.

n) The Court of Kolkata only will have the jurisdiction to deal with and decide any legal matters or dispute whatsoever arising out of the contract.

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SECTION – E

BID FORM

(Bidders are requested to furnish the Bid Form in the Format given in this section, filling the entire Blank and to be submitted on Letter Head in original)

To
Webel Technology Limited
Plot – 5, Block – BP, Sector - V,
Salt Lake City,
Kolkata – 700091.

Sub: Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore, Bidhannagar and Howrah Police Commissionerate, West Bengal

Dear Sir,

1. We the undersigned bidder/(s), having read and examined in details the specifications and other documents of the subject tender no. WTL/PC/CCTV/23-24/029 dated 21.09.2023, do hereby propose to execute the job as per specification as set forth in your Bid documents.

2. The prices of all items stated in the bid are firm during the entire period of job irrespective of date of completion and not subject to any price adjusted as per in line with the bidding documents. All prices and other terms & conditions of this proposal are valid for a period of 180 (one hundred eighty) days from the date of opening of bid. We further declare that prices stated in our proposal are in accordance with your bidding.

3. We confirm that our bid prices include all other taxes and duties and levies applicable on bought out components, materials, equipments and other items and confirm that any such taxes, duties and levies additionally payable shall be to our account.

4. Earnest Money Deposit: We have transferred EMD amount online through e-Tender portal.

5. We declare that items shall be executed strictly in accordance with the specifications and documents irrespective of whatever has been stated to the contrary anywhere else in our proposal. Further, we agree that additional conditions, deviations, if any, found in the proposal documents other than those stated in our deviation schedule, save that pertaining to any rebates offered shall not be given effect to.

6. If this proposal is accepted by you, we agree to provide services and complete the entire work, in accordance with schedule indicated in the proposal. We fully understand that the work completion schedule stipulated in the proposal is the essence of the job, if awarded.

7. We further agree that if our proposal is accepted, we shall provide a Performance Bank Guarantee of the value equivalent to Ten (10%) of the Order value as stipulated in Financial Bid (BOQ).

8. We agree that WTL reserves the right to accept in full/part or reject any or all the bids received or split order within successful bidders without any explanation to bidders and his decision on the subject will be final and binding on Bidder.

Dated, this …………………..day of ……………………2023

Thanking you, we remain

WTL/PC/CCTV/23-24/029

WEBEL TECHNOLOGY LIMITED

Yours faithfully

………………………………………………
Signature

………………………………………………..
Name in full

………………………………………………..
Designation

Signature & Authorized Verified by

………………………………………………
Signature

………………………………………………
Name in full

………………………………………………
Designation

………………………………………………
Company Stamp

WTL/PC/CCTV/23-24/029

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SECTION – F

TECHNO COMMERCIAL EVALUATION & AWARDING OF CONTRACT

1. **EVALUATION PROCEDURE**

   - Bidders should submit the required documents as per zone wise requirements mentioned in the tender.
   - The Eligibility Criteria (Section - B) will be evaluated by Tender Committee and those qualify will be considered for further evaluation.
   - The Tender Committee shall verify the zone wise Technical Specification (Technical Specification with Compliance Statement, Section – I) Deviation in specification shall not be allowed. Bidder qualified in zone wise Technical Specification shall be considered for further evaluation.
   - Bidder should submit all relevant documents for single zone/ multiple zones to qualify the Eligibility Criteria (Section-B) and Zone wise Technical Specification Compliance Statement (Section-I). Bidders applied for multiple zones must qualify in all zones for further process otherwise the bid will be considered as a disqualified bid.
   - After qualifying in zone wise Technical Specification, qualified bidders will only be considered for Financial Bid evaluation.

2. **FINAL EVALUATION**
   Financial Proposal of the bidders qualifying in the evaluation of zone wise Technical specification will be evaluated. The bidder who has qualified in the zone wise Technical evaluation and returns with zone wise lowest quote (L1) in financial bid would normally be awarded the contract subject to Post Qualification for each respective zone.

3. **AWARDING OF CONTRACT**
   An affirmative Post Qualification determination will be prerequisite for award of the contract to the Zone wise lowest quoted bidder. A negative determination will result in rejection of bidder's bid, in which event the WTL will proceed to the next lowest evaluated bidder to make a similar determination of that bidder's capability to perform satisfactorily. The successful bidder (s) will have to give security deposit in the form of Performance Bank Guarantee.

4. **POST QUALIFICATION**
   The determination will evaluate the Bidder's financial, technical, design, integration, customization, production, management and support capabilities and will be based on an examination of the documentary evidence of the Bidder's qualification, as well as other information WTL deems necessary and appropriate. This determination may include visits or interviews with the Bidder's client's reference in its bid, site inspection, and any other measures. At the time of post-qualification, Directorate may also carry out tests to determine that the performance or functionality of the Information System offered meets those stated in the detailed Technical Specification.

WTL/PC/CCTV/23-24/029

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SECTION – G

GUIDANCE FOR E-TENDERING

Instructions / Guidelines for electronic submission of the tenders have been annexed for assisting the Bidders to participate in e-Tendering.

- **Registration of Bidder:**
  Any Bidder willing to take part in the process of e-Tendering will have to be enrolled & registered with the Government e-Procurement System through logging on to **https://wbtenders.gov.in.** The Bidder is to click on the link for e-Tendering site as given on the web portal.

- **Digital Signature Certificate (DSC):**
  Each Bidder is required to obtain a Class-II or Class-III Digital Signature Certificate (DSC) for submission of tenders from the approved service provider of the National Informatics Centre (NIC) on payment of requisite amount. Details are available at the Web Site stated above. DSC is given as a USB e-Token.

- The Bidder can search & download N.I.T. & BOQ electronically from computer once he logs on to the website mentioned above using the Digital Signature Certificate. This is the only mode of collection of Tender Documents.

- **Participation in more than one work:**
  A prospective bidder shall be allowed to participate in the job either in the capacity of individual or as a partner of a firm. If, found to be applied severally in a single job all the applications will be rejected.

- **Submission of Tenders:**
  Tenders are to be submitted through online to the website stated above in two folders at a time, one in Techno Commercial Proposal & the other is Financial Proposal before the prescribed date & time using the Digital Signature Certificate (DSC). The documents are to be uploaded virus scanned copy duly Digitally Signed. The documents will get encrypted (transformed into non readable formats)

The proposal should contain scanned copies of the following in two covers (folders).

Techno Commercial Cover:

Technical Document 1 (scanned & join in pdf format then upload)
1. NIT Declaration duly stamped & signed in letter head of bidder (Section – S)

Technical Document 2 (scanned & join in pdf format then upload)
1. NIT Declaration duly stamped & signed in letter head of OEM (Section – T)
2. Bid Form as per format (Section – E)

Technical Compliance (scanned & joins in pdf format then upload)
1. Technical Specification With Compliance Statement (Section – I)
2. Manufacturer Authorization Form (Section – M)

Financial Cover:
BOQ will be downloaded and same will be uploaded with quoted rates. While uploading BOQ file name shall remain unchanged. Absence of this document shall lead to summary rejection of the bid.

NON-STATUTARY COVER (MY SPACE) CONTAIN FOLLOWING DOCUMENT:
   (In each folder, scanned coy will be uploaded with single file having multiple pages)

WEBEL TECHNOLOGY LIMITED

Sl. No.	Category Name	Sub Category Name	Sub Category Description
A	CERTIFICATES	A1. CERTIFICATES	• GST Registration Certificate • PAN • Trade License • As required
B	COMPANY DETAILS	B1. COMPANY DETAILS 1	• As required
		B2. COMPANY DETAILS 2	• Company Profile (Not more than 3-4 pages) • As required
C	CREDENTIAL	CREDENTIAL 1	Order copies as per Section – B
		CREDENTIAL 2	• Product brochure • Other documents, if any
D	DECLARATION	DECLARATION 1	List of Clients as per format (Section – P)
		DECLARATION 2	Financial Capability of Bidder as per format (Section – K)
		DECLARATION 3	Bidder's Details as per format (Section – L)
		DECLARATION 4	Details of Order Execution as per format (Section – J)
		DECLARATION 5	As required
F	FINANCIAL INFO	P/L & BALANCE SHEET 2020-2021	P/L & BALANCE SHEET 2020-2021
		P/L & BALANCE SHEET 2021-2022	P/L & BALANCE SHEET 2021-2022
		P/L & BALANCE SHEET 2022-2023	P/L & BALANCE SHEET 2022-2023

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SECTION – H

BILL OF MATERIAL FOR PROCUREMENT

Zone 1 - Bill of Quantity for Police Stations under Barrackpore Commissionerate including Central Control Room at CP Office & CCC Level Connectivity at CP Office

SL	DESCRIPTION	UNIT	QTY.
1	5 Megapixel Motorized Varifocal Bullet Camera (Zone 1)	Nos	149
2	4 Megapixel ANPR Camera (Zone 1)	Nos	12
3	3 Axis Camera Bracket for ANPR Camera (Zone 1)	Nos	12
4	2 Lane Cantilever Arm with Pole for ANPR Camera (Zone 1)	Nos	12
5	2 Megapixel 33x CMOS Sensor IR PTZ Network Camera (Zone 1)	Nos	5
6	Pole Mount PTZ Camera Fixing Bracket (Zone 1)	Nos	5
7	24V AC 5 Amp Power Supply for PTZ Camera (Zone 1)	Nos	5
8	SD Memory Card 256 GB (Z1	Nos	166
9	General Surveillance Management Server & Storage system (Zone 1)	Nos	3
10	8 TB SATA Enterprise HDD (Zone 1)1	Nos	21
11	16 Channel Standalone Network Video Recorder with 2 SATA HDD Support (Zone 1)	Nos	8
12	6 TB SATA Surveillance HDD (Zone 1)	Nos	12
13	8 Ethernet Port PoE Switch (Zone 1)	Nos	53
14	**Customize Rack** - Indoor / Outdoor Network / Customized Rack with Fan & other accessories (Zone 1)	Nos	53
15	600 VA Line Interactive UPS (Zone 1)	Nos	53
16	3 KVA Single Phase Online UPS with 2 hours Battery backup (Zone 1)	Nos	10
17	120 Mins Backup 12 V, 65 ah AH of SMF Battery with battery Rack with interconnecting cable	Nos	60
18	600 VA Automatic Voltage Stabilizer (Zone 1)	Nos	53
19	Smart Managed Switch having 24 Port / 16 Port 10/100/1000 BaseT Copper Ports with 2 x 1G SFP Slots (Zone 1)	Nos	9
20	49" UHD 4K Display, Operation Hours 24 (Zone 1)	Nos	11
21	Client PC (Zone 1)	Nos	5
22	Wireless Key Board and Mouse with USB Extension Cord	Nos	5
23	4K 5 Meter Length DP Cable with Mini DP Convertor (Zone 1)	Nos	11
24	17U, 600mm Width x 800mm Depth, Floor Standing Rack. **(As per Technical Specification** (Zone 1)	Nos	6
25	12U, 600mm Width x 600mm Depth, Wall Mount Rack with PDU, Fan & other accessories (Zone 1)	Nos	4
26	Double Pole 10 Amp Miniature Circuit Breaker with 5 Amp Socket and Gang Box (Zone 1)	Nos	53
27	8 Span Double Door DB Box with 32 Amp MCB 1 No. and 6 Amp MCB 6 Nos (Zone 1).	Nos	10
28	RJ-45 Connector (Zone 1)	Nos	410
29	Outdoor UTP CAT-6 Cable (Zone 1)	Meter	11895
30	4 sq MM FRLS Multi stand Power Cable (3 Different Colour x 90 Meter Each) (Zone 1)	Meter	3780
31	3 Core 1.5 sq MM Non-Armoured Power Cable (Zone 1)	Meter	6400

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32	20 MM ISI PVC straight Pipe or 3/4" PVC Casing with all accessories for Outdoor Wiring (Zone 1)	Meter	15200
33	Overhead and Surface Cable Laying Charge (Zone 1)	Meter	22075
34	UTP CAT-6 Patch Cord 2 Meters (Zone 1)	Nos	85
35	Wall / Pole Mount Outdoor Camera Bracket for Bullet, ANPR, & PTZ Camera (Zone 1)	Nos	166
36	7 Meter Height G.I Pole with Base Plate & Top Cover including RCC foundation with Installation. (Zone 1)	Nos	52
37	Dedicated Earth pit at Control Room location with 300mm x 300mm copper plate thickness of 3mm with 6ft GI pipe striping with 25x3mm copper and filling the same with Chemical & Sand. (Zone 1)	Nos	3
38	2 Ton Split Inverter AC 3 Star Copper (Zone 1)	Nos	6
39	24 X 7 Automatic Changeover switch for Control Room (Zone 1)	Nos	3
40	32 Amp MCB with 16A Power Socket (Zone 1)	Nos	3
41	Supply, Installation, Testing, Commissioning & Project Management Cost During 3 Years Warranty Period. (Zone 1)	Lumsum	1
42	6 Core Single Mode Armoured Fibre Optic Cable (Zone 1)	Meter	37150
43	12 Core Single Mode Unitube Armoured Fibre Optic Cable (Zone 1)	Meter	9950
44	24 Core Single Mode Multi-tube Armoured Fibre Optic Cable (Zone 1)	Meter	7000
45	Overhead Fiber Optic Cable Laying Charge(Zone 1)	Meter	54100
46	Termination Junction Box (TJB) (Zone 1)	Nos	116
47	Layer-3 Fully Managed Switch having 24 X 1Gbps SFP slots with 4x combo 10/100/1000 BaseT ports & 4 x 10G SFP+ Slots (Zone 1)	Nos	6
48	24 Port Rack Mount LIU Fully Loaded with Single Mode LC Adapters (Zone 1)	Nos	7
49	1 GB SM Simplex Fibre Optic Transceiver (For Core Switch) (up to 10km, support) (Zone 1)	Nos	174
50	LC - LC SM FO Patch Cord 5 Meter Length (Zone 1)	Nos	69
51	LC - LC SM FO Patch Cord 2 Meter Length (Zone 1)	Nos	61
52	Splicing Charge for OFC Cable (Zone 1)	Nos	1
53	OFC Backbone Maintenance Charge for 3 Years (Zone 1)	Meter	54100
54	Router for Broadband Connectivity (Zone 1)	Nos	10
55	Desktop type small form factor UTM Firewall Hardware Device (Zone 1)	Nos	10
56	One-time Infrastructure establishment charge for broadband connectivity at **Police Station** (Zone 1)	Nos	10
57	Dedicated Network Connectivity for **Police Statio**n for 36 Months (Zone 1)	Nos	10
58	Dedicated Public / Static IP Cost for **Police Station** location for 36 Months (Zone 1)	Nos	10
59	Additional 2 years AMC support of IP Based CCTV Surveillance System, Dedicated Public / Static IP & Fiber Optic Network Backbone Connectivity (Zone-1)	Lumsum	1

Central Control Room at CP Office

SL	DESCRIPTION	UNIT	QTY.
1	General Surveillance Management Server (Zone 1)	Nos	1
2	8 TB Sata Enterprise HDD (Zone 1)	Nos	2
3	Base License Video Monitoring Software (Zone 1)	Nos	1
4	Camera Connection License (Zone 1)	Nos	166
5	3 KVA Single Phase Online UPS with 2 hours Battery backup (Zone 1)	Nos	1

6	120 Mins Backup 12 V, 65 ah AH of SMF Battery with battery Rack with interconnecting cable	Nos	6
7	49" UHD 4K Display, Operation Hours 24 (Zone 1)	Nos	4
8	Client PC (Zone 1)	Nos	4
9	Wireless Key Board and Mouse with USB Extension Cord (Zone 1)	Nos	4
10	4K 5 Meter Length DP Cable with Mini DP Convertor (Zone 1)	Nos	4
11	Smart Managed Switch having 24 Port / 16 Port 10/100/1000 BaseT Copper Ports with 2 x 1G SFP Slots (Zone 1)	Nos	1
12	12U, 600mm Width x 600mm Depth, Wall Mount Rack with PDU, Fan & other accessories (Zone 1)	Nos	1
13	Double Pole 16 Amp Miniature Circuit Breaker with 16 Amp Socket and Gang Box (Zone 1)	Nos	1
14	5 Pin 6 AMP Power Socket with Gang Box (Zone 1)	Nos	10
15	8 Span Double Door DB Box with 32 Amp MCB 1 No. and 6 Amp MCB 6 Nos (Zone 1)	Nos	1
16	4 sq MM FRLS Multi stand Power Cable (3 Different Color x 90 Meter Each) (Zone 1)	Meter	540
17	20 MM ISI PVC straight Pipe or 3/4" PVC Cassing with all accessories for Outdoor Wiring (Zone 1)	Meter	80
18	Overhead and Surface Cable Laying Charge (Zone 1)	Meter	540
19	UTP CAT-6 Patch Cord 2 Meters (Zone 1)	Nos	2
20	UTP CAT-6 Patch Cord 5 Meters (Zone 1)	Nos	5
21	Dedicated Earth pit at Control Room location with 300mm x 300mm copper plate thickness of 3mm with 6ft GI pipe stripiing with 25x3mm copper and filling the same with Chemical & Sand. (Zone 1)	Nos	1
22	2 Ton Split Inverter AC 3 Star Copper (Zone 1)	Nos	2
23	24 X 7 Automatic Changeover switch for Control Room (Zone 1)	Nos	1
24	32 Amp MCB with 16A Power Socket (Zone 1)	Nos	1
25	Liaison & Management Cost for Broadband Connection (Zone 1)	Lot	1
26	Supply, Installation, Testing, Commissioning & Project Management Cost During 3 Years Warranty Period. (Zone 1)	Lumsum	1
27	Additional 2 years AMC support of Hardware equipments (Zone-1)	Lumsum	1

For CCC Level Connectivity at CP Office

28	Router for Broadband Connectivity (Zone 1)	Nos	1
29	One-time Infrastructure establishment charge for broadband connectivity at **CCC** (Zone 1)	Nos	1
30	Dedicated Network Connectivity for **CCC** Monitoring for 36 Months. (Zone 1)	Nos	1
31	Dedicated Public / Static IP Cost for **CCC** Monitoring location for 36 Months. (Zone 1)	Nos	1
32	Additional 2 years AMC support of Dedicated Public / Static IP & Fiber Optic Network Backbone Connectivity (Zone-1)	Lumsum	1

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Zone 2- Bill of Quantity for Police Stations under Bidhannagar Commissionerate

SL	DESCRIPTION	UNIT	QTY.
1	5 Megapixel Motorized Varifocal Bullet Camera (Zone 2)	Nos	187
2	4 Megapixel ANPR Camera (Zone 2)	Nos	53
3	3 Axis Camera Bracket for ANPR Camera (Zone 2)	Nos	53
4	2 Lane Cantilever Arm with Pole for ANPR Camera (Zone 2)	Nos	43
5	3/4 Lane Gantry for ANPR Camera`(Zone 2)	Nos	2
6	5/6 Lane Gantry for ANPR Camera (Zone 2)	Nos	2
7	2 Megapixel 33x CMOS Sensor IR PTZ Network Camera (Zone 2)	Nos	8
8	Pole Mount PTZ Camera Fixing Bracket (Zone 2)	Nos	8
9	24V AC 5 Amp Power Supply for PTZ Camera (Zone 2)	Nos	8
10	SD Memory Card 256 GB (Zone 2)	Nos	248
11	General Surveillance Management Server (Zone 2)	Nos	3
12	16 Bay Video Storage Device with 10TB Capacity for each HDD support (Zone 2)	Nos	3
13	10 TB Sata Enterprise HDD (Zone 2)	Nos	48
14	Base License Video Monitoring Software (Zone 2)	Nos	2
15	Surveillance Camera Connection License (Zone 2)	Nos	195
16	ANPR Camera Connection License (Zone 2)	Nos	53
17	8 Ethernet Port PoE Switch (Zone 2)	Nos	73
18	Customize Rack - Indoor / Outdoor Network / Customized Rack (Zone 2)	Nos	73
19	600 VA Line Interactive UPS (Zone 2)	Nos	73
20	6 KVA 1-Phase Input / 6 KW 1-Phase Output DSP Controlled IGBT Rectifier. **(As Per Technical Specification)**)	Nos	5
21	120 Mins Backup 12 V, 65 ah AH of SMF Battery with battery Rack with interconnecting cable	Nos	80
22	3 KVA Single Phase Online UPS with 2 hours Battery backup (Zone 2)	Nos	2
23	120 Mins Backup 12 V, 65 ah AH of SMF Battery with battery Rack with interconnecting cable	Nos	12
24	Layer-3 Fully Managed Switch having 24 X 10/100/1000 BaseT Copper Ports with 4x combo 1G SFP slots & 4 x 10G SFP+ Slots (Zone 2)	Nos	4
25	Layer-3 Fully Managed Switch having 24 X 1Gbps SFP slots with 4x combo 10/100/1000 BaseT ports & 4 x 10G SFP+ Slots (Zone 2)	Nos	5
26	Desktop type small form factor UTM Firewall Hardware Device (Zone 2)	Nos	2
27	49" UHD 4K Display, Operation Hours 24 (Zone 2)	Nos	7
28	Client PC (Zone 2)	Nos	7
29	Wireless Key Board and Mouse with USB Extension Cord	Nos	7
30	4K 5 Meter Length DP Cable with Mini DP Convertor (Zone 2)	Nos	7
31	42U, 800mm Width x 1000mm Depth, Floor Standing Rack. **(As Per Technical Specification** (Zone 2)	Nos	2
32	27U, 800mm Width x 800mm Depth, Floor Standing Rack. **(As Per Technical Specification)** (Zone 2)	Nos	1
33	17U, 600mm Width x 800mm Depth, Floor Standing Rack. **(As Per Technical Specification)** (Zone 2)	Nos	1
34	24 Port Rack Mount LIU Fully Loaded with Single Mode LC Adapters (Zone 2)	Nos	6
35	1 GB SM Duplex Fiber Optic Transceiver (For Core Switch) (up to 10km, support) (Zone 2)	Nos	218

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36	10 GB SM Duplex Fiber Optic Transceiver (For Core Switch) (up to 10km, support) (Zone 2)	Nos	14
37	LC - LC SM FO Patch Cord 5 Meter Length (Zone 2)	Nos	50
38	LC - LC SM FO Patch Cord 2 Meter Length (Zone 2)	Nos	12
39	Splicing Charge for OFC Cable (Zone 2)	Nos	1
40	Balloon Type Termination Junction Box (TJB) (Zone 2)	Nos	110
41	Double Pole 10 Amp Miniature Circuit Breaker with 5 Amp Socket and Gang Box (Zone 2)	Nos	73
42	8 Span Double Door DB Box with 32 Amp MCB 1 No. and 6 Amp MCB 6 Nos (Zone 2).	Nos	7
43	RJ-45 Connector (Zone 2)	Nos	600
44	Outdoor UTP CAT-6 Cable (Zone 2)	Meter	14640
45	4 sq MM FRLS Multistand Power Cable (3 Different Color x 90 Meter Each) (Zone 2)	Meter	2430
46	3 Core 1.5 sq MM Non-Armored Power Cable (Zone 2)	Meter	6500
47	20 MM ISI PVC straight Pipe or 3/4" PVC Casing with all accessories for Outdoor Wiring (Zone 2)	Meter	18200
48	Overhead and Surface Cable Laying Charge (Zone 2)	Meter	23570
49	UTP CAT-6 Patch Cord 2 Meters (Zone 2)	Nos	20
50	Wall / Pole Mount Outdoor Camera Bracket for Bullet, ANPR, & PTZ Camera (Zone 2)	Nos	248
51	7 Meter Height G.I Pole with Base Plate & Top Cover including RCC foundation with Installation. (Zone 2)	Nos	51
52	2 Ton Split Inverter AC 3 Star Copper (Zone 2)	Nos	5
53	24 X 7 Automatic Changeover switch for Control Room (Zone 2)	Nos	3
54	32 Amp MCB with 16A Power Socket (Zone 2)	Nos	3
55	6 Core Single Mode Armored Optical Fiber Cable (Zone 2)	Meter	5000
56	12 Core Single Mode Uni-tube Armored Optical Fiber Cable (Zone 2)	Meter	32500
57	24 Core Single Mode Multi-Tube Armored Optical Fiber Cable (Zone 2)	Meter	11000
58	Overhead Fiber Optic Cable Cable Laying Charge (Zone 2)	Meter	48500
59	OFC Backbone Maintenance Charge for 3 Years (Zone 2)	Meter	48500
60	Supply, Installation, Testing, Commissioning & Project Management Cost During 3 Years Warranty Period. (Zone 2)	Lump sum	1
61	Additional 2 years AMC support of IP Based CCTV Surveillance System, Dedicated Public / Static IP & Fiber Optic Network Backbone Connectivity (Zone-2)	Lump sum	1

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Zone 3- Bill of Quantity for Police Stations under Howrah Commissionerate

SL	DESCRIPTION	UNIT	QTY.
1	5 Megapixel Motorized Varifocal Bullet Camera (Zone 3)	Nos	165
2	4 Megapixel ANPR Camera (Zone 3)	Nos	8
3	3 Axis Camera Bracket for ANPR Camera (Zone 3)	Nos	8
4	2 Lane Cantilever Arm with Pole for ANPR Camera (Zone 3)	Nos	8
5	2 Megapixel 33x CMOS Sensor IR PTZ Network Camera (Zone 3)	Nos	2
6	Pole Mount PTZ Camera Fixing Bracket (Zone 3)	Nos	2
7	24V AC 5 Amp Power Supply for PTZ Camera (Zone 3)	Nos	2
8	2 Megapixel Fixed Lens Dome Camera, 3.6 mm lens, 20 Meter IR Range (Zone 3)	Nos	1
9	SD Memory Card 256 GB (Zone 3)	Nos	175
10	General Surveillance Management Server (Zone 3)	Nos	3
11	16 Bay Video Storage Device with 10TB Capacity for each HDD support (Zone 3)	Nos	4
12	10 TB Sata Enterprise HDD (Zone 3)	Nos	64
13	Base License Video Monitoring Software (Zone 3)	Nos	1
14	Surveillance Camera Connection License (Zone 3)	Nos	168
15	ANPR Camera Connection License (Zone 3)	Nos	8
16	8 Ethernet Port PoE Switch (Zone 3)	Nos	60
17	Customize Rack - Indoor / Outdoor Network / Customized Rack (Zone 3)	Nos	58
18	600 VA Offline UPS (Zone 3)	Nos	58
19	3 KVA Single Phase Online UPS with 2 hours Battery backup (Zone 3)	Nos	4
20	120 Mins Backup 12 V, 65 ah AH of SMF Battery with battery Rack with interconnecting cable	Nos	24
21	600 VA Automatic Voltage Stabilizer (Zone 3)	Nos	58
22	Layer-3 Fully Managed Switch having 24 X 10/100/1000 BaseT Copper Ports with 4x combo 1G SFP slots & 4 x 10G SFP+ Slots. (As Per Technical Specification) (Zone 3)	Nos	4
23	Layer-3 Fully Managed Switch having 24 X 1Gbps SFP slots with 4x combo 10/100/1000 BaseT ports & 4 x 10G SFP+ Slots. (As Per Technical Specification) (Zone 3)	Nos	5
24	Desktop Type small form factor UTM Firewall Hardware Device (Zone 3)	Nos	1
25	49" UHD 4K Display, Operation Hours 24 (Zone 3)	Nos	9
26	Client PC (Zone 3)	Nos	9
27	Wireless Key Board and Mouse with USB Extension Cord	Nos	9
28	4K 5 Meter Length DP Cable with Mini DP Convertor (Zone 3)	Nos	9
29	42U, 800mm Width x 1000mm Depth, Floor Standing Rack. **(As Per Technical Specification)** (Zone 3)	Nos	1
30	27U, 800mm Width x 800mm Depth, Floor Standing Rack. **(As Per Technical Specification)** (Zone 3)	Nos	5
31	24 Port Rack Mount LIU Fully Loaded with Single Mode LC Adapters (Zone 3)	Nos	10

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32	1 GB SM Duplex Fiber Optic Transceiver (For Core Switch) (up to 10km, support) (Zone 3)	Nos	236
33	10 GB SM Duplex Fiber Optic Transceiver (For Core Switch) (up to 10km, support) (Zone 3)	Nos	18
34	LC - LC SM FO Patch Cord 5 Meter Length (Zone 3)	Nos	104
35	LC - LC SM FO Patch Cord 2 Meter Length (Zone 3)	Nos	16
36	Splicing Charge for OFC Cable (Zone 3)	Nos	1
37	Balloon Type Termination Junction Box (TJB) (Zone 3)	Nos	115
38	Double Pole 10 Amp Miniature Circuit Breaker with 5 Amp Socket and Gang Box (Zone 3)	Nos	58
39	8 Span Double Door DB Box with 32 Amp MCB 1 No. and 6 Amp MCB 6 Nos. (As Per Technical Specification) (Zone 3)	Nos	5
40	RJ-45 Connector (Zone 3)	Nos	400
41	Outdoor UTP CAT-6 Cable. (As Per Technical Specification) (Zone 3)	Meter	12505
42	4 sq MM FRLS Multistrand Power Cable (3 Different Color x 90 Meter Each) (Zone 3)	Meter	2430
43	3 Core 1.5 sq MM Non Armored Power Cable (Zone 3)	Meter	7500
44	20 MM ISI PVC straight Pipe or 3/4" PVC Casing with all accessories for Outdoor Wiring (Zone 3)	Meter	17500
45	Overhead and Surface Cable Laying Charge (Zone 3)	Meter	22435
46	UTP CAT-6 Patch Cord 2 Meters (Zone 3)	Nos	20
47	Wall / Pole Mount Outdoor Camera Bracket for Bullet, ANPR, & PTZ Camera (Zone 3)	Nos	167
48	7 Meter Height G.I Pole with Base Plate & Top Cover including RCC foundation with Installation. (Zone 3)	Nos	15
49	Dedicated Earth pit at Control Room location with 300mm x 300mm copper plate thickness of 3mm with 6ft GI pipe stripiing with 25x3mm copper and filling the same with Chemical & Sand. (Zone 3)	Nos	5
50	2 Ton Split Inverter AC 3 Star Copper (Zone 3)	Nos	10
51	24 X 7 Automatic Changeover switch for Control Room (Zone 3)	Nos	5
52	32 Amp MCB with 16A Power Socket (Zone 3)	Nos	5
53	6 Core Single Mode Armored Optical Fiber Cable (Zone 3)	Meter	9900
54	12 Core Single Mode Uni-tube Armored Optical Fiber Cable (Zone 3)	Meter	12500
55	24 Core Single Mode Multi-Tube Armored Optical Fiber Cable (Zone 3)	Meter	38500
56	Overhead Fiber Optic Cable Laying Charge (Zone 3)	Meter	60900
57	OFC Backbone Maintenance Charge for 3 Years (Zone 3)	Meter	60900
58	Supply, Installation, Testing, Commissioning & Project Management Cost During 3 Years Warranty Period. (Zone 3)	Lump sum	1
59	Additional 2 years AMC support of IP Based CCTV Surveillance System, Dedicated Public / Static IP & Fiber Optic Network Backbone Connectivity (Zone-3)	Lump sum	1

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SECTION - I

TECHNICAL SPECIFICATION WITH COMPLIANCE STATEMENT

(Tender No. WTL/PC/CCTV/23-24/029)

Zone - 1

Minimum Specification of 5 MP IR Vari-Focal Bullet Network Camera

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Image Sensor	1/2.8" CMOS Sensor or Better		
2	Resolution	Minimum 2592 (H) × 1944 (V)		
3	Scanning System	Progressive		
4	Electronic Shutter Speed	Auto/Manual 1/15 s–1/100,000 s		
5	Min. Illumination	0.01 lux@F1.4 (Color) or Better		
		0.01 lux@F1.4 (B/W) or Better		
		0 lux (Illuminator on)		
6	S/N Ratio	>52 dB		
7	IR Illumination Distance	50 meter or Better		
8	Illuminator On/Off Control	Auto / Manual		
9	Lens Type	Motorized vari-focal		
10	Focal Length	OEM fitted 2.8 mm–12 mm or Better		
11	Iris Control	Auto/ Mannual		
	Professional, intelligent			
12	IVS (Perimeter Protection)	Support Intrusion, tripwire		
13	Video Compression	H.265+/ H.265/ H.264/ MJPEG		
14	Video Frame Rate	Main stream: 2592 × 1944 @ 30 fps or Better		
		Sub stream 1: D1 @ 30 fps or Better		
		Sub stream 2: 2048 × 1536 @ 8 fps or Better		
15		Sub stream 3: 1980 × 1080 @ 30 fps or Better		
16	Stream Capability	4 streams or Higher		
17	Resolution	2592 × 1944; 2592 × 1520; 2048 × 1536; 1920×1080; 720p; D1; VGA; 2CIF; CIF.		
18	Bit Rate Control	CBR/VBR		
19	Day/Night	Auto(ICR)/Color/B/W		

20	BLC	Should Support		
21	WDR	120 dB or Higher		
22	White Balance	Auto/ Natural/ Street lamp/ Outdoor		
23	Gain Control	Auto		
24	Noise Reduction	3D NR		
25	Motion Detection	Should Support		
26	Region of Interest (RoI)	Should Support		
27	Mirror	Should Support		
28	Image Rotation	Should Support		
29	Privacy Masking	Should Support		
30	Alarm Event	Storage full; network disconnection; IP conflict; motion detection; video tampering; intrusion; tripwire; audio detection.		
31	SDK and API available	Yes		
32	Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; RTSP; RTCP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP; PPPoE; SNMP; TLS/ SSL; Telnet/ SSH.		
33	Interoperability	ONVIF (Profile S/Profile G/Profile T)		
34	Storage	Micro SD card (support minimum 256 GB)		
35	Mobile Client	iOS; Android		
36	Operation Temperature / Humidity	-10 °C to 55 °C / Less than 95% RH		
37	Weather Proof Standard	IP67		
38	Certifications	FCC, CE, UL, BIS, IK10, NEMA 4X		
39	Make / Brand	Any globally reputed Manufacturer presence in India & having manufacturing facility in India.		

2 Megapixel 33x CMOS Sensor IR PTZ Network Camera

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Image Sensor	1/1.8'' CMOS or Better		
2	Effective Pixels	1920(H) x 1080(V) or Better		
3	Minimum Illumination	Colour: 0.001 Lux @F1.5; B/W: 0 Lux with IR		
4	Focal Length	The Camera should be provided with an OEM fitted 4.6~152 mm of focal length or Better		

5	White Balance	Auto, ATW, Indoor, Outdoor, Manual		
6	Focus Control	Auto / Manual		
7	Electronic Shutter	1/1s~1/100,000s or Better		
8	AGC control	Auto / Manual		
9	Back Light Compensation	BLC , HLC , WDR (140dB)		
10	Optical Zoom	33x or Higher		
11	Digital Zoom	16x or Higher		
12	Pan Travel	0°~360° endless, Pan Speed: 0.1° ~ 180°/sec		
13	Tilt Travel	- 15° ~ 90° auto flip 180°, Tilt Speed: 0.1° ~120°/sec		
14	Manual Speed	Pan: 0.1° ~180° /s; Tilt: 0.1° ~120° /s		
15	Presents & Pattern	400 Preset, 5 Pattern, 8 Tour, Auto Pan , Auto Scanor More		
16	Present Speed	Pan: 240° /s; Tilt: 180° /s		
17	IR Illumination Distance	200 meter or Better		
18	Privacy Masking	24 Areas or More		
19	Power up Action	Auto restore to previous PTZ and lens status after power failure		
20	Day/Night: IR Cut Filter	Auto (ICR) / Colour / B/W		
21	Video Compression	H.265+/H.265 & H.264+/H.264		
22	Video Streaming	Main stream: PAL: 50 fps (1920 x 1080, 1080 x 720, 704 x 576, 640 x 480); NTSC: 60 fps (1920 x 1080, 1280 x 720, 704 x 480, 640 x 480). Sub stream: PAL: 25 fps; NTSC: 30 fps. Third stream: PAL: 25 fps; NTSC: 30 fps.		
23	Audio Compression	G.711a/G.711M/ADPCM/ AAC_LC		
24	Motion Detection	Should Support		
25	ROI	Should Support		
26	Audio Streaming	1/1 channel In/Out		
27	Auto Tracking	Should Support		
28	IVS	Tripwire, Intrusion, bright lights etc.		
29	Networking	RJ-45/ RS485		
30	Protocols	IPv4; IPv6; HTTP; TCP; RTSP; SMTP; FTP/ SFTP; DHCP; DNS; DDNS; NTP; Multicast; IIGMP; PPPoE; SNMP.		

Sl no.	Feature	Technical Specification		Complied (Yes / No)
31	Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict		
32	Alarm	6/2 channel In/Out		
33	Operating Temperature	-10°C ~ 55°C / Less than 95% RH		
34	Weather Proof Standard	IP66/ IP67 & IK10 Vandal proof rating or better		
35	Power Source	AC24V, PoE++ Both Support		
36	Certifications	FCC, CE, UL/ BIS		
37	Make / Brand	Any globally reputed Manufacturer presence in India & having manufacturing facility in India.		

ANPR Camera

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Main Processor	High performance embedded processor to extract and analyse vehicle metadata		
2	Image Sensor	1/1.8" CMOS or Better		
3	Lens	Built-in 10 mm – 50 mm motorized vari-focal lens or Better		
4	Shutter Mode	Single shutter		
5	Electronic Shutter Speed	1/25 s–1/100000 s (manual/auto) or Better		
6	Exposure Mode	Full auto, customized auto, customized		
7	Iris Control	Fixed iris/manual iris/auto iris/P iris		
8	Image Resolution	2688 × 1520 or Higher		
9	Video Resolution	4M (2688 × 1520)/1080P (1920 × 1080)/UXGA (1600 × 1200)/720P (1280 × 720)/D1 (704 × 576)/CIF (352 × 288)		
10	Video Frame Rate	Maximum 25fps; main stream (2688 × 1520@25fps), sub stream (1600 × 1200@25fps)		
11	Video Compression	H.265+/H.265/H.264M/H.264H/ H.264B/MJPEG		
12	Picture Encoding Format	JPEG		
13	WDR	Minimum 140dB		
14	White Balance	Auto/outdoor/manual/local white balance/natural		

		light/street light		
15	Noise Reduction	2DNR/3DNR		
16	HLC	Should Support		
17	Bad Pixel Correction	Should Support		
18	Edge Enhancement	Should Support		
19	Storage	Support SD card (Minimum 256GB)		
20	Image Tampering Prevention	Should Support Watermark and verification are available for videos and pictures		
21	Security	Authorized username and password, MAC address binding, HTTPS encryption, and network access control		
22	License Plate Recognition	Adopts self-developed algorithm to recognize license plates combining numbers and letters		
23	Vehicle Type Recognition	Should Support		
24	Vehicle Color Recognition	Should Support		
25	Motor Vehicle Violation Capture	Should Support		
26	Video Metadata	Should Support Motor vehicle: License plate, vehicle type, vehicle color, license plate color, vehicle logo, and more. Non-motor vehicle: Type (two-wheelers, three-wheelers), color, wearing a helmet or not, passenger (1, 2, 3, or more passengers)		
27	Vehicle recognition rate	≥98%		
28	Network	1 RJ-45 Ethernet port, 10/100/1000M Network transmission		
29	Alarm Input & Output	1 channel In & 1 channel Out		
30	Audio Input & Output	1 channel In & 1 channel Out		
31	Illuminator Number	4 illuminators (850nm IR LED illuminators, brightness adjustable)		
32	Power Supply	12V DC, 24V DC, PoE		
33	Operating Temperature	-10°C to 55°C		
34	Protection Grade	IP67/ IK10 or Better		
35	Certification	FCC, CE, BIS		
36	Make / Brand	Any globally reputed Manufacturer presence in India & having manufacturing facility		

		in India.		

16 Channel Standalone Network Video Recorder

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Processor	Industrial-grade embedded processor		
2	IP Camera Input	16 channel		
3	Operating System	Embedded LINUX		
4	Two-way Talk	1 channel Input, 1 channel Output, RCA		
5	User Interface	GUI		
6	Video Output	1 × HDMI output		
7	Compression	H.265/H.264/MJPEG		
8	Video Resolution	HDMI1: 3840 × 2160 , 1920 × 1080 , 1280 × 1024, 1280 × 720 , 1024 × 768 VGA1: 1920 × 1080 , 1280 × 1024, 1280 × 720 , 1024 × 768 ; HDMI2/VGA2: 1920 × 1080		
9	Network Bandwidth	Uplink: 160 Mbps; Downlink: 160 Mbps		
10	Video Display Split	1 , 4, 8, 9, 16 views		
11	Resolution	12MP		
12	Playback Function	1. Play/pause/stop/slow/quick/backward/by frame 2. Full screen, backup (video clip/file), partial zoom in, and audio on/off		
13	HDD	2 SATA III ports, up to 10 TB for a single HDD.		
14	Alarm Input	Minimum 2 Ch.		
15	Alarm Output	1 Ch.		
16	Smart Phone	iPhone, iPad, Android Phone		
17	Recording Mode	Manual record; alarm recording; MD recording		
18	Search Mode	Time/Date, Alarm, MD & Exact search		
19	Backup Mode	USB storage device/ NAS/ FTP		
20	Interface Ports	2 (1 USB 2.0, 1 USB 3.0)		
21	Max User Account	128 users		
22	Ethernet	1 × RJ-45, 10/100/1000 Mbps self-adaptive Ethernet port		
23	Protocols	HTTP/ HTTPS; TCP/IP; IPv4/IPv6; RTSP; UDP; SMTP; NTP; DHCP; DNS; IP Filter; DDNS; FTP; Alarm		

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			Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
		Server; IP Search; Network Acceleration; P2P.		
25	Power Supply	12V DC, 5A or AC 100V ~ 240V		
26	Fan	Smart fan, automatically adjust running speed		
27	Working Temp	0 °C to 50 °C		
28	Make / Brand	Any globally reputed Manufacturer presence in India & having manufacturing facility in India.		

General Surveillance Management Server

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Processor	Intel Xeon-Silver 4216 Processor or AMD EPYC 7282 or Higher		
2	No. of Core	16 Core or Higher		
	Processor speed	2.5 GHz or Higher		
7	Operating System	Microsoft Windows Server 2022 16 Core Standard loaded		
8	Generation	Gen10 or latest		
9	HDD	2 x 480GB SATA / SSD		
10	Power	500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit		
11	Storage controller	Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller		
12	Memory, standard	64 GB DDR4 3200MHz with 16 DIMMs		
13	Mouse	Optical Mouse		
14	Keyboard	Keyboard		
15	Ethernet	Ethernet 1Gb X 4-port 331T Adapter		
16	Mounting	1x CMA for rail kit		
17	Form Factor	Rack		
18	Make / Brand	Any globally reputed Manufacturer presence in India & having manufacturing facility in India.		

Central Video Monitoring Software

Sl. No	Feature	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Video Management Software with high scalable design and distributed deployment, easily expand the supported channels to 20,000 and central storage capacity to 4 PB. The multi-site function allows to incorporate multiple VMS		

	platforms into one, and conveniently show their information on one PC client. With hot standby and N+1 redundancy. Available access live and recorded videos, real-time and historical events. AI capabilities that devices have, such as face recognition, automatic number plate recognition and video metadata, etc.		
2	VMS Shall be based on Microsoft windows OS.		
3	VMS shall be open to IP camera integration in that respects VMS should support IP Cameras from Multiple OEM.		
4	The VMS shall be ONVIF compliant.		
5	VMS shall be open to any NAS (CIFS, SMB 2.0) integration.		
6	VMS shall support H.264 and MJPEG stream for both live view and Recording independently. Compression rate shall be manageable.		
7	The Video Management System shall support cameras with resolutions ranging from Standard Definition, High Definition (HD) and higher resolution		
8	The Video Management System shall show video across 4 displays per workstation - each display can have up to 25 viewing panes.		
9	VMS shall be able to connect with video wall through multi-display client.		
10	Users shall be able to move any image from one display screen to another via drag-and-drop		
11	The VMS shall allow the overlay of time and date information on live video panes		
12	Users shall be able to digitally zoom and also digitally scroll live video from any camera using the mouse wheel		
13	Users shall be able to replay currently viewed live video for replays from 10, 15 or 30 seconds before current time or from alarm time.		
14	The VMS shall allow users to reset the event count for a camera It should be able to display camera information in the On-Screen Display (OSD).		
	a. Camera name		
	b. Date and time		
15	VMS shall be accessible using any desktop client utility for Live view and Archive search		
16	VMS should support the two-way audio so that users shall be able to listen audio from multiple cameras through PC speakers and may speak to one or more cameras through a PC microphone		
17	VMS shall allow managing initial client logon, system configurations, logging, remote administration of recording servers, devices, security, rules, alerts and logging.		
18	VMS shall support at least 3 levels of users with various privileges to access the system functionality. Each category of users shall have selectable rights to perform various operations like Camera add/delete, Change camera settings, Configure storage, Control PTZ cameras, User management, etc		
19	VMS shall maintain a continuous log of server status		

	messages, Camera connectivity, Storage status, Recording ON/OFF, User activity logs , etc which shall be accessed from the Workstations using different filters			
20	Each video streams shall be individually and independently configurable in term of resolution, frames and bandwidth			
21	VMS shall support video streams up to at least 25/30fps			
22	VMS shall support at least CIF, 2CIF, 4CIF/D1 and HD/Megapixel resolution			
23	PTZ Control	All PTZ control shall be user-restricted		
		Users shall be able to zoom a PTZ camera in or out using the PC mouse		
		Users shall be able to pan, tilt and zoom a PTZ camera displayed in a video pane or monitor using a joy stick on one of the supported CCTV keyboards		
		Users shall be able to adjust the iris of a PTZ camera using the on screen PTZ controls or a CCTV keyboard:-Open iris-Close-Auto-iris		
		The Video Management System shall support the following for cameras using the ONVIF interface or Camera Gateway		
		a. Pan, tilt and zoom control with mouse and joystick		
	b. Go to pre-set			
	c. Set pre-set			
24	The VMS shall have the capability of operating in an environment that requires multi-tasking, when using multiple cameras spread over a wide area			
25	VMS should have Pre and Post Event Recording			
26	VMS should have Motion Detection technology			
27	Software provides remote interface with a full live feed view, with digital zoom options, control of PTZ cameras, multiple simultaneous feeds, and image quality settings to improve performance through bandwidth reduction			
28	Software has built in feature to bring camera observation to mobile devices (require a software on a mobile device to view)			
29	Each camera setting can be adjusted individually according to client's requirement			
30	Schedule operation - All cameras can be fully scheduled individually			
31	View and record multiple cameras			
32	As many playback sessions as are required can be displayed at once			

33	Automatic control of supported PTZ cameras		
34	Alerting by email (with images)		
35	Software should have built in feature to bring camera observation to mobile devices (require a software on a mobile device to view)		
36	The software shall allow:		
A	Live display of cameras.		
B	Live display of camera sequences.		
C	Control of PTZ cameras.		
D	Playback of archived video.		
E	Retrieval of archived video.		
F	Instant Replay of live video.		
G	Configuration of system settings.		
H	Configuration and programming of P/T/Z cameras, features like camera addressing, BLC, auto tours, pre-sets etc.		
I	Video Analytics		
37	The software should be able to do video recording on any of the following options - inbuilt hard disks on the server, direct attached storage boxes attached to servers, network attached storage, storage area network.		
38	The software should be capable of handling camera and alarm icons on area maps. The area map should be configurable to pop up upon the receipt of an alarm received from a camera on the map. This can be on the same or other monitors on the PC.		
39	The software shall be able to select the required recording based on the time recording was activated, the duration of recording, operator activated recording, event activated recording, scheduled recording.		
40	It shall be possible to search for recordings in the software by camera, date and time. If a data and time is specified, playback shall commence from that date and time. It shall be possible to playback more than one camera simultaneously.		
41	It Software shall allow operators to bookmark the concern videos & browse through a list of all bookmarks created on the system and select any bookmarked event for viewing. Software shall support industry standard for the interface of IP-based physical security products: ONVIF and shall be based on a server/client model.		
42	VMS should use two independent streams Camera or IP encoders: One for Live View and other for recording. All settings for each stream including resolution, codecs, frame rate and compression level may be choose independently without affection overall system performance and IP device functionality.		
43	Software shall have the capacity to communicate with IP Cameras / Encoders using HTTPS secure protocol. It shall support any form of IP network connectivity, including: LAN/ WAN/ VPN/ Internet/ Wireless technologies.		
44	All audio streams supplied from IP Camera / Encoders shall be digitally encoded in g711 (u-law)/ g721/ g723 or AAC compression formats and recorded simultaneously		

	in real time.			
45	Software shall offer redundant architecture for recording in server. Roles shall move from one server to another without disturbing the regular operations. To minimize network traffic, Software must have ability to configure the key frame interval (I-frame) per second.			
46	All video streams supplied from IP cameras / Encoders shall be digitally encoded in MPEG-4/MPEG-2/MJPEG and H.264 compression formats and recorded simultaneously in real time			
47	Each camera's bit rate, frame rate and resolution shall be set independently and changing these settings will not affect the recording and display settings of other cameras.			
48	Software shall support dynamically switch the video resolution according to the Tile Size on Monitoring Screen. High Resolution Video feed while watching single camera on screen and Low Resolution Video feed while watching Cameras in Multiple tiles.			
49	ANPR	Real-time license plate recognition Vehicle passed record		
50	Vehicle Blacklist	Vehicle Blacklist management Import and export vehicle blacklist		
51	Devices	Should Support Minimum 2,000 devices Per Server		
52	Auto-Registered Devices	Should Support Minimum 1,000 devices Per Server		
53	Video Devices and Channels	Should Support Minimum 1,000 devices; 2,000 channels Per Server		
54	Devices Added by ONVIF Protocol	Should Support Minimum 1,000 devices; 2,000 channels		
55	ANPR Channels	Should Support Minimum 500 channels		
56	Total Devices	Should Support Minimum 10,000 locations; 65,000 cameras		
57	Total Incoming Bandwidth	Should Support Minimum 600 Mbps		
58	Incoming Video Bandwidth	Should Support Minimum 600 Mbps		
59	Incoming Picture Bandwidth	Should Support Minimum 200 Mbps		
60	Total Outgoing Bandwidth	Should Support Minimum 600 Mbps		
61	Outgoing Video Bandwidth	Should Support Minimum 600 Mbps		
62	Outgoing Picture Bandwidth	Should Support Minimum 200 Mbps		

63	Total Storage Bandwidth	Should Support Minimum 600 Mbps		
64	Video Storage Bandwidth	Should Support Minimum 600 Mbps		
65	Picture Storage Bandwidth	Should Support Minimum 200 Mbps		
66	Prerecording Bandwidth for Alarm Recordings	Should Support Minimum 400 Mbps		
67	Maximum Capacity of Central Storage (IPSAN)	Should Support Minimum 400 TB, depending upon server capacity		
68	Total Events	Should Support Minimum 100 per second		
69	Storage of Events or Alarms without Pictures	Should Support Minimum 100 per second		
70	Alarms with Snapshots (Stored on Devices)	Should Support Minimum 100 per second		
71	Number of Combined Events	Should Support 100 events per second		
Client Workstation PC				

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Form factor	Tower Type		
2	Operating System	Win 11 SL/ Home 64 bit		
3	Processor & Chipset	Intel i7 12700/ AMD Ryzen 7 5700 or higher; Intel Q670/ AMD Pro 565 or higher		
4	RAM	32 GB DDR4 RAM		
5	Graphics Card	Minimum 4 GB		
6	Storage	512GB NVMe SSD or higher		
7	Power Supply	Min. 400W with 90% or higher efficiency		
8	I/O	Wireless Keyboard and Wireless Mouse, WiFi + BT, Total 10 USB ports, HDMI, DP/ VGA port		
9	Certifications	ISO 9001, 14001, 20001, 27001, EPEAT Gold, ROHS, CE, FCC, UL		
8 Ethernet Port PoE Switch				

Sl. No	Technical Specification		Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	No of Ports	8 10/100/1000 Base-T PoE ports & 2 Gigabit SFP ports		
2	Switching Capacity	20 Gbps or Better		
3	Forwarding Rate	Minimum 14.80 Mbps		
4	POE / POE+	IEEE 802.3af and 802.3at		

5	POE Power Budget	Minimum 130 W or Higher		
6	Power Supply	AC: 100V -240V, 50Hz ±10%		
7	Environment	Operating temperature/ Humidity: 0°C-45°C, 10%-90% non-condensation		
		Storage temperature/ Humidity: 0°C-70°C; 5%-95% non-condensation		
		Power Saving by: Link status, LED or Port Shutoff		
8	MAC Switching	Static configuration and dynamically learning of MAC address		
		Check and delete MAC address		
		Configuring of MAC address aging time		
		Up to 256 Static MAC entries		
		Limit on MAC address learning number		
		MAC address filtering function		
		MAC address size 8K		
9	Port Mirroring	One-to-One, Many-to-One		
		Supports Mirroring for Tx/Rx/Both		
10	V LAN	4K VLAN entries, 256 static VLAN		
		GVRP		
		1:1 and N:1 VLAN Mapping		
		Q-in-Q		
		Private VLAN, Voice VLAN		
11	STP	802.1D (STP), 802.1W (RSTP), 802.1S (MSTP)		
		BPDU protection, root protection and ring protection		
12	Multicast	IGMP v1/v2/v3		
		IGMP Snooping		
		IGMP Fast Leave		
		Multicast group policy and multicast number limit		
13	IPv6	ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet		
		IPv6 Neighbor Discovery		
		MLD v1/v2		
		MLD Snooping		
14	QoS	Traffic classification of each field of L2/L3/L4 protocol		

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
		headers		
		CAR traffic control		
		802.1P/DSCP priority remark		
		Multiple queuing algorithms such as SP, WRR or SP+WRR		
		WRED		
		Traffic supervision and traffic shaping		
15	Security features	Identification and filtering of L2/L3/L4 based ACL		
		DOS or TCP attacks Prevention		
		Suppression of broadcast, multicast and unknown unicast packet		
		Port isolation		
		Port security, IP+MAC+port binding		
		DHCP Snooping, DHCP Option 82		
		IEEE 802.1x certification		
		Radius and Tacacs+		
16	Reliability	Static / LACP link aggregation		
17	Management and Maintenance	Console, Telnet, SSH 2.0		
		WEB based management		
		SNMP v1/v2/v3		
		TFTP		
		RMON		
18	Certification	CE, FCC, IEC 62368-1		
19	Make / Brand	Any globally reputed Manufacturer presence in India.		

Smart Managed Switch`

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)

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Sl. No		Specification		
1	Interfaces	Should have 24 x 10/100/1000BASE-T ports, 4 x 100/1000 Mbps GbE/SFP combo ports from day one.		
2	Port Standards & Functions	Ports 1 to 24 should compliant with IEEE 802.3ab		
3	Other Port Standards & Functions	Must support IEEE 802.3i 10BASE-T Ethernet (twisted-pair copper) • IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) • IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) • Auto-negotiation • IEEE 802.3x Flow Control • IEEE 802.3z 1000BASE-X Gigabit Fiber		
4	Full/Half-Duplex	• Full/half-duplex for 10/100 Mbps speeds • Full-duplex for 1000 Mbps speed		
5	Media Interface Exchange	Auto MDI/MDIX adjustment for all twisted-pair ports		
6	Switching Capacity	Minimum 56 Gbps		
7	Forwarding Method	Store-and-forward		
8	MAC Address Table Size	Minimum 8K entries		
9	MAC Address Update	Up to 256 static MAC entries		
10	64-byte Max. Forwarding Rate	Minimum 41.7 Mpps		
11	CPU Memory	Minimum 128 MB DDR3		
12	Packet Buffer	Minimum 4.1 Mbits		
13	Flash Memory	Minimum 32 MB		
14	MTBF	Minimum 992,594 hours		
15	Power Surge Protection	Minimum 6KV surge protection		
16	Operating Temperature	0 to 50 °C		
18	Operating Humidity	10% to 90% non-condensing		
19	All Core switches should be from same make.			

All SFP Core Switch

Sl. No	Technical Specification	Specification (Quoted / Applicable – by	Complied (Yes / No)

		the bidder)	
1	Layer-3 Fully Managed Switch having 24x 1G SFP slots with 4x combo 10/100/1000BaseT ports & 4x 10G SFP+ slots.		
2	SFP slots should support IEEE 802.3z & IEEE 802.3u compliant transceivers & SFP+ slots should support IEEE 802.3z & IEEE 802.3ae compliant transceivers		
3	The switch should be 19" Rack Mount size.		
	THE SWITCH SHOULD HAVE FOLLOWING BASIC FEATURE FROM DAY ONE:		
4	The switch should have RJ45/mini-USB console port for Out of band CLI management & ethernet port for out of band IP management. It should have minimum one alarm port.		
5	The switch should have intelligent fans with sensor that provides different fan speed based on different temperature.		
6	The switch should have support for redundant power supply.		
7	The switch should have built-in hardware feature for both external event detection & alarm action		
8	The switch should have switching capacity at least 128Gbps & packet forwarding rate at least 95Mpps for 64-bytes packet size		
9	The switch should have non-blocking architecture & wire-speed performance under fully loaded condition.		
10	The switch should have virtual stacking capability of at least 25 switches in a stack.		
11	The switch should have physical stacking capability with at least 8 units per stack & at least 40Gbps of stacking bandwidth.		
12	The switch should have feature for flexible management of switch resources		
13	The switch should have 6kV Surge protection on all RJ45 access ports		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-2 FEATURE FROM DAY ONE:		
14	a) At least 64K MAC address table size. At least 1K static MAC support.		
15	b) Jumbo frame support for at least 12KB frame size.		
16	c) Flow-control features: 802.3x for full duplex & Head-of-line blocking prevention.		
17	d) UDLD or equivalent features.		
18	e) IEEE 802.1D (STP), 802.1w (RSTP) & 802.1s (MSTP) with at least 64 MSTP instances, Root Guard or equivalent features.		
19	f) Avoidance of the loop occurring in a single port connected to an unmanaged switch/hub by shutting down the corresponding port or corresponding VLAN		
20	g) Ethernet Ring Protection Switching (ERPS) with maximum 50milli second recovery time.		
21	h) IEEE 802.1AX & 802.3ad Link aggregation with at least 32 groups per device & at least 8 ports per groups. LACP.		
22	i) Port mirroring with at least 4 mirroring sessions. Should support Tx, Rx & both based mirroring. Should support		

	one-to-one & many-to-one mirroring, flow-based mirroring, RSPAN.		
23	j) IGMP v1 v2 & v3 snooping with at least 8000 snooping groups. Should support IGMP snooping per VLAN, host-based IGMP snooping fast leave, at least 128 static IGMP groups, L2 multicast filtering		
24	k) MLD v1 & v2 snooping with at least 4000 snooping groups. Per VLAN MLD snooping. At least 128 static MLD groups.		
25	l) At least 4K VLAN groups, 802.1Q, 802.1v protocol based VLAN, Q-in-Q, GVRP with at least 4K dynamic VLANs, Voice VLAN, Port-based VLAN, MAC-based VLAN, private VLAN, VLAN trunking, MVR (Multicast VLAN Registration) or equivalent feature.		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-3 FEATURE FROM DAY ONE:		
26	a) At least 16K routing table entry size with at least 512 static route entry support.		
27	b) Default route, RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, BGPv4, BGPv4+, Policy based route, Route preference, Route Redistribution, Bidirectional Forwarding Detection, MSDP		
28	c) Multicast forwarding table size: at least 2000, IGMPv1v2v3, MLDv1v2, IGMP filtering, static IP multicast route, PIM-DM, PIM-SM, PIM-SSM, PIM-Sparse-Dense mode, DVMRPv3, PIM-SMv6.		
29	e) IPv6 tunnelling, VRRP, IP helper		
	THE SWITCH SHOULD HAVE FOLLOWING QOS FEATURE FROM DAY ONE:		
30	a) IEEE 802.1p, DSCP, at least 8 queues per port.		
31	b) Queue handling methods: strict, weighted round robin, weighted deficit round robin, WRED		
32	c) CoS & classification of packets based on following parameters: VLAN ID, 802.1p priority, MAC address, Ether type, DSCP, protocol type, IPv4 address, TCP/UDP port number, IPv6 address, IPv6 traffic class		
33	d) Port & flow based bandwidth control with minimum granularity 8Kbps.		
34	e) Time based QoS.		
	THE SWITCH SHOULD HAVE FOLLOWING SECURITY FEATURE FROM DAY ONE:		
35	a) Access control list based on VLAN, MAC address, 802.1p priority, DSCP, protocol type, TCP/UDP port, IPv4 address, IPv6 address, IPv6 traffic class		
36	b) Time based ACL.		
37	c) Binding of IP address & MAC address with the interface. Dynamic ARP Inspection. IP Source Guard. DHCPv6 Guard, IPv6 Route Advertisement Guard, IPv6 Neighbour Discovery Inspection, Duplicate Address Detection		
38	d) SSHv2 for both IPv4 & IPv6, SSL (TLS 1.2) for both IPv4 & IPv6, Port security with at least 12K MACs per port.		
39	e) Broadcast, multicast & unicast storm control.		
40	f) Protection of the CPU from protocol control packet attack.		

41	g) DHCP server screening, DHCP client filtering, ARP spoofing prevention, BPDU attack prevention, DoS attack prevention		
42	h) IEEE 802.1x -- RFC 3580, web-based access control, MAC based access control, guest VLAN, Microsoft NAP, RADIUS accounting.		
43	i) Authentication supported based on : Local data base, RADIUS server		
44	j) Web based access control for IPv6		
45	k) At least 4 level user account for management access. RADIUS & TACACS+ authentication for management access.		
	THE SWITCH SHOULD HAVE FOLLOWING MANAGEMENT FEATURE FROM DAY ONE:		
46	a) Web based -GUI (IPv4 & IPv6), CLI, telnet server & client (IPv4 & IPv6) , TFTP client (IPv4 & IPv6), FTP client (IPv4 & IPv6), SFTP server, Zmodem, SNMPv1v2cv3, Syslog. sFlow, ICMPv6.		
47	b) RMONv1 & v2, LLDP, LLDP-MED, BooTP & DHCP client supporting both IPv4 & IPv6, DHCP relay option 82, DHCP relay option 60 & 61.		
48	c) Multiple images & configurations, SNTP, debug		
49	d) 802.3ah ethernet link OAM, 802.1ag CFM, Dying gasp.		
50	e) Inbuilt power saving technique on all Gigabit RJ-45 ports, IEEE 802.3az		
51	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
52	All type of switches & transceivers should be from same make.		
53	All Core switches should be from same make.		

Copper Core Switch

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Core Switch - Layer-3 Fully Managed Switch having 20 X 1Gbps Copper Ports with 4x combo 1G SFP slots & 4x 10G SFP+ slots		
2	SFP slots should support IEEE 802.3z & IEEE 802.3u compliant transceivers & SFP+ slots should support IEEE 802.3z & IEEE 802.3ae compliant transceivers		
3	The switch should be 19" Rack Mount size.		
	THE SWITCH SHOULD HAVE FOLLOWING BASIC FEATURE FROM DAY ONE:		
4	The switch should have RJ45/mini-USB console port for Out of band CLI management & ethernet port for out of band IP management. It should have minimum one alarm port.		
5	The switch should have intelligent fans with sensor that provides different fan speed based on different temperature.		
6	The switch should have support for redundant power		

	supply.		
7	The switch should have built-in hardware feature for both external event detection & alarm action		
8	The switch should have switching capacity at least 128Gbps & packet forwarding rate at least 95Mpps for 64-bytes packet size		
9	The switch should have non-blocking architecture & wire-speed performance under fully loaded condition.		
10	The switch should have virtual stacking capability of at least 25 switches in a stack.		
11	The switch should have physical stacking capability with at least 8 units per stack & at least 40Gbps of stacking bandwidth.		
12	The switch should have feature for flexible management of switch resources		
13	The switch should have 6kV Surge protection on all RJ45 access ports		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-2 FEATURE FROM DAY ONE:		
14	a) At least 64K MAC address table size. At least 1K static MAC support.		
15	b) Jumbo frame support for at least 12KB frame size.		
16	c) Flow-control features: 802.3x for full duplex & Head-of-line blocking prevention.		
17	d) UDLD or equivalent features.		
18	e) IEEE 802.1D (STP), 802.1w (RSTP) & 802.1s (MSTP) with at least 64 MSTP instances, Root Guard or equivalent features.		
19	f) Avoidance of the loop occurring in a single port connected to an unmanaged switch/hub by shutting down the corresponding port or corresponding VLAN		
20	g) Ethernet Ring Protection Switching (ERPS) with maximum 50milli second recovery time.		
21	h) IEEE 802.1AX & 802.3ad Link aggregation with at least 32 groups per device & at least 8 ports per groups. LACP.		
22	i) Port mirroring with at least 4 mirroring sessions. Should support Tx, Rx & both based mirroring. Should support one-to-one & many-to-one mirroring, flow-based mirroring, RSPAN.		
23	j) IGMP v1 v2 & v3 snooping with at least 8000 snooping groups. Should support IGMP snooping per VLAN, host-based IGMP snooping fast leave, at least 128 static IGMP groups, L2 multicast filtering		
24	k) MLD v1 & v2 snooping with at least 4000 snooping groups. Per VLAN MLD snooping. At least 128 static MLD groups.		
25	l) At least 4K VLAN groups, 802.1Q, 802.1v protocol based VLAN, Q-in-Q, GVRP with at least 4K dynamic VLANs, Voice VLAN, Port-based VLAN, MAC-based VLAN, private VLAN, VLAN trunking, MVR (Multicast VLAN Registration) or equivalent feature.		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-3 FEATURE FROM DAY ONE:		
26	a) At least 16K routing table entry size with at least 512		

	static route entry support.		
27	b) Default route, RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, BGPv4, BGPv4+, Policy based route, Route preference, Route Redistribution, Bidirectional Forwarding Detection, MSDP.		
28	c) Multicast forwarding table size: at least 2000, IGMPv1v2v3, MLDv1v2, IGMP filtering, static IP multicast route, PIM-DM, PIM-SM, PIM-SSM, PIM-Sparse-Dense mode, DVMRPv3, PIM-SMv6.		
29	e) IPv6 tunnelling, VRRP, IP helper		
	THE SWITCH SHOULD HAVE FOLLOWING QOS FEATURE FROM DAY ONE:		
30	a) IEEE 802.1p, DSCP, at least 8 queues per port.		
31	b) Queue handling methods: strict, weighted round robin, weighted deficit round robin, WRED		
32	c) CoS & classification of packets based on following parameters: VLAN ID, 802.1p priority, MAC address, Ether type, DSCP, protocol type, IPv4 address, TCP/UDP port number, IPv6 address, IPv6 traffic class		
33	d) Port & flow based bandwidth control with minimum granularity 8Kbps.		
34	e) Time based QoS.		
	THE SWITCH SHOULD HAVE FOLLOWING SECURITY FEATURE FROM DAY ONE:		
35	a) Access control list based on VLAN, MAC address, 802.1p priority, DSCP, protocol type, TCP/UDP port, IPv4 address, IPv6 address, IPv6 traffic class		
36	b) Time based ACL.		
37	c) Binding of IP address & MAC address with the interface. Dynamic ARP Inspection. IP Source Guard. DHCPv6 Guard, IPv6 Route Advertisement Guard, IPv6 Neighbor Discovery Inspection, Duplicate Address Detection		
38	d) SSHv2 for both IPv4 & IPv6, SSL (TLS 1.2) for both IPv4 & IPv6, Port security with at least 12K MACs per port.		
39	e) Broadcast, multicast & unicast storm control.		
40	f) Protection of the CPU from protocol control packet attack.		
41	g) DHCP server screening, DHCP client filtering, ARP spoofing prevention, BPDU attack prevention, DoS attack prevention		
42	h) IEEE 802.1x -- RFC 3580, web-based access control, MAC based access control, guest VLAN, Microsoft NAP, RADIUS accounting.		
43	i) Authentication supported based on : Local data base, RADIUS server		
44	j) Web based access control for IPv6		
45	k) At least 4 level user account for management access. RADIUS & TACACS+ authentication for management access.		
	THE SWITCH SHOULD HAVE FOLLOWING MANAGEMENT FEATURE FROM DAY ONE:		
46	a) Web based -GUI (IPv4 & IPv6), CLI, telnet server & client (IPv4 & IPv6) , TFTP client (IPv4 & IPv6), FTP client (IPv4 & IPv6), SFTP server, Zmodem, SNMPv1v2cv3,		

	Syslog. sFlow, ICMPv6.		
47	b) RMONv1 & v2, LLDP, LLDP-MED, BooTP & DHCP client supporting both IPv4 & IPv6, DHCP relay option 82, DHCP relay option 60 & 61.		
48	c) Multiple images & configurations, SNTP, debug		
49	d) 802.3ah ethernet link OAM, 802.1ag CFM, Dying gasp.		
50	e) Inbuilt power saving technique on all Gigabit RJ-45 ports, IEEE 802.3az		
51	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
52	All type of switches & transceivers should be from same make.		
53	All Core switches should be from same make.		

600 VA Offline UPS

Feature		Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
INPUT	Voltage	220/230 VAC		
	Voltage Range	140-300 VAC		
	Frequency Range	50 Hz		
OUTPUT	AC Voltage Regulation (Battery Mode)	±10%		
	Frequency Range (Battery Mode)	50 Hz ±1 Hz		
	Transfer Time	Typical 2-6 ms		
	Waveform (Battery Mode)	Simulated Sine Wave		
	Overload	110% +/-10% Shutdown after 5 minutes		
BATTERY	Battery Type & Number	12 V/7 Ah x 1		
	Typical Recharge Time	6-8 hours up to 90% capacity		
TRANSFER TIME	Minimum line break for transfer to battery	Typical 4-8 msec		
INDICATORS	AC Mode	Green lighting		
	Battery Mode	Green flashing		
	Fault	Red lighting		
ALARMS	Battery Mode, Low Battery, Overload, Battery replacement, fault	Audible alarm		
PROTECTION	Full Protection	Overload, discharge, and overcharge protection		

PHYSICAL	Dimension, D X W X H (mm)	279 X 101 X 142		
	Net Weight (kgs)	4.2		
	Material	Semi Metallic		
ENVIRONMENT	Operating Environment	0-40 Deg C.		
	Storage Temp	-15℃ to 50℃		
	Humidity	0-95 % RH @ 0- 40°C (non-condensing)		
	Noise Level	Less than 40dB		
Test reports	BIS registration	Require		
	NABL Approved government lab test report.	Require		

Make / Brand : Any globally reputed Manufacturer presence in India

3 KVA Online UPS `

Sl. No.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Capacity	3kVA/2.4 kW.		
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		
8	Voltage Detection Tolerance ±3% Calibration	±3% Calibration		
9	Input Frequency Range	40-70Hz		
10	Inrush Limitation	7*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	Back up time	2 Hours		
16	Minimum VAH required	4680		
17	Maximum Battery Leakage Current	500uA		

18	Charge Voltage Accuracy	±1%		
Output Parameters.				
19	Load power factor	0.8		
20	Nominal Output voltage	208/ 220/ 230/ 240 VAC Settable		
21	Output Frequency	Frequency Range (Battery Mode): 50 Hz ± 0.1 Hz; Frequency Range (Synchronized Range): 46Hz ~ 54 Hz @ 50Hz system		
22	Output Waveform	Pure sine wave		
23	Total Harmonic distortion (THD)	Less than 3% for Linear Load and Less than 6% for RCD Load		
24	Inverter	IGBT based PWM with Instantaneous Sine wave control		
25	Power Rating	3kVA/2.4 kW.		
26	Dynamic response	IEC62040-3 Classification 1		
27	Crest factor	3:1		
28	Duty.	Continuous duty		
29	Overload Capacity	AC mode:105%~110%: 10min、110%~130%: 1min、>130% : 1sec ;		
30	Frequency synchronization Band for Static. Bypass	46 - 54Hz		
31	Transfer (Inverter to Bypass)	0 ms		
32	Retransfer (Bypass to Inverter)	0 ms		
33	Automatic Bypass	Inbuilt		
34	Overall efficiency (AC to AC)	90%.		
Miscellaneous Function				
35	Intelligent Fans Speed Control	Require		
36	Auto Restart Function	Require		
Physical and Environmental Characteristics.				
37	Acoustic Noise Level	Less than 58dB @ 1 Meter		
38	Ambient Temperature	0 - 50 Deg C		
39	Storage Temperature	-15°C~60°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		

45	Battery voltage	Display System, able to monitor Input Voltage/Battery Voltage/ Output Voltage / Output Frequency/ Input Frequency/ Ambient Temperature.		
46	Output voltage			
47	Output current			
48	Output frequency			
49	Input Frequency			
50	Heat sink temperature			
Fault indicated on Digital Display Alarms		LED indication display		
51	input fail	Inbuilt and accessible on LCD Display.		
52	Battery Low			
53	Transfer to bypass and system fault			
54	LED Indications			
55	Protection	Overload/ Short Circuit/ Battery Deep Discharge/ Low Battery/ Reverse Battery/ Inverter Current Limitation/ Over Temperature/ Output Overvoltage.		
56	Optional features	RS 232 communication port for interfacing, Remote monitoring		
Standards				
57	Low freq Conducted disturbance	IEC61000-2-2		
Other Standards				
58	Continuous Electromagnetic Susceptibility	IEC 61000-4-3		
59	Electrical Fast Transient Compatibility	IEC 61000-4-4		
60	Surge	EN 61000-4-5: 2005		
61	CRFI	IEC61000-4-6		
62	Magnetic Field Immunity	IEC 61000-4-8		
63	Transportation	IEC 60068-2-32,IEC 60068-2-64,IEC 60068.2-27		
64	Protection	IP-20		
65	NABL approved Government lab test certificate	Require		
66	ISO certifications	ISO 9001, ISO14001, ISO27001, ISO 45001:2018		
67	BIS registration	Require		

Make / Brand : Any globally reputed Manufacturer presence in India

WEBEL TECHNOLOGY LIMITED

UTM Firewall Hardware Device

	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
Hardware Platform:		
• No built-in mechanical moving parts.		
• Should be Hardened OS based firewall		
• Should have flash based configuration storage with NO built in HDD		
The firewall should 5 x 1GbE RJ45 connectors, 1000 Base-TX (10/100/1000Mbps). 2 USB 3.0, 1 RJ45 RS232 console port. Wireless Radio Type and Frequency Band, (T25–W) - 2x2 802.11ax Wi-Fi 6 dual band radios, 2.4 GHz: Data rates up to 573 Mbps, 5 GHz: Date rates up to 1.2 Gbps		
• Memory/Flash : RAM: DDR4 4GB, eMMC 4GB Storage Power supply - Input Ratings: 100-240V AC, 0.9A Max, 50-60Hz. Output Ratings: 12V DC, 2.5A, 30W Power Consumption - T25: 21 Watts, T25-W: 25 Watts		
Following IP Address Assignment should be supported by the device:		
• Static		
• PPPoE Client		
• DHCP Client		
Firewall should support internal DHCP Server		
Firewall should be able to act as DHCP Relay Agent		
Performance:		
The firewall should support minimum 3.14 Gbps Gbps Firewall throughput		
The firewall should support minimum 403 Mbps UTM(fullscan) throughput		
The firewall should support minimum 1.02 Gbps VPN (UDP 1518) throughput		
The firewall should support minimum 472 Mbps GAV throughput		
The firewall should support minimum 525 Mbps IPS (fullscan) throughput		
The firewall should support minimum 1,300,000 concurrent sessions(Bidirectional)		
New session per second should me minimum 16,000		
Authentication servers/processes:		
Support for user authentication services such as Active Directory, LDAP, RADIUS, Secure ID, Digital certificates, Local user group authentications.		
Should Support Single-Sign-On Feature		
Should be able to support Terminal Services client / Citrix Client		
Networking:		
Firewall should support port independence		
Firewall should support Link Failover (Active - Active and Active - Passive)		
Firewall should be able to operate in Routing mode or Bridge		

(Transparent) mode		
Should support automatic WAN failover as well as load sharing for outbound traffic.		
Should be able to support VPN Failover		
Should support Server Load Balancing		
Firewall must support VLAN Tagging (IEEE 802.1Q)		
Should support Policy-Based Routing		
Firewall should support Dynamic Routing (RIP v1 & v2, OSPF & BGP)		
The Firewall must provide NAT functionality, including dynamic and static NAT translations.		
Firewall should be able to support Port Forwarding.		
Should have option to configure traffic shaping / QOS		
Compatible to Centralized Management		
The firewall must support Active-Active as well as Active-Passive redundancy.		
Actibve/Active as well as Active/Passive HA Clustering can be achieved		
The cluster should support simple and minimal downtime during upgrade		
Should have option to create ALIASES to identify group of Hosts or networks with one Unique Name		
Should have option to create Customized Aliases based on User/Group , Host IP/IP Range & Interface		
VPN function:		
The VPN should be integrated with firewall and support the full Encryption & other standards and protocols:		
(a) DES, 3DES, AES		
(b) MD5 and SHA-1 authentication		
(c) Diffie-Hellman Group 1, Group 2, Group 5 ,Group14, Group 15, Group 19 and Group 20		
(d) Internet Key Exchange (IKE) algorithm		
(f) The new encryption standard AES 128, 192 & 25 (Advanced Encryption Standard)		
Should support IPSec, PPTP, L2TP & SSL VPN		
Should support 75 Site-to-Site Tunnels (BOVPN)		
Should support minimum 75 Mobile VPN tunnels (IPSec, SSL, L2TP)		
Security:		
Should support Reputation based Cloud Security feature		
Denial of Service (DoS) attacks such as ping of death, syn flood, UDP bomb, Land attack, Smurf, Fraggle and ICMP unreachable		
Should support Auto Blocking of Source IP address based on triggers		
should support real time spam detection & also supports proactive virus detection technology which detects and blocks the new outbreaks immediately and accurately.		
The following actions should be supported for SMTP traffic		
• Tagging		

WTL/PC/CCTV/23-24/029

• Drop		
• Deny		
• Quarantine		
Should support of blocking attachments based of file names or extension		
Should support of blacklisting / whitelisting		
Should support Language independent anti-spam solution		
Advance Recurring Pattern Detection - anti-spam technology, that rely on RBL and scoring.		
Support for quarantine feature		
Web URL filtering with 100+ category based database, with option to refer Online or can be stored on Local Management Station		
Should be able to define specific URL's to be Allowed/Blocked		
Users should be able to allow blocked website using password override feature		
IPS and AV signature database keep on updating with hourly basis		
Should have a built-in Signature IPS engine on the same unit for IPS		
Should have Server/Client Quota based Distributed Denial of Service Prevention		
Should have the feature to exclude certain hosts' traffic (IP addresses) to be scanned by IPS for particular signatures		
Gateway AV should be supported for real-time detection of viruses and malicious code for HTTP, HTTPS, FTP, SMTP, POP3, SIP.		
Should have configurable policy options to select what traffic to scan for viruses		
Should support Application control for Web 2.0 applications		
Should not have inhouse security services for AV, IPS, Antispam		
Administration:		
Dedicated Application based GUI management program for robust configuration and management.		
Option for Remote management, through WEBUI, CLI & Secure Management Software		
Administrative TCP/IP ports should be other than TCP 80 and TCP 443 to prevent brute-force attack.		
Should support only single administrative login for integrity purpose and deny consecutive administrative login attempts		
Support for role based administration of firewall		
Configurable connection timeout for the management interface.		
Real-time network connection map for connection status.		
Drag-and-drop VPN configuration capability.		
Comprehensive reporting suite without any additional cost.		
Offline policy files configuration and modification.		
The Firewall must send SNMP traps to Network Management Servers (NMS) in response to System failures.		
Ability to make a full backup of the entire flash disk as image file.		
Ability to make/edit configuration file offline for better administrative management, without connecting to the operating security device.		
Should have option to Change Default Web UI Port		

Should have option to schedule rebooting		
Monitoring, Logging and Reporting		
Live Traffic Monitor		
Real-time reporting with Drill Down Feature		
System Services Status Monitor		
Authenticated User List Monitor		
VPN Connections Monitoring		
IP/Host/User based Traffic Watch with option Block Source/Destination from the monitoring tool itself		
Protocol based Traffic Watch		
PDF Audit Reporting		
Remote Logging Support		
Remote Reporting Support		
Remote Monitoring Support		
Encrypted Log Channel		
Provision to generate automatic alerts via mails / syslog		
The Firewall must send SNMP traps to Network Management Servers (NMS) in response to System failures.		
Multi-Appliance Log Aggregation		
Logging and reporting solution should be provided at no extra cost and shouldn't need any license renewal		
1 day of data (reports) retention should be provided at no extra cost on cloud		
Make / Brand : Any globally reputed Manufacturer presence in India		

49" DISPLAY

Sl. No	Section	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Panel	Screen Size	49" or higher		
2		Panel Technology	IPS or VA		
3		Aspect Ratio	16:09		
4		Native Resolution	3,840 x 2,160 (UHD)		
5		Backlight Unit Type	Edge		
6		Brightness (cd/m2)	500nit or higher		
7		Dynamic Contrast Ratio	1,000,000:1 or higher		
8		Viewing Angle (H x V)	178 x 178 or higher		
9		Response Time	8ms(G to G) or better		
10		Surface Treatment (Haze)	Haze 28% or higher		
11		Operation Hours	24x7 Hrs		
12		Orientation	Landscape & Portrait		
13	Connectivity	Input	HDMI (3), DP, DVI-D, Audio, USB (2)		

14		Output	HDMI/DP, Audio		
15		External Control	RS232C In/out, RJ45 (LAN) In, IR In		
16	Specification	VESA	200 x 200 or as per OEM		
17	Key Feature		CPU-ARM Cortex-A53 1.1 GHz Quad, RAM-2GB DDR3-2133 (64bit), Memory- 16GB, GPU-ARM Mali-T820 MP2 (650MHz), Built-in Wi-Fi, Temperature Sensor, Auto Brightness sensor, Acceleration(Gyro) Sensor, Local Key Operation, Embedded CMS, USB Plug & Play, Fail over, Background Image, Sync Mode, Multi-screen (PIP, PBP (4)), Screen Share, Play via URL, Rotation (Screen Rotation, External Input Rotation), Gapless Playback, Tile Mode Setting (Max. 15 × 15), Setting Data Cloning, SNMP, Control Manager, 3rd Party Compatibility (Creston Connected), Power (Smart Energy Saving, PM mode, Wake on LAN, Beacon, HDMI-CEC		
18	Environmental	Operation Temperature	0°C to 40°C		
19	Conditions	Operation Humidity	10% to 80%		
20		Power Supply	100-240V~, 50/60Hz		
21	Power	Power Type	Built-In Power		
22		Consumption: Smart Energy Saving / Max.	100W / 140W		
23	Software	Content Management Software	SuperSign CMS		
24	Compatibility	Control and Monitoring Software	SuperSign Control / Control+		
25		Safety	CB		
26	Certification	EMC	FCC Class "A" / CE / KC		
27		ErP / Energy Star	Yes / Yes		
28	Special Feature	Tilt (Facedown)	Max. 15°		
29		IP Rating	IP5x		

42U Floor Mount Standing Rack

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	19", 42U x 800mm width x 1000mm depth Floor Standing Networking Rack		

2	It should confirm to DIN 41494 or equivalent ISO standard		
3	It should be welded construction with steel frame		
4	Single Lockable tough end glass front door		
5	Vented dual metal door at the back, Vented side panels		
6	Powdered coated standard finish		
7	4 sets of casters wheel		
8	4 sets of adjustable levellers		
9	Horizontal Power Distribution Unit with 12 x 5/15A sockets Round Pin, 230 Volts AC, 32 Amp with Plug		
10	Horizontal Cable Manager		
11	Mounting Hardware set		
12	At least 4nos. Of FANs (360CFM) for cooling purpose		
13	Make / Brand : Any globally reputed Manufacturer presence in India		

27U Floor Mount Standing Rack

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	19", 27U x 800mm width x 800mm depth Floor Standing Networking Rack		
2	It should confirm to DIN 41494 or equivalent ISO standard		
3	It should be welded construction with steel frame		
4	Single Lockable tough end glass front door		
5	Vented dual metal door at the back, Vented side panels		
6	Powdered coated standard finish		
7	4 sets of casters wheel		
8	4 sets of adjustable levellers		
10	Horizontal Cable Manager		
11	Mounting Hardware set		
12	At least 2nos. Of FANs (180CFM) for cooling purpose		
13	Make / Brand : Any globally reputed Manufacturer presence in India		

24 Port LIU

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	24 Port Rack Mount LIU Fully Loaded with Single Mode LC Adapters and Pigtail (1 mtr)		
2	Aluminum & Cold Steel based material with powder coating for light mounting.		
3	Snap-in locker design, easy to change the adapter panels		
4	Should manage both splices and terminations		
5	Should have plastic Splice Tray capable of 24 fibers		
6	Should have 6 fiber magic sticker provision inside for 900um tight buffered fiber storing		
7	Accessory kit consists of cable ties, mounting ear screw		
8	Front-Mounted Cable Saddles for jumper management		

9	Removable Top & Front cover for better access to interior of LIU		
10	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up		
11	Adapter panel - Cold steel		
12	Adapters should have compact design & high precision		
13	which perform well under various circumstances & maintain good plug retention strength.		
14	All fiber items should be from same make.		
15	Make / Brand : Any globally reputed Manufacturer presence in India		

1Gbps FO Transceiver

Sl. No	Technical Specification		
1	1 Gbps Single Mode Fibre Optic Transceiver (For Core Switch)		
2	1000BASE-LX Single Mode SFP Transceiver with Duplex LC Connector		
3	Support IEEE 802.3z standard		
4	At least 10Km distance support on single mode fiber interface		
5	Transceiver module should be hot pluggable. MSA Compliant		
6	TTL signal detect indicator, Metal enclosure for lower EMI		
7	Operating wavelength: 1310nm		
8	It should be of same make as Core Switches		
9	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
10	All type of switches & transceivers should be from same make.		
11	All Core switches should be from same make.		
12	Make / Brand : Any globally reputed Manufacturer presence in India		

10Gbps FO Transceiver

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	10 Gbps Single Mode Fiber Optic Transceiver		
2	10GBASE-LR Single Mode SFP+ Transceiver with Duplex LC Connector		
3	Support IEEE 802.3ae standard		
4	At least 10Km distance support on single mode fiber interface		
5	Transceiver module should be hot pluggable. MSA Compliant		
6	Operating wavelength: 1310nm		

7	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
8	All type of switches & transceivers should be from same make.		
9	All Core switches should be from same make.		
10	Make / Brand : Any globally reputed Manufacturer presence in India	.	

LC-LC Fibre Optic Patch Cord

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	LC - LC SM FO Duplex Patch Cord 5 Meter Length		
	The optical fiber patch cords shall comply with the following specifications:		
2	Optical Fiber – Single mode - OS1		
3	Connector: Zirconia ceramic ferrule		
4	Pre-radiuses and pre-polished ferrule		
5	Duplex Type		
6	Color-coded Yellow for Single mode		
7	Insertion Loss : <0.3 db		
8	Cable: 9/125, SM		
9	Return Loss: >/= 50dB for UPC		
10	Durability: 1000 mating cycle		
11	Working Temp: (0 deg. C to 60 deg. C)		
12	Length: 5 Meter		
13	All fiber items should be from same make.		
14	Make / Brand: Any globally reputed Manufacturer presence in India.		
	LC-LC Fibre Optic Patch Cord		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	LC - LC SM FO Duplex Patch Cord 2 Meter Length		
	The optical fiber patch cords shall comply with the following specifications		
2	Optical Fiber – Single mode - OS1		
3	Connector: Zirconia ceramic ferrule		
4	Pre-radiuses and pre-polished ferrule		
5	Duplex Type		
6	Color-coded yellow for Single mode		
7	Insertion Loss : <0.3 db		
8	Cable: 9/125, SM		
9	Return Loss: >/= 50dB for UPC		
10	Durability: 1000 mating cycle		
11	Working Temp: (- 10 deg. C to + 60 deg. C)		
12	Length: 2 Meter		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
13	All fiber items should be from same make.		
14	Make / Brand: Any globally reputed Manufacturer presence in India.		
UTP CAT-6 Outdoor Cable			
1	Category 6 Outdoor cable shall be compliant with ANSI/TIA/EIA-568-C.2 & and ISO/IEC 11801 channel performance up to 85 mtr.		
2	Category 6 Outdoor cable shall be capable of enhanced performance for transmission of high-speed data, digital and analogue voice and video (RGB) signals on LANs.		
3	All Category 6 Outdoor cables shall meet or exceed the following characteristics:		
4	Construction: 4 twisted pairs separated by internal X shaped, 4 channel, full separator. Half shall not be accepted.		
5	Category 6 Outdoor cable shall be UV Resistant		
6	Conductor dia: 23 AWG		
7	Insulation: Polyethylene		
8	Insulation Diameter: 1.04 ± 0.05 mm		
9	Sheath Thickness: 0.5 ± 0.15 mm		
10	Pairing: Two insulated conductor twisted together		
11	No. of Pair: 4 pair separated by a separator		
12	Sequential meter marking should be available		
13	Color of Jacket: Black		
14	Outer Jacket: PE		
15	Inner Jacket: PVC		
16	Filler : Central Slit Film Cross Filler		
17	Outer Diameter: 7.1 mm		
18	BEND RADIUS: 8 X CABLE DIAMETER		
19	Thickness of Inner Jacket: 0.45 mm ± 0.05 mm		
20	Thickness of Outer Jacket : 0.55 mm ± 0.05 mm		
21	Electrical Parameters		
22	CONDUCTOR RESISTANCE (DC): 9.38Ω ohms /100mtr@20°C. MAX.		
23	RESISTANCE UNBALANCE: 5%MAX		
24	MUTUAL CAPACITANCE: 5.6 nF/100 mtrs MAX.		
25	CAPACITANCE UNBALANCE PAIR/GROUND: 330pF/100M MAX		
26	DELAY SKEW: ≤45 nS/100M		
27	NORMAL VELOCITY OF PROPAGATION: 69%		
28	IMPEDANCE: $100 \pm 15\%$ Ω		
29	Temperature Rating: (- 20 to +60 C)		
30	Packing : 305 Mtrs.		
31	Generally confirming to EIA/TIA 568-C.2 and IEC/ISO 11801		
32	All Network Cable should be from same make.		
33	Make / Brand: Any globally reputed Manufacturer presence in India		
6 Core SM 9/125 Outdoor Fibre Optic Armoured Cable			

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Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	6 Core Single Mode Outdoor Armored Fiber Optic Cable		
2	Electro Chromium Coated Corrugated Steel Tape (ECCS)		
3	Central loose tube with jelly compound		
4	Sequential meter marking		
5	Armoured Design with Steel music Wire		
6	Outer Diameter: 7.2±0.5mm (for 6 Core Cable)		
7	Thickness of HDPE Jacket: 1.8±0.2mm		
8	Pulling Tension: Short Term (1000N)		
9	Crush Load: 2000N/100mm		
10	Bend Radius: Short Term (20D)		
11	The fiber type is a Matched Cladding Single Mode		
12	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
13	Nominal Mode Field Diameter: 9.3 μm		
14	Cladding Diameter: 125 μm		
15	PMD (ps/km): ≤ 0.2		
16	Cable Cut-off Wavelength: 1260nm		
17	**Attenuation (of cable with fibers):**		
	At 1310 nm: 0.34 dB/km		
	At 1550 nm : 0.24 dB/km		
18	Operating Temperature should be within -20°C to +60°C		
19	Make / Brand: Any globally reputed Manufacturer presence in India.		
12 Core SM 9/125 Outdoor Fibre Optic Armoured Cable			

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	12 Core Single Mode Outdoor Armored Fiber Optic Cable.		
2	Corrugated steel tape armoured		
3	Central loose tube with jelly compound		
4	Glass Yarns between steel tape & loose tube		
5	Sequencial meter marking		
6	The fiber should fulfill the requirement of ITU-T REC G.652D		
7	Outer Diameter: 9 ± 0.3mm (for 12 Core Cable)		
8	Thickness of HDPE Jacket: 1.8±0.2mm		
9	Pulling Tension: Short Term (2000N)		
10	Crush Load: 3000N/100mm		
11	Bend Radius: (20D)		
12	The fiber type is a Matched Cladding Single Mode		
13	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
14	Nominal Mode Field Diameter: 9.2 μm		
15	Cladding Diameter: 125 μm		
16	PMD (ps/km): 0.2		
17	Cable Cut-off Wavelength: <= 1260nm		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
18	Attenuation (of cable with fibers):		
	At 1310 nm: 0.36 dB/km		
	At 1550 nm : 0.22 dB/km		
19	Make / Brand: Any globally reputed Manufacturer presence in India .		

24 Core SM 9/125 Outdoor Fibre Optic Armoured Cable

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	24 Core Single Mode Outdoor Armoured Fiber Optic Cable.		
2	Corrugated steel tape armoured		
3	Central loose tube with jelly compound		
4	Glass Yarns between steel tape & loose tube		
5	Sequential meter marking		
6	The fiber should fulfill the requirement of ITU-T REC G.652D		
7	Outer Diameter: 9.5 ± 0.3mm (for 24 Core Cable)		
8	Thickness of HDPE Jacket: 1.8±0.2mm		
9	Pulling Tension: Short Term (2000N)		
10	Crush Load: 3000N/100mm		
11	Bend Radius: (20D)		
12	The fiber type is a Matched Cladding Single Mode		
13	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
14	Nominal Mode Field Diameter: 9.2 µm		
15	Cladding Diameter: 125 µm		
16	PMD (ps/km): 0.2		
17	Cable Cut-off Wavelength: <= 1260nm		
18	**Attenuation (of cable with fibers):**		
	At 1310 nm: 0.36 dB/km		
	At 1550 nm : 0.22 dB/km		
19	Make / Brand: Any globally reputed Manufacturer presence in India		
Outdoor Weatherproof Customized Rack			

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Metal Guage	18 SWG or Better		
2	Colour	Off White / Gray / Cream		
3	Colour Coating	Powder Coated		
4	Dimension (W X H X D)	As Per Requirement (Weather Proof Design with cooling arrangement)		
5	Lock Facility	Double Lock facility		
Double Door DB Box				

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Sl. No	Feature	Technical Specification		
1	Type	8 Way SPN MCB DB		
2	Enclosure	Double Door with IP42/43 protection		
3	Isolator	1 No. 32 Amp Double Pole (Loaded)		
4	MCB	6 Nos. 10 Amp / 6 Amp Single Pole (loaded)		
5	Supply	Single Phase 250V AC		
6	Brand / Make	Any globally reputed Manufacturer presence in India.		

- Bidder should submit all relevant data sheet/brochure of all quoted items and should also available in respective OEM's official website.
- Bidder should indicate items mentioned in the OEM data sheet / brochure by marketing as mentioned in minimum specification in the RFP

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Stamp of the Company: _____

Zone – 2 (Bidhannagar)

Minimum Specification of 5 MP IR Vari-Focal Bullet Network Camera

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Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Image Sensor	1/2.8" CMOS Sensor or Better		
2	Resolution	Minimum 2592 (H) × 1944 (V)		
3	Scanning System	Progressive		
4	Electronic Shutter Speed	Auto/Manual 1/15 s–1/100,000 s		
5	Min. Illumination	0.01 lux@F1.4 (Color) or Better		
		0.01 lux@F1.4 (B/W) or Better		
		0 lux (Illuminator on)		
6	S/N Ratio	>52 dB		
7	IR Illumination Distance	50 meter or Better		
8	Illuminator On/Off Control	Auto / Manual		
9	Lens Type	Motorized vari-focal		
10	Focal Length	OEM fitted 2.8 mm–12 mm or Better		
11	Iris Control	Auto/ Mannual		
	Professional, intelligent			
12	IVS (Perimeter Protection)	Support Intrusion, tripwire		
13	Video Compression	H.265+/ H.265/ H.264/ MJPEG		
14	Video Frame Rate	Main stream: 2592 × 1944 @ 30 fps or Better		
		Sub stream 1: D1 @ 30 fps or Better		
		Sub stream 2: 2048 × 1536 @ 8 fps or Better		
15		Sub stream 3: 1980 × 1080 @ 30 fps or Better		
16	Stream Capability	4 streams or Higher		
17	Resolution	2592 × 1944; 2592 × 1520; 2048 × 1536; 1920×1080; 720p; D1; VGA; 2CIF; CIF.		
18	Bit Rate Control	CBR/VBR		
19	Day/Night	Auto(ICR)/Color/B/W		
20	BLC	Should Support		
21	WDR	120 dB or Higher		
22	White Balance	Auto/ Natural/ Street lamp/ Outdoor		
23	Gain Control	Auto		
24	Noise Reduction	3D NR		
25	Motion Detection	Should Support		
26	Region of Interest (RoI)	Should Support		
27	Mirror	Should Support		
28	Image Rotation	Should Support		
29	Privacy Masking	Should Support		

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30	Alarm Event	Storage full; network disconnection; IP conflict; motion detection; video tampering; intrusion; tripwire; audio detection.		
31	SDK and API available	Yes		
32	Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; RTSP; RTCP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP; PPPoE; SNMP; TLS/ SSL; Telnet/ SSH.		
33	Interoperability	ONVIF (Profile S/Profile G/Profile T)		
34	Storage	Micro SD card (support minimum 256 GB)		
35	Mobile Client	iOS; Android		
36	Operation Temperature / Humidity	-10 °C to 55 °C / Less than 95% RH		
37	Weather Proof Standard	IP67		
38	Certifications	FCC, CE, UL, BIS, IK10, NEMA 4X		
39	Make / Brand: Any globally reputed Manufacturer presence in India & having manufacturing facility in India.			

2 Megapixel 33x CMOS Sensor IR PTZ Network Camera

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Image Sensor	1/1.8" CMOS or Better		
2	Effective Pixels	1920(H) x 1080(V) or Better		
3	Minimum Illumination	Colour: 0.001 Lux @F1.5; B/W: 0 Lux with IR		
4	Focal Length	The Camera should be provided with an OEM fitted 4.6~152 mm of focal length or Better		
5	White Balance	Auto, ATW, Indoor, Outdoor, Manual		
6	Focus Control	Auto / Manual		
7	Electronic Shutter	1/1s~1/100,000s or Better		
8	AGC control	Auto / Manual		
9	Back Light Compensation	BLC , HLC , WDR (140dB)		
10	Optical Zoom	33x or Higher		
11	Digital Zoom	16x or Higher		
12	Pan Travel	0°~360° endless, Pan Speed: 0.1° ~ 180°/sec		
13	Tilt Travel	- 15° ~ 90° auto flip 180°, Tilt Speed: 0.1° ~120°/sec		

14	Manual Speed	Pan: 0.1° ~180° /s; Tilt: 0.1° ~120° /s		
15	Presents & Pattern	400 Preset, 5 Pattern, 8 Tour, Auto Pan , Auto Scanor More		
16	Present Speed	Pan: 240° /s; Tilt: 180° /s		
17	IR Illumination Distance	200 meter or Better		
18	Privacy Masking	24 Areas or More		
19	Power up Action	Auto restore to previous PTZ and lens status after power failure		
20	Day/Night: IR Cut Filter	Auto (ICR) / Colour / B/W		
21	Video Compression	H.265+/H.265 & H.264+/H.264		
22	Video Streaming	Main stream: PAL: 50 fps (1920 x 1080, 1080 x 720, 704 x 576, 640 x 480); NTSC: 60 fps (1920 x 1080, 1280 x 720, 704 x 480, 640 x 480). Sub stream: PAL: 25 fps; NTSC: 30 fps. Third stream: PAL: 25 fps; NTSC: 30 fps.		
23	Audio Compression	G.711a/G.711M/ADPCM/ AAC_LC		
24	Motion Detection	Should Support		
25	ROI	Should Support		
26	Audio Streaming	1/1 channel In/Out		
27	Auto Tracking	Should Support		
28	IVS	Tripwire, Intrusion, bright lights etc.		
29	Networking	RJ-45/ RS485		
30	Protocols	IPv4; IPv6; HTTP; TCP; RTSP; SMTP; FTP/ SFTP; DHCP; DNS; DDNS; NTP; Multicast; IIGMP; PPPoE; SNMP.		
31	Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict		
32	Alarm	6/2 channel In/Out		
33	Operating Temperature	-10°C ~ 55°C / Less than 95% RH		
34	Weather Proof Standard	IP66/ IP67 & IK10 Vandal proof rating or better		
35	Power Source	AC24V, PoE++ Both Support		
36	Certifications	FCC, CE, UL/ BIS		
39	Make / Brand: Any globally reputed Manufacturer presence in India & having manufacturing facility in India.			

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ANPR Camera

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Main Processor	High performance embedded processor to extract and analyse vehicle metadata		
2	Image Sensor	1/1.8" CMOS or Better		
3	Lens	Built-in 10 mm – 50 mm motorized vari-focal lens or Better		
4	Shutter Mode	Single shutter		
5	Electronic Shutter Speed	1/25 s–1/100000 s (manual/auto) or Better		
6	Exposure Mode	Full auto, customized auto, customized		
7	Iris Control	Fixed iris/manual iris/auto iris/P iris		
8	Image Resolution	2688 × 1520 or Higher		
9	Video Resolution	4M (2688 × 1520)/1080P (1920 × 1080)/UXGA (1600 × 1200)/720P (1280 × 720)/D1 (704 × 576)/CIF (352 × 288)		
10	Video Frame Rate	Maximum 25fps; main stream (2688 × 1520@25fps), sub stream (1600 × 1200@25fps)		
11	Video Compression	H.265+/H.265/H.264M/H.264H/H.264B/MJPEG		
12	Picture Encoding Format	JPEG		
13	WDR	Minimum 140dB		
14	White Balance	Auto/outdoor/manual/local white balance/natural light/street light		
15	Noise Reduction	2DNR/3DNR		
16	HLC	Should Support		
17	Bad Pixel Correction	Should Support		
18	Edge Enhancement	Should Support		
19	Storage	Support SD card (Minimum 256GB)		
20	Image Tampering Prevention	Should Support Watermark and verification are available for videos and pictures		
21	Security	Authorized username and password, MAC address binding, HTTPS encryption, and network access control		
22	License Plate Recognition	Adopts self-developed algorithm to recognize license plates combining numbers and letters		
23	Vehicle Type Recognition	Should Support		

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
24	Vehicle Color Recognition	Should Support		
25	Motor Vehicle Violation Capture	Should Support		
26	Video Metadata	Should Support Motor vehicle: License plate, vehicle type, vehicle color, license plate color, vehicle logo, and more. Non-motor vehicle: Type (two-wheelers, three-wheelers), color, wearing a helmet or not, passenger (1, 2, 3, or more passengers)		
27	Vehicle recognition rate	≥98%		
28	Network	1 RJ-45 Ethernet port, 10/100/1000M Network transmission		
29	Alarm Input & Output	1 channel In & 1 channel Out		
30	Audio Input & Output	1 channel In & 1 channel Out		
31	Illuminator Number	4 illuminators (850nm IR LED illuminators, brightness adjustable)		
32	Power Supply	12V DC, 24V DC, PoE		
33	Operating Temperature	-10°C to 55°C		
34	Protection Grade	IP67/ IK10 or Better		
35	Certification	FCC, CE, BIS		
38	Make / Brand: Any globally reputed Manufacturer presence in India & having manufacturing facility in India.			

General Surveillance Management Server

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Processor	Intel Xeon-Silver 4216 Processor or AMD EPYC 7282 or Higher		
2	No. of Core	16 Core or Higher		
	Processor speed	2.5 GHz or Higher		
7	Operating System	Microsoft Windows Server 2022 16 Core Standard loaded		
8	Generation	Gen10 or latest		
9	HDD	2 x 480GB SATA / SSD		
10	Power	500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit		
11	Storage controller	Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller		

12	Memory, standard	64 GB DDR4 3200MHz with 16 DIMMs		
13	Mouse	Optical Mouse		
14	Keyboard	Keyboard		
15	Ethernet	Ethernet 1Gb X 4-port 331T Adapter		
16	Mounting	1x CMA for rail kit		
17	Form Factor	Rack		

Central Video Monitoring Software

Sl. No	Feature	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Video Management Software with high scalable design and distributed deployment, easily expand the supported channels to 20,000 and central storage capacity to 4 PB. The multi-site function allows to incorporate multiple VMS platforms into one, and conveniently show their information on one PC client. With hot standby and N+1 redundancy. Available access live and recorded videos, real-time and historical events. AI capabilities that devices have, such as face recognition, automatic number plate recognition and video metadata, etc.		
2	VMS Shall be based on Microsoft windows OS.		
3	VMS shall be open to IP camera integration in that respects VMS should support IP Cameras from Multiple OEM.		
4	The VMS shall be ONVIF compliant.		
5	VMS shall be open to any NAS (CIFS, SMB 2.0) integration.		
6	VMS shall support H.264 and MJPEG stream for both live view and Recording independently. Compression rate shall be manageable.		
7	The Video Management System shall support cameras with resolutions ranging from Standard Definition, High Definition (HD) and higher resolution		
8	The Video Management System shall show video across 4 displays per workstation - each display can have up to 25 viewing panes.		
9	VMS shall be able to connect with video wall through multi-display client.		
10	Users shall be able to move any image from one display screen to another via drag-and-drop		
11	The VMS shall allow the overlay of time and date information on live video panes		
12	Users shall be able to digitally zoom and also digitally scroll live video from any camera using the mouse wheel		
13	Users shall be able to replay currently viewed live video for replays from 10, 15 or 30 seconds before current time or from alarm time.		
14	The VMS shall allow users to reset the event count for a camera It should be able to display camera information in the On-Screen Display (OSD).		
	a. Camera name		

	b. Date and time			
15	VMS shall be accessible using any desktop client utility for Live view and Archive search			
16	VMS should support the two-way audio so that users shall be able to listen audio from multiple cameras through PC speakers and may speak to one or more cameras through a PC microphone			
17	VMS shall allow managing initial client logon, system configurations, logging, remote administration of recording servers, devices, security, rules, alerts and logging.			
18	VMS shall support at least 3 levels of users with various privileges to access the system functionality. Each category of users shall have selectable rights to perform various operations like Camera add/delete, Change camera settings, Configure storage, Control PTZ cameras, User management, etc			
19	VMS shall maintain a continuous log of server status messages, Camera connectivity, Storage status, Recording ON/OFF, User activity logs , etc which shall be accessed from the Workstations using different filters			
20	Each video streams shall be individually and independently configurable in term of resolution, frames and bandwidth			
21	VMS shall support video streams up to at least 25/30fps			
22	VMS shall support at least CIF, 2CIF, 4CIF/D1 and HD/Megapixel resolution			
23	PTZ Control	All PTZ control shall be user-restricted		
		Users shall be able to zoom a PTZ camera in or out using the PC mouse		
		Users shall be able to pan, tilt and zoom a PTZ camera displayed in a video pane or monitor using a joy stick on one of the supported CCTV keyboards		
		Users shall be able to adjust the iris of a PTZ camera using the on screen PTZ controls or a CCTV keyboard:-Open iris-Close-Auto-iris		
		The Video Management System shall support the following for cameras using the ONVIF interface or Camera Gateway		
		a. Pan, tilt and zoom control with mouse and joystick		
	b. Go to pre-set			
	c. Set pre-set			
24	The VMS shall have the capability of operating in an environment that requires multi-tasking, when using multiple cameras spread over a wide area			
25	VMS should have Pre and Post Event Recording			
26	VMS should have Motion Detection technology			

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27	Software provides remote interface with a full live feed view, with digital zoom options, control of PTZ cameras, multiple simultaneous feeds, and image quality settings to improve performance through bandwidth reduction		
28	Software has built in feature to bring camera observation to mobile devices (require a software on a mobile device to view)		
29	Each camera setting can be adjusted individually according to client's requirement		
30	Schedule operation - All cameras can be fully scheduled individually		
31	View and record multiple cameras		
32	As many playback sessions as are required can be displayed at once		
33	Automatic control of supported PTZ cameras		
34	Alerting by email (with images)		
35	Software should have built in feature to bring camera observation to mobile devices (require a software on a mobile device to view)		
36	The software shall allow:		
A	Live display of cameras.		
B	Live display of camera sequences.		
C	Control of PTZ cameras.		
D	Playback of archived video.		
E	Retrieval of archived video.		
F	Instant Replay of live video.		
G	Configuration of system settings.		
H	Configuration and programming of P/T/Z cameras, features like camera addressing, BLC, auto tours, pre-sets etc.		
I	Video Analytics		
37	The software should be able to do video recording on any of the following options - inbuilt hard disks on the server, direct attached storage boxes attached to servers, network attached storage, storage area network.		
38	The software should be capable of handling camera and alarm icons on area maps. The area map should be configurable to pop up upon the receipt of an alarm received from a camera on the map. This can be on the same or other monitors on the PC.		
39	The software shall be able to select the required recording based on the time recording was activated, the duration of recording, operator activated recording, event activated recording, scheduled recording.		
40	It shall be possible to search for recordings in the software by camera, date and time. If a data and time is specified, playback shall commence from that date and time. It shall be possible to playback more than one camera simultaneously.		
41	It Software shall allow operators to bookmark the concern videos & browse through a list of all bookmarks created on the system and select any bookmarked event for viewing. Software shall support industry standard for the interface of IP-based physical security products: ONVIF and shall be based on a server/client model.		

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42	VMS should use two independent streams Camera or IP encoders: One for Live View and other for recording. All settings for each stream including resolution, codecs, frame rate and compression level may be choose independently without affection overall system performance and IP device functionality.			
43	Software shall have the capacity to communicate with IP Cameras / Encoders using HTTPS secure protocol. It shall support any form of IP network connectivity, including: LAN/ WAN/ VPN/ Internet/ Wireless technologies.			
44	All audio streams supplied from IP Camera / Encoders shall be digitally encoded in g711 (u-law)/ g721/ g723 or AAC compression formats and recorded simultaneously in real time.			
45	Software shall offer redundant architecture for recording in server. Roles shall move from one server to another without disturbing the regular operations. To minimize network traffic, Software must have ability to configure the key frame interval (I-frame) per second.			
46	All video streams supplied from IP cameras / Encoders shall be digitally encoded in MPEG-4/MPEG-2/MJPEG and H.264 compression formats and recorded simultaneously in real time			
47	Each camera's bit rate, frame rate and resolution shall be set independently and changing these settings will not affect the recording and display settings of other cameras.			
48	Software shall support dynamically switch the video resolution according to the Tile Size on Monitoring Screen. High Resolution Video feed while watching single camera on screen and Low Resolution Video feed while watching Cameras in Multiple tiles.			
49	ANPR	Real-time license plate recognition Vehicle passed record		
50	Vehicle Blacklist	Vehicle Blacklist management Import and export vehicle blacklist		
51	Devices	Should Support Minimum 2,000 devices Per Server		
52	Auto-Registered Devices	Should Support Minimum 1,000 devices Per Server		
53	Video Devices and Channels	Should Support Minimum 1,000 devices; 2,000 channels Per Server		
54	Devices Added by ONVIF Protocol	Should Support Minimum 1,000 devices; 2,000 channels		
55	ANPR Channels	Should Support Minimum 500 channels		
56	Total Devices	Should Support Minimum 10,000 locations; 65,000 cameras		
57	Total Incoming Bandwidth	Should Support Minimum 600 Mbps		

58	Incoming Video Bandwidth	Should Support Minimum 600 Mbps		
59	Incoming Picture Bandwidth	Should Support Minimum 200 Mbps		
60	Total Outgoing Bandwidth	Should Support Minimum 600 Mbps		
61	Outgoing Video Bandwidth	Should Support Minimum 600 Mbps		
62	Outgoing Picture Bandwidth	Should Support Minimum 200 Mbps		
63	Total Storage Bandwidth	Should Support Minimum 600 Mbps		
64	Video Storage Bandwidth	Should Support Minimum 600 Mbps		
65	Picture Storage Bandwidth	Should Support Minimum 200 Mbps		
66	Prerecording Bandwidth for Alarm Recordings	Should Support Minimum 400 Mbps		
67	Maximum Capacity of Central Storage (IPSAN)	Should Support Minimum 400 TB, depending upon server capacity		
68	Total Events	Should Support Minimum 100 per second		
69	Storage of Events or Alarms without Pictures	Should Support Minimum 100 per second		
70	Alarms with Snapshots (Stored on Devices)	Should Support Minimum 100 per second		
71	Number of Combined Events	Should Support 100 events per second		

Client Workstation PC				
Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Form factor	Tower Type		
2	Operating System	Win 11 SL/ Home 64 bit		
3	Processor & Chipset	Intel i7 12700/ AMD Ryzen 7 5700 or higher; Intel Q670/ AMD Pro 565 or higher		
4	RAM	32 GB DDR4 RAM		
5	Graphics Card	Minimum 4 GB		
6	Storage	512GB NVMe SSD or higher		
7	Power Supply	Min. 400W with 90% or higher efficiency		
8	I/O	Wireless Keyboard and Wireless Mouse, WiFi + BT, Total 10 USB ports, HDMI, DP/ VGA port		
9	Certifications	ISO 9001, 14001, 20001, 27001, EPEAT Gold, ROHS, CE, FCC, UL		
8 Ethernet Port PoE Switch				

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Sl. No	Technical Specification		Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	No of Ports	8 10/100/1000 Base-T PoE ports & 2 Gigabit SFP ports		
2	Switching Capacity	20 Gbps or Better		
3	Forwarding Rate	Minimum 14.80 Mbps		
4	POE / POE+	IEEE 802.3af and 802.3at		
5	POE Power Budget	Minimum 130 W or Higher		
6	Power Supply	AC: 100V -240V, 50Hz ±10%		
7	Environment	Operating temperature/ Humidity: 0°C-45°C, 10%-90% non-condensation		
		Storage temperature/ Humidity: 0°C-70°C; 5%-95% non-condensation		
		Power Saving by: Link status, LED or Port Shutoff		
8	MAC Switching	Static configuration and dynamically learning of MAC address		
		Check and delete MAC address		
		Configuring of MAC address aging time		
		Up to 256 Static MAC entries		
		Limit on MAC address learning number		
		MAC address filtering function		
		MAC address size 8K		
9	Port Mirroring	One-to-One, Many-to-One		
		Supports Mirroring for Tx/Rx/Both		
10	V LAN	4K VLAN entries, 256 static VLAN		
		GVRP		
		1:1 and N:1 VLAN Mapping		
		Q-in-Q		
		Private VLAN, Voice VLAN		
11	STP	802.1D (STP), 802.1W (RSTP), 802.1S (MSTP)		
		BPDU protection, root protection and ring protection		
12	Multicast	IGMP v1/v2/v3		
		IGMP Snooping		
		IGMP Fast Leave		
		Multicast group policy and multicast number limit		
13	IPv6	ICMPv6, DHCPv6, ACLv6 and		

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
		IPv6 Telnet		
		IPv6 Neighbor Discovery		
		MLD v1/v2		
		MLD Snooping		
14	QoS	Traffic classification of each field of L2/L3/L4 protocol headers		
		CAR traffic control		
		802.1P/DSCP priority remark		
		Multiple queuing algorithms such as SP, WRR or SP+WRR		
		WRED		
		Traffic supervision and traffic shaping		
15	Security features	Identification and filtering of L2/L3/L4 based ACL		
		DOS or TCP attacks Prevention		
		Suppression of broadcast, multicast and unknown unicast packet		
		Port isolation		
		Port security, IP+MAC+port binding		
		DHCP Snooping, DHCP Option 82		
		IEEE 802.1x certification		
		Radius and Tacacs+		
16	Reliability	Static / LACP link aggregation		
17	Management and Maintenance	Console, Telnet, SSH 2.0		
		WEB based management		
		SNMP v1/v2/v3		
		TFTP		
		RMON		
18	Certification	CE, FCC, IEC 62368-1		
19	Make / Brand	Any globally reputed Manufacturer presence in India.		

16 Bay Video Storage Device

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Main Processor	64-bit high-performance Intel processor or Higher		
2	Memory	Minimum 4GB		
3	Operating System	Embedded LINUX / Windows		
4	Video Stream Mode	640Mbps incoming and recording 320Mbps forwarding,		

		64Mbps playback		
5	IP SAN Mode	Storage bandwidth ≤2.7Gbps Write-through: 320Mbps; Write-back: 480Mbps		
6	Storage	Should Support 16 HDDs, 10TB or higher capacity for each SATA HDD.		
7	miniSAS	1 miniSAS ports, for storage extension		
8	HDD Installation	Additional HDD bracket, HDD hot-swap, HDD online replacement		
9	HDD Mode	Single, RAID 0/1/5/6/10/50/60, hot spare		
10	HDD Manager	Non-working HDD hibernation to guarantee sound ventilation, reduce power consumption and enhance HDD life span HDD bad track mapping to enhance HDD life span		
11	RAID Rebuild	Dynamically adjust RAID rebuild speed to guarantee system load balance		
12	Logic Volume Manager	Support iSCSI volume management, NAS(SMB/NFS/FTP) volume management		
13	Snapshot	Support snapshot function, create user volume toback data.		
14	Extract Frame	Support extracting P frame function. Customized extracting period and frame rate setup		
15	Cluster Service	N+M cluster service		
16	ANR	After disconnection, system can download the record file from the SD card on the network camera to maintain the full record file.		
17	Interface	2 data RJ-45 ports (10/100/1000Mbps)		
18	Network Mode	Multi-address, Fault-tolerance, Load balance, Link aggregation		
19	Network Function	HTTP, HTTPs, TCP/IP, IPv4/IPv6, UPnP, RTP, RTCP, RTSP, UDP, SMTP, NTP, DHCP, DDNS, IP Filter, PPPoE,DDNS, iSCSI, SMB, NFS, FTP.		
20	Interoperability	ONVIF		

21	Power Supply	AC100V ~ 240V,1 + 1 Redundant power		
22	Working Conditions	0°C ~ +40°C		
23	Certification	FCC, CE, UL, BIS		
24	Make / Brand	Any globally reputed Manufacturer presence in India.		

All SFP Core Switch

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Layer-3 Fully Managed Switch having 24x 1G SFP slots with 4x combo 10/100/1000BaseT ports & 4x 10G SFP+ slots.		
2	SFP slots should support IEEE 802.3z & IEEE 802.3u compliant transceivers & SFP+ slots should support IEEE 802.3z & IEEE 802.3ae compliant transceivers		
3	The switch should be 19" Rack Mount size.		
	THE SWITCH SHOULD HAVE FOLLOWING BASIC FEATURE FROM DAY ONE:		
4	The switch should have RJ45/mini-USB console port for Out of band CLI management & ethernet port for out of band IP management. It should have minimum one alarm port.		
5	The switch should have intelligent fans with sensor that provides different fan speed based on different temperature.		
6	The switch should have support for redundant power supply.		
7	The switch should have built-in hardware feature for both external event detection & alarm action		
8	The switch should have switching capacity at least 128Gbps & packet forwarding rate at least 95Mpps for 64-bytes packet size		
9	The switch should have non-blocking architecture & wire-speed performance under fully loaded condition.		
10	The switch should have virtual stacking capability of at least 25 switches in a stack.		
11	The switch should have physical stacking capability with at least 8 units per stack & at least 40Gbps of stacking bandwidth.		
12	The switch should have feature for flexible management of switch resources		
13	The switch should have 6kV Surge protection on all RJ45 access ports		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-2 FEATURE FROM DAY ONE:		
14	a) At least 64K MAC address table size. At least 1K static MAC support.		
15	b) Jumbo frame support for at least 12KB frame size.		
16	c) Flow-control features: 802.3x for full duplex & Head-of-		

	line blocking prevention.		
17	d) UDLD or equivalent features.		
18	e) IEEE 802.1D (STP), 802.1w (RSTP) & 802.1s (MSTP) with at least 64 MSTP instances, Root Guard or equivalent features.		
19	f) Avoidance of the loop occurring in a single port connected to an unmanaged switch/hub by shutting down the corresponding port or corresponding VLAN		
20	g) Ethernet Ring Protection Switching (ERPS) with maximum 50milli second recovery time.		
21	h) IEEE 802.1AX & 802.3ad Link aggregation with at least 32 groups per device & at least 8 ports per groups. LACP.		
22	i) Port mirroring with at least 4 mirroring sessions. Should support Tx, Rx & both based mirroring. Should support one-to-one & many-to-one mirroring, flow-based mirroring, RSPAN.		
23	j) IGMP v1 v2 & v3 snooping with at least 8000 snooping groups. Should support IGMP snooping per VLAN, host-based IGMP snooping fast leave, at least 128 static IGMP groups, L2 multicast filtering		
24	k) MLD v1 & v2 snooping with at least 4000 snooping groups. Per VLAN MLD snooping. At least 128 static MLD groups.		
25	l) At least 4K VLAN groups, 802.1Q, 802.1v protocol based VLAN, Q-in-Q, GVRP with at least 4K dynamic VLANs, Voice VLAN, Port-based VLAN, MAC-based VLAN, private VLAN, VLAN trunking, MVR (Multicast VLAN Registration) or equivalent feature.		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-3 FEATURE FROM DAY ONE:		
26	a) At least 16K routing table entry size with at least 512 static route entry support.		
27	b) Default route, RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, BGPv4, BGPv4+, Policy based route, Route preference, Route Redistribution, Bidirectional Forwarding Detection, MSDP		
28	c) Multicast forwarding table size: at least 2000, IGMPv1v2v3, MLDv1v2, IGMP filtering, static IP multicast route, PIM-DM, PIM-SM, PIM-SSM, PIM-Sparse-Dense mode, DVMRPv3, PIM-SMv6.		
29	e) IPv6 tunnelling, VRRP, IP helper		
	THE SWITCH SHOULD HAVE FOLLOWING QOS FEATURE FROM DAY ONE:		
30	a) IEEE 802.1p, DSCP, at least 8 queues per port.		
31	b) Queue handling methods: strict, weighted round robin, weighted deficit round robin, WRED		
32	c) CoS & classification of packets based on following parameters: VLAN ID, 802.1p priority, MAC address, Ether type, DSCP, protocol type, IPv4 address, TCP/UDP port number, IPv6 address, IPv6 traffic class		
33	d) Port & flow based bandwidth control with minimum granularity 8Kbps.		
34	e) Time based QoS.		
	THE SWITCH SHOULD HAVE FOLLOWING SECURITY		

	FEATURE FROM DAY ONE:		
35	a) Access control list based on VLAN, MAC address, 802.1p priority, DSCP, protocol type, TCP/UDP port, IPv4 address, IPv6 address, IPv6 traffic class		
36	b) Time based ACL.		
37	c) Binding of IP address & MAC address with the interface. Dynamic ARP Inspection. IP Source Guard. DHCPv6 Guard, IPv6 Route Advertisement Guard, IPv6 Neighbour Discovery Inspection, Duplicate Address Detection		
38	d) SSHv2 for both IPv4 & IPv6, SSL (TLS 1.2) for both IPv4 & IPv6, Port security with at least 12K MACs per port.		
39	e) Broadcast, multicast & unicast storm control.		
40	f) Protection of the CPU from protocol control packet attack.		
41	g) DHCP server screening, DHCP client filtering, ARP spoofing prevention, BPDU attack prevention, DoS attack prevention		
42	h) IEEE 802.1x -- RFC 3580, web-based access control, MAC based access control, guest VLAN, Microsoft NAP, RADIUS accounting.		
43	i) Authentication supported based on : Local data base, RADIUS server		
44	j) Web based access control for IPv6		
45	k) At least 4 level user account for management access. RADIUS & TACACS+ authentication for management access.		
	THE SWITCH SHOULD HAVE FOLLOWING MANAGEMENT FEATURE FROM DAY ONE:		
46	a) Web based -GUI (IPv4 & IPv6), CLI, telnet server & client (IPv4 & IPv6) , TFTP client (IPv4 & IPv6), FTP client (IPv4 & IPv6), SFTP server, Zmodem, SNMPv1v2cv3, Syslog. sFlow, ICMPv6.		
47	b) RMONv1 & v2, LLDP, LLDP-MED, BooTP & DHCP client supporting both IPv4 & IPv6, DHCP relay option 82, DHCP relay option 60 & 61.		
48	c) Multiple images & configurations, SNTP, debug		
49	d) 802.3ah ethernet link OAM, 802.1ag CFM, Dying gasp.		
50	e) Inbuilt power saving technique on all Gigabit RJ-45 ports, IEEE 802.3az		
51	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
52	All type of switches & transceivers should be from same make.		
53	All Core switches should be from same make.		

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Copper Core Switch

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Core Switch - Layer-3 Fully Managed Switch having 20 X 1Gbps Copper Ports with 4x combo 1G SFP slots & 4x 10G SFP+ slots		
2	SFP slots should support IEEE 802.3z & IEEE 802.3u compliant transceivers & SFP+ slots should support IEEE 802.3z & IEEE 802.3ae compliant transceivers		
3	The switch should be 19" Rack Mount size.		
	THE SWITCH SHOULD HAVE FOLLOWING BASIC FEATURE FROM DAY ONE:		
4	The switch should have RJ45/mini-USB console port for Out of band CLI management & ethernet port for out of band IP management. It should have minimum one alarm port.		
5	The switch should have intelligent fans with sensor that provides different fan speed based on different temperature.		
6	The switch should have support for redundant power supply.		
7	The switch should have built-in hardware feature for both external event detection & alarm action		
8	The switch should have switching capacity at least 128Gbps & packet forwarding rate at least 95Mpps for 64-bytes packet size		
9	The switch should have non-blocking architecture & wire-speed performance under fully loaded condition.		
10	The switch should have virtual stacking capability of at least 25 switches in a stack.		
11	The switch should have physical stacking capability with at least 8 units per stack & at least 40Gbps of stacking bandwidth.		
12	The switch should have feature for flexible management of switch resources		
13	The switch should have 6kV Surge protection on all RJ45 access ports		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-2 FEATURE FROM DAY ONE:		
14	a) At least 64K MAC address table size. At least 1K static MAC support.		
15	b) Jumbo frame support for at least 12KB frame size.		
16	c) Flow-control features: 802.3x for full duplex & Head-of-line blocking prevention.		
17	d) UDLD or equivalent features.		
18	e) IEEE 802.1D (STP), 802.1w (RSTP) & 802.1s (MSTP) with at least 64 MSTP instances, Root Guard or equivalent features.		
19	f) Avoidance of the loop occurring in a single port		

	connected to an unmanaged switch/hub by shutting down the corresponding port or corresponding VLAN		
20	g) Ethernet Ring Protection Switching (ERPS) with maximum 50milli second recovery time.		
21	h) IEEE 802.1AX & 802.3ad Link aggregation with at least 32 groups per device & at least 8 ports per groups. LACP.		
22	i) Port mirroring with at least 4 mirroring sessions. Should support Tx, Rx & both based mirroring. Should support one-to-one & many-to-one mirroring, flow-based mirroring, RSPAN.		
23	j) IGMP v1 v2 & v3 snooping with at least 8000 snooping groups. Should support IGMP snooping per VLAN, host-based IGMP snooping fast leave, at least 128 static IGMP groups, L2 multicast filtering		
24	k) MLD v1 & v2 snooping with at least 4000 snooping groups. Per VLAN MLD snooping. At least 128 static MLD groups.		
25	l) At least 4K VLAN groups, 802.1Q, 802.1v protocol based VLAN, Q-in-Q, GVRP with at least 4K dynamic VLANs, Voice VLAN, Port-based VLAN, MAC-based VLAN, private VLAN, VLAN trunking, MVR (Multicast VLAN Registration) or equivalent feature.		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-3 FEATURE FROM DAY ONE:		
26	a) At least 16K routing table entry size with at least 512 static route entry support.		
27	b) Default route, RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, BGPv4, BGPv4+, Policy based route, Route preference, Route Redistribution, Bidirectional Forwarding Detection, MSDP.		
28	c) Multicast forwarding table size: at least 2000, IGMPv1v2v3, MLDv1v2, IGMP filtering, static IP multicast route, PIM-DM, PIM-SM, PIM-SSM, PIM-Sparse-Dense mode, DVMRPv3, PIM-SMv6.		
29	e) IPv6 tunnelling, VRRP, IP helper		
	THE SWITCH SHOULD HAVE FOLLOWING QOS FEATURE FROM DAY ONE:		
30	a) IEEE 802.1p, DSCP, at least 8 queues per port.		
31	b) Queue handling methods: strict, weighted round robin, weighted deficit round robin, WRED		
32	c) CoS & classification of packets based on following parameters: VLAN ID, 802.1p priority, MAC address, Ether type, DSCP, protocol type, IPv4 address, TCP/UDP port number, IPv6 address, IPv6 traffic class		
33	d) Port & flow based bandwidth control with minimum granularity 8Kbps.		
34	e) Time based QoS.		
	THE SWITCH SHOULD HAVE FOLLOWING SECURITY FEATURE FROM DAY ONE:		
35	a) Access control list based on VLAN, MAC address, 802.1p priority, DSCP, protocol type, TCP/UDP port, IPv4 address, IPv6 address, IPv6 traffic class		
36	b) Time based ACL.		

37	c) Binding of IP address & MAC address with the interface. Dynamic ARP Inspection. IP Source Guard. DHCPv6 Guard, IPv6 Route Advertisement Guard, IPv6 Neighbor Discovery Inspection, Duplicate Address Detection		
38	d) SSHv2 for both IPv4 & IPv6, SSL (TLS 1.2) for both IPv4 & IPv6, Port security with at least 12K MACs per port.		
39	e) Broadcast, multicast & unicast storm control.		
40	f) Protection of the CPU from protocol control packet attack.		
41	g) DHCP server screening, DHCP client filtering, ARP spoofing prevention, BPDU attack prevention, DoS attack prevention		
42	h) IEEE 802.1x -- RFC 3580, web-based access control, MAC based access control, guest VLAN, Microsoft NAP, RADIUS accounting.		
43	i) Authentication supported based on : Local data base, RADIUS server		
44	j) Web based access control for IPv6		
45	k) At least 4 level user account for management access. RADIUS & TACACS+ authentication for management access.		
	THE SWITCH SHOULD HAVE FOLLOWING MANAGEMENT FEATURE FROM DAY ONE:		
46	a) Web based -GUI (IPv4 & IPv6), CLI, telnet server & client (IPv4 & IPv6) , TFTP client (IPv4 & IPv6), FTP client (IPv4 & IPv6), SFTP server, Zmodem, SNMPv1v2cv3, Syslog. sFlow, ICMPv6.		
47	b) RMONv1 & v2, LLDP, LLDP-MED, BooTP & DHCP client supporting both IPv4 & IPv6, DHCP relay option 82, DHCP relay option 60 & 61.		
48	c) Multiple images & configurations, SNTP, debug		
49	d) 802.3ah ethernet link OAM, 802.1ag CFM, Dying gasp.		
50	e) Inbuilt power saving technique on all Gigabit RJ-45 ports, IEEE 802.3az		
51	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
52	All type of switches & transceivers should be from same make.		
53	All Core switches should be from same make.		

600 VA Offline UPS

Feature		Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
INPUT	Voltage	220/230 VAC		
	Voltage Range	140-300 VAC		
	Frequency Range	50 Hz		
OUTPUT	AC Voltage Regulation (Battery Mode)	±10%		

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	Frequency Range (Battery Mode)	50 Hz ±1 Hz		
	Transfer Time	Typical 2-6 ms		
	Waveform (Battery Mode)	Simulated Sine Wave		
	Overload	110% +/-10% Shutdown after 5 minutes		
BATTERY	Battery Type & Number	12 V/7 Ah x 1		
	Typical Recharge Time	6-8 hours up to 90% capacity		
TRANSFER TIME	Minimum line break for transfer to battery	Typical 4-8 msec		
INDICATORS	AC Mode	Green lighting		
	Battery Mode	Green flashing		
	Fault	Red lighting		
ALARMS	Battery Mode, Low Battery, Overload, Battery replacement, fault	Audible alarm		
PROTECTION	Full Protection	Overload, discharge, and overcharge protection		
PHYSICAL	Dimension, D X W X H (mm)	279 X 101 X 142		
	Net Weight (kgs)	4.2		
	Material	Semi Metallic		
ENVIRONMENT	Operating Environment	0-40 Deg C.		
	Storage Temp	-15°C to 50°C		
	Humidity	0-95 % RH @ 0-40°C (non-condensing)		
	Noise Level	Less than 40dB		
Test reports	BIS registration	Require		
	NABL Approved government lab test report.	Require		

Make / Brand : Any globally reputed Manufacturer presence in India

3 KVA Online UPS `

Sl. No.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Capacity	3kVA/2.4 kW.		
2	Design	True online double		

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WTL/PC/CCTV/23-24/029

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		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		
8	Voltage Detection Tolerance ±3% Calibration	±3% Calibration		
9	Input Frequency Range	40-70Hz		
10	Inrush Limitation	7*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	Back up time	2 Hours		
16	Minimum VAH required	4680		
17	Maximum Battery Leakage Current	500uA		
18	Charge Voltage Accuracy	±1%		
Output Parameters.				
19	Load power factor	0.8		
20	Nominal Output voltage	208/ 220/ 230/ 240 VAC Settable		
21	Output Frequency	Frequency Range (Battery Mode): 50 Hz ± 0.1 Hz; Frequency Range (Synchronized Range): 46Hz ~ 54 Hz @ 50Hz system		
22	Output Waveform	Pure sine wave		
23	Total Harmonic distortion (THD)	Less than 3% for Linear Load and Less than 6% for RCD Load		
24	Inverter	IGBT based PWM with Instantaneous Sine wave control		
25	Power Rating	3kVA/2.4 kW.		
26	Dynamic response	IEC62040-3 Classification 1		
27	Crest factor	3:1		
28	Duty.	Continuous duty		

29	Overload Capacity	AC mode:105%~110%: 10min、110%~130%: 1min、>130% : 1sec ;		
30	Frequency synchronization Band for Static. Bypass	46 - 54Hz		
31	Transfer (Inverter to Bypass)	0 ms		
32	Retransfer (Bypass to Inverter)	0 ms		
33	Automatic Bypass	Inbuilt		
34	Overall efficiency (AC to AC)	90%.		
Miscellaneous Function				
35	Intelligent Fans Speed Control	Require		
36	Auto Restart Function	Require		
Physical and Environmental Characteristics.				
37	Acoustic Noise Level	Less than 58dB @ 1 Meter		
38	Ambient Temperature	0 - 50 Deg C		
39	Storage Temperature	-15°C~60°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	Output current			
48	Output frequency			
49	Input Frequency			
50	Heat sink temperature			
Fault indicated on Digital Display Alarms		LED indication display		
51	input fail			
52	Battery Low	Inbuilt and accessible on LCD Display.		
53	Transfer to bypass and system fault			
54	LED Indications			
55	Protection	Overload/ Short Circuit/ Battery Deep Discharge/ Low Battery/ Reverse Battery/ Inverter Current Limitation/ Over		

				Complied (Yes / No)
		Temperature/ Output Overvoltage.		
56	Optional features	RS 232 communication port for interfacing, Remote monitoring		
Standards				
57	Low freq Conducted disturbance	IEC61000-2-2		
Other Standards				
58	Continuous Electromagnetic Susceptibility	IEC 61000-4-3		
59	Electrical Fast Transient Compatibility	IEC 61000-4-4		
60	Surge	EN 61000-4-5: 2005		
61	CRFI	IEC61000-4-6		
62	Magnetic Field Immunity	IEC 61000-4-8		
63	Transportation	IEC 60068-2-32,IEC 60068-2-64,IEC 60068.2-27		
64	Protection	IP-20		
65	NABL approved Government lab test certificate	Require		
66	ISO certifications	ISO 9001, ISO14001, ISO27001, ISO 45001:2018		
67	BIS registration	Require		
68	Make / Brand : Any globally reputed Manufacturer presence in India			

6 KVA Online UPS

Feature		Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
	Rating	6KVA/ 6kw 1In-1out		
System parameter	Technology	IGBT based Double conversion PWM based online UPS		
	Parallel mode	4 (N+1)		
	Installation mode	Rack/ Tower		
Input	Rated voltage	230vac 1-Phase ,3 wire		
	Voltage Range	176VAC -287VAC at full load, 100VAC to 287VAC		

		at half load		
	Rated Frequency	50Hz/ 60Hz		
	Frequency Range	40Hz ~ 70Hz		
	Power factor	0.99		
OUTPUT	Rated power	6KVA/ 6kw		
	Voltage	Single phase, 230VAC		
	Frequency synchronization range	Rated frequency±3Hz. Configurable range: ±0.5Hz ~ ±5Hz		
	Rated Power Factor	Unity		
	Crest Factor	3:1'		
	Voltage harmonic distortion	< 2% (linear load)		
	Voltage Regulation	1%		
	Dynamic response recovery time	60ms		
	Inverter Overload Capability on utility mode	At 25°C: 105% ~ 125%-5min; 125% ~ 150%-1min; 150%- more than 200ms		
	Programmable Outlet	Require		
	Inverter Overload Capability on battery mode	At 25°C :105% ~125%-60~30 s; >125%- more than 200ms		
Bypass	Static bypass	Inbuilt		
Efficiency	ECO Mode	96%		
	Online mode (AC-AC)	> 95%		
	Inverter Efficiency(DC-AC)	>92%		
BATTERY backup 5 kw (unity)	Type	Sealed, lead-acid, Tubular, LI-ION		
	back up 120 min	minimum 12480 VAH		
	Battery charging capacity	5A		
Transfer Time	Mains - Battery	0ms		
	Inverter-Bypass	Synchronous transfer: ≤0ms		
		Asynchronous transfer (default): ≤20ms		
Noise		<65db		
Panel display mode	Display type	Gravity sensor display		
	No of events stored	Max 256		
	Orientation	Gravity sense		
Environmental parameter	Operating temperature	0°C ~ 50°C		
	Storage temperature	-40°C ~ +70°C (battery excluded); -25°C ~ +55°C (battery included)		
	Relative humidity	5%RH ~ 95%RH, non-condensing		
	Altitude	≤3000m; derating when higher than 3000m		

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Mechanical parameter	W*D*H (mm)	430 X 450 X 85		
	Weight (Kg)	11		
	Ventilation	Forced -air cooled		
	Ingress protection level	IP20		
	Color	Powder coated Black Texture finish		
	Cable entry	Rear		
Network Management	Smart RS232/USB	Supports Windows, Linux, Unix and MAC		
	SNMP	Inbuilt for web monitoring		
	MODBUS	Inbuilt for BMS connectivity		
	Remote alarm	Inbuilt		
	Optional SNMP	Power management from SNMP manager and web browser		
	Management software	Site monitor		
	Modbus	Inbuilt via multifunction port		
Certifications	Safety (CE)	IEC/EN62040-1-1		
	Electromagnetic Compatibility(EMC)	IEC/EN62040-2, IEC/EN61000-3-11, IEC/EN61000-3-12, YD/T1095-2008		
	Surge Protection	IEC/EN62040-2, meeting IEC/EN61000-4-5		
	Energy star	Approved		
	ROHS	Require		
	ISO Certifications	ISO 9001, ISO 14001, ISO 45001, ISO 27001		
	NABL Approved Government lab test report	Require		

Make / Brand : Any globally reputed Manufacturer presence in India

UTM Firewall Hardware Device

	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
Hardware Platform:		
• No built-in mechanical moving parts.		
• Should be Hardened OS based firewall		
• Should have flash based configuration storage with NO built in HDD		
The firewall should 5 x 1GbE RJ45 connectors, 1000 Base-TX (10/100/1000Mbps). 2 USB 3.0, 1 RJ45 RS232 console port. Wireless Radio Type and Frequency Band, (T25–W) - 2x2 802.11ax Wi-Fi 6 dual band radios, 2.4 GHz: Data rates up to 573 Mbps, 5 GHz: Date rates up to 1.2 Gbps		

• Memory/Flash : RAM: DDR4 4GB, eMMC 4GB Storage Power supply - Input Ratings: 100-240V AC, 0.9A Max, 50-60Hz. Output Ratings: 12V DC, 2.5A, 30W Power Consumption - T25: 21 Watts, T25-W: 25 Watts		
Following IP Address Assignment should be supported by the device:		
• Static		
• PPPoE Client		
• DHCP Client		
Firewall should support internal DHCP Server		
Firewall should be able to act as DHCP Relay Agent		
Performance:		
The firewall should support minimum 3.14 Gbps Gbps Firewall throughput		
The firewall should support minimum 403 Mbps UTM(fullscan) throughput		
The firewall should support minimum 1.02 Gbps VPN (UDP 1518) throughput		
The firewall should support minimum 472 Mbps GAV throughput		
The firewall should support minimum 525 Mbps IPS (fullscan) throughput		
The firewall should support minimum 1,300,000 concurrent sessions(Bidirectional)		
New session per second should me minimum 16,000		
Authentication servers/processes:		
Support for user authentication services such as Active Directory, LDAP, RADIUS, Secure ID, Digital certificates, Local user group authentications.		
Should Support Single-Sign-On Feature		
Should be able to support Terminal Services client / Citrix Client		
Networking:		
Firewall should support port independence		
Firewall should support Link Failover (Active - Active and Active - Passive)		
Firewall should be able to operate in Routing mode or Bridge (Transparent) mode		
Should support automatic WAN failover as well as load sharing for outbound traffic.		
Should be able to support VPN Failover		
Should support Server Load Balancing		
Firewall must support VLAN Tagging (IEEE 802.1Q)		
Should support Policy-Based Routing		
Firewall should support Dynamic Routing (RIP v1 & v2, OSPF & BGP)		
The Firewall must provide NAT functionality, including dynamic and static NAT translations.		
Firewall should be able to support Port Forwarding.		
Should have option to configure traffic shaping / QOS		

Compatible to Centralized Management		
The firewall must support Active-Active as well as Active-Passive redundancy.		
Actibve/Active as well as Active/Passive HA Clustering can be achieved		
The cluster should support simple and minimal downtime during upgrade		
Should have option to create ALIASES to identify group of Hosts or networks with one Unique Name		
Should have option to create Customized Aliases based on User/Group , Host IP/IP Range & Interface		
VPN function:		
The VPN should be integrated with firewall and support the full Encryption & other standards and protocols:		
(a) DES, 3DES, AES		
(b) MD5 and SHA-1 authentication		
(c) Diffie-Hellman Group 1, Group 2, Group 5 ,Group14, Group 15, Group 19 and Group 20		
(d) Internet Key Exchange (IKE) algorithm		
(f) The new encryption standard AES 128, 192 & 25 (Advanced Encryption Standard)		
Should support IPSec, PPTP, L2TP & SSL VPN		
Should support 75 Site-to-Site Tunnels (BOVPN)		
Should support minimum 75 Mobile VPN tunnels (IPSec, SSL, L2TP)		
Security:		
Should support Reputation based Cloud Security feature		
Denial of Service (DoS) attacks such as ping of death, syn flood, UDP bomb, Land attack, Smurf, Fraggle and ICMP unreachable		
Should support Auto Blocking of Source IP address based on triggers		
should support real time spam detection & also supports proactive virus detection technology which detects and blocks the new outbreaks immediately and accurately.		
The following actions should be supported for SMTP traffic		
• Tagging		
• Drop		
• Deny		
• Quarantine		
Should support of blocking attachments based of file names or extension		
Should support of blacklisting / whitelisting		
Should support Language independent anti-spam solution		
Advance Recurring Pattern Detection - anti-spam technology, that rely on RBL and scoring.		
Support for quarantine feature		
Web URL filtering with 100+ category based database, with option to refer Online or can be stored on Local Management		

Station		
Should be able to define specific URL's to be Allowed/Blocked		
Users should be able to allow blocked website using password override feature		
IPS and AV signature database keep on updating with hourly basis		
Should have a built-in Signature IPS engine on the same unit for IPS		
Should have Server/Client Quota based Distributed Denial of Service Prevention		
Should have the feature to exclude certain hosts' traffic (IP addresses) to be scanned by IPS for particular signatures		
Gateway AV should be supported for real-time detection of viruses and malicious code for HTTP, HTTPS, FTP, SMTP, POP3, SIP.		
Should have configurable policy options to select what traffic to scan for viruses		
Should support Application control for Web 2.0 applications		
Should not have inhouse security services for AV, IPS, Antispam		
Administration:		
Dedicated Application based GUI management program for robust configuration and management.		
Option for Remote management, through WEBUI, CLI & Secure Management Software		
Administrative TCP/IP ports should be other than TCP 80 and TCP 443 to prevent brute-force attack.		
Should support only single administrative login for integrity purpose and deny consecutive administrative login attempts		
Support for role based administration of firewall		
Configurable connection timeout for the management interface.		
Real-time network connection map for connection status.		
Drag-and-drop VPN configuration capability.		
Comprehensive reporting suite without any additional cost.		
Offline policy files configuration and modification.		
The Firewall must send SNMP traps to Network Management Servers (NMS) in response to System failures.		
Ability to make a full backup of the entire flash disk as image file.		
Ability to make/edit configuration file offline for better administrative management, without connecting to the operating security device.		
Should have option to Change Default Web UI Port		
Should have option to schedule rebooting		
Monitoring, Logging and Reporting		
Live Traffic Monitor		
Real-time reporting with Drill Down Feature		
System Services Status Monitor		
Authenticated User List Monitor		

VPN Connections Monitoring		
IP/Host/User based Traffic Watch with option Block Source/Destination from the monitoring tool itself		
Protocol based Traffic Watch		
PDF Audit Reporting		
Remote Logging Support		
Remote Reporting Support		
Remote Monitoring Support		
Encrypted Log Channel		
Provision to generate automatic alerts via mails / syslog		
The Firewall must send SNMP traps to Network Management Servers (NMS) in response to System failures.		
Multi-Appliance Log Aggregation		
Logging and reporting solution should be provided at no extra cost and shouldn't need any license renewal		
1 day of data (reports) retention should be provided at no extra cost on cloud		
Make / Brand : Any globally reputed Manufacturer presence in India		

49" DISPLAY

Sl. No	Section	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Panel	Screen Size	49" or higher		
2		Panel Technology	IPS or VA		
3		Aspect Ratio	16:09		
4		Native Resolution	3,840 x 2,160 (UHD)		
5		Backlight Unit Type	Edge		
6		Brightness (cd/m2)	500nit or higher		
7		Dynamic Contrast Ratio	1,000,000:1 or higher		
8		Viewing Angle (H x V)	178 x 178 or higher		
9		Response Time	8ms(G to G) or better		
10		Surface Treatment (Haze)	Haze 28% or higher		
11		Operation Hours	24x7 Hrs		
12		Orientation	Landscape & Portrait		
13	Connectivity	Input	HDMI (3), DP, DVI-D, Audio, USB (2)		
14		Output	HDMI/DP, Audio		
15		External Control	RS232C In/out, RJ45 (LAN) In, IR In		
16	Specificatio	VESA	200 x 200 or as per		

	n	OEM		
17	Key Feature	CPU-ARM Cortex-A53 1.1 GHz Quad, RAM-2GB DDR3-2133 (64bit), Memory-16GB, GPU-ARM Mali-T820 MP2 (650MHz), Built-in Wi-Fi, Temperature Sensor, Auto Brightness sensor, Acceleration(Gyro) Sensor, Local Key Operation, Embedded CMS, USB Plug & Play, Fail over, Background Image, Sync Mode, Multi-screen (PIP, PBP (4)), Screen Share, Play via URL, Rotation (Screen Rotation, External Input Rotation), Gapless Playback, Tile Mode Setting (Max. 15 × 15), Setting Data Cloning, SNMP, Control Manager, 3rd Party Compatibility (Creston Connected), Power (Smart Energy Saving, PM mode, Wake on LAN, Beacon, HDMI-CEC		
18	Environmental	Operation Temperature	0°C to 40°C		
19	Conditions	Operation Humidity	10% to 80%		
20	Power	Power Supply	100-240V~, 50/60Hz		
21		Power Type	Built-In Power		
22		Consumption: Smart Energy Saving / Max.	100W / 140W		
23	Software	Content Management Software	SuperSign CMS		
24	Compatibility	Control and Monitoring Software	SuperSign Control / Control+		
25	Certification	Safety	CB		
26		EMC	FCC Class "A" / CE / KC		
27		ErP / Energy Star	Yes / Yes		
28	Special Feature	Tilt (Facedown)	Max. 15°		
29		IP Rating	IP5x		

42U Floor Mount Standing Rack

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	19", 42U x 800mm width x 1000mm depth Floor Standing Networking Rack		
2	It should confirm to DIN 41494 or equivalent ISO standard		

3	It should be welded construction with steel frame		
4	Single Lockable tough end glass front door		
5	Vented dual metal door at the back, Vented side panels		
6	Powdered coated standard finish		
7	4 sets of casters wheel		
8	4 sets of adjustable levellers		
9	Horizontal Power Distribution Unit with 12 x 5/15A sockets Round Pin, 230 Volts AC, 32 Amp with Plug		
10	Horizontal Cable Manager		
11	Mounting Hardware set		
12	At least 4nos. Of FANs (360CFM) for cooling purpose		
13	Make / Brand : Any globally reputed Manufacturer presence in India		

27U Floor Mount Standing Rack

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	19", 27U x 800mm width x 800mm depth Floor Standing Networking Rack		
2	It should confirm to DIN 41494 or equivalent ISO standard		
3	It should be welded construction with steel frame		
4	Single Lockable tough end glass front door		
5	Vented dual metal door at the back, Vented side panels		
6	Powdered coated standard finish		
7	4 sets of casters wheel		
8	4 sets of adjustable levellers		
10	Horizontal Cable Manager		
11	Mounting Hardware set		
12	At least 2nos. Of FANs (180CFM) for cooling purpose		
13	Make / Brand : Any globally reputed Manufacturer presence in India		

24 Port LIU

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	24 Port Rack Mount LIU Fully Loaded with Single Mode LC Adapters and Pigtail (1 mtr)		
2	Aluminum & Cold Steel based material with powder coating for light mounting.		
3	Snap-in locker design, easy to change the adapter panels		
4	Should manage both splices and terminations		
5	Should have plastic Splice Tray capable of 24 fibers		
6	Should have 6 fiber magic sticker provision inside for 900um tight buffered fiber storing		
7	Accessory kit consists of cable ties, mounting ear screw		

8	Front-Mounted Cable Saddles for jumper management		
9	Removable Top & Front cover for better access to interior of LIU		
10	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up		
11	Adapter panel - Cold steel		
12	Adapters should have compact design & high precision		
13	which perform well under various circumstances & maintain good plug retention strength.		
14	All fiber items should be from same make.		
15	Make / Brand : Any globally reputed Manufacturer presence in India		

1Gbps FO Transceiver

Sl. No	Technical Specification		
1	1 Gbps Single Mode Fibre Optic Transceiver (For Core Switch)		
2	1000BASE-LX Single Mode SFP Transceiver with Duplex LC Connector		
3	Support IEEE 802.3z standard		
4	At least 10Km distance support on single mode fiber interface		
5	Transceiver module should be hot pluggable. MSA Compliant		
6	TTL signal detect indicator, Metal enclosure for lower EMI		
7	Operating wavelength: 1310nm		
8	It should be of same make as Core Switches		
9	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
10	All type of switches & transceivers should be from same make.		
11	All Core switches should be from same make.		
12	Make / Brand : Any globally reputed Manufacturer presence in India		

10Gbps FO Transceiver

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	10 Gbps Single Mode Fiber Optic Transceiver		
2	10GBASE-LR Single Mode SFP+ Transceiver with Duplex LC Connector		
3	Support IEEE 802.3ae standard		
4	At least 10Km distance support on single mode fiber interface		
5	Transceiver module should be hot pluggable. MSA		

		Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
	Compliant		
6	Operating wavelength: 1310nm		
7	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
8	All type of switches & transceivers should be from same make.		
9	All Core switches should be from same make.		
10	Make / Brand : Any globally reputed Manufacturer presence in India	.	

LC-LC Fibre Optic Patch Cord

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	LC - LC SM FO Duplex Patch Cord 5 Meter Length		
	The optical fiber patch cords shall comply with the following specifications:		
2	Optical Fiber – Single mode - OS1		
3	Connector: Zirconia ceramic ferrule		
4	Pre-radiuses and pre-polished ferrule		
5	Duplex Type		
6	Color-coded Yellow for Single mode		
7	Insertion Loss : <0.3 db		
8	Cable: 9/125, SM		
9	Return Loss: >/= 50dB for UPC		
10	Durability: 1000 mating cycle		
11	Working Temp: (0 deg. C to 60 deg. C)		
12	Length: 5 Meter		
13	All fiber items should be from same make.		
14	Make / Brand: Any globally reputed Manufacturer presence in India.		
	LC-LC Fibre Optic Patch Cord		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	LC - LC SM FO Duplex Patch Cord 2 Meter Length		
	The optical fiber patch cords shall comply with the following specifications		
2	Optical Fiber – Single mode - OS1		
3	Connector: Zirconia ceramic ferrule		
4	Pre-radiuses and pre-polished ferrule		
5	Duplex Type		
6	Color-coded yellow for Single mode		
7	Insertion Loss : <0.3 db		
8	Cable: 9/125, SM		
9	Return Loss: >/= 50dB for UPC		
10	Durability: 1000 mating cycle		

WEBEL TECHNOLOGY LIMITED

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
11	Working Temp: (- 10 deg. C to + 60 deg. C)		
12	Length: 2 Meter		
13	All fiber items should be from same make.		
14	Make / Brand: Any globally reputed Manufacturer presence in India.		

UTP CAT-6 Outdoor Cable

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Category 6 Outdoor cable shall be compliant with ANSI/TIA/EIA-568-C.2 & and ISO/IEC 11801 channel performance up to 85 mtr.		
2	Category 6 Outdoor cable shall be capable of enhanced performance for transmission of high-speed data, digital and analogue voice and video (RGB) signals on LANs.		
3	All Category 6 Outdoor cables shall meet or exceed the following characteristics:		
4	Construction: 4 twisted pairs separated by internal X shaped, 4 channel, full separator. Half shall not be accepted.		
5	Category 6 Outdoor cable shall be UV Resistant		
6	Conductor dia: 23 AWG		
7	Insulation: Polyethylene		
8	Insulation Diameter: 1.04 ± 0.05 mm		
9	Sheath Thickness: 0.5 ± 0.15 mm		
10	Pairing: Two insulated conductor twisted together		
11	No. of Pair: 4 pair separated by a separator		
12	Sequential meter marking should be available		
13	Color of Jacket: Black		
14	Outer Jacket: PE		
15	Inner Jacket: PVC		
16	Filler : Central Slit Film Cross Filler		
17	Outer Diameter: 7.1 mm		
18	BEND RADIUS: 8 X CABLE DIAMETER		
19	Thickness of Inner Jacket: 0.45 mm ± 0.05 mm		
20	Thickness of Outer Jacket : 0.55 mm ± 0.05 mm		
21	Electrical Parameters		
22	CONDUCTOR RESISTANCE (DC): 9.38Ω ohms /100mtr@20˚C. MAX.		
23	RESISTANCE UNBALANCE: 5%MAX		
24	MUTUAL CAPACITANCE: 5.6 nF/100 mtrs MAX.		
25	CAPACITANCE UNBALANCE PAIR/GROUND: 330pF/100M MAX		
26	DELAY SKEW: ≤45 nS/100M		
27	NORMAL VELOCITY OF PROPAGATION: 69%		
28	IMPEDANCE: 100 ± 15% Ω		
29	Temperature Rating: (- 20 to +60 C)		
30	Packing : 305 Mtrs.		
31	Generally confirming to EIA/TIA 568-C.2 and IEC/ISO 11801		

Sl. No	Technical Specification		
32	All Network Cable should be from same make.		
33	Make / Brand: Any globally reputed Manufacturer presence in India		

6 Core SM 9/125 Outdoor Fibre Optic Armoured Cable

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	6 Core Single Mode Outdoor Armored Fiber Optic Cable		
2	Electro Chromium Coated Corrugated Steel Tape (ECCS)		
3	Central loose tube with jelly compound		
4	Sequential meter marking		
5	Armoured Design with Steel music Wire		
6	Outer Diameter: 7.2±0.5mm (for 6 Core Cable)		
7	Thickness of HDPE Jacket: 1.8±0.2mm		
8	Pulling Tension: Short Term (1000N)		
9	Crush Load: 2000N/100mm		
10	Bend Radius: Short Term (20D)		
11	The fiber type is a Matched Cladding Single Mode		
12	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
13	Nominal Mode Field Diameter: 9.3 µm		
14	Cladding Diameter: 125 µm		
15	PMD (ps/km): ≤ 0.2		
16	Cable Cut-off Wavelength: 1260nm		
17	**Attenuation (of cable with fibers):**		
	At 1310 nm: 0.34 dB/km		
	At 1550 nm : 0.24 dB/km		
18	Operating Temperature should be within -20°C to +60°C		
19	Make / Brand: Any globally reputed Manufacturer presence in India.		

12 Core SM 9/125 Outdoor Fibre Optic Armoured Cable

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	12 Core Single Mode Outdoor Armored Fiber Optic Cable.		
2	Corrugated steel tape armoured		
3	Central loose tube with jelly compound		
4	Glass Yarns between steel tape & loose tube		
5	Sequential meter marking		
6	The fiber should fulfill the requirement of ITU-T REC G.652D		
7	Outer Diameter: 9 ± 0.3mm (for 12 Core Cable)		
8	Thickness of HDPE Jacket: 1.8±0.2mm		
9	Pulling Tension: Short Term (2000N)		
10	Crush Load: 3000N/100mm		
11	Bend Radius: (20D)		

12	The fiber type is a Matched Cladding Single Mode		
13	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
14	Nominal Mode Field Diameter: 9.2 µm		
15	Cladding Diameter: 125 µm		
16	PMD (ps/km): 0.2		
17	Cable Cut-off Wavelength: <= 1260nm		
18	Attenuation (of cable with fibers):		
	At 1310 nm: 0.36 dB/km		
	At 1550 nm : 0.22 dB/km		
19	Make / Brand: Any globally reputed Manufacturer presence in India .		

24 Core SM 9/125 Outdoor Fibre Optic Armoured Cable

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	24 Core Single Mode Outdoor Armoured Fiber Optic Cable.		
2	Corrugated steel tape armoured		
3	Central loose tube with jelly compound		
4	Glass Yarns between steel tape & loose tube		
5	Sequential meter marking		
6	The fiber should fulfill the requirement of ITU-T REC G.652D		
7	Outer Diameter: 9.5 ± 0.3mm (for 24 Core Cable)		
8	Thickness of HDPE Jacket: 1.8±0.2mm		
9	Pulling Tension: Short Term (2000N)		
10	Crush Load: 3000N/100mm		
11	Bend Radius: (20D)		
12	The fiber type is a Matched Cladding Single Mode		
13	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
14	Nominal Mode Field Diameter: 9.2 µm		
15	Cladding Diameter: 125 µm		
16	PMD (ps/km): 0.2		
17	Cable Cut-off Wavelength: <= 1260nm		
18	**Attenuation (of cable with fibers):**		
	At 1310 nm: 0.36 dB/km		
	At 1550 nm : 0.22 dB/km		
19	Make / Brand: Any globally reputed Manufacturer presence in India		
Outdoor Weatherproof Customized Rack			

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Metal Guage	18 SWG or Better		
2	Colour	Off White / Gray / Cream		

Sl. No	Feature	Technical Specification		
3	Colour Coating	Powder Coated		
4	Dimension (W X H X D)	As Per Requirement (Weather Proof Design with cooling arrangement)		
5	Lock Facility	Double Lock facility		

Double Door DB Box

Sl. No	Feature	Technical Specification		
1	Type	8 Way SPN MCB DB		
2	Enclosure	Double Door with IP42/43 protection		
3	Isolator	1 No. 32 Amp Double Pole (Loaded)		
4	MCB	6 Nos. 10 Amp / 6 Amp Single Pole (loaded)		
5	Supply	Single Phase 250V AC		
6	Brand / Make	Any globally reputed Manufacturer presence in India.		

- Bidder should submit all relevant data sheet/brochure of all quoted items and should also available in respective OEM's official website.
- Bidder should indicate items mentioned in the OEM data sheet / brochure by marketing as mentioned in minimum specification in the RFP

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Stamp of the Company: _____

Zone - 3

Minimum Specification of 5 MP IR Vari-Focal Bullet Network Camera

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Image Sensor	1/2.8" CMOS Sensor or Better		
2	Resolution	Minimum 2592 (H) × 1944 (V)		
3	Scanning System	Progressive		
4	Electronic Shutter Speed	Auto/Manual 1/15 s–		

		1/100,000 s		
5	Min. Illumination	0.01 lux@F1.4 (Color) or Better		
		0.01 lux@F1.4 (B/W) or Better		
		0 lux (Illuminator on)		
6	S/N Ratio	>52 dB		
7	IR Illumination Distance	50 meter or Better		
8	Illuminator On/Off Control	Auto / Manual		
9	Lens Type	Motorized vari-focal		
10	Focal Length	OEM fitted 2.8 mm–12 mm or Better		
11	Iris Control	Auto/ Mannual		
	Professional, intelligent			
12	IVS (Perimeter Protection)	Support Intrusion, tripwire		
13	Video Compression	H.265+/ H.265/ H.264/ MJPEG		
14	Video Frame Rate	Main stream: 2592 × 1944 @ 30 fps or Better		
		Sub stream 1: D1 @ 30 fps or Better		
		Sub stream 2: 2048 × 1536 @ 8 fps or Better		
15		Sub stream 3: 1980 × 1080 @ 30 fps or Better		
16	Stream Capability	4 streams or Higher		
17	Resolution	2592 × 1944; 2592 × 1520; 2048 × 1536; 1920×1080; 720p; D1; VGA; 2CIF; CIF.		
18	Bit Rate Control	CBR/VBR		
19	Day/Night	Auto(ICR)/Color/B/W		
20	BLC	Should Support		
21	WDR	120 dB or Higher		
22	White Balance	Auto/ Natural/ Street lamp/ Outdoor		
23	Gain Control	Auto		
24	Noise Reduction	3D NR		
25	Motion Detection	Should Support		
26	Region of Interest (RoI)	Should Support		
27	Mirror	Should Support		
28	Image Rotation	Should Support		
29	Privacy Masking	Should Support		
30	Alarm Event	Storage full; network disconnection; IP conflict; motion detection; video tampering; intrusion; tripwire; audio detection.		
31	SDK and API available	Yes		

32	Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; RTSP; RTCP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP; PPPoE; SNMP; TLS/ SSL; Telnet/ SSH.		
33	Interoperability	ONVIF (Profile S/Profile G/Profile T)		
34	Storage	Micro SD card (support minimum 256 GB)		
35	Mobile Client	iOS; Android		
36	Operation Temperature / Humidity	-10 °C to 55 °C / Less than 95% RH		
37	Weather Proof Standard	IP67		
38	Certifications	FCC, CE, UL, BIS, IK10, NEMA 4X		
39	Make / Brand	Any globally reputed Manufacturer presence in India & having manufacturing facility in India.		

2 Megapixel 33x CMOS Sensor IR PTZ Network Camera

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Image Sensor	1/1.8" CMOS or Better		
2	Effective Pixels	1920(H) x 1080(V) or Better		
3	Minimum Illumination	Colour: 0.001 Lux @F1.5; B/W: 0 Lux with IR		
4	Focal Length	The Camera should be provided with an OEM fitted 4.6~152 mm of focal length or Better		
5	White Balance	Auto, ATW, Indoor, Outdoor, Manual		
6	Focus Control	Auto / Manual		
7	Electronic Shutter	1/1s~1/100,000s or Better		
8	AGC control	Auto / Manual		
9	Back Light Compensation	BLC , HLC , WDR (140dB)		
10	Optical Zoom	33x or Higher		
11	Digital Zoom	16x or Higher		
12	Pan Travel	0°~360° endless, Pan Speed: 0.1° ~ 180°/sec		
13	Tilt Travel	- 15° ~ 90° auto flip 180°, Tilt Speed: 0.1° ~120°/sec		
14	Manual Speed	Pan: 0.1° ~180° /s; Tilt: 0.1° ~120° /s		

15	Presents & Pattern	400 Preset, 5 Pattern, 8 Tour, Auto Pan , Auto Scanor More		
16	Present Speed	Pan: 240° /s; Tilt: 180° /s		
17	IR Illumination Distance	200 meter or Better		
18	Privacy Masking	24 Areas or More		
19	Power up Action	Auto restore to previous PTZ and lens status after power failure		
20	Day/Night: IR Cut Filter	Auto (ICR) / Colour / B/W		
21	Video Compression	H.265+/H.265 & H.264+/H.264		
22	Video Streaming	Main stream: PAL: 50 fps (1920 x 1080, 1080 x 720, 704 x 576, 640 x 480); NTSC: 60 fps (1920 x 1080, 1280 x 720, 704 x 480, 640 x 480). Sub stream: PAL: 25 fps; NTSC: 30 fps. Third stream: PAL: 25 fps; NTSC: 30 fps.		
23	Audio Compression	G.711a/G.711M/ADPCM/ AAC_LC		
24	Motion Detection	Should Support		
25	ROI	Should Support		
26	Audio Streaming	1/1 channel In/Out		
27	Auto Tracking	Should Support		
28	IVS	Tripwire, Intrusion, bright lights etc.		
29	Networking	RJ-45/ RS485		
30	Protocols	IPv4; IPv6; HTTP; TCP; RTSP; SMTP; FTP/ SFTP; DHCP; DNS; DDNS; NTP; Multicast; IIGMP; PPPoE; SNMP.		
31	Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict		
32	Alarm	6/2 channel In/Out		

			Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
33	Operating Temperature	-10°C ~ 55°C / Less than 95% RH		
34	Weather Proof Standard	IP66/ IP67 & IK10 Vandal proof rating or better		
35	Power Source	AC24V, PoE++ Both Support		
36	Certifications	FCC, CE, UL/ BIS		
37	Make / Brand	Any globally reputed Manufacturer presence in India & having manufacturing facility in India.		

ANPR Camera

Sl no.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Main Processor	High performance embedded processor to extract and analyse vehicle metadata		
2	Image Sensor	1/1.8" CMOS or Better		
3	Lens	Built-in 10 mm – 50 mm motorized vari-focal lens or Better		
4	Shutter Mode	Single shutter		
5	Electronic Shutter Speed	1/25 s–1/100000 s (manual/auto) or Better		
6	Exposure Mode	Full auto, customized auto, customized		
7	Iris Control	Fixed iris/manual iris/auto iris/P iris		
8	Image Resolution	2688 × 1520 or Higher		
9	Video Resolution	4M (2688 × 1520)/1080P (1920 × 1080)/UXGA (1600 × 1200)/720P (1280 × 720)/D1 (704 × 576)/CIF (352 × 288)		
10	Video Frame Rate	Maximum 25fps; main stream (2688 × 1520@25fps), sub stream (1600 × 1200@25fps)		
11	Video Compression	H.265+/H.265/H.264M/H.264H/H.264B/MJPEG		
12	Picture Encoding Format	JPEG		
13	WDR	Minimum 140dB		
14	White Balance	Auto/outdoor/manual/local white balance/natural		

		light/street light		
15	Noise Reduction	2DNR/3DNR		
16	HLC	Should Support		
17	Bad Pixel Correction	Should Support		
18	Edge Enhancement	Should Support		
19	Storage	Support SD card (Minimum 256GB)		
20	Image Tampering Prevention	Should Support Watermark and verification are available for videos and pictures		
21	Security	Authorized username and password, MAC address binding, HTTPS encryption, and network access control		
22	License Plate Recognition	Adopts self-developed algorithm to recognize license plates combining numbers and letters		
23	Vehicle Type Recognition	Should Support		
24	Vehicle Color Recognition	Should Support		
25	Motor Vehicle Violation Capture	Should Support		
26	Video Metadata	Should Support Motor vehicle: License plate, vehicle type, vehicle color, license plate color, vehicle logo, and more. Non-motor vehicle: Type (two-wheelers, three-wheelers), color, wearing a helmet or not, passenger (1, 2, 3, or more passengers)		
27	Vehicle recognition rate	≥98%		
28	Network	1 RJ-45 Ethernet port, 10/100/1000M Network transmission		
29	Alarm Input & Output	1 channel In & 1 channel Out		
30	Audio Input & Output	1 channel In & 1 channel Out		
31	Illuminator Number	4 illuminators (850nm IR LED illuminators, brightness adjustable)		
32	Power Supply	12V DC, 24V DC, PoE		

33	Operating Temperature	-10°C to 55°C		
34	Protection Grade	IP67/ IK10 or Better		
35	Certification	FCC, CE, BIS		

General Surveillance Management Server

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Processor	Intel Xeon-Silver 4216 Processor or AMD EPYC 7282 or Higher		
2	No. of Core	16 Core or Higher		
	Processor speed	2.5 GHz or Higher		
7	Operating System	Microsoft Windows Server 2022 16 Core Standard loaded		
8	Generation	Gen10 or latest		
9	HDD	2 x 480GB SATA / SSD		
10	Power	500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit		
11	Storage controller	Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller		
12	Memory, standard	64 GB DDR4 3200MHz with 16 DIMMs		
13	Mouse	Optical Mouse		
14	Keyboard	Keyboard		
15	Ethernet	Ethernet 1Gb X 4-port 331T Adapter		
16	Mounting	1x CMA for rail kit		
17	Make / Brand	Any globally reputed Manufacturer presence in India.		

Central Video Monitoring Software

Sl. No	Feature	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Video Management Software with high scalable design and distributed deployment, easily expand the supported channels to 20,000 and central storage capacity to 4 PB. The multi-site function allows to incorporate multiple VMS platforms into one, and conveniently show their information on one PC client. With hot standby and N+1 redundancy. Available access live and recorded videos, real-time and historical events. AI capabilities that devices have, such as face		

	recognition, automatic number plate recognition and video metadata, etc.		
2	VMS Shall be based on Microsoft windows OS.		
3	VMS shall be open to IP camera integration in that respects VMS should support IP Cameras from Multiple OEM.		
4	The VMS shall be ONVIF compliant.		
5	VMS shall be open to any NAS (CIFS, SMB 2.0) integration.		
6	VMS shall support H.264 and MJPEG stream for both live view and Recording independently. Compression rate shall be manageable.		
7	The Video Management System shall support cameras with resolutions ranging from Standard Definition, High Definition (HD) and higher resolution		
8	The Video Management System shall show video across 4 displays per workstation - each display can have up to 25 viewing panes.		
9	VMS shall be able to connect with video wall through multi-display client.		
10	Users shall be able to move any image from one display screen to another via drag-and-drop		
11	The VMS shall allow the overlay of time and date information on live video panes		
12	Users shall be able to digitally zoom and also digitally scroll live video from any camera using the mouse wheel		
13	Users shall be able to replay currently viewed live video for replays from 10, 15 or 30 seconds before current time or from alarm time.		
14	The VMS shall allow users to reset the event count for a camera It should be able to display camera information in the On-Screen Display (OSD).		
	a. Camera name		
	b. Date and time		
15	VMS shall be accessible using any desktop client utility for Live view and Archive search		
16	VMS should support the two-way audio so that users shall be able to listen audio from multiple cameras through PC speakers and may speak to one or more cameras through a PC microphone		
17	VMS shall allow managing initial client logon, system configurations, logging, remote administration of recording servers, devices, security, rules, alerts and logging.		
18	VMS shall support at least 3 levels of users with various privileges to access the system functionality. Each category of users shall have selectable rights to perform various operations like Camera add/delete, Change camera settings, Configure storage, Control PTZ cameras, User management, etc		
19	VMS shall maintain a continuous log of server status messages, Camera connectivity, Storage status, Recording ON/OFF, User activity logs , etc which shall be accessed from the Workstations using different filters		

20	Each video streams shall be individually and independently configurable in term of resolution, frames and bandwidth		
21	VMS shall support video streams up to at least 25/30fps		
22	VMS shall support at least CIF, 2CIF, 4CIF/D1 and HD/Megapixel resolution		
23	PTZ Control	All PTZ control shall be user-restricted		
		Users shall be able to zoom a PTZ camera in or out using the PC mouse		
		Users shall be able to pan, tilt and zoom a PTZ camera displayed in a video pane or monitor using a joy stick on one of the supported CCTV keyboards		
		Users shall be able to adjust the iris of a PTZ camera using the on screen PTZ controls or a CCTV keyboard:-Open iris-Close-Auto-iris		
		The Video Management System shall support the following for cameras using the ONVIF interface or Camera Gateway		
		a. Pan, tilt and zoom control with mouse and joystick		
	b. Go to pre-set			
	c. Set pre-set			
24	The VMS shall have the capability of operating in an environment that requires multi-tasking, when using multiple cameras spread over a wide area		
25	VMS should have Pre and Post Event Recording		
26	VMS should have Motion Detection technology		
27	Software provides remote interface with a full live feed view, with digital zoom options, control of PTZ cameras, multiple simultaneous feeds, and image quality settings to improve performance through bandwidth reduction		
28	Software has built in feature to bring camera observation to mobile devices (require a software on a mobile device to view)		
29	Each camera setting can be adjusted individually according to client's requirement		
30	Schedule operation - All cameras can be fully scheduled individually		
31	View and record multiple cameras		
32	As many playback sessions as are required can be displayed at once		
33	Automatic control of supported PTZ cameras		
34	Alerting by email (with images)		

35	Software should have built in feature to bring camera observation to mobile devices (require a software on a mobile device to view)		
36	The software shall allow:		
A	Live display of cameras.		
B	Live display of camera sequences.		
C	Control of PTZ cameras.		
D	Playback of archived video.		
E	Retrieval of archived video.		
F	Instant Replay of live video.		
G	Configuration of system settings.		
H	Configuration and programming of P/T/Z cameras, features like camera addressing, BLC, auto tours, pre-sets etc.		
I	Video Analytics		
37	The software should be able to do video recording on any of the following options - inbuilt hard disks on the server, direct attached storage boxes attached to servers, network attached storage, storage area network.		
38	The software should be capable of handling camera and alarm icons on area maps. The area map should be configurable to pop up upon the receipt of an alarm received from a camera on the map. This can be on the same or other monitors on the PC.		
39	The software shall be able to select the required recording based on the time recording was activated, the duration of recording, operator activated recording, event activated recording, scheduled recording.		
40	It shall be possible to search for recordings in the software by camera, date and time. If a data and time is specified, playback shall commence from that date and time. It shall be possible to playback more than one camera simultaneously.		
41	It Software shall allow operators to bookmark the concern videos & browse through a list of all bookmarks created on the system and select any bookmarked event for viewing. Software shall support industry standard for the interface of IP-based physical security products: ONVIF and shall be based on a server/client model.		
42	VMS should use two independent streams Camera or IP encoders: One for Live View and other for recording. All settings for each stream including resolution, codecs, frame rate and compression level may be choose independently without affection overall system performance and IP device functionality.		
43	Software shall have the capacity to communicate with IP Cameras / Encoders using HTTPS secure protocol. It shall support any form of IP network connectivity, including: LAN/ WAN/ VPN/ Internet/ Wireless technologies.		
44	All audio streams supplied from IP Camera / Encoders shall be digitally encoded in g711 (u-law)/ g721/ g723		

	or AAC compression formats and recorded simultaneously in real time.			
45	Software shall offer redundant architecture for recording in server. Roles shall move from one server to another without disturbing the regular operations. To minimize network traffic, Software must have ability to configure the key frame interval (I-frame) per second.			
46	All video streams supplied from IP cameras / Encoders shall be digitally encoded in MPEG-4/MPEG-2/MJPEG and H.264 compression formats and recorded simultaneously in real time			
47	Each camera's bit rate, frame rate and resolution shall be set independently and changing these settings will not affect the recording and display settings of other cameras.			
48	Software shall support dynamically switch the video resolution according to the Tile Size on Monitoring Screen. High Resolution Video feed while watching single camera on screen and Low Resolution Video feed while watching Cameras in Multiple tiles.			
49	ANPR	Real-time license plate recognition Vehicle passed record		
50	Vehicle Blacklist	Vehicle Blacklist management Import and export vehicle blacklist		
51	Devices	Should Support Minimum 2,000 devices Per Server		
52	Auto-Registered Devices	Should Support Minimum 1,000 devices Per Server		
53	Video Devices and Channels	Should Support Minimum 1,000 devices; 2,000 channels Per Server		
54	Devices Added by ONVIF Protocol	Should Support Minimum 1,000 devices; 2,000 channels		
55	ANPR Channels	Should Support Minimum 500 channels		
56	Total Devices	Should Support Minimum 10,000 locations; 65,000 cameras		
57	Total Incoming Bandwidth	Should Support Minimum 600 Mbps		
58	Incoming Video Bandwidth	Should Support Minimum 600 Mbps		
59	Incoming Picture Bandwidth	Should Support Minimum 200 Mbps		
60	Total Outgoing Bandwidth	Should Support Minimum 600 Mbps		
61	Outgoing Video Bandwidth	Should Support Minimum 600 Mbps		
62	Outgoing Picture	Should Support Minimum		

	Bandwidth	200 Mbps		
63	Total Storage Bandwidth	Should Support Minimum 600 Mbps		
64	Video Storage Bandwidth	Should Support Minimum 600 Mbps		
65	Picture Storage Bandwidth	Should Support Minimum 200 Mbps		
66	Prerecording Bandwidth for Alarm Recordings	Should Support Minimum 400 Mbps		
67	Maximum Capacity of Central Storage (IPSAN)	Should Support Minimum 400 TB, depending upon server capacity		
68	Total Events	Should Support Minimum 100 per second		
69	Storage of Events or Alarms without Pictures	Should Support Minimum 100 per second		
70	Alarms with Snapshots (Stored on Devices)	Should Support Minimum 100 per second		
71	Number of Combined Events	Should Support 100 events per second		
	Client Workstation PC			

Sl. No	Feature	Technical Specification		
1	Form factor	Tower Type		
2	Operating System	Win 11 SL/ Home 64 bit		
3	Processor & Chipset	Intel i7 12700/ AMD Ryzen 7 5700 or higher; Intel Q670/ AMD Pro 565 or higher		
4	RAM	32 GB DDR4 RAM		
5	Graphics Card	Minimum 4 GB		
6	Storage	512GB NVMe SSD or higher		
7	Power Supply	Min. 400W with 90% or higher efficiency		
8	I/O	Wireless Keyboard and Wireless Mouse, WiFi + BT, Total 10 USB ports, HDMI, DP/ VGA port		
9	Certifications	ISO 9001, 14001, 20001, 27001, EPEAT Gold, ROHS, CE, FCC, UL		
Sl. No	Feature	Technical Specification		
1	Main Processor	64-bit high-performance Intel processor or Higher		
2	Memory	Minimum 4GB		
3	Operating System	Embedded LINUX / Windows		
4	Video Stream Mode	640Mbps incoming and recording 320Mbps forwarding, 64Mbps playback		
5	Storage	Should Support 16 HDDs,		

		16TB or higher capacity for each SATA HDD.		
6	miniSAS	1 miniSAS ports, for storage extension		
7	HDD Installation	Additional HDD bracket, HDD hot-swap, HDD online replacement		
8	HDD Mode	Single, RAID 0/1/5/6/10/50/60, hotspare		
9	HDD Manager	Non-working HDD hibernation to guarantee sound ventilation, reduce power consumption and enhance HDD life span HDD bad track mapping to enhance HDD life span		
10	RAID Rebuild	Dynamically adjust RAID rebuild speed to guarantee system load balance		
11	Logic Volume Manager	Support iSCSI volume management, NAS(SMB/NFS/FTP) volume management		
12	Snapshot	Support snapshot function, create user volume to back data.		
13	Extract Frame	Support extracting P frame function. Customized extracting period and frame rate setup		
14	Cluster Service	N+M cluster service		
15	ANR	After disconnection, system can download the record file from the SD card on the network camera to maintain the full record file.		
16	Interface	2 data RJ-45 ports (10/100/1000Mbps)		
17	Network Mode	Multi-address, Fault-tolerance, Load balance, Link aggregation		
18	Network Function	HTTP, HTTPs, TCP/IP, IPv4/IPv6, UPnP, RTP, RTCP, RTSP, UDP, SMTP, NTP, DHCP, DDNS, IP Filter, PPPoE,DDNS, iSCSI, SMB, NFS, FTP.		
19	Interoperability	ONVIF		
20	Power Supply	AC100V ~ 240V,1 + 1		

		Redundant power		
21	Working Conditions	5°C ~ 40°C		
22	Certification	FCC, CE, UL, BIS		
23	Make / Brand	Any globally reputed Manufacturer presence in India.		

8 Ethernet Port PoE Switch				
Sl. No	**Technical Specification**			
1	No of Ports	8 10/100/1000 Base-T PoE ports & 2 Gigabit SFP ports		
2	Switching Capacity	20 Gbps or Better		
3	Forwarding Rate	Minimum 14.80 Mbps		
4	POE / POE+	IEEE 802.3af and 802.3at		
5	POE Power Budget	Minimum 130 W or Higher		
6	Power Supply	AC: 100V -240V, 50Hz ±10%		
7	Environment	Operating temperature/ Humidity: 0°C-45°C, 10%-90% non-condensation		
		Storage temperature/ Humidity: 0°C-70°C; 5%-95% non-condensation		
		Power Saving by: Link status, LED or Port Shutoff		
8	MAC Switching	Static configuration and dynamically learning of MAC address		
		Check and delete MAC address		
		Configuring of MAC address aging time		
		Up to 256 Static MAC entries		
		Limit on MAC address learning number		
		MAC address filtering function		
		MAC address size 8K		
9	Port Mirroring	One-to-One, Many-to-One		
		Supports Mirroring for Tx/Rx/Both		
10	V LAN	4K VLAN entries, 256 static VLAN		
		GVRP		
		1:1 and N:1 VLAN Mapping		
		Q-in-Q		
		Private VLAN, Voice		

		VLAN		
11	STP	802.1D (STP), 802.1W (RSTP), 802.1S (MSTP)		
		BPDU protection, root protection and ring protection		
12	Multicast	IGMP v1/v2/v3		
		IGMP Snooping		
		IGMP Fast Leave		
		Multicast group policy and multicast number limit		
13	IPv6	ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet		
		IPv6 Neighbor Discovery		
		MLD v1/v2		
		MLD Snooping		
14	QoS	Traffic classification of each field of L2/L3/L4 protocol headers		
		CAR traffic control		
		802.1P/DSCP priority remark		
		Multiple queuing algorithms such as SP, WRR or SP+WRR		
		WRED		
		Traffic supervision and traffic shaping		
15	Security features	Identification and filtering of L2/L3/L4 based ACL		
		DOS or TCP attacks Prevention		
		Suppression of broadcast, multicast and unknown unicast packet		
		Port isolation		
		Port security, IP+MAC+port binding		
		DHCP Snooping, DHCP Option 82		
		IEEE 802.1x certification		
		Radius and Tacacs+		
16	Reliability	Static / LACP link aggregation		
17	Management and Maintenance	Console, Telnet, SSH 2.0		
		WEB based management		
		SNMP v1/v2/v3		
		TFTP		
		RMON		

WTL/PC/CCTV/23-24/029

| 18 | Certification | CE, FCC, IEC 62368-1 | | |
| 19 | Make / Brand | Any globally reputed Manufacturer presence in India. | | |

All SFP Core Switch

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Layer-3 Fully Managed Switch having 24x 1G SFP slots with 4x combo 10/100/1000BaseT ports & 4x 10G SFP+ slots.		
2	SFP slots should support IEEE 802.3z & IEEE 802.3u compliant transceivers & SFP+ slots should support IEEE 802.3z & IEEE 802.3ae compliant transceivers		
3	The switch should be 19" Rack Mount size.		
	THE SWITCH SHOULD HAVE FOLLOWING BASIC FEATURE FROM DAY ONE:		
4	The switch should have RJ45/mini-USB console port for Out of band CLI management & ethernet port for out of band IP management. It should have minimum one alarm port.		
5	The switch should have intelligent fans with sensor that provides different fan speed based on different temperature.		
6	The switch should have support for redundant power supply.		
7	The switch should have built-in hardware feature for both external event detection & alarm action		
8	The switch should have switching capacity at least 128Gbps & packet forwarding rate at least 95Mpps for 64-bytes packet size		
9	The switch should have non-blocking architecture & wire-speed performance under fully loaded condition.		
10	The switch should have virtual stacking capability of at least 25 switches in a stack.		
11	The switch should have physical stacking capability with at least 8 units per stack & at least 40Gbps of stacking bandwidth.		
12	The switch should have feature for flexible management of switch resources		
13	The switch should have 6kV Surge protection on all RJ45 access ports		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-2 FEATURE FROM DAY ONE:		
14	a) At least 64K MAC address table size. At least 1K static MAC support.		
15	b) Jumbo frame support for at least 12KB frame size.		
16	c) Flow-control features: 802.3x for full duplex & Head-of-line blocking prevention.		
17	d) UDLD or equivalent features.		
18	e) IEEE 802.1D (STP), 802.1w (RSTP) & 802.1s (MSTP) with		

	at least 64 MSTP instances, Root Guard or equivalent features.		
19	f) Avoidance of the loop occurring in a single port connected to an unmanaged switch/hub by shutting down the corresponding port or corresponding VLAN		
20	g) Ethernet Ring Protection Switching (ERPS) with maximum 50milli second recovery time.		
21	h) IEEE 802.1AX & 802.3ad Link aggregation with at least 32 groups per device & at least 8 ports per groups. LACP.		
22	i) Port mirroring with at least 4 mirroring sessions. Should support Tx, Rx & both based mirroring. Should support one-to-one & many-to-one mirroring, flow-based mirroring, RSPAN.		
23	j) IGMP v1 v2 & v3 snooping with at least 8000 snooping groups. Should support IGMP snooping per VLAN, host-based IGMP snooping fast leave, at least 128 static IGMP groups, L2 multicast filtering		
24	k) MLD v1 & v2 snooping with at least 4000 snooping groups. Per VLAN MLD snooping. At least 128 static MLD groups.		
25	l) At least 4K VLAN groups, 802.1Q, 802.1v protocol based VLAN, Q-in-Q, GVRP with at least 4K dynamic VLANs, Voice VLAN, Port-based VLAN, MAC-based VLAN, private VLAN, VLAN trunking, MVR (Multicast VLAN Registration) or equivalent feature.		

	THE SWITCH SHOULD HAVE FOLLOWING LAYER-3 FEATURE FROM DAY ONE:		
26	a) At least 16K routing table entry size with at least 512 static route entry support.		
27	b) Default route, RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, BGPv4, BGPv4+, Policy based route, Route preference, Route Redistribution, Bidirectional Forwarding Detection, MSDP		
28	c) Multicast forwarding table size: at least 2000, IGMPv1v2v3, MLDv1v2, IGMP filtering, static IP multicast route, PIM-DM, PIM-SM, PIM-SSM, PIM-Sparse-Dense mode, DVMRPv3, PIM-SMv6.		
29	e) IPv6 tunnelling, VRRP, IP helper		
	THE SWITCH SHOULD HAVE FOLLOWING QOS FEATURE FROM DAY ONE:		
30	a) IEEE 802.1p, DSCP, at least 8 queues per port.		
31	b) Queue handling methods: strict, weighted round robin, weighted deficit round robin, WRED		
32	c) CoS & classification of packets based on following parameters: VLAN ID, 802.1p priority, MAC address, Ether type, DSCP, protocol type, IPv4 address, TCP/UDP port number, IPv6 address, IPv6 traffic class		
33	d) Port & flow based bandwidth control with minimum granularity 8Kbps.		
34	e) Time based QoS.		
	THE SWITCH SHOULD HAVE FOLLOWING SECURITY FEATURE FROM DAY ONE:		
35	a) Access control list based on VLAN, MAC address, 802.1p priority, DSCP, protocol type, TCP/UDP port,		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
	IPv4 address, IPv6 address, IPv6 traffic class		
36	b) Time based ACL.		
37	c) Binding of IP address & MAC address with the interface. Dynamic ARP Inspection. IP Source Guard. DHCPv6 Guard, IPv6 Route Advertisement Guard, IPv6 Neighbour Discovery Inspection, Duplicate Address Detection		
38	d) SSHv2 for both IPv4 & IPv6, SSL (TLS 1.2) for both IPv4 & IPv6, Port security with at least 12K MACs per port.		
39	e) Broadcast, multicast & unicast storm control.		
40	f) Protection of the CPU from protocol control packet attack.		
41	g) DHCP server screening, DHCP client filtering, ARP spoofing prevention, BPDU attack prevention, DoS attack prevention		
42	h) IEEE 802.1x -- RFC 3580, web-based access control, MAC based access control, guest VLAN, Microsoft NAP, RADIUS accounting.		
43	i) Authentication supported based on : Local data base, RADIUS server		
44	j) Web based access control for IPv6		
45	k) At least 4 level user account for management access. RADIUS & TACACS+ authentication for management access.		
	THE SWITCH SHOULD HAVE FOLLOWING MANAGEMENT FEATURE FROM DAY ONE:		
46	a) Web based -GUI (IPv4 & IPv6), CLI, telnet server & client (IPv4 & IPv6) , TFTP client (IPv4 & IPv6), FTP client (IPv4 & IPv6), SFTP server, Zmodem, SNMPv1v2cv3, Syslog. sFlow, ICMPv6.		
47	b) RMONv1 & v2, LLDP, LLDP-MED, BooTP & DHCP client supporting both IPv4 & IPv6, DHCP relay option 82, DHCP relay option 60 & 61.		
48	c) Multiple images & configurations, SNTP, debug		
49	d) 802.3ah ethernet link OAM, 802.1ag CFM, Dying gasp.		
50	e) Inbuilt power saving technique on all Gigabit RJ-45 ports, IEEE 802.3az		
51	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		

52	All type of switches & transceivers should be from same make.		
53	All Core switches should be from same make.		

Copper Core Switch

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)

1	Core Switch - Layer-3 Fully Managed Switch having 20 X 1Gbps Copper Ports with 4x combo 1G SFP slots & 4x 10G SFP+ slots		
2	SFP slots should support IEEE 802.3z & IEEE 802.3u compliant transceivers & SFP+ slots should support IEEE 802.3z & IEEE 802.3ae compliant transceivers		
3	The switch should be 19" Rack Mount size.		
	THE SWITCH SHOULD HAVE FOLLOWING BASIC FEATURE FROM DAY ONE:		
4	The switch should have RJ45/mini-USB console port for Out of band CLI management & ethernet port for out of band IP management. It should have minimum one alarm port.		
5	The switch should have intelligent fans with sensor that provides different fan speed based on different temperature.		
6	The switch should have support for redundant power supply.		
7	The switch should have built-in hardware feature for both external event detection & alarm action		
8	The switch should have switching capacity at least 128Gbps & packet forwarding rate at least 95Mpps for 64-bytes packet size		
9	The switch should have non-blocking architecture & wire-speed performance under fully loaded condition.		
10	The switch should have virtual stacking capability of at least 25 switches in a stack.		
11	The switch should have physical stacking capability with at least 8 units per stack & at least 40Gbps of stacking bandwidth.		
12	The switch should have feature for flexible management of switch resources		
13	The switch should have 6kV Surge protection on all RJ45 access ports		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-2 FEATURE FROM DAY ONE:		
14	a) At least 64K MAC address table size. At least 1K static MAC support.		
15	b) Jumbo frame support for at least 12KB frame size.		
16	c) Flow-control features: 802.3x for full duplex & Head-of-line blocking prevention.		
17	d) UDLD or equivalent features.		
18	e) IEEE 802.1D (STP), 802.1w (RSTP) & 802.1s (MSTP) with at least 64 MSTP instances, Root Guard or equivalent features.		
19	f) Avoidance of the loop occurring in a single port connected to an unmanaged switch/hub by shutting down the corresponding port or corresponding VLAN		
20	g) Ethernet Ring Protection Switching (ERPS) with maximum 50milli second recovery time.		
21	h) IEEE 802.1AX & 802.3ad Link aggregation with at least 32 groups per device & at least 8 ports per groups. LACP.		
22	i) Port mirroring with at least 4 mirroring sessions.		

	Should support Tx, Rx & both based mirroring. Should support one-to-one & many-to-one mirroring, flow-based mirroring, RSPAN.		
23	j) IGMP v1 v2 & v3 snooping with at least 8000 snooping groups. Should support IGMP snooping per VLAN, host-based IGMP snooping fast leave, at least 128 static IGMP groups, L2 multicast filtering		
24	k) MLD v1 & v2 snooping with at least 4000 snooping groups. Per VLAN MLD snooping. At least 128 static MLD groups.		
25	l) At least 4K VLAN groups, 802.1Q, 802.1v protocol based VLAN, Q-in-Q, GVRP with at least 4K dynamic VLANs, Voice VLAN, Port-based VLAN, MAC-based VLAN, private VLAN, VLAN trunking, MVR (Multicast VLAN Registration) or equivalent feature.		
	THE SWITCH SHOULD HAVE FOLLOWING LAYER-3 FEATURE FROM DAY ONE:		
26	a) At least 16K routing table entry size with at least 512 static route entry support.		
27	b) Default route, RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, BGPv4, BGPv4+, Policy based route, Route preference, Route Redistribution, Bidirectional Forwarding Detection, MSDP.		
28	c) Multicast forwarding table size: at least 2000, IGMPv1v2v3, MLDv1v2, IGMP filtering, static IP multicast route, PIM-DM, PIM-SM, PIM-SSM, PIM-Sparse-Dense mode, DVMRPv3, PIM-SMv6.		
29	e) IPv6 tunnelling, VRRP, IP helper		
	THE SWITCH SHOULD HAVE FOLLOWING QOS FEATURE FROM DAY ONE:		
30	a) IEEE 802.1p, DSCP, at least 8 queues per port.		
31	b) Queue handling methods: strict, weighted round robin, weighted deficit round robin, WRED		
32	c) CoS & classification of packets based on following parameters: VLAN ID, 802.1p priority, MAC address, Ether type, DSCP, protocol type, IPv4 address, TCP/UDP port number, IPv6 address, IPv6 traffic class		
33	d) Port & flow based bandwidth control with minimum granularity 8Kbps.		
34	e) Time based QoS.		
	THE SWITCH SHOULD HAVE FOLLOWING SECURITY FEATURE FROM DAY ONE:		
35	a) Access control list based on VLAN, MAC address, 802.1p priority, DSCP, protocol type, TCP/UDP port, IPv4 address, IPv6 address, IPv6 traffic class		
36	b) Time based ACL.		
37	c) Binding of IP address & MAC address with the interface. Dynamic ARP Inspection. IP Source Guard. DHCPv6 Guard, IPv6 Route Advertisement Guard, IPv6 Neighbor Discovery Inspection, Duplicate Address Detection		
38	d) SSHv2 for both IPv4 & IPv6, SSL (TLS 1.2) for both IPv4 & IPv6, Port security with at least 12K MACs per port.		

39	e) Broadcast, multicast & unicast storm control.		
40	f) Protection of the CPU from protocol control packet attack.		
41	g) DHCP server screening, DHCP client filtering, ARP spoofing prevention, BPDU attack prevention, DoS attack prevention		
42	h) IEEE 802.1x -- RFC 3580, web-based access control, MAC based access control, guest VLAN, Microsoft NAP, RADIUS accounting.		
43	i) Authentication supported based on : Local data base, RADIUS server		
44	j) Web based access control for IPv6		
45	k) At least 4 level user account for management access. RADIUS & TACACS+ authentication for management access.		
46	THE SWITCH SHOULD HAVE FOLLOWING MANAGEMENT FEATURE FROM DAY ONE: a) Web based -GUI (IPv4 & IPv6), CLI, telnet server & client (IPv4 & IPv6) , TFTP client (IPv4 & IPv6), FTP client (IPv4 & IPv6), SFTP server, Zmodem, SNMPv1v2cv3, Syslog. sFlow, ICMPv6.		

47	b) RMONv1 & v2, LLDP, LLDP-MED, BooTP & DHCP client supporting both IPv4 & IPv6, DHCP relay option 82, DHCP relay option 60 & 61.		
48	c) Multiple images & configurations, SNTP, debug		
49	d) 802.3ah ethernet link OAM, 802.1ag CFM, Dying gasp.		
50	e) Inbuilt power saving technique on all Gigabit RJ-45 ports, IEEE 802.3az		
51	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
52	All type of switches & transceivers should be from same make.		
53	All Core switches should be from same make.		

600 VA Offline UPS

Feature		Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
INPUT	Voltage	220/230 VAC		
	Voltage Range	140-300 VAC		
	Frequency Range	50 Hz		
OUTPUT	AC Voltage Regulation (Battery Mode)	±10%		
	Frequency Range (Battery Mode)	50 Hz ±1 Hz		
	Transfer Time	Typical 2-6 ms		

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	Waveform (Battery Mode)	Simulated Sine Wave		
	Overload	110% +/-10% Shutdown after 5 minutes		
BATTERY	Battery Type & Number	12 V/7 Ah x 1		
	Typical Recharge Time	6-8 hours up to 90% capacity		
TRANSFER TIME	Minimum line break for transfer to battery	Typical 4-8 msec		
INDICATORS	AC Mode	Green lighting		
	Battery Mode	Green flashing		
	Fault	Red lighting		
ALARMS	Battery Mode, Low Battery, Overload, Battery replacement, fault	Audible alarm		
PROTECTION	Full Protection	Overload, discharge, and overcharge protection		
PHYSICAL	Dimension, D X W X H (mm)	279 X 101 X 142		
	Net Weight (kgs)	4.2		
	Material	Semi Metallic		
ENVIRONMENT	Operating Environment	0-40 Deg C.		
	Storage Temp	-15℃ to 50℃		
	Humidity	0-95 % RH @ 0-40°C (non-condensing)		
	Noise Level	Less than 40dB		
Test reports	BIS registration	Require		
	NABL Approved government lab test report.	Require		

3 KVA Online UPS `

Sl. No.	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Capacity	3kVA/2.4 kW.		
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		
8	Voltage Detection Tolerance ±3% Calibration	±3% Calibration		
9	Input Frequency Range	40-70Hz		
10	Inrush Limitation	7*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	Back up time	2 Hours		
16	Minimum VAH required	4680		
17	Maximum Battery Leakage Current	500uA		
18	Charge Voltage Accuracy	±1%		
Output Parameters.				
19	Load power factor	0.8		
20	Nominal Output voltage	208/ 220/ 230/ 240 VAC Settable		
21	Output Frequency	Frequency Range (Battery Mode): 50 Hz ± 0.1 Hz; Frequency Range (Synchronized Range): 46Hz ~ 54 Hz @ 50Hz system		
22	Output Waveform	Pure sine wave		
23	Total Harmonic distortion (THD)	Less than 3% for Linear Load and Less than 6% for RCD Load		
24	Inverter	IGBT based PWM with Instantaneous Sine wave control		
25	Power Rating	3kVA/2.4 kW.		
26	Dynamic response	IEC62040-3 Classification 1		
27	Crest factor	3:1		
28	Duty.	Continuous duty		
29	Overload Capacity	AC mode:105%~110%:		

		10min、110%~130%: 1min、>130% : 1sec ;		
30	Frequency synchronization Band for Static. Bypass	46 - 54Hz		
31	Transfer (Inverter to Bypass)	0 ms		
32	Retransfer (Bypass to Inverter)	0 ms		
33	Automatic Bypass	Inbuilt		
34	Overall efficiency (AC to AC)	90%.		
Miscellaneous Function				
35	Intelligent Fans Speed Control	Require		
36	Auto Restart Function	Require		
Physical and Environmental Characteristics.				
37	Acoustic Noise Level	Less than 58dB @ 1 Meter		
38	Ambient Temperature	0 - 50 Deg C		
39	Storage Temperature	-15°C~60°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	Output current			
48	Output frequency			
49	Input Frequency			
50	Heat sink temperature			
Fault indicated on Digital Display Alarms		LED indication display		
51	input fail			
52	Battery Low	Inbuilt and accessible on LCD Display.		
53	Transfer to bypass and system fault			
54	LED Indications			
55	Protection	Overload/ Short Circuit/ Battery Deep Discharge/ Low Battery/ Reverse Battery/ Inverter Current Limitation/ Over Temperature/ Output Overvoltage.		

56	Optional features	RS 232 communication port for interfacing, Remote monitoring		
Standards				
57	Low freq Conducted disturbance	IEC61000-2-2		
Other Standards				
58	Continuous Electromagnetic Susceptibility	IEC 61000-4-3		
59	Electrical Fast Transient Compatibility	IEC 61000-4-4		
60	Surge	EN 61000-4-5: 2005		
61	CRFI	IEC61000-4-6		
62	Magnetic Field Immunity	IEC 61000-4-8		
63	Transportation	IEC 60068-2-32,IEC 60068-2-64,IEC 60068.2-27		
64	Protection	IP-20		
65	NABL approved Government lab test certificate	Require		
66	ISO certifications	ISO 9001, ISO14001, ISO27001, ISO 45001:2018		
67	BIS registration	Require		
68	Make / Brand	Any globally reputed Manufacturer presence in India.		

UTM Firewall Hardware Device

Hardware Platform:	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
• No built-in mechanical moving parts.		
• Should be Hardened OS based firewall		
• Should have flash based configuration storage with NO built in HDD		
The firewall should 5 x 1GbE RJ45 connectors, 1000 Base-TX (10/100/1000Mbps). 2 USB 3.0, 1 RJ45 RS232 console port. Wireless Radio Type and Frequency Band, (T25–W) - 2x2 802.11ax Wi-Fi 6 dual band radios, 2.4 GHz: Data rates up to 573 Mbps, 5 GHz: Date rates up to 1.2 Gbps		
• Memory/Flash : RAM: DDR4 4GB, eMMC 4GB Storage Power supply - Input Ratings: 100-240V AC, 0.9A Max, 50-60Hz. Output Ratings: 12V DC, 2.5A, 30W Power Consumption - T25: 21 Watts, T25-W: 25 Watts		
Following IP Address Assignment should be supported by the device:		

• Static		
• PPPoE Client		
• DHCP Client		
Firewall should support internal DHCP Server		
Firewall should be able to act as DHCP Relay Agent		
Performance:		
The firewall should support minimum 3.14 Gbps Gbps Firewall throughput		
The firewall should support minimum 403 Mbps UTM(fullscan) throughput		
The firewall should support minimum 1.02 Gbps VPN (UDP 1518) throughput		
The firewall should support minimum 472 Mbps GAV throughput		
The firewall should support minimum 525 Mbps IPS (fullscan) throughput		
The firewall should support minimum 1,300,000 concurrent sessions(Bidirectional)		
New session per second should me minimum 16,000		
Authentication servers/processes:		
Support for user authentication services such as Active Directory, LDAP, RADIUS, Secure ID, Digital certificates, Local user group authentications.		
Should Support Single-Sign-On Feature		
Should be able to support Terminal Services client / Citrix Client		
Networking:		
Firewall should support port independence		
Firewall should support Link Failover (Active - Active and Active - Passive)		
Firewall should be able to operate in Routing mode or Bridge (Transparent) mode		
Should support automatic WAN failover as well as load sharing for outbound traffic.		
Should be able to support VPN Failover		
Should support Server Load Balancing		
Firewall must support VLAN Tagging (IEEE 802.1Q)		
Should support Policy-Based Routing		
Firewall should support Dynamic Routing (RIP v1 & v2, OSPF & BGP)		
The Firewall must provide NAT functionality, including dynamic and static NAT translations.		
Firewall should be able to support Port Forwarding.		
Should have option to configure traffic shaping / QOS		
Compatible to Centralized Management		
The firewall must support Active-Active as well as Active-Passive redundancy.		
Actibve/Active as well as Active/Passive HA Clustering can be achieved		
The cluster should support simple and minimal downtime during upgrade		

Should have option to create ALIASES to identify group of Hosts or networks with one Unique Name		
Should have option to create Customized Aliases based on User/Group , Host IP/IP Range & Interface		
VPN function:		
The VPN should be integrated with firewall and support the full Encryption & other standards and protocols:		
(a) DES, 3DES, AES		
(b) MD5 and SHA-1 authentication		
(c) Diffie-Hellman Group 1, Group 2, Group 5 ,Group14, Group 15, Group 19 and Group 20		
(d) Internet Key Exchange (IKE) algorithm		
(f) The new encryption standard AES 128, 192 & 25 (Advanced Encryption Standard)		
Should support IPSec, PPTP, L2TP & SSL VPN		
Should support 75 Site-to-Site Tunnels (BOVPN)		
Should support minimum 75 Mobile VPN tunnels (IPSec, SSL, L2TP)		
Security:		
Should support Reputation based Cloud Security feature		
Denial of Service (DoS) attacks such as ping of death, syn flood, UDP bomb, Land attack, Smurf, Fraggle and ICMP unreachable		
Should support Auto Blocking of Source IP address based on triggers		
should support real time spam detection & also supports proactive virus detection technology which detects and blocks the new outbreaks immediately and accurately.		
The following actions should be supported for SMTP traffic		
• Tagging		
• Drop		
• Deny		
• Quarantine		
Should support of blocking attachments based of file names or extension		
Should support of blacklisting / whitelisting		
Should support Language independent anti-spam solution		
Advance Recurring Pattern Detection - anti-spam technology, that rely on RBL and scoring.		
Support for quarantine feature		
Web URL filtering with 100+ category based database, with option to refer Online or can be stored on Local Management Station		
Should be able to define specific URL's to be Allowed/Blocked		
Users should be able to allow blocked website using password override feature		
IPS and AV signature database keep on updating with hourly basis		
Should have a built-in Signature IPS engine on the same unit for IPS		

Should have Server/Client Quota based Distributed Denial of Service Prevention		
Should have the feature to exclude certain hosts' traffic (IP addresses) to be scanned by IPS for particular signatures		
Gateway AV should be supported for real-time detection of viruses and malicious code for HTTP, HTTPS, FTP, SMTP, POP3, SIP.		
Should have configurable policy options to select what traffic to scan for viruses		
Should support Application control for Web 2.0 applications		
Should not have inhouse security services for AV, IPS, Antispam		
Administration:		
Dedicated Application based GUI management program for robust configuration and management.		
Option for Remote management, through WEBUI, CLI & Secure Management Software		
Administrative TCP/IP ports should be other than TCP 80 and TCP 443 to prevent brute-force attack.		
Should support only single administrative login for integrity purpose and deny consecutive administrative login attempts		
Support for role based administration of firewall		
Configurable connection timeout for the management interface.		
Real-time network connection map for connection status.		
Drag-and-drop VPN configuration capability.		
Comprehensive reporting suite without any additional cost.		
Offline policy files configuration and modification.		
The Firewall must send SNMP traps to Network Management Servers (NMS) in response to System failures.		
Ability to make a full backup of the entire flash disk as image file.		
Ability to make/edit configuration file offline for better administrative management, without connecting to the operating security device.		
Should have option to Change Default Web UI Port		
Should have option to schedule rebooting		
Monitoring, Logging and Reporting		
Live Traffic Monitor		
Real-time reporting with Drill Down Feature		
System Services Status Monitor		
Authenticated User List Monitor		
VPN Connections Monitoring		
IP/Host/User based Traffic Watch with option Block Source/Destination from the monitoring tool itself		
Protocol based Traffic Watch		
PDF Audit Reporting		
Remote Logging Support		
Remote Reporting Support		
Remote Monitoring Support		
Encrypted Log Channel		

Provision to generate automatic alerts via mails / syslog		
The Firewall must send SNMP traps to Network Management Servers (NMS) in response to System failures.		
Multi-Appliance Log Aggregation		
Logging and reporting solution should be provided at no extra cost and shouldn't need any license renewal		
1 day of data (reports) retention should be provided at no extra cost on cloud		

49" DISPLAY

Sl. No	Section	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Panel	Screen Size	49" or higher		
2		Panel Technology	IPS or VA		
3		Aspect Ratio	16:09		
4		Native Resolution	3,840 x 2,160 (UHD)		
5		Backlight Unit Type	Edge		
6		Brightness (cd/m2)	500nit or higher		
7		Dynamic Contrast Ratio	1,000,000:1 or higher		
8		Viewing Angle (H x V)	178 x 178 or higher		
9		Response Time	8ms(G to G) or better		
10		Surface Treatment (Haze)	Haze 28% or higher		
11		Operation Hours	24x7 Hrs		
12		Orientation	Landscape & Portrait		
13	Connectivity	Input	HDMI (3), DP, DVI-D, Audio, USB (2)		
14		Output	HDMI/DP, Audio		
15		External Control	RS232C In/out, RJ45 (LAN) In, IR In		
16	Specification	VESA	200 x 200 or as per OEM		
17	Key Feature		CPU-ARM Cortex-A53 1.1 GHz Quad, RAM-2GB DDR3-2133 (64bit), Memory- 16GB, GPU-ARM Mali-T820 MP2 (650MHz), Built-in Wi-Fi, Temperature Sensor, Auto Brightness sensor, Acceleration(Gyro) Sensor, Local Key Operation, Embedded CMS, USB Plug & Play, Fail over, Background Image, Sync Mode, Multi-screen (PIP, PBP (4)), Screen Share, Play via URL, Rotation (Screen Rotation, External Input Rotation), Gapless Playback, Tile Mode Setting (Max. 15 × 15), Setting Data Cloning, SNMP, Control Manager, 3rd Party Compatibility (Creston Connected), Power		

		(Smart Energy Saving, PM mode, Wake on LAN, Beacon, HDMI-CEC			
18	Environmental	Operation Temperature	0°C to 40°C		
19	Conditions	Operation Humidity	10% to 80%		
20		Power Supply	100-240V~, 50/60Hz		
21	Power	Power Type	Built-In Power		
22		Consumption: Smart Energy Saving / Max.	100W / 140W		
23	Software	Content Management Software	SuperSign CMS		
24	Compatibility	Control and Monitoring Software	SuperSign Control / Control+		
25		Safety	CB		
26	Certification	EMC	FCC Class "A" / CE / KC		
27		ErP / Energy Star	Yes / Yes		
28	Special	Tilt (Facedown)	Max. 15°		
29	Feature	IP Rating	IP5x		

42U Floor Mount Standing Rack

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	19", 42U x 800mm width x 1000mm depth Floor Standing Networking Rack		
2	It should confirm to DIN 41494 or equivalent ISO standard		
3	It should be welded construction with steel frame		
4	Single Lockable tough end glass front door		
5	Vented dual metal door at the back, Vented side panels		
6	Powdered coated standard finish		
7	4 sets of casters wheel		
8	4 sets of adjustable levellers		
9	Horizontal Power Distribution Unit with 12 x 5/15A sockets Round Pin, 230 Volts AC, 32 Amp with Plug		
10	Horizontal Cable Manager		
11	Mounting Hardware set		
12	At least 4nos. Of FANs (360CFM) for cooling purpose		

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27U Floor Mount Standing Rack

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	19", 27U x 800mm width x 800mm depth Floor Standing Networking Rack		
2	It should confirm to DIN 41494 or equivalent ISO standard		
3	It should be welded construction with steel frame		
4	Single Lockable tough end glass front door		
5	Vented dual metal door at the back, Vented side panels		
6	Powdered coated standard finish		
7	4 sets of casters wheel		
8	4 sets of adjustable levellers		
10	Horizontal Cable Manager		
11	Mounting Hardware set		
12	At least 2nos. Of FANs (180CFM) for cooling purpose		

24 Port LIU

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	24 Port Rack Mount LIU Fully Loaded with Single Mode LC Adapters and Pigtail (1 mtr)		
2	Aluminum & Cold Steel based material with powder coating for light mounting.		
3	Snap-in locker design, easy to change the adapter panels		
4	Should manage both splices and terminations		
5	Should have plastic Splice Tray capable of 24 fibers		
6	Should have 6 fiber magic sticker provision inside for 900um tight buffered fiber storing		
7	Accessory kit consists of cable ties, mounting ear screw		
8	Front-Mounted Cable Saddles for jumper management		
9	Removable Top & Front cover for better access to interior of LIU		
10	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up		
11	Adapter panel - Cold steel		
12	Adapters should have compact design & high precision		
13	which perform well under various circumstances & maintain good plug retention strength.		
14	All fiber items should be from same make.		

15	Make / Brand: Any globally reputed Manufacturer presence in India.		

1Gbps FO Transceiver

Sl. No	Technical Specification		
1	1 Gbps Single Mode Fibre Optic Transceiver (For Core Switch)		
2	1000BASE-LX Single Mode SFP Transceiver with Duplex LC Connector		
3	Support IEEE 802.3z standard		
4	At least 10Km distance support on single mode fiber interface		
5	Transceiver module should be hot pluggable. MSA Compliant		
6	TTL signal detect indicator, Metal enclosure for lower EMI		
7	Operating wavelength: 1310nm		
8	It should be of same make as Core Switches		
9	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
10	All type of switches & transceivers should be from same make.		
11	All Core switches should be from same make.		
12	Make / Brand: Any globally reputed Manufacturer presence in India.		

10Gbps FO Transceiver

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	10 Gbps Single Mode Fiber Optic Transceiver		
2	10GBASE-LR Single Mode SFP+ Transceiver with Duplex LC Connector		
3	Support IEEE 802.3ae standard		
4	At least 10Km distance support on single mode fiber interface		
5	Transceiver module should be hot pluggable. MSA Compliant		
6	Operating wavelength: 1310nm		
7	Secure Product Development Lifecycle Process Requirement Certification in accordance with IEC 62443-4-1: 2018 standard for cyber security capability		
8	All type of switches & transceivers should be from same make.		
9	All Core switches should be from same make.		
	Make / Brand	Any globally reputed Manufacturer presence in India.	

LC-LC Fibre Optic Patch Cord

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Sl. No	Technical Specification		Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	LC - LC SM FO Duplex Patch Cord 5 Meter Length			
	The optical fiber patch cords shall comply with the following specifications:			
2	Optical Fiber – Single mode - OS1			
3	Connector: Zirconia ceramic ferrule			
4	Pre-radiuses and pre-polished ferrule			
5	Duplex Type			
6	Color-coded Yellow for Single mode			
7	Insertion Loss : <0.3 db			
8	Cable: 9/125, SM			
9	Return Loss: >/= 50dB for UPC			
10	Durability: 1000 mating cycle			
11	Working Temp: (0 deg. C to 60 deg. C)			
12	Length: 5 Meter			
13	All fiber items should be from same make.			
14	Make / Brand	Any globally reputed Manufacturer presence in India.		
	LC-LC Fibre Optic Patch Cord			

Sl. No	Technical Specification		Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	LC - LC SM FO Duplex Patch Cord 2 Meter Length			
	The optical fiber patch cords shall comply with the following specifications			
2	Optical Fiber – Single mode - OS1			
3	Connector: Zirconia ceramic ferrule			
4	Pre-radiuses and pre-polished ferrule			
5	Duplex Type			
6	Color-coded yellow for Single mode			
7	Insertion Loss : <0.3 db			
8	Cable: 9/125, SM			
9	Return Loss: >/= 50dB for UPC			
10	Durability: 1000 mating cycle			
11	Working Temp: (- 10 deg. C to + 60 deg. C)			
12	Length: 2 Meter			
13	All fiber items should be from same make.			
14	Make / Brand	Any globally reputed		

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	Manufacturer presence in India.		

UTP CAT-6 Outdoor Cable		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Category 6 Outdoor cable shall be compliant with ANSI/TIA/EIA-568-C.2 & and ISO/IEC 11801 channel performance up to 85 mtr.		
2	Category 6 Outdoor cable shall be capable of enhanced performance for transmission of high-speed data, digital and analogue voice and video (RGB) signals on LANs.		
3	All Category 6 Outdoor cables shall meet or exceed the following characteristics:		
4	Construction: 4 twisted pairs separated by internal X shaped, 4 channel, full separator. Half shall not be accepted.		
5	Category 6 Outdoor cable shall be UV Resistant		
6	Conductor dia: 23 AWG		
7	Insulation: Polyethylene		
8	Insulation Diameter: 1.04 ± 0.05 mm		
9	Sheath Thickness: 0.5 ± 0.15 mm		
10	Pairing: Two insulated conductor twisted together		
11	No. of Pair: 4 pair separated by a separator		
12	Sequential meter marking should be available		
13	Color of Jacket: Black		
14	Outer Jacket: PE		
15	Inner Jacket: PVC		
16	Filler : Central Slit Film Cross Filler		
17	Outer Diameter: 7.1 mm		
18	BEND RADIUS: 8 X CABLE DIAMETER		
19	Thickness of Inner Jacket: 0.45 mm ± 0.05 mm		
20	Thickness of Outer Jacket : 0.55 mm ± 0.05 mm		
21	Electrical Parameters		
22	CONDUCTOR RESISTANCE (DC): 9.38Ω ohms /100mtr@20˚C. MAX.		
23	RESISTANCE UNBALANCE: 5%MAX		
24	MUTUAL CAPACITANCE: 5.6 nF/100 mtrs MAX.		
25	CAPACITANCE UNBALANCE PAIR/GROUND: 330pF/100M MAX		
26	DELAY SKEW: ≤ 45 nS/100M		
27	NORMAL VELOCITY OF PROPAGATION: 69%		
28	IMPEDANCE: $100 \pm 15\%$ Ω		
29	Temperature Rating: (- 20 to +60 C)		
30	Packing : 305 Mtrs.		
31	Generally confirming to EIA/TIA 568-C.2 and IEC/ISO 11801		
32	All Network Cable should be from same make.		
33	Make / Brand	Any globally reputed Manufacturer presence in India.		

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	6 Core SM 9/125 Outdoor Fibre Optic Armoured Cable		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	6 Core Single Mode Outdoor Armored Fiber Optic Cable		
2	Electro Chromium Coated Corrugated Steel Tape (ECCS)		
3	Central loose tube with jelly compound		
4	Sequential meter marking		
5	Armoured Design with Steel music Wire		
6	Outer Diameter: 7.2±0.5mm (for 6 Core Cable)		
7	Thickness of HDPE Jacket: 1.8±0.2mm		
8	Pulling Tension: Short Term (1000N)		
9	Crush Load: 2000N/100mm		
10	Bend Radius: Short Term (20D)		
11	The fiber type is a Matched Cladding Single Mode		
12	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
13	Nominal Mode Field Diameter: 9.3 μm		
14	Cladding Diameter: 125 μm		
15	PMD (ps/km): ≤ 0.2		
16	Cable Cut-off Wavelength: 1260nm		
17	**Attenuation (of cable with fibers):**		
	At 1310 nm: 0.34 dB/km		
	At 1550 nm : 0.24 dB/km		
18	Operating Temperature should be within -20°C to +60°C		
19	Make / Brand	Any globally reputed Manufacturer presence in India.		

	12 Core SM 9/125 Outdoor Fibre Optic Armoured Cable		

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	12 Core Single Mode Outdoor Armored Fiber Optic Cable.		
2	Corrugated steel tape armoured		
3	Central loose tube with jelly compound		
4	Glass Yarns between steel tape & loose tube		
5	Sequencial meter marking		
6	The fiber should fulfill the requirement of ITU-T REC G.652D		
7	Outer Diameter: 9 ± 0.3mm (for 12 Core Cable)		
8	Thickness of HDPE Jacket: 1.8±0.2mm		
9	Pulling Tension: Short Term (2000N)		
10	Crush Load: 3000N/100mm		
11	Bend Radius: (20D)		
12	The fiber type is a Matched Cladding Single Mode		
13	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
14	Nominal Mode Field Diameter: 9.2 μm		
15	Cladding Diameter: 125 μm		

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16	PMD (ps/km): 0.2		
17	Cable Cut-off Wavelength: <= 1260nm		
18	Attenuation (of cable with fibers):		
	At 1310 nm: 0.36 dB/km		
	At 1550 nm : 0.22 dB/km		
19	Make / Brand	Any globally reputed Manufacturer presence in India.		

24 Core SM 9/125 Outdoor Fibre Optic Armoured Cable

Sl. No	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	24 Core Single Mode Outdoor Armoured Fiber Optic Cable.		
2	Corrugated steel tape armoured		
3	Central loose tube with jelly compound		
4	Glass Yarns between steel tape & loose tube		
5	Sequential meter marking		
6	The fiber should fulfill the requirement of ITU-T REC G.652D		
7	Outer Diameter: 9.5 ± 0.3mm (for 24 Core Cable)		
8	Thickness of HDPE Jacket: 1.8±0.2mm		
9	Pulling Tension: Short Term (2000N)		
10	Crush Load: 3000N/100mm		
11	Bend Radius: (20D)		
12	The fiber type is a Matched Cladding Single Mode		
13	The fiber is optimized for operation at 1310 nm and at 1550 nm.		
14	Nominal Mode Field Diameter: 9.2 μm		
15	Cladding Diameter: 125 μm		
16	PMD (ps/km): 0.2		
17	Cable Cut-off Wavelength: <= 1260nm		
18	**Attenuation (of cable with fibers):**		
	At 1310 nm: 0.36 dB/km		
	At 1550 nm : 0.22 dB/km		
19	Make / Brand	Any globally reputed Manufacturer presence in India.		

Outdoor Weatherproof Customized Rack			

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Metal Guage	18 SWG or Better		
2	Colour	Off White / Gray / Cream		
3	Colour Coating	Powder Coated		
4	Dimension (W X H X D)	As Per Requirement (Weather Proof Design with cooling arrangement)		
5	Lock Facility	Double Lock facility		
Double Door DB Box				

WEBEL TECHNOLOGY LIMITED

Sl. No	Feature	Technical Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)
1	Type	8 Way SPN MCB DB		
2	Enclosure	Double Door with IP42/43 protection		
3	Isolator	1 No. 32 Amp Double Pole (Loaded)		
4	MCB	6 Nos. 10 Amp / 6 Amp Single Pole (loaded)		
5	Supply	Single Phase 250V AC		
6	Brand / Make	Any globally reputed Manufacturer presence in India.		

- Bidder should submit all relevant data sheet/brochure of all quoted items and should also available in respective OEM's official website.
- Bidder should indicate items mentioned in the OEM data sheet / brochure by marketing as mentioned in minimum specification in the RFP

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Stamp of the Company: _____

WEBEL TECHNOLOGY LIMITED

SECTION – J

DETAILS OF ORDERS EXECUTED BY BIDDER
(Tender No. WTL/PC/CCTV/23-24/029)

Sl. No.	Order No.	Order Date	Order Value	Brief description of items and job details	Completed (Yes/NO)	Name of the Customer	Contact details of the Customer

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Stamp of the Company: _____

Note:

Type of Project shall indicate the implementation of services (Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore, Bidhannagar and Howrah Police Commissionerate, West Bengal)

A. Scope of work shall indicate whether it is implementation, Operation or maintenance.
B. Submit Customer Order Copy details of the order indicating the project value, customer contact details.

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WEBEL TECHNOLOGY LIMITED

SECTION – K

FINANCIAL CAPABILITY OF BIDDER
(Tender No. WTL/PC/CCTV/23-24/029)

FINANCIAL INFORMATION

Sl. No.	Name of the Bidder	Turnover (Rs. / Crores)		
		2020-21	2021-22	2022-23
1				

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Stamp of the Company: _____

Note:
Submit the audited financial statement/ audited annual report of the last three financial years.

WEBEL TECHNOLOGY LIMITED

SECTION – L

BIDDERS'S DETAILS

(Tender No. WTL/PC/CCTV/23-24/029)

1	Name of the Firm	
2	Registered Office Address	
	Contact Number	
	Fax Number	
	E-mail	
3	Correspondence / Contact address	
	Name & Designation of Contact person	
	Address	
	Contact Number	
	Fax Number	
	E-mail	
4	Is the firm a registered company? If yes, submit documentary proof	
	Year and Place of the establishment of the company	
6	Former name of the company, if any	
7	Is the firm ▪ a Government/ Public Sector Undertaking ▪ a propriety firm ▪ a partnership firm (if yes, give partnership deed) ▪ a limited company or limited corporation ▪ a member of a group of companies, (if yes, give ▪ name and address and description of other companies) ▪ a subsidiary of a large corporation (if yes give the name and address of the parent organization). If the company is subsidiary, state what involvement if any, will the parent company have in the project.	
8	Is the firm registered with Sales Tax department? If yes, submit valid GST Registration certificate.	
9	Is the firm registered for Service Tax with Central Excise Department (Service Tax Cell)? If yes, submit valid Service Tax registration certificate.	
10	Total number of employees. Attach the organizational chart showing the structure of the organization.	
11	Are you registered with any Government/ Department/ Public Sector Undertaking (if yes, give details)	
12	How many years has your organization been in business under your present name? What were your fields when you established your organization	
13	What type best describes your firm? (Purchaser reserves the right to verify the claims if necessary) ▪ Manufacturer ▪ Supplier ▪ System Integrator ▪ Consultant ▪ Service Provider (Pl. specify details) ▪ Software Development ▪ Total Solution provider (Design, Supply, Integration, O&M)	

	▪ IT Company	
14	Number of Offices in district head quarters in West Bengal	
15	Is your organization having ISO 9001:2015 certificates?	
16	List the major clients with whom your organization has been / is currently associated.	
17	Have you in any capacity not completed any work awarded to you? (If so, give the name of project and reason for not completing the work)	
18	Have you ever been denied tendering facilities by any Government / Department / Public sector Undertaking? (Give details)	

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Company Rubber Stamp: _____

WEBEL TECHNOLOGY LIMITED

SECTION – M

MANUFACTURER'S AUTHORIZATION FORM

Date:

To
Webel Technology limited
Plot-5, Block-BP, Sector-V
Salt Lake
Kolkata-700 091

Ref: Tender No.: WTL /PC/CCTV23-24/029 dated 21.09.2023

WHEREAS _____ who are official producers of
_____ and having production facilities at
_____ do hereby authorize
_____ located at
_____ (hereinafter, the "Bidder") to submit a bid of the following
Products produced by us, for the Supply Requirements associated with the above Invitation for Bids.

When resold by _____, these products are subject to our applicable standard end user
warranty terms.

We assure you that in the event of _____, not being able to fulfill its obligation as our Service
Provider in respect of our standard Warranty Terms we would continue to meet our Warranty Terms through alternate
arrangements.

We also confirm that _____is our authorized service provider/system integrator and can
hence provide maintenance and upgrade support for our products.

We also confirm that the products quoted are on our current product list and are not likely to be discontinued within 3
Years from the day of this letter. We assure availability of spares for the products for the next two years after five years
warranty.

We also confirm that the material will be delivered as per delivery schedule against above mentioned tender from the
date of placement of confirmed order.

Name   In the capacity of

Signed

Duly authorized to sign the authorization for and on behalf of _____

Dated on _____ day of_____2023

Note: This letter of authority must be on the letterhead of the Manufacturer and duly signed by an authorized signatory.

WEBEL TECHNOLOGY LIMITED

SECTION – N

FORMAT FOR PRE-BID MEETING QUERY
(Tender No. WTL/PC/CCTV/23-24/029)

Name of the Bidder:

Queries

Sl. No.	Section No.	Clause No.	Page No.	Queries

Note: The filled form to be submitted in XLS & PDF Format. There is a cut off date for receiving of queries before Pre Bid Meeting. Queries received after the cutoff period will not be accepted. The Purchaser reserves the right to respond all queries over e-mail.

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Company Rubber Stamp: _____

WEBEL TECHNOLOGY LIMITED

SECTION – O

LOCATION DETAILS FOR INSTALLATION (ZONE-1)

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
		Camera Location List for Halishahar PS			
1	Halishahar	Kalyan Sangha More		N22.953664°	E88.418768°
2	Halishahar	Kona Colony Bazar More		N22.925885°	E88.416026°
3	Halishahar	Durbar More, Balivara		N22.919805°	E88.425712°
4	Halishahar	Nayabazar		22.911457	88.412573
5	Halishahar	Sutki Gali		N22.912187°	E88.409872°

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
		Camera Location List for Bhatpara PS			
1	Bhatpara	28 No. Rly Gate		22.856044	88.398104
2	Bhatpara	29 No. Rly Gate	Others Road	22.860966	88.401527
3	Bhatpara	Khola Masjid		22.867759	88.400646
4	Bhatpara	JJI Mill gate	Ghoshpara Road	22.863125	88.384742
5	Bhatpara	Baruipara- Hatikuthi- Kelabagan Crossing	Others Road	22.861873	88.388943
6	Bhatpara	Baruipara Masjid Road near Temple		22.862552	88.390151
7	Bhatpara	Kelabagan Post Office	Ghoshpara Road	22.863927	88.388483
8	Bhatpara	Baruipara Kela Bagan Juction		22.862417	88.388286
9	Bhatpara	Chaigada Water Tank	Others Road	22.860104	88.386529

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
		Camera Location List for Barrackpore PS			
1	Barrackpore	Kunjra Mahal More	Sadar Bazar Road	N22°46'19"	E88°20'39"
2	Barrackpore	Kunjra Mahal Boro Masjid More (Old PS)		N22°46'17"	E88°20'33"

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3	Barrackpore	Muchi Mahal More		N22°46'22"	E88°20'42"
4	Barrackpore	Santashree Pally Hindu Kabrasthan	Frinze Road	N22°46'35"	E88°21'20"
5	Barrackpore	Das Radio More	Sadar Bazar Road	N22°46'30"	E88°20'48"

Camera Location List for Titagarh PS					
Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
1		G.C Road Mosjid		N22°44'20"	E88°22'43"
2		G.C Road Mazar		N22°44'14"	E88°22'57"
3		J.R.R. Road & Ali Haider Road Crossing		N22°44'37"	E88°22'34"
4	Titagar PS	Munshi Mondal Road & Ali Haider Road Crossing		N22°44'35"	E88°22'38"
5		Gowala Para Crossing		22.743326	88.378223
6		Ali Haider Road Sitla Mandir		N22°44'36"	E88°22'55"
7		Ali Haider Road Girls School		N22°44'36"	E88°22'52"
8		Check Post Crossing		N22°44'39"	E88°23'00"

Camera Location List for Khardah PS					
Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
1		Mohan School Dhankheti Mohalla	Mohan School Dhankheti Mohalla	22°44'12.9"N	88°22'17.9"E
2		Chota Gandhi More	Chota Gandhi More	22°44'01.6"N	88°22'03.8"E
3	Khardah PS	Lakhighat Post Office More	Lakhighat Post Office More	22°43'58.1"N	88°21'52.3"E
4		Baro Gandhi More	Baro Gandhi More	22°43'43.9"N	88°22'03.6"E
5		Chai Math SVB Road	Chai Math SVB Road	22°43'46.9"N	88°22'09.4"E
6		Baro Masjid	Baro Masjid	22°43'40.2"N	88°21'59.1"E
7		Joy Shree Gate	Joy Shree Gate	22°43'36.1"N	88°21'58.1"E

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8		Nasir Khan Goli	Nasir Khan Goli	22°43'34.0"N	88°22'03.4"E
9		Laha Pall (Fakkighat	Laha Pall (Fakkighat)	22°43'34.8"N	88°22'02.4"E
10		P.K. Biswas Road	P.K. Biswas Road	22°43'35.4"N	88°22'24.4"E
11		Suryasen Durga Mondir	Suryasen Durga Mondir	22°43'28.3"N	88°22'35.3"E

Camera Location List for Nimta PS					
Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
1	Nimta	Banik More	M.B Road	22.663034	88.42984
2	Nimta	Nimta Bazar More	M.B Road	22.664712	88.401248
3	Nimta	Dhalai Karkhana, Near under pass	M.B Road	22.653985	88.412516
4	Nimta	College More	M.B Road	22.66343	88.422311
5	Nimta	In front of Nimta PS/Shibacha Crossing	M.B Road	22.662781	88.419594

Camera Location List for Baranagar PS					
Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
1	Baranagar	Lake view Park Morh		22.645944	88.381447
2	Baranagar	RIC Bazar		22.648712	88.385093

Camera Location List for Belghoria PS					
Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
1	Belghoria	Sindhu Store Morh		22.66228781	88.37843081
2	Belghoria	Zenith Hospital Morh		22.663133	88.378636

Camera Location List for Kamarhati PS					
Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
1	Kamarhati	N.R Adhikary & Creig Road		22.680003	88.368709

WEBEL TECHNOLOGY LIMITED

Camera Location List for Dakshineswar PS					
Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude
1	Dakshineswar	Muchipara Morh		22.657471	88.363884
2	Dakshineswar	Dolpiri Morh		22.659125	88.364427

Location wise Camera Quantity Details for Zone 1

Halishahar PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Halishahar	Kalyan Sangha More		N22.953664°	E88.418768°	3
2	Halishahar	Kona Colony Bazar More		N22.925885°	E88.416026°	4
3	Halishahar	Durbar More, Balivara		N22.919805°	E88.425712°	4
4	Halishahar	Nayabazar		22.91146	88.41257	5
5	Halishahar	Sutki Gali		N22.912187°	E88.409872°	3
TOTAL						19

Bhatpara PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Bhatpara	28 No. Rly Gate	Others Road	22.85604	88.3981	3
2	Bhatpara	29 No. Rly Gate		22.86097	88.40153	4
3	Bhatpara	Khola Masjid		22.86776	88.40065	2
4	Bhatpara	JJI Mill gate	Ghoshpara Road	22.86313	88.38474	3

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5	Bhatpar a	Baruipara-Hatikuthi-Kelabagan Crossing	Others Road	22.86187	88.38894	3
6	Bhatpar a	Baruipara Masjid Road near Temple		22.86255	88.39015	4
7	Bhatpar a	Kelabagan Post Office	Ghoshpara Road	22.86393	88.38848	4
8	Bhatpar a	Baruipara Kela Bagan Juction		22.86242	88.38829	3
9	Bhatpar a	Chaigada Water Tank	Others Road	22.8601	88.38653	3
Total						**29**

Barrackpore PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Barrack pore	Kunjra Mahal More	Sadar Bazar Road	N22°46'19"	E88°20'39"	3
2	Barrack pore	Kunjra Mahal Boro Masjid More (Old PS)		N22°46'17"	E88°20'33"	4
3	Barrack pore	Muchi Mahal More		N22°46'22"	E88°20'42"	4
4	Barrack pore	Santashree Pally Hindu Kabrasthan	Frinze Road	N22°46'35"	E88°21'20"	2
5	Barrack pore	Das Radio More	Sadar Bazar Road	N22°46'30"	E88°20'48"	3
Total						**16**

Titagarh PS

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WEBEL TECHNOLOGY LIMITED

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Titagar PS	G.C Road Mosjid		N22°44'20"	E88°22'43"	3
2		G.C Road Mazar		N22°44'14"	E88°22'57"	2
3		J.R.R. Road & Ali Haider Road Crossing		N22°44'37"	E88°22'34"	3
4		Munshi Mondal Road & Ali Haider Road Crossing		N22°44'35"	E88°22'38"	3
5		Gowala Para Crossing		22.74333	88.37822	4
6		Ali Haider Road Sitla Mandir		N22°44'36"	E88°22'55"	3
7		Ali Haider Road Girls School		N22°44'36"	E88°22'52"	3
8		Check Post Crossing		N22°44'39"	E88°23'00"	7
Total						28

Khardah PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Khardah PS	Mohan School Dhankheti Mohalla	Mohan School Dhankheti Mohalla	22°44'12.9"N	88°22'17.9"E	3
2		Chota Gandhi More	Chota Gandhi More	22°44'01.6"N	88°22'03.8"E	3
3		Lakhighat Post Office More	Lakhighat Post Office More	22°43'58.1"N	88°21'52.3"E	3

4		Baro Gandhi More	Baro Gandhi More	22°43'43.9"N	88°22'03.6"E	3
5		Chai Math SVB Road	Chai Math SVB Road	22°43'46.9"N	88°22'09.4"E	3
6		Baro Masjid	Baro Masjid	22°43'40.2"N	88°21'59.1"E	3
7		Joy Shree Gate	Joy Shree Gate	22°43'36.1"N	88°21'58.1"E	3
8		Nasir Khan Goli	Nasir Khan Goli	22°43'34.0"N	88°22'03.4"E	4
9		Laha Pall (Fakkighat	Laha Pall (Fakkighat)	22°43'34.8"N	88°22'02.4"E	3
10		P.K. Biswas Road	P.K. Biswas Road	22°43'35.4"N	88°22'24.4"E	5
11		Suryasen Durga Mondir	Suryasen Durga Mondir	22°43'28.3"N	88°22'35.3"E	4
Total						**37**

Nimta PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Nimta	Banik More	M.B Road	22.66303	88.42984	3
2	Nimta	Nimta Bazar More	M.B Road	22.66471	88.40125	3
3	Nimta	Dhalai Karkhana, Near under pass	M.B Road	22.65399	88.41252	4
4	Nimta	College More	M.B Road	22.66343	88.42231	3
5	Nimta	In front of Nimta PS/Shibacha Crossing	M.B Road	22.66278	88.41959	3
Total						**16**

Baranagar PS

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Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Baranagar	Lake view Park Morh		22.64594	88.38145	3
2	Baranagar	RIC Bazar		22.64871	88.38509	3
Total						**6**

Belghoria PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Belghoria	Sindhu Store Morh		22.66229	88.37843	3
2	Belghoria	Zenith Hospital Morh		22.66313	88.37864	3
Total						**6**

Kamarhati PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Kamarhati	N.R Adhikary & Creig Road		22.68	88.36871	3
Total						**3**

Dakshineswar PS

Sl No	Name of PS	Place of Installation	Name of Road	Latitude	Longitude	Total No. of Cameras
1	Dakshineswar	Muchipara Morh		22.65747	88.36388	3
2	Dakshineswar	Dolpiri Morh		22.65913	88.36443	3
Total						**6**
TOTAL NO. OF CAMERA						**166**

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LOCATION DETAILS FOR INSTALLATION (ZONE-2)

Sl No	P. S. / TG	Camera Location	Latitude	longitude
1	North PS	Salt Lake 1 no. Gate	22.59152	88.39579
2		Salt Lake 2 no. Gate	22.58983	88.3969
3		Salt Lake 4 no. Gate	22.58465	88.39993
4		Bengal Chemical	22.58067	88.40182
5		Bidya Dhari School	22.58149	88.40095
6		Belly Bridge	22.60038	88.40915
7		Bengal Chemical Cut out II	22.58149	88.40095
8		Bhikharam Crossing	22.58805	88.40963
9	South PS	Kadapara Hyat Crossing	22.57121	88.40422
10		Beliaghata Crossing	22.56225	88.40893
11		Jalavayu Vihar	22.55846	88.41238
12		Loha Pole	22.56362	88.41538
13		New Bridge	22.57459	88.42111
14		In front of NUJS (Towards 16 No Tank)	22.56077	88.409402
15	East PS	J.K Saha (Main & All Service Roads)	22.57957	88.42617
16	NSCBI PS	On Pillar No- 30 (Opposite Arrival Terminal Gate No 3C)	22.64243	88.43855
17		Near Fee Collection Booth (Underground Parking Area Exit Gat)	22.64422	88.43872
18		Near Toilet Gate (Underground Parking Area Entry / Exit Gate beside 7 Pack Restaurant)	22.64265	88.43857
19		Gate opposite Terminal Gate no 5A & 5B (Underground Parking Area Entry Gate No 4)	22.64249	88.4373
20		In front of Entry Gate (Main Entry Gate of Underground Parking)	22.64304	88.43685
21		On Pillar No- 15 (Taxi & Cab Bay)	22.644	88.43889
22		On Pillar No- 24 (Taxi & Cab Bay)	22.64365	88.43881
23		On Pillar No- 30 (Taxi & Cab Bay)	22.64243	88.43855
24		On Pillar No- 35 (Taxi & Cab Bay)	22.64179	88.4382
25		Electric Pole top of Pillar No- 30 (Opposite Departure Terminal Gate No 3C)	22.64243	88.43855
26		Near Pay Booth (Airport Entry & Exit Road)	22.64231	88.43488
27		In front of Pillar No- 8 (Entry Point towards Arrival from 2 & half no gate)	22.64459	88.43805
28		From Pillar No- 15 (Road facing towards Bus Stand)	22.64417	88.4387
29		Gate surrounding area (Airport Gate - 4)	22.65027	88.44007

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30		In front of GIS Sub Station (Kalabagan Crossing)	22.64983	88.43725
31		Between 2 & half No gate to Kalabagan (ANPR Location near 2 & Half No gate)	22.64892	88.43672
32		Surrounding area (2 & half No Gate Inside Crossing)	22.64826	88.43615
33		SBI Cut-out (Both bound view of SBI Cut-out including cut-out)	22.64572	88.43412
34	NSCBI PS	New Cut-out (Both Bound view of New Cut-out surrounding area)	22.64449	88.43358
35		Airport Hotel Crossing (Airport Hotel Crossing surrounding area)	22.64118	88.43295
36		Inside Gate - 1 area (Airport Gate - 1)	22.63909	88.43371
37		Near Airport Gate- 1 (2 Wheeler Parking Area)	22.63971	88.43562
38	Airport TG	Airport 3no. Gate Crossing on VIP Road	22.65243	88.43815
39		Airport 2.5no. Gate Crossing on VIP Road	22.64845	88.43596
40		Airport 1no. Gate Crossing on VIP Road	22.64193	88.43117
41	Kaikhali TG	Airport Hotel Crossing on VIP Road	22.64077	88.43261
42		Nazrul Islam Saroni near Airport Flyover	22.63795	88.43381
43		Haldiram Crossing	22.62682	88.43351
44	Baguihati TG	Teghoria Crossing	22.62179	88.43256
45		Raghunathpur	22.61901	88.43216
46		Baguihati Flyover (Kolkata Flank) point no. 1	22.61393	88.43022
47		Jora Mandir Crossing	22.61393	88.43022
48		Baguihati Flyover (Airport Flank) point no. 2	22.60969	88.42765
49		Baguihati Crossing	22.60969	88.42765
50		Baguihati Flyover (Kolkata Flank) point no. 3	22.60728	88.42646
51		Naryantala Crossing	22.60728	88.42646
52		Baguihati Flyover (Airport Flank) point no. 4	22.60379	88.42426
53		Kestopur Crossing	22.60379	88.42426
54	Laketown TG	Dum Dum Park on VIP Crossing	22.60305	88.41878
55		Bangur on VIP Crossing	22.60308	88.41209
56		Laketown on VIP Crossing	22.60007	88.40698
57		Sreebhumi In front of VIP Road	22.59827	88.40371
58		Ultodanga Fly over Airport Bound	22.59495	88.39848
59		Ultodanga Fly over Kolkata Bound	22.59515	88.39925
60		Durgapur Bridge	22.59347	88.39586
61		Nazrul Islam Saroni near Golaghata	22.59574	88.39996

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WEBEL TECHNOLOGY LIMITED

Location wise Camera Quantity details for Zone 2

Sl No	P. S. / TG	Camera Location	Total No of Cameras
1	North PS	Salt Lake 1 no. Gate	4
2		Salt Lake 2 no. Gate	4
3		Salt Lake 4 no. Gate	4
4		Bengal Chemical	4
5		Bidya Dhari School	2
6		Belly Bridge	4
7		Bengal Chemical Cut out II	4
8		Bhikharam Crossing	7
9	South PS	Kadapara Hyat Crossing	2
10		Beliaghata Crossing	8
11		Jalavayu Vihar	4
12		Loha Pole	6
13		New Bridge	2
14		In front of NUJS (Towards 16 No Tank)	4
15	East PS	J.K Saha (Main & All Service Roads)	4
16	NSCBI PS	On Pillar No- 30 (Opposite Arrival Terminal Gate No 3C)	1
17		Near Fee Collection Booth (Underground Parking Area Exit Gat)	4
18		Near Toilet Gate (Underground Parking Area Entry / Exit Gate beside 7 Pack Restaurant)	2
19		Gate opposite Terminal Gate no 5A & 5B (Underground Parking Area Entry Gate No 4)	3
20		In front of Entry Gate (Main Entry Gate of Underground Parking)	3
21		On Pillar No- 15 (Taxi & Cab Bay)	3
22		On Pillar No- 24 (Taxi & Cab Bay)	2
23		On Pillar No- 30 (Taxi & Cab Bay)	3
24		On Pillar No- 35 (Taxi & Cab Bay)	2
25		Electric Pole top of Pillar No- 30 (Opposite Departure Terminal Gate No 3C)	1
26		Near Pay Booth (Airport Entry & Exit Road)	8

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27		In front of Pillar No- 8 (Entry Point towards Arrival from 2 & half no gate)	3
28		From Pillar No- 15 (Road facing towards Bus Stand)	2
29		Gate surrounding area (Airport Gate - 4)	4
30		In front of GIS Sub Station (Kalabagan Crossing)	5
31		Between 2 & half No gate to Kalabagan (ANPR Location near 2 & Half No gate)	4
32		Surrounding area (2 & half No Gate Inside Crossing)	6
33		SBI Cut-out (Both bound view of SBI Cut-out including cut-out)	2
34	NSCBI PS	New Cut-out (Both Bound view of New Cut-out surrounding area)	3
35		Airport Hotel Crossing (Airport Hotel Crossing surrounding area)	4
36		Inside Gate - 1 area (Airport Gate - 1)	2
37		Near Airport Gate- 1 (2 Wheeler Parking Area)	4
38	Airport TG	Airport 3no. Gate Crossing on VIP Road	5
39		Airport 2.5no. Gate Crossing on VIP Road	5
40		Airport 1no. Gate Crossing on VIP Road	8
41	Kaikhali TG	Airport Hotel Crossing on VIP Road	5
42		Nazrul Islam Saroni near Airport Flyover	4
43		Haldiram Crossing	8
44	Baguihati TG	Teghoria Crossing	6
45		Raghunathpur	4
46		Baguihati Flyover (Kolkata Flank) point no. 1	2
47		Jora Mandir Crossing	7
48		Baguihati Flyover (Airport Flank) point no. 2	2
49		Baguihati Crossing	6
50		Baguihati Flyover (Kolkata Flank) point no. 3	2
51		Naryantala Crossing	6
52		Baguihati Flyover (Airport Flank) point no. 4	2
53		Kestopur Crossing	6
54	Laketown TG	Dum Dum Park on VIP Crossing	6
55		Bangur on VIP Crossing	4
56		Laketown on VIP Crossing	7

57		Sreebhumi Infront of VIP Road	4
58		Ultodanga Fly over Airport Bound	2
59		Ultodanga Fly over Kolkata Bound	2
60		Durgapur Bridge	5
61		Nazrul Islam Saroni near Golaghata	6
Total No of Cameras			**248**

LOCATION DETAILS FOR INSTALLATION (ZONE-3)

Sl. No	Name of Unit	Name of Place	Lat	Long	Total Camera
1	Dasnagar TG	'A' Road Crossing	22.6034	88.3323	3
2		'J' Road.	22.6041	88.3222	3
3		O' Road & 'Q' Road Crossing.	22.6061	88.3174	4
4		Dasnagar Bus Stand.	22.5937	88.3089	3
5		CM Cut-out including Helipad main gate entrance	22.5823	88.3066	6
6		CF Cut-out including Dumurjola Indoor Stadium entrance gate.	22.5823	88.3066	3
7		Garage More on Ring Road.	22.5788	88.3042	3
8	Dasnagar PS	Dasnagar Railway crossing	22.5974	88.3097	6
9		Balitikuri Bazar	22.604	88.247	2
10		Birajmoyee Road Dasnagar	22.6015	88.3097	2
11		New Mollapara	22.6067	88.2882	2
12		Sekhpara	22.6052	88.2917	2
13		Sealdanga Crossing	22.5947	88.3079	4
14	Bantra PS	Infront of Belilious Park	22.5971	88.3289	3

15		Thakur Das Dutta 2nd Bye Lane	22.5988	88.3208	2
16		Dasarath Ghosh Lane and Benaras Road Crossing	22.6034	88.3318	3
17		Rupak Sangha play ground	22.5888	88.3134	2
18		Shanpur Jelepara	22.597	88.3157	2
19	Chatterjeehat PS	Jatu Lahiri Gola More & Bhattacharjeepara Crossing	22.585	88.2992	3
20		Ring Road near Dumurjala Indoor Stadium	22.5823	88.3066	3
21	Chatterjeehat PS	Chatterjeehat Bazar (PS More)	22.5725	88.3071	4
22		Vanish Kali More	22.5732	88.3126	4
23	Chatterjeehat PS	Barajanath Lahiri Lane & Bhattacharjee Para Crossing near Cachal Sangha	22.585	88.2992	3
24		Jana Gate way to Brajanath Lahiri Lane	22.5815	88.296	2
25		ANPR on Kona Exp Way (Near Hang sang X-ring)	22.5767	88.3008	4
26	Golabari PS	Rose Merry Lane Nanda Ghosh on GT Road Crossing	22.5919	88.3382	4
27		Sorab Morh	22.5939	88.337	4
28		Pilkhana Morh entrance of Karbala on GT Road	22.5941	88.3392	4
29		GT Road –Oriya Para Crossing	22.5953	88.3397	3

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30		GT Road-Wat Kings Lane Crossing	22.5937	88.3391	3
31		GT Road- Kings Road Crossing	22.5908	88.3376	4
32		CM Bridge	22.5894	88.3368	3
33		Bhaggu Morh	22.5942	88.3374	4
34		20 No Kothi	22.5949	88.3366	3
35		Madartalla Lane Crossing	22.5932	88.3371	4
36		Oriyapara Pilkhana 2nd Bye Lane Crossing	22.5941	88.3375	4
37		38/8, Fakir Bagan Lane near Laxman Da Club	22.5951	88.3344	3
38	Howrah PS	Basiruddin Munshi Lane	22.589	88.3331	1
39		Noor Md. Munshi Lane & Satkari Chatterjee Lane	22.5882	88.329	3
40		334, Bellious Road	22.588	88.3341	2
41		Harijan Basti near Shiv Mandir	22.5882	88.329	3
42		IR Belilious Road near Jatiya Sevadal	22.5884	88.3281	3
43		ANPR Near Kazipara More	22.5644	88.3204	2
44		Fish Market	22.5858	88.3394	3
45	Bally PS	Lalbari cutout	22.6523	88.3452	4
46		Dakhineswar bound near Bally Ghat bus stand	22.6527	88.348	3
47		Bally bound near Bally Ghat bus stand	22.6518	88.3482	3
48		Hanuman Mandir	22.6176	88.3533	3
49		Hapta Bazar near Rajak meat shop	22.654	88.3417	3
50		Jal Factory	22.652	88.3412	3

51		Panchaanan tala more near Mouchak	22.6516	88.3456	3
52		54 No. Bus Stand	22.6513	88.3487	5
53		MLB Road	22.6406	88.3421	2
54		Rozi Tailor more	22.6375	88.3423	3
55		Hempal Lane	22.6333	88.3517	3
56		ANPR on G.T. Road (Near 54 No. Bus Stand)	22.6515	88.3485	2
Total No. of Cameras					**175**

WEBEL TECHNOLOGY LIMITED

SECTION – P

LIST OF CLIENTS OF SIMILAR ORDERS
(Tender No. WTL/PC/CCTV/23-24/029)

Sl. No.	Name of the Client	Address	Contact Person	Designation	Contact Numbers

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Company Rubber Stamp: _____

WEBEL TECHNOLOGY LIMITED

SECTION – Q

PROFORMA FOR PERFORMANCE BANK GUARANTEE

(On non-judicial stamp paper of appropriate value to be purchased in the name of executing Bank)

PROFORMA OF BANK GUARANTEE FOR SECURITY DEPOSIT –CUM-PRFORMANCE
GUARANTEE

Ref …………………….. Bank Guarantee no…………….

Date…………………..

PROFORMA OF BG FOR SECURITY DEPOSIT

KNOW ALL MEN BY THESE PRESENTS that in consideration of WEBEL TECHNOLOGY LIMTED, a Government of West Bengal Undertaking incorporated under the Companies Act, 1956 (hereinafter called "The Purchaser") having agreed to accept from _____(hereinafter called "The Contractor") Having its Head Office at _____, a Bank guarantee for Rs. _____ in lieu of Cash Security Deposit for the due fulfillment by the Contractor of the terms & conditions of the Work Order No. _____dated_____ issued by the Purchaser for _____(hereinafter called "the said work order _____ _____dated_____)". We _____ (Name & detailed address of the branch) (hereinafter called "the Guarantor") do hereby undertake to indemnify and keep indemnified the Purchaser to the extent of Rs._____ (Rupees _____ _____) only against any loss or damage caused to or suffered by the Purchaser by reason of any breach by the Contractor of any of the terms and conditions contained in the said Work Order No. _____ dated_____ of which breach the opinion of the Purchaser shall be final and conclusive.

(2) AND WE, _____DO HEREBY Guarantee and undertake to pay forthwith on demand to the Purchaser such sum not exceeding the said sum of _____Rupees_____) only as may be specified in such demand, in the event of the Contractor failing or neglecting to execute fully efficiently and satisfactorily the order for _____ _____ Work Order no. , _____dated _____

(3) WE _____ further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said order as laid down in the said Work Order No. _____ dated _____ including the warranty obligations and that it shall continue to be enforceable till all the dues of the Purchaser under or by virtue of the said Work Order No. _____ dated _____ have been fully paid and its claims satisfied or is charged or till the Purchaser or its authorized representative certified that the terms and conditions of the said Work Order No. _____ dated _____ have been fully and properly carried out by the said contractor and accordingly discharged the guarantee.
(4) We _____ the Guarantor undertake to extend the validity of Bank Guarantee at the request of the contractor for further period of periods from time to time beyond its present validity period failing which we shall pay the Purchaser the amount of Guarantee.

(5) The liability under the Guarantee is restricted to Rs. _____ (Rupees _____ _____) only and will expire on _____ and unless a claim in writing is presented to us or an action or suit to enforce the claim is filled against us within 6 months from _____ all your rights will be forfeited and we shall be relieved of and discharged from all our liabilities (thereinafter)

(6) The Guarantee herein contained shall not be determined or affected by liquidation or winding up or insolvency or closer of the Contractor.

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WEBEL TECHNOLOGY LIMITED

(7) The executants has the power to issue this guarantee on behalf of Guarantor and holds full and valid power of Attorney granted in his favour by the Guarantor authorizing him to execute the Guarantee.

(8) Notwithstanding anything contained herein above, our liability under this guarantee is restricted to Rs. _____ (Rupees _____) only and our guarantee shall remain in force up to _____ and unless a demand or claim under the guarantee is made on us in writing on or before _____ all your rights under the guarantee shall be forfeited and we shall be relieved and discharged from all liabilities there under.

WE, _____ lastly undertake not to revoke this guarantee during the currency except with the previous consent of the Purchaser in writing. In witness whereof we _____have set and subscribed our hand on this _____ day of _____.

<div align="right">

SIGNED, SEALED AND DELIVERED

_____
(Stamp of the executants)

</div>

WITNESS

   1) _____

   2) _____
(Name & address in full with Rubber Stamp)

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WEBEL TECHNOLOGY LIMITED

INSTRUCTIONS FOR FURNISHING BANK GUARANTEE

1. Bank Guarantee (B.G.) for Advance payment, Mobilization Advance, B.G. for security Deposit-cum-Performance Guarantee, Earnest Money should be executed on the Non- Judicial Stamp paper of the applicable value and to be purchased in the name of the Bank.
2. The Executor (Bank authorities) may mention the Power of Attorney No. and date of execution in his/her favour with authorization to sign the documents. The Power of Attorney is to be witnessed by two persons mentioning their full name and address.
3. The B.G. should be executed by a Nationalised Bank/ Scheduled Commercial Bank preferably on a branch located in Kolkata. B.G. from Co-operative Bank / Rural Banks is not acceptable.
4. A Confirmation Letter of the concerned Bank must be furnished as a proof of genuineness of the Guarantee issued by them.
5. Any B.G. if executed on Non-Judicial Stamp paper after 6 (six) months of the purchase of such stamp shall be treated as Non-valid.
6. Each page of the B.G. must bear signature and seal of the Bank and B.G. Number.
7. The content of the B.G. shall be strictly as Proforma prescribed by WTL in line with Purchase Order /LOI/ Work Order etc. and must contain all factual details.
8. Any correction, deletion etc. in the B.G. should be authenticated by the Bank Officials signing the B.G.
9. In case of extension of a Contract the validity of the B.G. must be extended accordingly.
10. B.G. must be furnished within the stipulated period as mentioned in Purchase Order / LOI / Work Order etc.
11. Issuing Bank / The Bidder are requested to mention the Purchase Order / Contract / Work Order reference along with the B.G. No. For making any future queries to WTL.

WEBEL TECHNOLOGY LIMITED

SECTION – R

SERVICE LEVEL AGREEMENT
(Tender No. WTL/PC/CCTV/23-24/029)

Tripartite agreement for SLA will be signed between WTL, selected bidder and respective OEM's before releasing the work order/purchase order.

All CCTV Components, Storage, all Active & Passive Network Components, VMS Software, Servers, Workstation, Display & UPS etc. if any component service items should have minimum warranty period of period i.e. 36 months from the date of final acceptance of the system by the user or 38 months from date of delivery, whichever is earlier. Within warranty period, entrusted OEM will replace, re-integrate faulty, buggy components.

Service Level Agreement for All CCTV Components, Storage, all Active & Passive Network Components, VMS Software, Servers, Workstation, Display & UPS etc.

Be-spoke Software & ICCC Platform:
LD clause: i. 0.5% of the total Software bill value of this segment for every 168 hours delay in meeting the delivery schedule

Hardware: LD clause:
a. 0.5% of the total Hardware bill value of this segment for every 168 hours delay in meeting the delivery schedule
b. 1.0% of the total year wise SLA bill value for the Hardware segment for every cumulative machinehour (machine x hour) fault rectification delay beyond the response time fixed in the SLA
c. The maximum deductible is capped at 10% of the total year wise SLA value. Vendor Termination
Clause: - i.
Termination possibility of MSI in the case of multiple cases of failure to meet SLA terms beyond monthly commitments for 6 continuous months

WTL reserves the right to terminate the contract and WTL will get the job completed by any other competent party. The difference of cost incurred by WTL will be recovered from the contractor and PBG will be invoked.

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WEBEL TECHNOLOGY LIMITED

SECTION - S

NIT DECLARATION FOR BIDDER

(Bidders are requested to furnish the Format given in this section, filling the entire Blank and to be submitted on Bidder's Letter Head)

To
Webel Technology Limited
Plot – 5, Block – BP, Sector - V,
Salt Lake City,
Kolkata – 700091.

Sub: Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore, Bidhannagar and Howrah Police Commissionerate, West Bengal.

Dear Sir,

We the undersigned bidder/(s) declare that we have read and examined in details the specifications and other documents of the subject Tender No. WTL/PC/CCTV/23-24/029 dated 21.09.2023 for Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore, Bidhannagar an Howrah Police Commissionerate, West Bengal published by Webel Technology Limited in e-Tender website. We hereby confirm that we have submitted the bid for the following zone(s): (Please put a tick mark on the zone we are bidding)

1. Zone 1
2. Zone 2
3. Zone 3

We further declare that we have agreed and accepted all the clauses / sub-clauses / formats / terms & conditions other requirements related to the said tender and we will abide by the same as mentioned in the tender document while participating and executing the said tender.

Thanking you, we remain

Yours faithfully

……………………………………………………
Signature

………………………………………………………..
Name in full

………………………………………………………..
Designation

………………………………………………………..
Company Stamp

Dated, this …………………..day of ………………2023

WTL/PC/CCTV/23-24/029

WEBEL TECHNOLOGY LIMITED

SECTION - T

NIT DECLARATION FOR OEM

(OEM's are requested to furnish the Format given in this section, filling the entire Blank and to be submitted on OEM's Letter Head)

To
Webel Technology Limited
Plot – 5, Block – BP, Sector -
V, Salt Lake City,
Kolkata – 700091.

Sub: Supply, Installation, Testing, Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore, Bidhannagar and Howrah Police Commissionerate, West Bengal.

We the undersigned OEM/(s) declare that we have read and examined in details the specifications and other documents of the subject Tender No. WTL/PC/CCTV/23-24/029 dated 21.09.2023 for Supply, Installation, Testing, 60and Commissioning & Maintenance with 3 Years Warranty & Comprehensive Support of IP Based CCTV Surveillance system and Dedicated Fiber Optic Network Backbone Connectivity at PS & Broadband Connectivity for CCC under Barrackpore Police Commissionerate, published by Webel Technology Limited in e-Tender website.

We further declare that we have agreed and accepted all the clauses / sub-clauses / formats / terms & conditions other requirements related to the said tender and we will abide by the same as mentioned in the tender document while executing the said tender though our partner and comply the delivery schedule and maintain the Service Level Agreement during the entire warranty period as per tender terms.

Thanking you, we remain

Yours faithfully

…………………………………………………
Signature

………………………………………………….
Name in full

………………………………………………….
Designation

………………………………………………….
Company Stamp

Dated, this …………………..day of ………………2023