NOTICE INVITING e-TENDER

Online Tender documents are invited for Technical refreshment and enhancement of implementation of "Supply, Installation, Testing & Commissioning of IP Based CCTV Surveillance, Lan & Wi-Fi & Audio-Visual System of The Nabadiganta Bhavan."

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/NDITA/ICT/23-24/077 dated 15.03.2024
2.	Tender Version No.	1.0
3.	Brief description of Job	Supply, Installation, Testing & Commissioning of IP Based CCTV Surveillance system, Local Area Network & Wi-Fi, Audio-Visual System with three years comprehensive warranty for the Nabadiganta Bhavan, situated at Plot No-21, Sector-V, Salt Lake.
4.	Tender document Fee	Rs. 6000.00 (Rupees Six thousand only). The amount to be transferred on; ine through e-tender portal.
5.	Earnest Money Deposit	Rs. 500000.00 (Rupees five Lac Only. The amount to be transferred on; ine through e-tender portal.
6.	Date of Downloading/Sale of Tender document	15.03.2024
7.	Pre-Bid Meeting date & time	 Pre-Bid meeting will be organizing online platform only. Only queries as per format (Section - P) reaching WTL by 22.03.2024 bidders are requested to send mail to <u>purchase@wtl.co.in</u> for participation of online pre-bid meeting. Based on request WTL will share meeting id / links for meeting. If there is any change in date and time then will inform. Only queries as per format (Section - P) reaching WTL by 22.03.2024 at 15.00 Hrs. will be taken for decision. Queries will be sent to Purchase Deptt. (purchase@wtl.co.in).
8.	Bid Submission Start date & time	03.04.2024 at 14.00 Hrs.
9.	Last date & time of EMD & Tender Fee submission	Before uploading of tender
10.	Last date & time of Bid Submission	12.04.2024 at 13.00 Hrs.
11.	Date & time of Technical Bid Opening	15.04.2024 at 12.00 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.	Contact person	033-23673403-06

- 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 electronically through etender portal in favour of "Webel Technology Limited" and also to be documented through e-filling. Necessary Earnest Money Deposit (EMD) may be remitted electronically 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 / corrigendum will be published only on the WTL Website.

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 – D	INSTRUCTION TO BIDDER
SECTION – E	BID FORM
SECTION – F	TECHNO COMMERCIAL EVALUATION & AWARDING OF CONTRACT
SECTION – G	GUIDANCE FOR E-TENDERING
SECTION – H	BILL OF MATERIAL AND CAMERA LOCATION DETAILS
SECTION – I	TECHNICAL SPECIFICATION WITH COMPLIANCE STATEMENT
SECTION – J	TECHNICAL CAPABILITY OF 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	LIST OF CLIENTS OF SIMILAR ORDERS
SECTION – P	PROFORMA FOR PERFORMANCE BANK GUARANTEE
SECTION – Q	NIT DECLARATION FOR BIDDER
SECTION- R	MAKE, MODEL, PART NO.

SECTION - A

SCOPE OF WORK & RESPONSIBILITY

For System Integrator

- 1) 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 configuration of CCTV surveillance systems, Audio Visual setups, and networking solutions.
- **2) Supply:** Entrusted bidder must supply and work as per work order. Supplied components must satisfy the minimum guiding specifications and guidelines, as applicable, proprietary technology must be mentioned against each component. Bidder is allowed to propose only one make / model per system or software required for the proposed solution. Bids with optional offers would be summarily rejected.
- 3) Technical refreshment and enhancement of surveillance coverage area, LAN, Audio-Visual system Installation, Integration & Implementation: Supply, Installation, Testing & Commissioning of IP Based CCTV Surveillance, Lan & Wi-Fi & Audio-Visual System of The Nabadiganta Bhavan. Delivery & Installation will be governed by the stated guidelines and associated standards & in line with the scope of work defined in this document. The delivery / supply of the materials done by successful Bidder at respective location only. The Post installation warranty supports are the sole responsibility of the Original Equipment Manufacturer (OEM) and selected bidder.
- **4) Service Quality and Assurance:** Services within installation, warranty period must be rendered with back to back OEM for hardware.
- **5) Acceptance:** After successful Delivery & installation, installation reports prepare by WTL, signed and sealed by NDITA Authority.
- **6) Warranty / Support coverage period:** 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 39 months from date of delivery, whichever is earlier. Within warranty period, entrusted OEM will replace, re-integrate faulty, buggy components.
- 7) **Delivery:** All materials are to be delivered at NDITA office. After necessary checking, testing, marking of the all materials under supervision of WTL, successful bidder will take necessary step to install the material at installation site. Any sticker/ stationery item required to complete the marking will be provided by successful bidder. The items may be delivered in multiple phases.
- **8) Warranty Certificate**: On successful installation bidder should provide installed equipment's actual serial no. duly certified by respective OEM. This clause is applicable for only active materials / components of Camera, Switch, UPS & Display, Wi-Fi & Audio-Visual System.
- **9) Joint site visits with NDITA & WTL representative** SI After receiving the PO from WTL, shall be required to finalize the exact location.
- **10) Training & Documentation** SI shall prepare and train user nominated representative for Systems operation.
- **11) Go-Live & Handover -** On the date of Go-Live SI and WTL shall formally hand over the system to the client for to complete official Go-Live formalities.

For the NDITA

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j will will provid apervision of WTl	e an necessary support L team.	t during the installa	luon and post instal	auon phase and Si v	ili work under

SECTION - B

ELIGIBILITY CRITERIA

A) To Pre-qualify of all the CCTV Surveillance System Equipment's should satisfy the Eligibility Criteria mentioned below:

- i) The OEM for camera & NVR should have its own registered business entity in India. Group company/joint venture/collaboration/ presence through distributors would not be considered eligible to participate in the bid.
- ii) CCTV Camera & NVR OEM should have direct presence in India for a minimum period of 10 Years as on as on bid submission date and should be present global in the same line of manufacturing for at least 15 years. CCTV OEM should submit a declaration letter duly signed by the country Head/Director/CEO of OEM along with letter of incorporation confirming the same.
- iii) OEM should have self owned (not as joint venture, partnership firms or through any other association) support /service office & and RMA center in India including at least 10 number of Level 2 & Level 3 service engineers. The technical support setup should be existent for at least 5years in India. Letter to be submitted duly signed by the country Head/Director/CEO of OEM. Service setup with escalation matrix to be submitted.
- iv) CCTV camera must have UL, CE, FCC, BIS, IK10, IP66/ IP67 certifications. Copy of relevant certificates issued by competent authority has to be submitted for each camera models proposed in the bid. Series certificates for models will be eligible for disqualification in the bid.
- v) OEM should have never been black listed / banned /removed from any govt. /PSU / Consulates in India or abroad. Declaration to be submitted duly signed by the country Head/Director/CEO of OEM.
- vi) The MAC address of the IP Cameras must be registered in the name of OEM supplying the Cameras. Declaration to be submitted with bid duly signed by the country Head/Director/CEO of OEM.
- vii) The proposed Camera & NVR should be ONVIF compliant and the OEM should have never been banned by ONVIF. The proposed camera OEM should be a member in any of the present "ONVIF Organization Technical Committee". Suitable evidence document to be submitted with bid.
- viii) Any of the proposed in cameras should not contain any "HiSilicon make chipset /SoC / Sensor / Any other Low end chip manufacturer with Security issues /parts. Camera OEM need to submit declaration signed by the country Head/Director/ HR Head/ CEO of OEM. on letter head regarding quoted model specific sensor and SoC details (Make, Model etc.)
- ix) The OEM should not have any Directors/CEO who are from the countries which shares land border with India. Certificate to be submitted duly signed by the country Head/Director/CEO of OEM.
- x) OEM should be an ISO certified organization.
- xi) The Camera to be provided by the bidder should not be complying to GB28181, GB/T28181-2011 standards and there should be no option to activate or deactivate GB/T28181 standards in the camera web page/Settings or any such protocol which allow certain organizations to bypass all security parameters and look into the devices directly. Declaration to be submitted duly signed by the country Head/Director/CEO of OEM., duly signed by the authorized signatory.
- xii) The CCTV, NVR OEM should have its technical Support contact number and e-mail Id in India for any technical support query from the SI or end customer. Service line number should be mentioned in the manufacturer's authorization letter to be submitted along with the bid duly signed by the country Head/Director /CEO of OEM.

B) To Pre-qualify of all the Display System Equipment's should satisfy the Eligibility Criteria mentioned below:

- i) OEM must have presence in India for more than 10 years (Certificate of Incorporation required).
- ii) The OEM must have minimum Annual Turnover of INR 200 Crores or more average per year from IFP/Smart TV/ LED Displays during last three financial years (2021-2022-2023) in India. (CA certificate)
- iii) The OEM must have own factory in India (valid factory license Copy required).
- iv) OEM must have registered service branch office in West Bengal for last 10 years (GST and Trade License Copy required).
- v) OEM should have at least one direct Service Centre in West Bengal and also have franchisee service centers network all cross the West Bengal.
- vi) OEM must have ISO 9001:2015, ISO 14001:2015 and BS OHSAS 18001:2007 / ISO45001:2018 certifications for India
- vii) OEM must provide MAF & Compliance against this tender declaring name, designation and phone no. who is signing the MAF.

D) To Pre-qualify of all the Network Passive Equipment's should satisfy the Eligibility Criteria mentioned below:

- i) The OEM of Passive Network Components should be present in the India for at least last 10 Years. (Document proof Required Proof of Incorporation should be attached)
- ii) Should have Technical / Telephonic support center in India
- iii) OEM must have ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 or latest
- iv) Factory Test report must be provided for the product during supply.
- v) All the components/raw materials used must be RoHS-verified
- vi) OEM should have its Manufacturing units, Components and Finished Goods Warehouse & R&D labs in India.
- vii) OEM should have at least four dedicated Presales manpower in India. for after sales support viii) 25-year Performance warranty; Warranty to cover Bandwidth of the specified and installed cabling system
- ix) The entire passive components Copper and fiber should be from a Single OEM of one make.
- x) The entire passive components Copper and fiber should be from a Single OEM of one make.

E) To Pre-qualify of all the Network Active Equipment's should satisfy the Eligibility Criteria mentioned below:

- i) OEM must be present in India for at least 15 years or more
- ii) OEM must have research and development office in India
- iii) Mac address of the device should be in the name of OEM/parent Company of OEM. Documentary evidence must be given
- iv) Warranty and Test certificates must be given mentioning Model No. and their Serial No. in OEM Letterhead with signature from an authorized signatory

F) General Criteria:

- 1.0EM Authorization Certificate (MAF) is mandatory for All type of Cameras, VMS & Storage, Network Active, Network Passive components, Audio-Visual Systems, UPSs and Display. NIT Number should be clearly mentioned on MAF (Manufacturer Authorization Form). MAF to be submitted as per format.
- 2. Bid specific OEM MAF in OEM letterhead
- 3. Complete Compliance in OEM letterhead
- 4. Product's features must be mentioned in the OEM Datasheet, Datasheet must be available in OEM global website and to be submitted with bid documents. Reference page to be mentioned.

12) BIDDERS' 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 /CCTV sector. Relevant document to be submitted.
- 3. The bidder should have been operating for the last 5 years in India. Certificate of Incorporation and/or Certificate of Commencement of Business issued by the Registrar of Companies/ Partnership Registration/sole proprietorship registration under the Shops & Establishments Act / Trade License to be submitted.
- 4. The bidder must have their Registered/ Branch office in Kolkata. Valid trade license and local GST Registration Certificate are to be submitted.
- 5. The bidder should have valid GST Registration Certificate & PAN. Bidder shall have to submit photocopy of the documents.
- 6. The bidder shall have an order of "Similar Nature" of single order an amount not less than Rs._2 CR (Two Crore Only) in last 05 (Five) financial years (considering FY 2018-19, 2019-20, 2020-21, 2021-22 & 2022-23) in Government Department / PSU / Autonomous Body. Documentary evidence should be enclosed.
- 7. The bidder should have a total aggregate turnover value of Rs. 15.00 (Fifteen) Cr. or above in the last 3 financial years (2020-21, 2021-22 & 2022-23). Bidder shall have to submit Audited Balance Sheet / Audited Accounts / Auditor Certificate in support of their claim.
- 8. Bidder should have Positive net worth for last 03 (Three) financial years (From FY 2020-21, 2021-22 & 2022-23).
- 9. The bidder must submit the Manufacturers Authentication Form (MAF) for All type of Cameras, Surveillance Management Server with Storage, SD Card, NVR, Network Active, Network Passive components, UPSs, Display and Client PC as per prescribed format enclosed (Section N), along with Technical Compliance statements. Without these documents from the OEMs, the offer will be treated as non-responsive and summarily may be rejected.
- 10. 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.

11.	The bidder shall submit Bid Form (Section – K) duly signed by the authorized signatory of the company as per the format enclosed. Deviation in format may not be accepted.
12.	Bidder shall submit NIT Declaration (Section – R) duly signed by the authorized signatory of the company as per the format. Deviation in format may not be accepted.

SECTION - C

DATE AND TIME SCHEDULE

Sl. No.	Particulars	Date & Time
1	Date of uploading of N.I.T. & other Documents (online) (Publishing Date)	15.03.2024
2	Documents download/sale start date (Online)	15.03.2024
3	Last Date and time of sending the queries (Offline)	22.03.2024
4	Pre Bid Meeting (On Line)	28.03.2024 at 12.00 Hrs.
5	Corrigendum, if any will be published (On Line)	-
6	Bid Submission start date & time (On line)	03.04.2024 at 14.00 Hrs.
7	Last Date & time of submission of Earnest Money Deposit & submission of remittance details	Before uploading of tender
8	Last Date & time of submission of Tender Fee & submission of remittance details	Before uploading of tender
9	Bid Submission closing date & time (On line)	12.04.2024 at 13.00 Hrs.
10	Bid opening date & time for Technical Proposals (On line)	15.04.2024 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)	-

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 means 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 Directorate of Commercial Taxes 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.

"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 Delivery, Installation & Commissioning of Outdoor Closed Circuit Television (CCTV) Surveillance system.

" CCTV system " means Closed Circuit Television

"Project" Technical refreshment and enhancement of surveillance coverage area for Closed Circuit Television (CCTV) system at Airport traffic guard jurisdiction area.

"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.

"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.

"CTD" means Directorate of Commercial Taxes, GoWB

"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 28.03.2024 at 12.00 hrs. (**On-Line Meeting**). Bidder can send their queries as per format (Section - N) to Purchase Dept. (<u>purchase@wtl.co.in</u>). Only the queries received within the stipulated date prior to the Pre Bid Meeting will be answered. Interest bidders are requested to send mail to (<u>purchase@wtl.co.in</u>) for participation of online pre-bid meeting Based on request WTL will share meeting id / links for meeting. If there is any change in date and time, then will inform.

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.

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 3% 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 45 days from the date of acceptance of contract and the contractor has to ensure all activities leading to the commissioning of the contract to be completed within 12 weeks from the date of award. Subsequent to the award of contract, the contractor will have to arrange for the requisite material as per BOM.

15. TIME SCHEDULE FOR DELIVERY & INSTALLATION

All delivery of the material will have to be completed within 6-8 weeks from the date of Work Order/LoI issued by WTL and installation will have to be completed within 12 weeks from the date of Order/LoI issued by WTL.

16. LIQUIDATED DAMAGE / PENALTY

The job includes the supply and installation of materials mentioned in the tender document. In the event of failure to meet the job completion in stipulated date/time liquidated damage may be imposed on the contractor for sum not less than 0.5% of the contract value for that item/job for each week or part thereof, subject to a ceiling of 3% of the total contract value (excluding all taxes & duties and other charges). In the event of LD exceeds 3% of the order value, 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 minimum 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 (whichever 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, i.e. Rail Vikas Nigam Limited. A scheduled payment terms depicted below:

60% payment will be done on procurement of material and submission of document. 30% payment will be done on installation, testing and commissioning of the project. Balance 10% will be done for maintenance period of 3 years.

On successful installation bidder to get installed equipment's with actual serial no. duly certified by respective OEM.

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 otherwise 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 equipment's during the course of the execution of the work.

28. SUB-CONTRACT

The purchaser (WTL) does not recognize the existence of Sub-Contractors. The Contractor's responsibility is not transferable.

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 up to 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 for 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 / SUPPORTNTERMS

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 Contractor would be responsible for the up keep and maintenance of the CCTV system 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.

34. WARRANTY SUPPORT

As per clause 33 and other warranty / support terms

35. PERFORMANCE BANK GUARANTEE (PBG)

As a guarantee for timely delivery, installation and commissioning of equipment as well as performance of onsite 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 – P).

36. 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 Service Tax. However, the rate of taxes should be indicated separately in the Price Bid. The Purchaser shall reimburse taxes and levies at actual as applicable at the time of delivery.
- For the purpose of the Contract, it is agreed that Contract Price specified in Financial Bid, is based on the taxes & duties and charges prevailing at the date one day prior to the last date of Bid submission date. If any rate of tax changes and new tax rate is introduced then it will be accessed on the Bidder in connection with the performance of the Contract, an equitable adjustment of the Contract Price or deduction there from as the case may be.
- Deduction of all statutory and necessary Tax from each bill will be made as per Government Order
 prevailing at the time of payment. Necessary tax deduction certificate will be issued on demand by the
 Company.
- Bidder submitting a tender shall produce up to date VAT, Income Tax and Profession Taxes Certificate in the standard form from the Tax Authority or a Certificate that the assessment is under consideration. All such clearance certificates shall remain valid on the last date of permission.
- In case of CST billing WTL will provide "Waybill" and "C Form". Entry Tax will be borne by 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 taxes, 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

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 / equipment's 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 minimum 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. QUALITY CONTROL

- The contractor is obliged to work closely with WTL 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 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 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.
- 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.

64. SITE NOT READY

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

65. 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/manuscript ion 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.
- 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) 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.
- i) 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.
- j) The price offers shall remain firm within the currency of contract and no escalation of price will be allowed.

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

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 of IP Based CCTV Surveillance system, Local Area Network & Wi-Fi, Audio-Visual System with three years comprehensive warranty for the Nabadiganta Bhavan, situated at Plot No-21, Sector-V, Salt Lake.

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/NDITA/ICT/23-24/077 dated 15.03.2024, 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, equipment and other items and confirm that any such taxes, duties and levies additionally payable shall be to our account.
- 4. Earnest Money Deposit & Tender Fee: We have transferred EMD & Tender Fee 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 percent (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, thisday of2024	
Thanking you, we remain,	
Yours faithfully	
Signature	
Name in full	
Designation	
	Signature & Authorized Verified by
	Signature
	Name in full
	Designation
	Company Stamp

SECTION - F

TECHNO COMMERCIAL EVALUATION & AWARDING OF CONTRACT

1. EVALUATION PROCEDURE

- 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 Technical Specification (Technical Specification with Compliance Statement, Section I) Deviation in specification shall not be allowed. Bidder qualified in Technical Specification shall be considered for further evaluation.
- After qualifying in 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 Technical specification will be evaluated. The bidder who has qualified in the Technical Specification evaluation and returns with lowest quote (L1) in financial bid would normally be awarded the contract subject to Post Qualification.

3. AWARDING OF CONTRACT

An affirmative Post Qualification determination will be prerequisite for award of the contract to the 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.

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. Copy of Remittance details of Earnest Money Deposit (EMD)
- 2. Copy of Remittance details of Tender Fee

Technical Document 2 (scanned & join in pdf format then upload)

- 1. NIT Declaration duly stamped & signed in letter head of bidder (Section Q)
- 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 cov will be uploaded with single file having multiple pages)

Sl. No.	Category Name	Sub Category Name	Sub Category Description
A	CERTIFICATES	A1. CERTIFICATES	 GST Registration Certificate PAN Trade License As required
В	COMPANY DETAILS	B1. COMPANY DETAILS 1	As required
		B2. COMPANY DETAILS 2	Company Profile (Not more than 3 pages)As required
С	CREDENTIAL	CREDENTIAL 1	Order copies as per Clause no. 4 of Section – B
		CREDENTIAL 2	Product brochureOther documents, if any
D	DECLARATION	DECLARATION 1	List of Clients as per format (Section - 0)
		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

SECTION - H

Unpriced BoQ

BILL OF MATERIAL FOR CCTV SURVEILLANCE

Sr.	Item Description	Unit	Qty
1	1/2.8" Progressive Scan CMOS,5 MP Vandal proof IR HD Dome Camera, H.265 , 2.7- 13.5mm motorized zoom vari-focal lens, 50mtr IR, 120 DB True WDR,TDN, 3D DNR, Multiple Exposure Method, Piris, ONVIF S,G, Triple stream, 2-way audio & alarm in/out, Built-in micro SD/SDHC/SDXC slot min 1 TB,POE, Advanced intelligent video analytics: Object Classes: Person, Bicycle, Car, Motorbike, Any Class, Tamper Detection, Blur Detection, Corridor Pattern, PoE & 12VDC, support power supply failover IP67, IK10, Certification- CE,FCC,UL,BIS.,	Nos	25
2	Smoke and Fire Detection License.	Nos	6
3	Server for VMS: Processor: Gen 4 Intel Core i7 and must work on Windows/Linux platform with 2x1 Gbps NIC and 16/32 GB of RAM .Server should support minimum 96 TB of storage (It should be configured as per the storage calculation provided by VMS OEM) It must support DVI-I, HDMI, 1 display ports, max 2 simultaneous monitors Operating temperature should be 5 – 35° C .Server must have 8 HDD slot support 10TB HDD each slot.	Nos	1
4	Server for Analytics: Processor: Intel Core i7-11700, Memory: 16GB (2x8GB) DDR4 RAM, O/S Ubuntu Linux, Graphic card: Triple Nvidia Quadro RTX 4000, 8GB, Power: Dual, Hot	Nos	1
5	6TB Surveillance HDD	Nos	6
6	55 Inch Commercial LED TV Capable of Operating 24X7 With Wall Mount Clamp, Ready VGA & HDMI Port, Remote Control	Nos	1
7	Client Workstation: Processor: Intel Core i9 9920X upto 4.5 GHz, System Memory (RAM): 8 GB DDR4 (upgradable up to 16 GB),, Optical Drive: DVD+RW, write to CD/DVD, Hard Disk Drives: 1TB SATA (expandable), Network Interface Card (NIC): Dual or compatible pair of NICs, with each port having 1 Gbps capacity., Human Interface: keyboard and a mouse, Port:- USB, VGA, HDMI, Multi card reader, Ethernet port., Graphics Card: 2 GB Internal Graphic Card,, Two USB 2.0 ports • Two USB 3.0 ports, One VGA port (min) • One HDMI port(min), LAN port, Wi Fi, Original Operating System: Windows 10 Professional,	Nos	1
8	VMS Software Including Perpetual License	Nos	25
9	12Ux 600 x 600 MM Rack for Enclosure of Field Switches & Accessories	Nos	4
10	17u x 600 x 600 MM Floor Standing Rack System, Lockable, Front Glass Door, 10 Points Power Distribution Unit, Fan with Fan Tray, Wheel Their Nos, Heavy Duty Self, 100 Hardware Mount Screw	Nos	1
11	FO Cable, Single Mode, Outdoor, 6 Core, True Armoured (Single Length = 2Kms)	Mtr	800
12	24 Port LIU, Indoor Standard, 24 Nos. Loaded Coupler, Pigtail, FO Core Dressing Tray	Nos	5
13	Cat6 Cable	Mtr	1500
14	Fully Loaded 24 Port Patch Panel	Nos	90
15	Cat 6 Patch Cords 1 Mtr	Nos	30

16	RJ 45 Plug, Solid Copper, UTP	Nos	70
17	25 mm U PVC(FRLS) Conduit Heavy Duty, 2MM Thickness	Mtr	1400
18	FO Duplex Patch Cord, Single Mode, 3 Mtrs, LC- SC Type	Nos	10
19	Layer 2 Managed Switch (Gigabit) 24 Port PoE+ 10/100/1000 TX with 4 Nos. 1G SFP Port, Certification: UL, CUL, FCC, EN, ROHS	Nos	1
20	Layer 2 Managed Switch (Gigabit) 16 Port PoE+ 10/100/1000 TX With 2 Nos. 1G SFP Port Certification: UL, CUL, FCC, EN, ROHS	Nos	4
21	SFP Module	Nos	10
22	3 KVA True Online UPS System, Single Phase Input, Single Phase Output, 30 Min Battery Backup, Battery Rack, Interconnecting for Cables for Battery, Surge Protector at UPS End	Nos	1
23	UPS Battery; 12V, 65AH	Nos	8
24	3 Core 1.5 Sq. MM Armoured FRLS Power Cable.	Mtr	400
25	Fiber & Copper & Electrical Cable Pulling & Laying with Stay-Wire, Proper Fixing.	Mtr	4100
26	Installation, Testing, Commissioning & Training of Whole System With 1 Year Maintainace.	Job	1

BILL OF MATERIAL FOR LAN & EPABX SYSTEM

Sr.	Item Description	Unit	Qty
1	Layer 2 switch, 24x10/100/1000Base-T PoE+ Ports, 2x1 G Base-T Uplink-Ports, 4x1G/10G Base-X Uplink Ports from Day 1, 480W PoE Budget, Basic L3 (Static Routing and RIP) With Life Time Hardware Warranty Replacement	Nos	12
2	1000Base-LX SFP Optic SMF, LC Duplex Connector Along with 5 Years Hardware Warranty Replacement.	Nos	8
3	Single AP Adapter License & Support	Nos	24
4	Indoor Dual-Band WiFi-6, 802.11a/b/g/n/ac/ax, Bidir Mu-MIMO Wireless Access Point, 2x2:2 Streams, 100M/1G/2.5G Base-T Multi- Gig Ports, 802.3 af/at PoE Support. Does Not Include Power Adaptor or PoE Injector. Should Include Mounting Bracket for Indoor Wall/Celling Mounting Along with 5 Years Hardware Warranty Replacement.	Nos	24
5	Single Phone License	Set	92
6	IP SIP Desk Phone	Nos	80
7	IP Video Desk Phone	Nos	12
8	6 Core Single Mode Outdoor CSTA optical Fiber cable.	Nos	600
9	12 Port Rack Mount LIU Fully Loaded with SM, SC Adaptor & Pigtails	Nos	4
10	LC-SC Single Mode Fiber Optic Patch Cord, 3 Mtr	Nos	20

11	CAT6 4-Pair UTP Cable	Mtr	8540
12	CAT6 I/O with Single Face Plate and SMB	Nos	200
13	24 Port Patch Pannel Fully Loaded with CAT6 I/O	Nos	12
14	CAT6 UTP Patch Cord-1 Mtr.	Nos	200
15	CAT6 UTP Patch Cord-2 Mtr	Nos	320
16	12U Wall Mount Rack with Standard Accessories.	Nos	4
17	UTP Cable Including Supply of PVC Conduit/Pipe	Mtr	6000
18	Commissioning, Integration, Documentation & Trail Run to Satisfy E.I.C with 1 Year Service Support.	Job	4

BILL OF MATERIAL FOR AUDIO VISUAL SYSTEM

Sr.	Item Description	Unit	Qty
1	Microphones, Shall Have Cardioid Super Cardioid Polar Pattern Reduces Background Noise & Provides an Impressive Gain Before Feedback Shall Have 12-48 V Phantom Power Operation. Capable of withstanding Up to 120 dB SPL With-Out Distortion Shall Have RFI Suppression, Shall Have a Three-Position BASS-TILT Switch: FLAT. CUT, & ROOST. Low-Frequency Response is Adjustable, Polar Pattern: Cardioid Frequency Range: 50 to 20,000 Hz, Impedance: 150 OHMS, Sensitivity: 22 MV/Pa (-30 dBV), Equivalent Noise Level: 22 dB-A	Nos	19
2	ON/OFF Button Waterproof	Nos	19
3	12 x 8 Networked Digital Signal Processor With AEC, Should Have 12 Floating AEC in Group of 4 Channel DSP with 12 Inputs and 8 Outputs, 12 Control Inputs and 6 Logic Outputs for GPIO Integration, 48V Phantom Power on All Analog Inputs, THD: <0.01% 20Hz to 20KHz-10dBu Cutout, Crosstalk: <-75dB. Open Architecture Software Configurable. Separate Logic Processing Power. 2 Digital Audio Bus RJ 45 Port, 1 Ethernet Port for Monitoring and Configuration, Capable to Handle +SV Unloaded logic Output Voltage. Should Have Speech Sense Engine. Capable to Control 3rd Party Devices with TCP IP and RS 232. Should Have Inos of RS 232 Port for Integration with Control System. Should Have Bi- Directional Locate Functionality. Should have 48 or More Digital Audio Channel Bus. Should Have Monitoring LED for COM, STAT, ERR and PWR	Nos	2
4	Wireless Handheld Microphone System with MHZ Carrier sequence Band, up to 16 Pre-Programmed Frequencies Within the Same Frequency Band. Audio Bandwidth 35-20,000 Hz. THD At 1 KHz: <0.3% (Receiver), Signal-To-Noise: 120 dB(A) (Receiver) Wideband FM Modulation, up to 48 Simultaneous Channels, Upto 14 Hours Operation with One Singie AA Battery or Better Pilot Tone Transmission to Know the Transmitter Battery Status. Receiver Should Have Microphone Level and Line Level Output, Transmitter Should Have Display to Show the Battery and LED to Show the Muted Unmuted Status. Sensitivity 6.3 dB V-100 dBm, Should Have Microprocessor- Controlled Diversity T.H.D. 0,7% (Transmitter), Infrared Programmable RF Output Power: 10 or 50 MW	Nos	1
5	Wireless Presenter Microphone System with MHZ Carrier Frequency Band, up to 16 Pre-Programmed Frequencies Within the Same Frequency and. Audio Bandwidth 35-20,000 Hz, THD at i kHz 0.3% (Receiver), Signal-To-Noise: 120 dB(A) (Receiver) Wideband FM Modulation. Up to 48 Simultaneous Channels, Upto 14 Hours operation. with one single AA battery or better Pilot Tone transmission to know the transmitter battery status, Receiver should have microphone level and line level output Transmitter should have display to show the battery and LED to show	Nos	1

Constant Beam width Technology, Line Array Column Loudspeaker with 200 W Power, Built-in 70V/10V0 Transformer, Frequency Range 30 Hz-20 LVLz, Coverage, Vertical Broad Mode: 40°. 6 Horizontal 150° Sensitivity (2.837/elm): 96 dl or better, Power Capacity: 1300W peak and 200W cont. Enclosure: Elberglass reinforced ABS cabinet, Components: ten or more minimum 50 mm (2 in) Full- Range drivers Two-Way 4° Coaxial Celling Loudspeaker. Frequency Range 74 Hz-20 kHz, Power Capacity: 60 Watts, should have 70/10V Transformer taps, Nominal Coverage Angle: 120° conical, Rated Maximum SPL:108 Peak, HF Driver: 19 mm or better, Materials: ABS baffle with UL94-V0 and UL94-SVB flame class fire rating, Safety Agency: UL1480, UL2043, PRP490 & NPR470, 57232/UL listed Eight-channel, 125W @ 40 Power Amplifier, Sensitivity: 1.4 V Rated Power Output (all channels driven): 125W per CH @ 4 ohms. 125W per CH @ 8 ohms. Signal to Noise Ratio (below rated power) 20 Hz to 20 kHz, 4005%, Nos 4/8 ohms.) +/10.5 dl Grosstalk (below rated power) 20 Hz to 12 kHz -0.005%, Nos 4/8 ohms). +/10.5 dl Grosstalk (below rated power) 20 Hz to 12 kHz -0.005%, All Control of the Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain: 27 dl, HCP Control of Utz to 1 kHz) > 55 dl, typically: 70 dl, Voltage Gain Max level 34dl Audio Distal channel bus compatibility up to 8 channel bridgeable channels: even in 100Vrms mode 2digital audio bus RJ 45 port Ethienet RJ 45 port for monitoring and configuration should have Limite		the Muted/Unmuted status, Sensitivity 6.3 dB V/-100 dBm, should have Microprocessor-controlled diversity, T.H.D. 0.7% (Transmitter), Infrared programmable RF output power: 10 or 50 mW		
Matts, should have 70/100V Transformer taps, Nominal Čoverage Angle: 120° conical, Rated Maturi Minam SPL: 108 Peak, HF Driver: 19 mm or better, Materalias: ARS baffle with UIJ-4-VO and UIJ-94-SVB flame class fire rating, Safety Agency: UI.1480, UI.2043, NFPA90 & NFPA70; S7232/UI. Listed Eight-channel, 125W @ 40 Power Amplifier, Sensitivity: 1.4 V Rated Power Output (all channels driven): 125W per CH @ 4 ohms. 125W per CH @ 8 ohms, Signal to Noise Ratio (below rated power 20 Ilz to 20 kIJ-20 Will-20 will be the VIII of the VIII of VIII of VIII of VIII (III lated power, 20 Ilz - 20 kIJ-20 will-20 wi	6	70V/100V Transformer, Frequency Range: 80 Hz-20 kHz, Coverage: Vertical Broad Mode: 40°. Horizontal 150° Sensitivity (2.83V@Im): 96 dB or better. Power Capacity: 1300W peak and 200W cont. Enclosure: Fiberglass reinforced ABS cabinet, Components: ten or more minimum 50	Nos	2
driven]: 125W per CH @ 4 ohms. 125W per CH @ 8 ohms, Signal to Noise Ratio (below rated power 20 Hz to 20 kHz, A-Weighted) 110 dB THD (full rated power, 20 Hz - 20 kHz) < 0.05%, Intermodulation Distortion (from 0 dB down to -30 dB): < 0.05% Frequency Response (at IW, 4/8 ohms): +/ - 0.5 dB Crosstalk (below rated power) 20 Hz to 1 kHz: > 70 dB, Common Mode Rejection (20 Hz to 1 kHz) >: 55 dB, typically: 70 dB, Voltage Gain: 27 dB, IEC Power Connector 15A Audio amplifier with Power output 4 x 600W @ 4 Ohms/8 Ohms 70Vrms and 100Vrms output on all channels THD (at full rated power, 20Hz-20kHz) = 0.35% Cooling Continuously variable speed forced air Voltage Gain Max level 34dB Audio Digital channel bus compatibility up to 8 channel bridgeable channels - even in 100Vrms mode 2digital audio bus RJ 45 port [Etherner RJ 45 port for monitoring Damping Factor (20 Hz to 100Hz): 10000 Room based ITU with standard Video Resolutions H.263, H.263, H.264 High Profile, and H.264 SVC. Resolutions support: 1080p 60 fps for both camera and content for 4 sites with license-based upgradation. HDMI input formats 1920 x 1080 @ 25, 30, 50, 60fps, 1280 x 720 @ 25, 30, 50, 60fps, 1280 x 720 @ 05, 30, 50, 60fps. VGA 1280 x 720 w 25, 30, 50, 60fps. VGA 280 x 720 @ 25, 30, 50, 60fps. VGA 280 x 720 @ 60fps: VGA 64 vul HD camera Resolution: 1080p 60 fps. Optical zoom: Min. 12x optical zoom. Horizontal field of view: min 72°, Video Output USB: YUV2 and MJPEG format 1080p 30/25 fps. 720p 30/25 fps. Video Output HDMI: 1080p 60/50 HZ 720p 60/50 HZ, Camera Control USB, RS-232 In/Out, Autofocus, Auto exposure, auto white balance. Sensor: 172.8° 2 MP CMOS, Audio code: 6.711, 6.728, 6.722, 6.722.1, and 6.722.1 Annex C. Audio eatuputs: 1 x HDMI/HDC1: 1 x 35. mm line jack. Audio 1/0 interface of the VC Room System must support both Digital and Analog Wireless Presentation Gateway for Wireless Content to Main display, supports 2X HDMI Output, supports 1080p Resolution, Frame 11 Rate: 30FPS, Airplay, Miracast, and Google Cast so users can easily share	7	Watts, should have 70/100V Transformer taps, Nominal Coverage Angle: 120° conical, Rated Maximum SPL:108 Peak, HF Driver: 19 mm or better, Materials: ABS baffle with UL94-V0 and UL94-5VB flame class fire rating, Safety Agency: UL1480, UL2043, NFPA90 & NFPA70; S7232/UL	Nos	8
on all chamnels THD (at full rated power. 20Hz-20kHz) = 0.35% Cooling Continuously variable speed forced air Voltage Gain Max level 34dB Audio Digital channel bus compatibility up to a channel bridgeable channels - even in 100Vrms mode 2digital audio bus RJ 45 port [Ethernet RJ 45 port for monitoring and configuration Should have Limiters. Input/output EQ, Delay Matrix Mixer Speaker Line Monitoring Damping Factor (20 Hz to 100Hz): >1000 Room based ITU with standard Video Resolutions H.263, H.263, H.264 High Profile, and H.264 SVC. Resolutions support: 1080p 60 fps for both camera and content for 4 sites with license-based upgradation. HDMI input formats 1920 x 1080 @ 25, 30, 50, 60fps, 1280 x 720 @ 25, 30, 50, 60fps. Vad Voltage (20 Ex) (20 Ex) (3, 50, 60fps Star (20 Ex) (2	8	driven): 125W per CH @ 4 ohms. 125W per CH @ 8 ohms, Signal to Noise Ratio (below rated power 20 Hz to 20 kHz, A-Weighted) 110 dB THD (full rated power, 20 Hz - 20 kHz) <0.05%, Intermodulation Distortion (from 0 dB down to -30 dB): < 0.05%. Frequency Response (at IW, 4/8 ohms): +/- 0.5 dB Crosstalk (below rated power) 20 Hz to 1 kHz: > 70 dB, Common Mode Rejection (20 Hz to 1 kHz) >: 55 dB, typically: 70 dB, Voltage Gain: 27 dB, IEC Power Connector	Nos	2
SVC. Resolutions support: 1080p 60 fps for both camera and content for 4 sites with license-based upgradation. HDMI input formats 1920 x 1080 @ 25, 30, 50, 60fps, 1280 x 720 @ 25, 30, 50, 60fps, HDMI output formats 1280 x 720 @ 25, 30, 50, 60fps, 1280 x 720 @ 25, 30, 50, 60fps, 1280 x 768@60fps: WSXGA, 101280 x 1024 @ 60fps: SXGA, 1280 x 720 @ 25, 30, 50, 60fps, 1280 x 768@60fps: WXGA, 1024 x 768 @ 60fps: XGA, 280 x 600 @ 60fps: SVGA. 640 x 480 @ 60fps: VGA Full HD camera Resolution: 1080p 60 fps. Optical zoom: Min. 12x optical zoom, Horizontal field of view: min 72°, Video Output USB: YUV2 and MJPEG format 1080p 30/25 fps, 720p 30/25 fps. Video Output HBDMI: 1080p 60/50 HZ 720p 60/50 HZ, Camera Control USB, RS-232 In/Out, Autofocus, Auto exposure, auto white balance. Sensor: 1/2.8" 2 MP CMOS, Audio codec - G.711, G.728, G.722, 1, and G.722.1 Annex C. Audio features - 1x POD for covering a large room. Acoustic echo canceller, Independent AEC for each microphone, Automatic Gain Control (AGC) Audio inputs: HDMI and 2 other inputs - Audio outputs: 1 x HDMI/HDCI: 1 x 3.5 mm line jack. Audio 1/O interface of the VC Room System must support both Digital and Analog Wireless Presentation Gateway for Wireless Content to Main display, supports 2X HDMI Output, supports 1080p Resolution, Frame 11 Rate: 30FPS, Airplay, Miracast, and Google Cast so users can easily share content from mobile devices or PC Minimal Proprietary Compression Video Over IP Encoder with PoE, AES67/Dante Support, Video scaling at output allows seamless switching from any source, at any resolution, to any display or projector, while preserving video fidelity. Digital Video Input: HDMI, DVI-D (through adapter), RGB/VGA Analog Video Input: HD- 15 VGA, Component, Formats: HDMI DVI-D (through adapter), Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D (DADA DADA DADA DADA DADA DADA DADA D	9	on all channels THD (at full rated power. 20Hz-20kHz) =0.35% Cooling Continuously variable speed forced air Voltage Gain Max level 34dB Audio Digital channel bus compatibility up to 8 channel bridgeable channels - even in 100Vrms mode 2digital audio bus RJ 45 port Ethernet RJ 45 port for monitoring and configuration Should have Limiters. Input/output EQ, Delay Matrix	Nos	1
Wireless Presentation Gateway for Wireless Content to Main display, supports 2X HDMI Output, supports 1080p Resolution, Frame 11 Rate: 30FPS, Airplay, Miracast, and Google Cast so users Minimal Proprietary Compression Video Over IP Encoder with PoE, AES67/Dante Support, Video scaling at output allows seamless switching from any source, at any resolution, to any display or projector, while preserving video fidelity. Digital Video Input: HDMI, DVI-D (through adapter), RGB/VGA Analog Video Input: HD- 15 VGA, Component, Formats: HDMI DVI-D (through adapter), Dual-Mode DisplayPort, (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual	10	SVC. Resolutions support: 1080p 60 fps for both camera and content for 4 sites with license-based upgradation. HDMI input formats 1920 x 1080 @ 25, 30, 50, 60fps, 1280 x 720 @ 25, 30, 50, 60fps, HDMI output formats 1280 x 720 @ 25, 30, 50, 60fps Data /Content Resolutions on DVI - 1440 x 900 @ 60fps: WSXGA, 10 1280 x 1024 @ 60fps: SXGA, 1280 x 720 @ 25, 30, 50, 60fps, 1280 x 768@60fps: WXGA, 1024 x 768 @ 60fps: XGA, 800 x 600 @ 60fps: SVGA. 640 x 480 @ 60fps: VGA Full HD camera Resolution: 1080p 60 fps. Optical zoom: Min. 12x optical zoom, Horizontal field of view: min 72°, Video Output USB: YUV2 and MJPEG format 1080p 30/25 fps, 720p 30/25 fps. Video Output HDMI: 1080p 60/50 HZ 720p 60/50 HZ, Camera Control USB, RS-232 In/Out, Autofocus, Auto exposure, auto white balance. Sensor: 1/2.8" 2 MP CMOS, Audio codec - G.711, G.728, G.722, G.722.1, and G.722.1 Annex C. Audio features - 1x POD for covering a large room. Acoustic echo canceller, Independent AEC for each microphone, Automatic Gain Control (AGC) Audio inputs: HDMI and 2 other inputs - Audio outputs: 1 x HDMI/HDCI: 1 x 3.5 mm line jack. Audio I/O interface of the VC Room System must	Nos	1
Minimal Proprietary Compression Video Over IP Encoder with PoE, AES67/Dante Support, Video scaling at output allows seamless switching from any source, at any resolution, to any display or projector, while preserving video fidelity. Digital Video Input: HDMI, DVI-D (through adapter), RGB/VGA Analog Video Input: HD- 15 VGA, Component, Formats: HDMI DVI-D (through adapter), Dual-Mode DisplayPort, (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++), Progressive Input Resolutions: HD up to 1920x1200. On Board: - Infrared emitter connection, Analog-to-Digital Conversion: 8-bit 165 MHz per each of three-color channels, Input Signal Types: Analog Stereo (Balanced or Unbalanced), Latency: 10 ms at 60 fps, Ethernet: 10/100/1000 Mbps, auto-negotiating, auto-sensing, full/half duplex, DHCP, Auto IP, and Static IP. Regulatory Compliance: FCC, CE, and NTRI. Minimal Proprietary Compression Video Over IP Decoder with Output Scaling - Video Scaling at Output Allows Seamless Switching From any Source, at Any Resolution, to Any Display or	11	Wireless Presentation Gateway for Wireless Content to Main display, supports 2X HDMI Output, supports 1080p Resolution, Frame 11 Rate: 30FPS, Airplay, Miracast, and Google Cast so users	No	1
Minimal Proprietary Compression Video Over IP Decoder with Output Scaling - Video Scaling at Output Allows Seamless Switching From any Source, at Any Resolution, to Any Display or	12	Minimal Proprietary Compression Video Over IP Encoder with PoE, AES67/Dante Support, Video scaling at output allows seamless switching from any source, at any resolution, to any display or projector, while preserving video fidelity. Digital Video Input: HDMI, DVI-D (through adapter), RGB/VGA Analog Video Input: HD- 15 VGA, Component, Formats: HDMI DVI-D (through adapter), Dual-Mode DisplayPort, (DP++). HDCP content protection support, RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++), Progressive Input Resolutions: HD up to 1920x1200. On Board: - Infrared emitter connection, Analog-to-Digital Conversion: 8-bit 165 MHz per each of three-color channels, Input Signal Types: Analog Stereo (Balanced or Unbalanced), Latency: 10 ms at 60 fps, Ethernet: 10/100/1000 Mbps, auto-negotiating, auto-sensing, full/half duplex,	Nos	5
	13	Minimal Proprietary Compression Video Over IP Decoder with Output Scaling - Video Scaling at	Nos	

	Projector, While Preserving video fidelity. On Board - Infrared Emitter Connection. Decoder Features Two RJ45 Network Ports (One PoE), Digital Video Input Network Video Over Ethernet Via RJ45 port or Fiber via IG SFP Port Video Output: HDMI, DVI-D, Input Signal Types Network Video Over Ethernet via RJ45, HDMI Audio Formats: 8ch PCM. Analog Audio Format: Stereo 2-Channel, Digital-to-Analog Conversion 16-bit 32 kHz, 44.1 kHz and 48 kHz", Latency: 10 MS at 60 fps, AES67/Dante Support, Ethernet 1: 10/100/1000 Mbps, Auto-Negotiating, Auto-Sensing, Full/Half Duplex, DHCP, Auto IP, and Static IP", Ethernet 2: 10/100/1000 Mbps, Auto Negotiating, Auto-Sensing, Full/Half Duplex, DHCP, Auto IP, and Static IP. Regulatory Compliance: FCC, CE, and NTRI.		
14	4x1 Windowing Processor + Stacking Video Feature with Multiple Window Layouts Can be Stored a Preset and Quickly Recalled Using a Control System. The Videos Animate Between the Different Layout's Configurations. Built-in Audio Matrix Switch Allows Selection of any Audio Stream for Windowing Processor output. Input Resolutions: Input Stream Pixel Clock Between 27 MHz - 165 MHz, Minimum Resolution of 640x480p, Maximum Horizontal resolution of 1920 or a Vertical resolution of 1200, Output Resolutions HD up to 1920x1200. Color Space: 4:2:2. LATENCY @ 1080p: 50 MS at 60 fps. WINDOWING: Maximum Number of Windowed Videos 4, Built-in Presets Sound, P-in-P. 3-Stack, Full-1, Maximum of Custom Presets: 1000	Nos	1
15	Audio Over IP Transceiver with Input: 2-Channel User Selectable Balanced or Unbalanced Audio Output: 2-Channel Balanced Audio 2-Channel Unbalanced Audio (Headphone Jack), Analog-To-Digital Conversation: 16-bit 32 kHz. 44.1 kHz and 48 kHz. LATENCY: Audio 20ms. Ethernet: Multi-cast, Unicast, IGMP v3, IPv6, Layer-2 and Layer-3 switch compatible. Network port-8-wire RJ-45 female. 10/100/1000 Mbps 10/100/1000Base-T auto-sensing gigabit Ethernet switch port.	Nos	1
16	Integrated Controller With Power Supply with Dual Network Interface Card, Should Support IPv6, Should Supports IEEE Standard for Port-Based Network Access Control with the Ability to Grant or Deny Network Access to Devices Wishing to attach to a LAN Based on Credentials Tied to the Device Rather Than to a User, Should Have High Performance Architecture, Flexible Programming Platform (Java)- Should Have Ability to Manage Secure Port TLS and SSH 16 Communications with a Remote Device or Server, Enhanced Diagnostics On Serial and IR Ports, Hardware/Software Should be Built for 24/7/365 Operation. Should have Ultra-Fast 1600 MBPS Processor, 512 MB Onboard RAM, IM Non-Volatile Memory, 8 GB SDHC FLASH Memory, I RU Rack Space, 10/100 LAN Interface, 8 x Digital I/O Ports, 2x RS-232/422/485 Port, 6x RS-232-Only Ports, 8x IR/Serial Output Ports, 8x Relay Ports, Regulatory Compliance: UL 60950-1 and RoHS, WEEE	Nos	1
17	7" Tabletop/Wall Mount Touch Panel fully configurable. Capacitive Touch Screen, Built-in Web Browser and document Viewers Adjustable Security Modes	Nos	1
18	28 Ports POE+ Network Switch Shall be IGBPS Capable Per Port Shall Have 300W or More Power Dedicated to POE	Nos	1
19	3x2 Full HD Video Wall Considering 49" IPS, LED, FHD Panel, Hard Coating. Anti-Glare Surface Treatment. Height-411, X Width-7.2 11. Approx, Bezel Width: Less than 1 mm (L/T/R/B) Even Bezel, Brightness: 500 cd/m2 or Higher. Dynamic CR: 500000:1. Built in System - 1.2Gzh Quad Core CPU, 550MHz GPU, 2.5GBDDR3 RAM & 8GB Storage or Higher, SRC, Typical Power Consumption 120W or Less Per Panel, at Least 15x15 Tile Mode, Weight Per Panel Not More than 18KG, USB Cloning	Nos	6
20	Videowall Retractable Bracket	Nos	5
21	43" 4K Commercial Edge LED Smart Display with Commercial Smart Home, Web Browser, Pre-Loaded Apps. Connectivity: Soft AP, Wi-Fi (AC), Screen Share (Miracast), Smart Share, DIAL, Bluetooth Sound Sync, Sound Sync, Interface: HDMI In, USB 2.0, USB 3.0, CI Slot, RF In, AV In, Video Component In (Phone Jack Type). Digital Audio Out (Optical), HDMI Input, RS-232C, Headphone Out, Clock Interface, RJ45 (2). External Speaker Out (2). Built in OS	Nos	4
22	15.6" Portable 1080P Monitor USB C 60W Power. 22 Mini HDMI for Conference Table	Nos	1

23	HDMI 2M Cable	Nos	15
24	HDMI SM Cable	Nos	4
25	CAT6 UTP IM Patch Cord	Nos	44
26	Popup box/ Cable cubby with necessary power, VGA & HDMI cable	Nos	2
27	CAT6 UTP Cable with PVC Conduit	Mtr	200
28	Interconnects & Connectors	Lot	1
29	23/36 Microphone/Signal Cable-90 Mtrs Roll	Lot	1
30	2 Core, 2.5 Sq.mm Cable	Lot	1
31	Equipment Rack with Necessary Accessories	Nos	1
32	Trail Run of the Entire System as Per the Requirement	Month	3

SECTION - I

TECHNICAL SPECIFICATION WITH COMPLIANCE STATEMENT

(Tender No. WTL/NDITA/ICT/23-24/077)

Minimum Technical Specification

5 MP Vandal proof IR Dome Camera

Make:					
Mod	Model: Part No.				
Sl no.	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Type	5MP Motorized V/F IR Dome			
2	Image Resolution	2560 x 1920			
3	Video Compression	H.265, H.264, MJPEG			
4	Image Setting	Rotate Mode, Saturation, Brightness, Contrast, time stamp, text overlay, flip & mirror, Sharpness adjustable by client software or web browser, ROI			
5	Memory Capacity	1GB RAM and 512MB Flash			
6	Iris Control	P-Iris			
7	Stream Capability	Tertiary stream			
8	Stream 1	2560 x 1920			
9	Stream 2	1280 x 720			
10	Stream 3	704 X 576 (15fps)*			
11	Image sensor type	1/2.8" Progressive Scan CMOS Sensor			
12	Lens	2.7-13.5 mm , Motorized vari-focal Lens, or better			
13	Shutter Speed	1/4s to 1/30000, Supports Slow Shutter			
15	Day & Night	True Day Night (TDN) with automatic removable cut filter			
16	Built-in IR lighting	IR with minimum 50 meters range,			
17	Max. frames per second (fps)	30fps @ all resolution			
18	Image Features	Multiple Exposure Method, 2D/3D DNR			
17	Corridor Pattern	Should Support			
18	Bitrate supported	VBR, CBR & CVBR			
19	Audio	Bi-directional audio (2-way)			
20	Audio I/O	1IN/10UT			

21	Audio Noise Reduction	Supported	
22	Audio Compression	G.711a/G711ulaw/G.711u/AAC	
23	Communication Interface	1 RJ45 10M/100M self-adaptive ethernet port	
24	Protocol	TCP/IP, IPv4, IPv6, TCP, UDP, HTTP, FTP, DHCP, DNS, DDNS, RTP, TLS, RTSP, ICMP, Unicast, Multicast, NTP, SMTP, SNMP, CIFS, FSTP, UPnP, SIP	
25	Cyber Security	Special measures have been put in place to ensure the highest level of security for device access and data transport, Forces Complex password, Secure boot, The 802.1x network authentication with EAP/TLS, supports TLS 1.2 with updated cipher suites including AES 256 encryption. Security Overview Page (status and configuration); RTSP Authentication, Web browser access can be protected using HTTPS and firmware updates can also be protected, Remote Accessible Audit logs; Role-Based Access Control.	
26	Online Connection	Support simultaneous monitoring for up to 10 users	
27	Pre-Alarm Recording	Supported	
28	Wide Dynamic Range	True WDR, 120dB	
29	AI Object Analytics	Abandoned / Removed, Enter, Exit, Crowd, Queue, Object Detected, Intrusion, Linger, Dwell Classification: Person, Motorbike, Bicycle, Car Sub-Classification: Vehicle Colour, Person Clothing Colour	
30	Tamper Detection	Blackout, Whiteout, Scene Change (FoV tamper)	
31	Event Triggers	Snapshots, SD Card Record, SIP Call , FTP Upload, CIFS, SMTP, Audio clip playback	
32	ONVIF conformant	ONVIF Profile S, G,T & M	
33	Video Privacy	8 zones video mask	
34	Alarm	Alarm IN x 1, Alarm OUT x 1	
35	Alarm Triggers	Motion detection, AI video analytics, Blur and Tamper Ai, Alarm input	
36	AI Blur Detection	Blackout, Whiteout, Scene Change (FoV tamper)	
37	Edge Storage	Built-in micro SD card slot, up to 1 TB (Encrypted Storage)	
38	Record Triggers	Motion detection, AI video analytics, Blur and Tamper AI, Alarm input	

39	Motion Detection Zones	3 Zones	
40	Power Supply	PoE/12VDC. The Camera should support power supply redundancy without rebooting the Camera.	
41	Operating Temperature & Humidity	Temperature: 0 °C to +60 °C, Humidity: 90% or less (non-condensing)	
42	Protectection Level	IP67,IK10	
43	Certification	CE, FCC, UL	
44	Make	Any globally reputed Manufacturer presence in India.	

Smoke and Fire Detection License

Make:				
Model: Part No.				
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Input video quality	The input video quality must be of sufficient resolution, clarity, and frame rate to enable the detection of fire and smoke. A minimum of 720p resolution and 15 frames per second (fps) is recommended.		
2	Fire and smoke detection algorithms	The algorithms should be based on machine learning models trained on large datasets of images and videos of fires and smoke. Alert is generated if the fire is on vehcile or person.		
3	Accuracy	The system should be able to detect fire and smoke with high accuracy and low false-positive rates. The accuracy can be measured using metrics such as precision, recall, and F1 score.		
4	Real-time performance	The system should be able to perform fire and smoke detection in real-time, with minimal delay or lag. This requires efficient algorithms and hardware with high processing power.		
5	Sensitivity Alert generation	The system should be adjustable for sensitivity levels. Sensitivity levels are determined by how strict the criteria for fire and smoke detection are. For example, a high sensitivity level may result in more false positives, while a low sensitivity level may result in more false negatives. The system must have the capability to issue real-time alerts upon detecting smoke or		

		flames. These alerts should be customizable to initiate various actions, such as activating an alarm or sending notifications to security personnel. Additionally, the system should include fire extinguisher detection to highlight the nearest fire extinguisher in the vicinity of the fire, aiding operators in making rapid decisions.	
6	Integration	The fire and smoke detection system should be easily integrated with other security systems, such as access control systems and surveillance cameras, using Open APIs	
7	Technical Parameters	These technical parameters can help ensure that a fire and smoke detection system using AI-based video analytics is accurate, reliable, and effective.	
8	Software Requirements	The system will require software to perform image processing, deep learning, and decision-making. These components will be built using popular libraries such as OpenCV, TensorFlow. The software will be designed to run on a Linux operating system and can be integrated with existing building management systems.	
9	Make	Any globally reputed Manufacturer presence in India.	

Server for VMS

Make	9:			
Mode	el:	Part No.		
Sl no.	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Main Processor	Gen 4 Intel Core i7		
2	Operating System	Windows or Linux support		
3	IP Camera Input	64 CH		
4	Display Interface	1 HDMI, 1 VGA		
5	Incoming and outgoing Bandwidth	Minimum 500 Mbps or better		
6	Video compression	MJPEG, MPEG-4, H.264, H.265		

7	Network	2x 1 Gbps		
8	USB 3.0 ports	6		
9	HDD Bay	8 or better		
10	Max Storage support	Upto 96TB or better		
11	Operating system drive	256 GB SSD or better		
12	RAM	16 GB/32 GB or better		
13	Mounting	Rack Mounted		
14	Input Voltage	120/240 VAC		
15	Operating Temperature	5° - 35°C		
16	Certification	CE, FCC, UL,BIS		
17	NDAA Compliant	Yes	· · · · · · · · · · · · · · · · · · ·	
18	Make	Any globally reputed Manufacturer presence in India.		

Server for Analytics

Make	2:			
Mode	Model: Part No.			
Sl no	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Processor:	Intel Core i7-11700		
2	Memory	16GB (2x8GB) DDR4 RAM		
3	Operating System:	Ubuntu Linux		
4	Graphics Card :	Triple Nvidia Quadro RTX 4000, 8GB		
5	Power:	Dual, Hot-plug, Redundant Power Supply (1+1), 1600W		
6	Storage:	500 / 512 GB SSD 2TB		
11	Make	Any globally reputed Manufacturer presence in India.		

Surveillance HDD

Make	Make:				
Mode	el:	Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Interface	SATA 6 Gb/s			
2	Recording Technology	CMR			
3	Drive Design	Air			
4	Drive Bays Supported	Up to 16			
5	Cameras Supported	Up to 64			
6	RV Sensors	Yes			
7	Max Sustained Transfer Rate OD (MB/s)	180MB/s			
8	Cache (MB)	256MB			
9	Tarnish Resistant	Yes			
10	Load/Unload Cycles	600,000			
11	Nonrecoverable Read Errors Rate, Max	1 per 10E14			
12	Power-On Hours per year	8,760			
13	Workload Rate Limit (WRL) 1	1000000 hr			
14	Warranty, Limited (years)	3			
15	Rescue Data Recovery Services (years)	3			
16	Average Operating Power (W)	5.3 W			
17	Standby Mode/Sleep Mode, Typical (W)	0.25 W			
18	Voltage Tolerance (5V)	±5%			
19	Voltage Tolerance (12V)	±10%			
20	Operating (ambient, min °C)	0°C			
21	Operating (drive reported, max °C)	65°C			
22	Make	Any globally reputed Manufacturer presence in India.			

55 Inch Commercial LED TV

	Make:				
Mode	el:	Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Screen SizeC2:D2C2:D25	55"			
2	Panel Technology	IPS			
3	Native Resolution	3,840 × 2,160 (UHD)			
4	Brightness (Typ.)	500 nit			
5	Contrast Ratio	1,100:1			
6	Dynamic CR1)	1000,000 : 1			
7	Color Gamut	BT709 95 %			
8	Viewing Angle (H × V)	178 × 178			
9	Color Depth	1.07 Billion Colors (10 bit)			
10	Response Time	8 ms (G to G)			
11	Surface Treatment (Haze)	Haze 3 %			
12	Operation Hours (Hours / Day)	24 / 7			
13	Orientation	Portrait and Landscape			
14	Input	HDMI (2, HDCP 2.2/1.4), HDMI (1, HDCP 1.4), DP (1, HDCP 2.2/1.3), DVI-D (1, HDCP 1.4), Audio, USB 2.0 Type A			
15	Output	DP, Audio			
16	External Control	RS232C (4 Pin Phone Jack) In / Out, RJ45 (LAN) In, IR In			
17	Bezel Width	9.9 mm (T/R/L), 14.4 mm (B)			
18	Bezel Color	Black			
19	Weight (Head)	19.0 kg			
20	Key Feature	Internal Memory (16 GB), Built-in Wi-Fi, Temperature Sensor, Auto Brightness Sensor, Acceleration (Gyro) Sensor, Local Key			

		Operation, webOS 4.1, Embedded CMS (Local Contents Scheduling, Group Manager), USB Plug & Play, Fail Over, Background Image (Booting Logo Image, No Signal Image), Sync Mode (RS-232C Sync, Local Network Sync), Multi-Screen (PIP, PBP (4)), Screen Share, Video Tag (4), Play via URL, Rotation (Screen Rotation, External Input Rotation), Gapless Playback, Tile Mode Setting (Max. 15 × 15), Setting Data Cloning, SNMP, ISM Method, Auto Set ID, Status Mailing, Control Manager, Crestron Connected®2), Smart Energy Saving, PM Mode, Wake on LAN, Beacon, HDMI-CEC3), SI Server Setting, webRTC, Pro:Idiom	
21	Operation Temperature	0 °C to 40 °C	
22	Operation Humidity	10 % to 80 %	
23	Power Supply	AC 100 - 240 V ~, 50 / 60 Hz	
24	Power Type	Built-in Power	
25	Power Consumption Typ/Max	110 W / 150 W	
26	Speaker	Built-in (10 W × 2)	
27	Safety	CB / NRTL	
28	ЕМС	FCC Class "A" / CE / KC	
29	ERP / Energy Star	Yes / Yes	
30	Make	Any globally reputed Manufacturer presence in India.	

Client Workstation PC

Make	Make:				
Mode	el:	Pat No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Form factor	Tower Type			
2	Operating System	Windows 11 or Latest OS for Workstations 64 Bit Installed			

3	Processor & Chipset	Latest Generation Intel i7 - 12700 processor, 2.1 GHz Turbo Boost Technology or Latest	
4	RAM	32 GB DDR4-3200 SDRAM or better	
5	Graphics Card	NVIDIA (4 GB dedicated) or Equivalent	
6	Storage	1 TB Sata HDD & 512 SSD	
7	Mouse	Wireless Optical Mouse	
8	Keyboard	Wireless Keyboard	
9	Network	Onboard Gigabit (10/100/1000 Mbps) Ethernet Controller	
10	Make / Brand	Any globally reputed Manufacturer presence in India.	
11	Make	Any globally reputed Manufacturer presence in India.	

VMS Software Including Perpetual License

Make	Make:			
Mode	Model: Part No.			
Sl. No	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	The Video Management System (VMS) software shall be used to view live and recorded video from capture cards and IP devices connected to local and wide area networks. The VMS software shall have a client/server-based architecture that can be configured as a standalone VMS system with the client software running on the server hardware and/or the client running on any network-connected TCP/IP workstation. Multiple client workstations shall be capable of simultaneously viewing live and/or recorded video from one or more servers. Multiple servers shall also be able to simultaneously provide live and/or recorded video to one or more workstations.			
2	The VMS shall be supplied with minimum 100 nos of thick clients and 16 mobile clients			
3	Recording of all video transmitted to the VMS shall be continuous, uninterrupted and unattended			
4	The VMS system shall offer the capability of video motion detection recording, such that video is recorded when the NVRMS detects motion within a region of interest of the camera's view. Video prior to the detection of the motion shall also be stored with recording using the prerecorded feature.			

	It should also provide following feature:	
5		
	Suspect Tracking: Configure camera links between cameras to follow a	
6	suspect between different camera scenes	
	Archive bookmarks: Specifically archive bookmarked video to create a	
7	second copy of important video and avoid using limited WAN bandwidth	
	Inactivity timeout: Save bandwidth with blacked out video panels after	
8	inactivity timeout: Save bandwidth with blacked out video panels after	
	The VMS system shall manage the video it has been configured to	
9	monitor. Loss of video signal shall be configured to annunciate on VMS	
	client by an on-screen visual indication alerting operators of video loss.	
	The VMS software shall have an open architecture supporting IP	
	cameras and encoders from multiple manufacturers providing best-of-	
10	breed solutions ranging from low-cost, entry-level features to high-	
	resolution, megapixel features	
	The VMS client software shall be able to view live video and audio,	
11	recorded video and audio and be able to configure the complete system	
	all from a single application	
	The VMS client software shall have the same functionality when	
12	connected remotely as it does when it is run locally on the same	
	computer as the server software	
10	The VMS client software shall operate on all of the following operating	
13	systems: Windows, Linux, Mac OSX	
	The VMS software shall allow the user to have any combination of VMS	
	client applications running on any of the supported operating systems	
	and be able to connect to any of the VMS servers running on any of the	
	supported operating systems. For example, a VMS client running on	
	Microsoft Windows 7 shall be able to simultaneously connect to four (4)	
	different VMS servers all running on different operating systems, such as	
	Windows Server 2003, Windows XP, Vista and Linux	
	The VMS software shall have the capability to run multiple client	
	applications simultaneously on one workstation with multiple monitors.	
	Up to 12 monitors shall be configured on a single workstation with one	
14	(1) client application running on each monitor. Because decompressing	
	video is CPU-intensive, the PC workstation shall have multiple core	
	processors with a recommendation of one core for each VMS client	
	application.	
	The VMS shall also allow an authorized user to view video through a web client interface. The web client interface shall allow authorized users to	
15		
13	view live video, view recorded video, control pan-tilt zoom (PTZ) cameras and activate triggers. The web client interface shall allow	
	connections to multiple VMS servers simultaneously	
	The web client interface shall operate without requiring installation of	
16	any software	
	When using the web client interface, the VMS server shall transcode the	
17	video into a JPEG file of the size as the browser screen before sending it	
1/	to the browser	
	The web client interface shall support the following browsers: IE,	
18	Firefox, Opera, Safari, Chrome and shall be compliant with HTML 4	
L	1 1 2 2 3 3 5 2 4 4 5 4 4 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	

	The VMS server software shall record and retrieve video, audio and		
19	alarm data and provide it to the VMS clients upon request		
	The VMS software shall provide a purpose built mobile application		
	capable of viewing multiple simultaneous live video streams and playing		
20	a recorded video stream. Application shall be provided for both iOS and		
	Android operating systems. Min. 5 mobile clients to be supplied at each		
	location.		
24	The VMS server software shall operate on any of the following operating		
21	systems: Windows, Linux		
	The VMS server software shall record video based on metadata		
22	generated by an edge network device. The edge network devices shall		
22	generate the metadata and transmit it with the video stream to the VMS		
	server software		
	The VMS shall license the total number of cameras on the system. This		
23	license shall be based on the MAC address of a single network card that		
23	is present on the system. The VMS shall only require that this network		
	card be enabled and does not require that data is actually sent through it		
	The VMS shall be able to use the Active Directory or LDAP features of a		
24	network to authenticate users and determine which permissions they		
	will have on each server.		
	The VMS shall allow the use of maps. The maps will be accessible to		
25	users with the appropriate permission levels and display video sources		
	and their status		
	The VMS shall allow maps to be embedded inside of maps (i.e.		
	hierarchical or nested maps). When an event happens on a map that is		
	embedded inside of a map, it shall transmit the alert to all parent maps		
	and change the color of the icon on the parent map and all subsequent		
	parent maps		
26	The VMS allows soft triggers to be placed, viewed and triggered from a		
	map		
	The VMS shall have a single page that displays the status of all servers		
27	and cameras currently connected. This page shall display any alarms,		
	events, MAC addresses, camera configuration, format and frame rate		
	from each individual camera		
20	When in live display mode, the user shall be able to view live video, live		
28	audio, point of sale (POS) data and alarm information		
	The VMS shall provide an option to view 16:9 wide video display panels		
29			
	The VMS shall allow the customization of the user interface to allow		
	software triggers to be shown. This shall allow them to activate events		
	through the push of a button, which could trigger recording, PTZ presets,		
	output triggers or email The VMS software shall allow control of DTZ compress to sutherized years.		
	The VMS software shall allow control of PTZ cameras to authorized users		
30	and be used to maneuver a PTZ camera. When used on a non-PTZ		
	camera, it shall allow you to digitally pan, tilt and zoom on any video whether in live or recorded mode.		
	The VMS shall allow following methods of controlling a PTZ camera to be		
l	The visio shall allow following inections of controlling a FTZ callera to be		l

31	available:	
	- PTZ graphics control windows	
	- Live graphic overlay PTZ control icons	
	- Keyboard control (up, down, left, right arrows; page up, page down	
	for zoom)	
	- PTZ presets	
	- Digital PTZ	
	- USB joystick to control PTZ cameras	
	Proportional PTZ control by clicking the mouse in the center and moving	
	it	
	The VMS software shall allow virtual matrix functionality by designating	
32	a cell to do so. This video cell shall automatically show video as it is	
	triggered	
	The VMS software shall have a feature for viewing logical groups of	
33	cameras. This shall allow efficient viewing of cameras in a logical order	
	The VMS software shall have a feature to organize your cameras into	
	preset views. Views are preconfigured arrangements of the video panels	
34	so that they may be easily recalled later. A view can save the location of	
	the video streams, audio streams, maps and event views. These views	
	shall be accessible in both live and recorded video modes	
	The VMS software shall have the capability to automatically cycle	
35	through two or more saved views to create a video tour. The VMS shall	
	allow the configuration of the dwell time and the different views it shall	
	use The VMS software shall support searching through recorded video based	
36	on time, date, video source and image region and have the results	
30	displayed as both a clickable timeline and a series of thumbnail images	
	The VMS software shall have the capability to export video, maps, and	
37	audio files	
	The VMS software shall provide the option of exporting the file in the	
	following formats:	
	- Standalone Exe (*.exe) – includes an executable player with the	
38	video and audio data	
	- AVI File (*.avi) – a multimedia container format	
	1. PS File (*.ps) – a format for multiplexing video and audio	
	The VMS standalone player shall package all of the exported video into a	
39	single executable. The VMS standalone player shall be able to	
39	authenticate that the video has not been tampered with using a keyed	
	Hash Message Authentication Code (HMAC)	
	The VMS system shall be able to display system information about users	
40	that are currently logged into the system, plug-in file version information	
10	number and status, and a system log that contains a detailed history of	
	the processes that occur on the system	
	The VMS system shall have the ability to record an audit trail of when	
41	users log in that shows what changes they have made, what video they	
	have viewed and what they have exported	
	The VMS shall allow monitoring of the inputs on both network devices	
42	and on manufacturer provided hardware. The VMS shall also allow	
	triggering of outputs on the network devices and manufacturer provided	

	hardware	
43	The VMS shall allow for the configuration of what drives to use for recording video. Those drives may be local drives, direct attached storage drives or iSCSI drives	
44	The VMS shall not require a database when recording video	
45	The VMS shall have the ability to receive ASCII data through the COM port on the server or over the network	
	The VMS shall have the ability to look for keywords in the ASCII data and use these to execute various events such as PTZ presets, recording video, recording audio and sending email notifications	
	The VMS software shall be able to send a predefined email based on an event trigger. The VMS software shall also support SSL and TLS connections for transmissions of the mail.	
46	The VMS software shall have a feature to export a video segment from specific cameras or audio inputs to a CD or DVD upon an input trigger or other event being activated.	
47	The VMS software shall be used to connect different types of events, such as input triggers, to a desired action such as recording video or triggering an alarm. The VMS software shall recognize the following event types: Video Motion, Video Loss, Input Trigger, Health, IP Camera Connection, Software Trigger and Analytics	
48	The VMS client shall be able to use OpenGL and Direct 3D to decompress and render video.	
49	The VMS software shall allow the user to input time-based triggers through event monitoring, including the time of day and day of week	
50	Camera preview Style e.g Hovering	
51	Video Pane must be identify by color e.gMotion,Alarm,FreeRun,PTZ Focused, Book Marked	
52	VMS has Video Push feature to another Client desktop simultaneously	
53	Support mainstreaming to manage all quality stream	
54	Server and Client must be run on single machine another client machine not Required.	
55	Support configuration of multiple DNS servers	
56	At least 60 second timeout for out of schedule login failure	
57	Support analytic metadata in live and search	
58	Support Video Wall	
59	Search and display analytic meta data when searching analytic event linkages	
60	VMS shall support CIFS and NFS network shares for archive target locations	
61	All streams can be individually configurable for recording schedules and storage rules	
62	configurable recording of video prior to the detection of the motion	

63	The VMS shall support a graphical representation of drive status for associated RAID-based storage	
64	The VMS shall support local HDD disk storage	
65	The VMS shall support iSCSI extended storage whereby a remote storage unit can appear as a local drive	
66	support Map Functionality and multi-level mapping	
67	Support bookmarking feature shall allow the tagging, naming, and retention of video clips	
68	Make: Same as CCTV	

12U Wall Mount Rack

Make	Make:				
Mod	Model: Part No.				
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Mount	Wall Mount			
2	Basic Frame	Steel			
3	Construction	Welded / CKD			
4	Top & Bottom Cover	Welded to Frame with Cable entry exit cut outs			
5	Front Door	Lockable Toughened Glass Door			
6	19" Mounting Angle	Formed Steel			
7	Std. Equipment Mounting	DIN Std. 10mm Sq. Slots			
8	Standard Finish	Powder coated			
9	Standard Colour	Grey & Off White OR Black			
10	Rack Standard	Conforms to DIN 41494 or equivalent standard			
11	Static Load	30Kg			
12	Dimensions	12Ux 600 x 600 MM			
13	Accessories	Cable Organisers Power Distribution Units Shelves Fan Moduels Rack ground Kit			
14	Make	Any globally reputed Manufacturer presence in India.			

17U Floor Mount Rack

Make	Make:				
Mode	el:	Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Mount	Floor Mount			
2	Basic Frame	Steel			
3	Construction	Welded / CKD			
4	Top & Bottom Cover	Welded to Frame with Cable entry exit cut outs			
5	Front Door	Lockable Toughened Glass Door			
6	19" Mounting Angle	Formed Steel			
7	Std. Equipment Mounting	DIN Std. 10mm Sq. Slots			
6	Standard Finish	Powder coated			
7	Standard Colour	Grey & Off White OR Black			
8	Standard Mounting	Caster wheels (2 with Brake & 2 without Brake)			
9	Static Load	Conforms to DIN 41494 or equivalent standard			
10	Dimensions	17UX600X600			
12	Static Load	150Kg			
13	Accessories	Cable Organisers Power Distribution Units Shelves Fan Moduels Rack ground Kit			
14	Make	Any globally reputed Manufacturer presence in India.			

6 Core Outdoor Fiber Optic Cable

Make:	
Model:	Part No.

Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Туре	6F Core Singlemode (9/125μm) Uniloose Tube, Single Sheath, G652 Fiber cable is perfectly suited for both gigabit Ethernet and 10 gigabit Ethernet campus and backbone applications		
2	Cable	6 Core Singlemode, Uniloose tube with colored fiber cores. The constructions are of dry waterblocking material.		
3	Application	This cable is suitable for duct and aerial applications. Cable are perfectly suited for both gigabit Ethernet and 10 gigabit Ethernet campus and backbone applications.		
4	Outer Sheath	UV Resistant Jacket / Black		
5	No. of Tube / Tube diameter	1 / 3.0 ± 0.1 mm		
6	Water Blocking Material	WS Tape		
7	Loose Tube Construction	Std. plywood reel: Uniloose Tube, Yarn / Tape with fibres. Individually colour coded optical fibres as per Global Standards		
8	Cable Specifications	Fiber Color / Fibers per Tube : Blue, Orange, Green, Brown, Grey, White, Red, Black, Yellow, Violet, Pink, Aqua Cable diameter : 9.5 ± 0.5 mm		
9	Embedded Strenght Member	2 X 1.0 mm Steel Wire embedded in sheath		
10	Armouring	ECCS Tape Armoured		
11	Optical Properties	Core Non-circularity: $\leq 1 \%$ Cladding Diameter: $125.0 \pm 0.7 \mu m$ Core/cladding Concentricity Error: $\leq 0.6 \mu m$ Cladding Non-circularity: $\leq 1.0 \%$ Primary Coating Diameter: $245 \pm 10 \mu m$ Coating/cladding Concentricity Error: $\leq 12 \mu m$ Attenuation Co-efficient (After Cabling) $1310 \text{ Wavelength (nm)}: \leq 0.36 \text{ dB/km}$ $1550 \text{ Wavelength (nm)}: \leq 0.24 \text{ dB/km}$ $1625 \text{ Wavelength (nm)}: \leq 0.26 \text{ dB/km}$ Chromatic dispersion: $1285 \sim 1330 \text{nm} \leq 3.4 \text{ps/(nm·km)}$ $1550 \text{nm} \leq 18 \text{ ps/(nm·km)}$ $1625 \text{nm} \leq 22 \text{ ps/(nm·km)}$ Cutoff Wavelength $\leq 1260 \text{ nm}$ PMDQ (Quadrature average*): $\leq 0.20 \text{ ps//km½}$ MFD: $9.0 \pm 0.4 \mu m$ at 1310 nm MFD: $10.3 \pm 0.5 \mu m$ at 1550 nm Zero dispersion slope: $\leq 0.092 \text{ps/(nm2·km)}$ Zero dispersion wavelength: $1300 \sim 1324 \text{ nm}$		
12	Temperature Range	Storage Temperature Range: -40°C to +70°C Installation Temperature Range: -10°C to +50°C Operating Temperature Range: -40°C to +70 °C		
13	Physical Properties	Complies to ANSI/TIA-568.3-D, ITU-T G652.D, Telcordia GR-20, IEC 60794-2, ISO/IEC		

		11801,ISO/IEC 24702 Cable Bend Radius: 20 x Cable Diam. Cable Kink Radius: 10 x Cable Diam. Cable Max. Tensile Strength (Short Term): 3000 N Cable Max. Crush Resistance (Short Term): 3000 N / 100mm Impact Resistance: 25 Nm	
14	Regulatory Compliances	Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse in India. All Related documents to be submitted. The OEM shall be recognized by the Department for Promotion of Industry and Internal Trade under the 'Telecommunication & Networking' Industry and 'Network Technology Solutions' sector by Government of India. OEM offered must be in India / SAARC for at-least 10 years or more.Should have Indian Technical Support Centre, Warehouse and RMA centre in India. OEM factory test reports must be provided against each drum / roll of fiber cable.	
13	Make	Any globally reputed Manufacturer presence in India.	

24 Port LIU

Make	Make:				
Mode	el: Part No.				
SI. No	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)		
1	1U, 19 Inch Rack Mount Fiber Enclosure (LIU) including Splice Trays and Adapter Strips which accepts loose tube & distribution cable				
2	Fiber Patch Panel Typically used in Server rooms, Network rooms, Data Centres and Small offices Can be mounted directly on any 19" rack or cabinet. It should be able to accommodate a variety of Fiber connectors and terminated to fiber cables using Splicing or other methods.				
3	The Fiber Panels are designed with fixed mount adapter plate assemblies. Should be available in 6 - 96 Port in 1U Rack Mount LIU.				

	Sliding design, this panel allo without disturbing previousl			
	This also offers multiple cable entries to provide various customized solutions as per the customers' requirement. This panel comes with adaptor plates which are preloaded with coupler and can snap in for installation and can be removed easily for future changes.			
		e provided with this panel. This panel is preloaded fiber management accessories.		
	4 Nos of 20mm diameter at t	he rear for Cable entries		
4	Panel be constructed with SP	CC (Cold rolled steel sheet)		
5		(ANSI/TIA-568.3-D, Telcordia GR-326-CORE, D/IEC 11801, IEC 61754 & IEC 61300 series)		
6	Pigtails consist of LC, SC, FC,			
7	Pigtails shall be constructured with bend Insensitive Fiber			
8	Repeatability : ≤0.2 dB (Singlemode)			
9	Durability: ≤0.2 dB, 1000mattings			
10	Ferrule Material: Zirconia Ceramic			
11	Operating Temperature: -25	°C to +70 °C		
	Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863			
		SO 14001 and ISO 45001 should have its nents and Finished Goods Warehouse in India. All mitted.		
12	_	e a member of BICSI and should have a CDCP and a I's payroll sitting in India whose services can be		
		/ SAARC for at-least 10 years or more.Should have ntre, Warehouse and RMA centre in India.		
26	Make	Any globally reputed Manufacturer presence in India.		
_				

		t be in India / SAARC for at-least 10 years or more.Should have Support Centre, Warehouse and RMA centre in India.			
26	Make	Any globally reputed Manufacturer presence in India.			
	Cat 6 Cable				
Make	: :				
Mode	Model: Part No.				

Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Туре	CAT6 U/UTP, 23 AWG solid bard copper, Unshielded Twisted 4 Pair, Category 6, confirming to ANSI-TIA 568.2-D for Category 6 & ISO/IEC 11801 for Class E.		
2	Conductors	Solid bare copper 23 AWG		
3	Pair Separator	+ Shape Spline		
4	Packing	Box of 305 meters		
5	Cable Outer Diameter	6.0 ± 0.2 mm		
6	Delay Skew	< 45 ns		
7	Conductor Resistance	≤ 93.8 Ω/km		
8	Pulling Force	25 lb		
9	Nom. Velocity of Propagation	69%		
10	Flame Properties	Flammability Test : IEC 60332-1 Acid Gas Emission Test : IEC 60754-1 Smoke Density Test : ASTM 2843		
11	Regulatory Compliances	Should be ETL channel performance verified on a 04-Connector channel or more, tested upto 350Mhz or more with an MTPL Plug as per ANSI/TIA-568.2-D (Part Code to be mentioned in report and should be submitted along with bid) and UL Listed (Relivent Document to be shared) Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 Shall be registered under ETL Verification Program OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse & R&D labs in India. All Related documents to be submitted. OEM factory test reports must be provided.		
12	Make / Brand	Any globally reputed Manufacturer presence in India.		

24 Port Patch Panel

Make:				
Model	:	Part No.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Туре	24 Port, 1U, Loaded, Rack mountable Patch Panel offers fast and reliable installation of Unshielded cables on to a jack. Patch panels IDC (IDC of Information Outlet) Connectivity Snap in Type should be at rear end & RJ-45 jack on front panel, 19" rack mountable. CAT6 RJ45 Modular Jacks shall meet and exceed channel specification of ANSI/TIA 568.D-2,		
		IEC/ISO 11801 & IEC 60603-7-41 when used as a component in a properly installed UTP channel. Each port of the panel is numbered for clear port identification. Patch Panel includes with mini cable ties, cage nuts and rare cable management		
2	Availability	Patch Panel includes with mini cable ties, cage nuts and rare cable management		
3	Cable management	A rear cable management bar is supplied which acts as stress reliever for terminated cables. Each port of the panel is numbered for clear port identification.		
4	Compatibility	Patch Panel should be able to accept Cat6A, Cat6 and Cat5e information outlets for backward and forward compatibility		
5	Height	1U (1.75")		
6	Operating Temperature range	-10Deg C to +60 Deg C		
7	Storage Temperature :	-40° to +70°C		
8	Electrical Performance	Insulation Resistance : $\geq 500 \text{m}\Omega$ Contact Resistance : $\leq 10 \text{m}\Omega$ Current rating : 1.5 Amps DC Resistance : $\leq 0.1\Omega$ DC/AC Volt Endurance : DC1000V/AC750V 1min		
9	Color and Material	Metal SPCC, Black, plastic inserts, Double layer - 1.5mm, provided with mini cable ties, cage nuts & rare cable management.		
10	Housing Material	PCUL94V-2		
11	Termination Interface	Front Mated Connection: 750 Cycles		
12		Rear Mated Connection: 200 Cycles		
13	Plug and Outlet Contact force	≥ 100 Grams with FCC Compliant RJ-45 plug		
14	Plug retention Force	≥ 15Nm		
15	Jack Contact Material	Gold Plated Bronze pins		
16	Contact Compatibility	Accommodates 23 to 26AWG solid		

TIA / EIA 568 A and B and Shall not have an integrated spring shutter as the shutter

17

Termination Pattern

		malfunctions and causes operational issues.	
18	Regulatory Compliances	Should be ETL channel performance verified on a 04-Connector channel or more, tested upto 350Mhz or more with an MTPL Plug as per ANSI/TIA-568.2-D (Part Code to be mentioned in report and should be submitted along with bid) and UL Listed (Relivent Document to be shared) Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 Shall be tested for Corrosion as per ASTM B117: 2019. (Relivent Document to be shared) The OEM shall be recognized by the Department for Promotion of Industry and Internal Trade under the 'Telecommunication & Networking' Industry and 'Network Technology Solutions' sector by Government of India.	
19	Test Reports	OEM factory test reports must be provided.	
20	Make & Model	Bidder to specify	
21	Operating Temperature	-10° to +60°C	
22	Storage Temperature :	-40° to +68°C	
23	Operating Humidity :	10% to 90% PH	
24	Regulatory Compliances	Should be ETL Listed in a 04-Connector Shielded Channel Tested upto 635Mhz with MTPL Plug as well as performance testing as per IEEE 802.3bt (All Report should be submitted along with bid) and UL Listed (Relevant Document to be shared) OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse & R&D labs in India. All Related documents to be submitted. OEM offered must be in India / SAARC for at-least 9 years or more.Should have Indian Technical Support Centre, Warehouse and RMA centre in India. All passive products from single OEM & should be manufactured as per latest TIA/EIA or ISO/ IEC standard and have 25 years of channel performance and 5 Years component warranty	
25	RoHS Compliant	Should be Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863	
26	Make / Brand	Any globally reputed Manufacturer presence in India.	

Cat 6 Patch Cords 1 Mtr

Make:	
Model:	

Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Туре	CAT6 Unshielded LSZH rated Modular Cord shall meet and exceed channel specification of ANSI/TIA 568.2-D, ISO/IEC 11801 Class E, IEC 61156-6 and IEC 61935-2 Standard.		
2	Conductor	Flexible Stranded Bare Copper, 24 AWG		
3	Feature	Transparent Strain Relief easy latch-cover boot design for easy depression Backward compatible for easy integration with any network component that uses a RJ45 connection		
4	Length	2 / 3 / 5 Meter & Customized length		
5	Connectors	High Grade 50 μ gold plated RJ45 Connectors		
6	Conductor Material	Stranded Bare Copper		
7	Storage Temperature Range :	-20 °C to +70°C		
8	Cable Diameter	5.86 ± 0.3mm		
9	Regulatory Compliances	Should be ETL channel performance verified on a 04-Connector channel or more, tested upto 350Mhz or more with an MTPL Plug as per ANSI/TIA-568.2-D (Part Code to be mentioned in report and should be submitted along with bid) and UL Listed (Relivent Document to be shared) Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 Shall be registered under ETL Verification Program The OEM shall be recognized by the Department for Promotion of Industry and Internal Trade under the 'Telecommunication & Networking' Industry and 'Network Technology Solutions' sector by Government of India. OEM offered must be in India / SAARC for at-least 10 years or more.Should have Indian Technical Support Centre, Warehouse and RMA centre in India.		
10	Test Reports	OEM factory test reports must be provided.		
11	Make / Brand	Any globally reputed Manufacturer presence in India.		

RJ 45 Plug Connector

Make	:			
Mode	el:	Part No.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)

1	Туре	RJ 45 Connector	
2	Housing	PC, UL94V-2, transparent color	
3	Contact Terminal	Copper Alloy	
4	Finished	03MU micro-inch gold plating	
5	Operating temperature	-40°C to 80°C	
6	Make / Brand	Any globally reputed Manufacturer presence in India.	

Conduit Pipe

Make:					
Mode	Model: Part No.				
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Туре	Conduit Pipe			
2	Dia	25mm			
3	Thickness	2MM			
4	Materials	U PVC(FRLS) Conduit Heavy Duty			
6	Make / Brand	Any globally reputed Manufacturer presence in India.			

FO Duplex Patch Cord

Make:				
Model	Model: Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Features	The armored patch cord uses metal tube inside the outer jacket as an armor to protect the fiber glass inside The protective layer of Metal braiding is adopted, which has excellent side pressure resistance, flexibility and bending performance. Good mechanical and temperature characteristics. Small diameter, lightweight, easy to connect and support large capacity data transmission.		
2	Fiber Count	2		
3	Outer jacket OD	3.0 mm X 2		

4	Metal tube OD	1.4 ± 0.3 mm	
5	Insertion Loss	≤0.2 dB (Singlemode)	
6	Return Loss	≥50 dB (UPC), (Singlemode), ≥60 dB (APC) (Singlemode)	
7	Durability	≤0.2 (1000 mattings)	
	Minimum allowable Tensile strength(N)	500 (short Term),300(Long Term)	
	Minimum allowable Crush Load strength(N/100mm)	3000(short Term),2000(Long Term)	
	Minimum bending radius(mm)	20D(short Term),10D(Long Term)	
	Operating Temperature	-20°C to + 75°C	
	Storage Temperature	-20°C to + 85°C	
8	Regulatory Compliances	Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse in India. All Related documents to be submitted. The OEM shall be recognized by the Department for Promotion of Industry and Internal Trade under the 'Telecommunication & Networking' Industry and 'Network Technology Solutions' sector by Government of India. OEM offered must be in India / SAARC for at-least 10 years or more. Should have Indian Technical Support Centre, Warehouse and RMA centre in India.	
9	Make / Brand	Any globally reputed Manufacturer presence in India.	

Layer 2 Managed Switch 4SFP

Make:				
Model: Part No.				
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
	Physical Specifications	24 # 10/100/1000 Base-T auto-sensing PoE+		
		ports		
1		4 dedicated 100/1000 Base-X Fiber SFP ports		
		MIPS-34Kc 700MHz Single Core CPU or Higher		
		128MB DDR RAM, 32MB FLASH or Higher		
	Performance Specification	Bandwidth: 56 Gbps non-blocking		
	_	Packet forwarding rate (64 byte packet size)		
2		(Mpps): 41.67		
		Mean Time Between Failures (MTBF): 1,250,365		
		hours		

	1		- ·	
		Forwarding modes: Store-and-forward		
		MAC Address database size: 16,000		
		VLAN: 256, 32 Static Routes		
		512 Multicast groups		
		15 Routed VLANs		
		512 ARP Cache entries		
		256 DHCP snooping bindings		
		100 shared ACL's for MAC, IP and IPv6.		
		Packet buffer: 1.5 MB, Jumbo frame: 10K		
		Power Consumption: 226W Max		
		PoE budget: 190 Watts		
	IEEE Network Protocols	IEEE 802.3 Ethernet		
		IEEE 802.3i 10BASE-T		
		IEEE 802.3u 100BASE-T		
		IEEE 802.3ab 1000BASE-T	1	
		IEEE 802.1Q VLAN Tagging	1	
		IEEE 802.3x full-duplex flow control	1	
		IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX	1	
_		IEEE 802.3ad Trunking (LACP)	1	
3		IEEE 802.1ab LLDP with ANSI/TIA-1057 (LLDP-	1	
		MED)		
		IEEE 802.1p Class of Service	1	
		IEEE 802.3 af (PoE)	1	
		IEEE 802.3 at (PoE Plus)	1	
		IEEE 802.1D Spanning Tree (STP)	1	
		IEEE 802.1s Multiple Spanning Tree (MSTP)	-	
		IEEE 802.1w Rapid Spanning Tree (RSTP)	1	
	Network Security and	IEEE 802.1x		
	Traffic	Guest VLAN	1	
		RADIUS based VLAN assignment via .1x	1	
		MAC-based .1x	1	
		Network Storm Protection		
		Network Storm Protection Broadcast, Unicast, Multicast Protection	_	
		Broadcast, Unicast, Multicast Protection	-	
		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4	-	
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6)	-	
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL		
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL		
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown		
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs		
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication		
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security		
4		Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer		
4	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management		
4	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging		
4	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN		
4	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN Voice VLAN		
4	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN Voice VLAN IEEE 802.3ad - LAGs - LACP ((16 LAGS with max.		
5	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN Voice VLAN IEEE 802.3ad - LAGs - LACP ((16 LAGS with max. of 8 ports in each LAG))		
	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN Voice VLAN IEEE 802.3ad - LAGs - LACP ((16 LAGS with max. of 8 ports in each LAG)) Broadcast Storm Control		
	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN Voice VLAN IEEE 802.3ad - LAGs - LACP ((16 LAGS with max. of 8 ports in each LAG)) Broadcast Storm Control IGMP Snooping (v1, v2 and v3)		
	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN Voice VLAN IEEE 802.3ad - LAGs - LACP ((16 LAGS with max. of 8 ports in each LAG)) Broadcast Storm Control IGMP Snooping (v1, v2 and v3) MLD Snooping Support (v1 and v2)		
	L2 Services	Broadcast, Unicast, Multicast Protection Access Control Lists (ACLs) L2 / L3 / L4 IP-based ACLs (IPv4 and IPv6) MAC-based ACL TCP/UDP-based ACL MAC lockdown MAC lockdown by the number of MACs IEEE 802.1x Radius Port Access Authentication Port Security PoE Timer PoE Power Management IEEE 802.1Q VLAN Tagging Video VLAN Voice VLAN IEEE 802.3ad - LAGs - LACP ((16 LAGS with max. of 8 ports in each LAG)) Broadcast Storm Control IGMP Snooping (v1, v2 and v3)		

		VLAN Routing]	
		DHCP Client	1	
		DHCP Snooping	1	
	Network Monitoring and	802.1ab LLDP		
7	Discovery Services	SNMP V1, V2, V3	1	
		RMON 1,2,3,9	1	
		Access Lists		
		L2 MAC, L3 IP and L4 Port ACLs	1	
		Ingress rate limiting	1	
		Egress rate limiting	1	
		Support for IPv6 fi elds		
		Diff Serv QoS	1	
		IEEE 802.1p COS		
8	Quality of Service (QoS)	Dst MAC and IP	1	
		IPv4 and v6 DSCP	1	
		IPv4 and v6 TOS	1	
		WRR (Weighted Round Robin)	1	
		Strict Priority queue technology	1	
		Auto-VoIP	1	
		Auto Video	1	
		Port Mirroring	1	
		Password management		
		Configurable Management VLAN	1	
		Admin access control via Radius and TACACS+	1	
		Web-based graphical user interface (GUI)	1	
		Remote/Cloud Managebility	1	
		IPv6 management	1	
		Dual Software (firmware) image		
		Dual Configuration file	1	
0	24	SNTP client over UDP port 123		
9	Management	SNMP v1/v2		
		SNMP v3 with multiple IP addresses		
		RMON 1,2,3,9		
		Port Mirroring		
		Many to One Port Mirroring	1	
		Cable Test utility		
		SSL/HTTPS and TLS v1.0 for web-based access]	
		TFTP/HTTP File transfers (uploads, downloads)]	
		HTTP Download (firmware)	1	
10	LEDs	Per port: Speed, Link, Activity		
10	FED2	Per device: Power, Fan and PoE Power Status		
		Operating Temperature: 32° to 122°F (0° to 50°C)		
		Operating Humidity: 90% maximum relative		
		humidity, non-condensing		
11	Environmental Conditions	Storage Temperature: -20° to 70°C (-4° to		
11	Environmental Conditions	158°F)		
		Storage Humidity: 95% maximum relative		
		humidity, non-condensing]	
		Temperature- and load-based fan-speed control		
		CE mark, commercial]	
		FCC Part 15 Class A, VCCI Class A]	
12	Certifications	Class A EN 55022 (CISPR 22) Class A]	
		Class A C-Tick]	
		EN 50082-1		

		EN 55024	7	
		CCC		
		CSA certifi ed (CSA 22.2 #950)		
		UL listed (UL 1950)/cUL IEC 950/EN 60950]	
	Warranty and Support	True Lifetime Hardware replacement warranty		
8		Lifetime free latest firmware support		
0		Replacement with New Product Only No		
		refurbished Products.		
9	Make / Brand	Any globally reputed Manufacturer presence in		
9	Make / Branu	India.		

Layer 2 Managed Switch 2 SFP

Model	:	Part No.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
	Physical Specifications	24 # 10/100/1000 Base-T auto-sensing PoE+		
1		ports		
1		2 dedicated 100/1000 Base-X Fiber SFP		
		ports		
	Performance Specification	Bandwidth: 52 Gbps non-blocking		
	-	Mean Time Between Failures (MTBF): 1,051,375		
		hours (120 yrs)		
		Heat Dissipation (worst case, all ports used, full		
		PoE, line-rate traffic) (BTU/hr): 780.20 BTU/hr		
		Forwarding modes: Store-and-forward		
		8 Priority queues		
		Weighted Round Robin (WRR) and Strict Priority		
		MAC Address database size: 8,000 media access		
		control (MAC) addresses		
		VLAN: 64		
		128 Multicast groups		
2		Number of DHCP snooping bindings: 256		
4		Access Control Lists (ACLs): 100 shared for MAC,		
		IP and IPv6 ACLs (ingress)		
		Packet forwarding rate (64 byte packet size)		
		(Mpps): 38.6		
		Jumbo frame support: Up to 9K packet size		
		Packet buffer memory (Dynamically shared		
		across only used ports): 0.5 MB		
		1G Copper Latency(64-byte packets): 3.749μs		
		1G Fiber Latency (64-byte packets): 3.129μs		
		Max power (worst case, all ports used, full PoE,		
		line-rate traffic) (Watts): 228.53 W		
		Auto Power Down		
	IEEE Nationals Donates 1	PoE budget: 190W		
	IEEE Network Protocols	IEEE 802.3 Ethernet		
3		IEEE 802.3u 100BASE-T		
J		IEEE 802.1Q VLAN Tagging		
		IEEE 802.3ab 1000BASE-T		

IEEE 802.3af PoE IEEE 802.3at PoE+ IEEE 802.3az Energy Efficient Ethernet (EEE)
The out out of the same of the
IEEE 802.3ad Trunking (LACP)
IEEE 802.3z Gigabit Ethernet 1000BASE-
SX/LX
IEEE 802.3x Full-Duplex Flow Control
IEEE 802.1AB LLDP with ANSI/TIA-1057
(LLDP-MED)
IEEE 802.1p Class of Service
IEEE 802.1D Spanning Tree (STP)
IEEE 802.1s Multiple Spanning Tree (MSTP)
IEEE 802.1w Rapid Spanning Tree (RSTP)
IEEE 802.1X Radius network access control
Network Security and IEEE 802.1x
Traffic Guest VLAN
RADIUS-based VLAN assignment via .1x
RADIUS accounting
Network Storm Protection
DoS attacks prevention
Broadcast, Unicast, Multicast Protection
Access Control Lists (ACLs) L2 / L3 / L4
4 IP-based ACLs (IPv4 and IPv6)
MAC-based ACL
TCP/UDP-based ACL
MAC lockdown
MAC lockdown by the number of MACs
IEEE 802.1x Radius Port Access
Authentication
Control MAC # Dynamic learned entries: 600
Control MAC # Static entries :20
L2 Services IEEE 802.1Q VLAN Tagging
Video VLAN
Voice VLAN
IEEE 802.3ad - LAGs - LACP ((8 LAGS with
max. of 8 members in each LAG))
5 Broadcast Storm Control
IGMP Snooping (v1, v2 and v3)
IGMP Snooping queriers
VLAN Routing DHCP Client
DHCP Snooping Network Monitoring and 802.1ab LLDP
511111 (1) (12)
RMON 1,2,3,9
Port-based rate limiting
D. a. L J O. C
7 Quality of Service (QoS) Processed QoS
7 Quality of Service (QoS) Port-based QoS DiffServ QoS IEEE 802.1p COS

		IPv4 DSCP	
		Diff Serv QoS	
		IPv4 ToS	
		Cloud/Remote management	
		Password management	
		5	
		Configurable Management VLAN	
		Admin access control via Radius and TACACS+	
		Web-based graphical user interface (GUI)	
		IPv6 management	
		Dual Software (firmware) image	
		Dual Configuration file	
9	Management	SNTP client over UDP port 123	
	1 management	SNMP v1/v2	
		SNMP v3 with multiple IP addresses	
		RMON 1,2,3,9	
		Port Mirroring	
		Many to One Port Mirroring	
		Cable Test utility	
		SSL/HTTPS and TLS v1.0 for web-based access	
		TFTP/HTTP File transfers (uploads, downloads)	
		HTTP Download (firmware)	
10	TED	Per port: Speed, Link, Activity	
10	LEDs	Per device: Power, Fan and PoE Power Status	
		Operating Temperature: 32° to 122°F (0° to 50°C)	
		Operating Humidity: 95% maximum relative	
		humidity, non-condensing	
11	Environmental Conditions	Storage Temperature: – 4° to 158°F (–20° to 70°C)	
		Storage Humidity: 95% maximum relative	
		humidity, non-condensing	
		Operating Altitude : 10,000ft (3,000m) maximum	
		CE mark, commercial	
		FCC Part 15 Class A, VCCI Class A	
		Class A EN 55022 (CISPR 22) Class A	
		Class A C-Tick	
12	Certifications	EN 50082-1	
12	derentications	47 CFR FCC Part 15, SubpartB, Class A	
		CCC	
		CE mark, commercial	
		FCC Part 15 Class A, VCCI Class A	
	Warranty and Support	True Lifetime Hardware replacement warranty	
	vvarianty and support	Lifetime free latest firmware support	
8			
		Replacement with New Product Only No refurbished Products.	
9	Make / Brand	Any globally reputed Manufacturer presence in India.	

SFP Module

Make:	
Model:	Part No.

Sl. No	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Should Compliant with SFP Transceiver MSA specification and RoHS		
2	Should Compliant with Specifications for IEEE 802.3z/Gigabit Ethernet		
3	Should compliant with the 1.0625GBd Fiber Channel 100-SM-LC-L FC-PI Rev.13		
4	Should have Single + 3.3V Power Supply and TTL Logic Interface and EEPROM with Serial ID Functionality		
5	Must Compliant with Industry Standard RFT Electrical Connector and Cage		
6	Must have Laser Class 1 Product which comply with the requirements of IEC 60825-1 and IEC 60825-2		
7	Should have Duplex LC Connector interface		
8	Must Supports Data Link up to 10km in 9/125μm Single Mode Fiber		
9	Case Operating Temperature must be from -5 - 70 °C		
10	Must have the followings certificates :- FCC CRF 47, Part15 Class B, EN 55022 Class B (CISPR 22A), EN 61000-4-3, IEC 61000-4-3, EN 61000-4-2, IEC 61000-4-2, IEC 801.2, MIL-STD-883E Method 3015.7, US FDA CDRH AEL Class 1, EN 60950: 2000, EN 60825-1, EN 60825-2: 2000,		
11	Must have 5 Years Hardware Replacement warranty and must be replaceble with New Product Only, No refurbished Products.		
12	Make / Brand	Any globally reputed Manufacturer presence in India.	

3 KVA True Online UPS System

Make	:			
Mode	el:	Part No.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	PHASE	1 phase in / 1 phase out		
2	CAPACITY	3000 VA / 2400 W		
	INPUT			
	Voltage Range	Low Line Loss: 110 VAC ± 3% at 50% Load 176 VAC ± 3% at 100% Load		
3		Low Line Comeback: 120 VAC ± 3% at 50% Load 186 VAC ± 3% at 100% Load		
		High Line Loss: 280 VAC ± 3% High Line Comeback: 270 VAC ± 3%		

4	Frequency Range	40 Hz ~ 70 Hz	
5	Power Factor	≥ 0.99 @ 100% load	
	OUTPUT		
6	Nominal Voltage	208/220/230/240VAC	
7	AC Voltage Regulation	± 1%	
8	Frequency Range (Synchronized Range)	46Hz ~ 54 Hz or 56Hz ~ 64 Hz	
9	Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz	
10	Current Crest Ratio	3:1 (max.)	
11	Harmonic Distortion	≤ 3 % THD (Linear Load), ≤ 7 % THD (Non-linear Load)	
12	Bypass to Inverter (Line mode)	Zero	
13	Inverter to Bypass (Line mode)	4 ms (Typical)	
14	LCD Panel	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions	
15	Battery Mode	Sounding every 4 seconds	
16	Low Battery	Sounding every second	
17	Overload	Sounding twice every second	
18	Fault	Countinously sounding	
19	Operation Humidity and Temperature	20-90 % RH @ 0- 45°C (non-condensing)	
20	Noise Leve	Less than 50dBA @ 1 Meter	
21	Smart RS-232/USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC	
22	Optional SNMP	Power management from SNMP manager and web browser	
23	Make	Any globally reputed Manufacturer presence in India.	

UPS Battery; 12V, 65AH

Make	:				
Mode	el:	Part No.			
SI. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Product Voltage	12 Volt			
2	Product Capacity	65 Ah			
3	Product Type	SMF / VRLA Batteries			
4	Make	Any globally reputed Manufacturer presence in			

India.			
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3 Core 1.5 Sq. MM Armoured FRLS Power Cable.

Make	Make:			
Mode	el:	Part No.		
SI. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Size of Conductor	1.5 sq mm		
2	Core	3 Core		
3	Conductor Material	Copper		
4	Colour	Black		
5	Overall Diameter (Strip/Wire)	13.6 mm		
6	Current Rating	25 Amp		
7	Thickness of PVC Insulation	0.7 mm		
8	Min.thickness of pvc inner sheath	0.3 mm		
9	Make	Any globally reputed Manufacturer presence in India.		

Fiber & Copper & Electrical Cable Pulling & Laying with Stay-Wire, Proper Fixing.

Make):			
Mode	el: Part N	0.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
9	Make	Any globally reputed Manufacturer presence in India.		

SFP Module

Make	y:		
Mode	Model: Part No.		
Sl. No	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Should Compliant with SFP Transceiver MSA specification and RoHS		

2	Should Compliant with Specifications for IEEE 802.3z/Gigabit Ethernet		
3	Should compliant with the 1.0625GBd Fiber Channel 100-SM-LC-L FC-PI Rev.13		
4	Should have Single + 3.3V Power Supply and TTL Logic Interface and EEPROM with Serial ID Functionality		
5	Must Compliant with Industry Standard RFT Electrical Connector and Cage		
6	Must have Laser Class 1 Product which comply with the requirements of IEC 60825-1 and IEC 60825-2		
7	Should have Duplex LC Connector interface		
8	Must Supports Data Link up to 10km in 9/125µm Single Mode Fiber		
9	Case Operating Temperature must be from -5 - 70 °C		
10	Must have the followings certificates :- FCC CRF 47, Part15 Class B, EN 55022 Class B (CISPR 22A), EN 61000-4-3, IEC 61000-4-3, EN 61000-4-2, IEC 61000-4-2, IEC 801.2, MIL-STD-883E Method 3015.7, US FDA CDRH AEL Class 1, EN 60950: 2000, EN 60825-1, EN 60825-2: 2000,		
11	Must have 5 Years Hardware Replacement warranty and must be replaceble with New Product Only, No refurbished Products.		
12	Make / Brand	Any globally reputed Manufacturer presence in India.	

Dual-Band WiFi-6

Mod	el:	Part No.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
		One 100/1000/2.5GBASE-T Gigabit Ethernet (RJ-45) ports with Auto Uplink (Auto MDI-X) supporting IEEE 802.3af or 802.3at Power over Ethernet (PoE)		
1	Physical Interfaces	Two (2) Internal 3.8/4.5dBi (2.4GHz/5GHz) antenna		
		Four (4) LED: Power and Cloud connection; LAN speed; 2.4GHz status; 5.0GHz status		
		Power adapter (not included): 12V DC, 2.5A		
		5.0GHz: 802.11a/n/ac/ax; 2.4GHz: 802.11b/g/n/ax		
		IEEE 802.11ax WiFi 6 standard		
2	Standards	WMM - Wireless MultiMedia Prioritization		
		WDS- Wireless Distribution System		
		Power over Ethernet (PoE) IEEE 802.3af/802.3at		
3	Security	Wi-Fi Protected Access (WPA, WPA2, WPA3), 802.11i		

			I
		WPA2 Enterprise	
		Wireless access control to identify authorized wireless network devices	
		MAC address filtering with access control	
		802.1x RADIUS support with EAP TLS, TTLS, PEAP	
		Neighbor AP detection	
		VLAN Support	
		Secure Socket Layer (SSL)	
		Bandwidth management	
		Link Layer Discovery Protocol	
4	Network Management Fault	Cloud based App Management for setup, monitoring and management from anywhere anytime (Remote configuration and management)	
	ruure	Easy-to-use Web browser-based management GUI	
	Manageability	As standalone	
5		Centralized Management through Mobile Application	
		Wireless Distribution System (WDS)	
	Advanced Wireless Features	Bridge mode: Point-to-point wireless WDS mode	
		Bridge mode: Point-to-multipoint wireless WDS mode	
6		Repeater mode	
		Adjustable Transmit Power Control (TPC)	
		Wireless backhaul to form Mesh Network	
		Device detection	
		PoE power consumption: 15.3W	
		Business class WiFi based on next generation 802.11ax WiFi 6 technology on both 5.0GHz and 2.4GHz bands. Backward compatible to 802.11b/g/n/a/ac Dual band 2x2 (2.4GHz and 5.0GHz) 4 streams of	
		data for an aggregate throughput of up to 1.8Gbps Theoretical Throughput per Band: 5.0GHz: 1200Mbps, 2.4GHz: 600Mbps	
7	Other Specifications	Orthogonal Frequency Division Multiple Access (OFDMA)	
		Multi-Gigabit Support	
		Target Wake Time (TWT)	
		Basic Service Set Coloring (BSS Coloring)	
		Bandsteering	
		Block SSID Broadcast	
		Ceiling mounting, Wall mounting, Wall, ceiling mount kit must be included	

		Bidir and MU-MIMO support	
	Warranty and Support	5 Years Hardware Replacement Warranty	
		5 Years Cloud Controller Licance	
		5 Years free latest firmware support with	
8		Controller Subscription for managing all the	
		Access points with 5 Years Centralized	
		Management license	
		Replacement with New Product Only No	
		refurbished Products.	
9	Make	Any globally reputed Manufacturer presence in	
9	Make	India.	

6 Core Outdoor Fiber Optic Cable

Make	<u>;</u>				
Mode	el:	Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Туре	6F Core Singlemode (9/125μm) Uniloose Tube, Single Sheath, G652 Fiber cable is perfectly suited for both gigabit Ethernet and 10 gigabit Ethernet campus and backbone applications			
2	Cable	6 Core Singlemode, Uniloose tube with colored fiber cores. The constructions are of dry water-blocking material.			
3	Application	This cable is suitable for duct and aerial applications. Cable are perfectly suited for both gigabit Ethernet and 10 gigabit Ethernet campus and backbone applications.			
4	Outer Sheath	UV Resistant Jacket / Black			
5	No. of Tube / Tube diameter	1 / 3.0 ± 0.1 mm			
6	Water Blocking Material	WS Tape			
7	Loose Tube Construction	Std. plywood reel: Uniloose Tube, Yarn / Tape with fibres. Individually colour coded optical fibres as per Global Standards			
8	Cable Specifications	Fiber Color / Fibers per Tube : Blue, Orange, Green, Brown, Grey, White, Red, Black, Yellow, Violet, Pink, Aqua Cable diameter : 9.5 ± 0.5 mm			
9	Embedded Strenght Member	2 X 1.0 mm Steel Wire embedded in sheath			
10	Armouring	ECCS Tape Armoured			
11	Optical Properties	Core Non-circularity : $\leq 1\%$ Cladding Diameter : $125.0 \pm 0.7 \mu m$ Core/cladding Concentricity Error : $\leq 0.6 \mu m$ Cladding Non-circularity : $\leq 1.0\%$			

		Primary Coating Diameter : 245±10μm Coating/cladding Concentricity Error : ≤ 12μm	
		Attenuation Co-efficient (After Cabling)	
		1310 Wavelength (nm) : ≤0.36 dB/km	
		1550 Wavelength (nm) : ≤0.24 dB/km	
		1625 Wavelength (nm) : ≤0.26 dB/km	
		Chromatic dispersion :	
		$1285 \sim 1330 \text{nm} \le 3.4 \text{ps/(nm\cdot km)}$	
		1550nm ≤18 ps/(nm·km)	
		1625nm ≤ 22 ps/(nm·km)	
		Cutoff Wavelength ≤ 1260 nm	
		PMDQ (Quadrature average*) : ≤ 0.20 ps//km½	
		MFD : 9.0 ± 0.4 μm at 1310nm	
		MFD : 10.3 ± 0.5 μm at 1550nm	
		Zero dispersion slope : ≤ 0.092ps/(nm2·km)	
		Zero dispersion wavelength: 1300~1324nm	
	Temperature Range	Storage Temperature Range: -40°C to +70°C	
12		Installation Temperature Range: -10°C to +50°C	
		Operating Temperature Range: -40°C to +70 °C	
	Physical Properties	Complies to ANSI/TIA-568.3-D, ITU-T G652.D,	
		Telcordia GR-20, IEC 60794-2, ISO/IEC	
		11801,ISO/IEC 24702	
		Cable Bend Radius: 20 x Cable Diam.	
13		Cable Kink Radius : 10 x Cable Diam.	
		Cable Max. Tensile Strength (Short Term): 3000	
		N	
		Cable Max. Crush Resistance (Short Term): 3000	
		N / 100mm	
	D 1	Impact Resistance : 25 Nm	
	Regulatory Compliances	Compliant as per RoHS Directive 2011/65/EU and	
		(EU) 2015/863	
		OEM should be an ISO9001, ISO 14001 and ISO	
		45001 should have its Manufacturing units,	
		Components and Finished Goods Warehouse in	
		India. All Related documents to be submitted.	
		mula. All Related documents to be submitted.	
		The OEM shall be recognized by the Department	
		for Promotion of Industry and Internal Trade	
14		under the 'Telecommunication & Networking'	
		Industry and 'Network Technology Solutions'	
		sector by Government of India.	
		OEM offered must be in India / SAARC for at-least	
		10 years or more.Should have Indian Technical	
		Support Centre, Warehouse and RMA centre in	
		India.	
		OEM factory test reports must be provided against	
		each drum / roll of fiber cable.	
13	Make	Any globally reputed Manufacturer presence in	
13	1-IUIL	India.	

12 Port LIU

Make				
Mode	el: Part No.			
Sl. No	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	1U, 19 Inch Rack Mount Fiber Enclosure (LIU) including Splice Trays and Adapter Strips which accepts loose tube & distribution cable			
2	Fiber Patch Panel Typically used in Server rooms, Network rooms, Data Centres and Small offices Can be mounted directly on any 19" rack or cabinet. It should be able to accommodate a variety of Fiber connectors and terminated to fiber cables using Splicing or other methods.			
	The Fiber Panels are designed with fixed mount adapter plate assemblies. Should be available in 6 - 96 Port in 1U Rack Mount LIU.			
	Sliding design, this panel allows easy access during installation or rework without disturbing previously terminated fiber cable.			
3	This also offers multiple cable entries to provide various customized solutions as per the customers' requirement. This panel comes with adaptor plates which are preloaded with coupler and can snap in for installation and can be removed easily for future changes.			
	900m Tight buffer pigtails are provided with this panel. This panel is preloaded with Splice tray & necessary fiber management accessories.			
	4 Nos of 20mm diameter at the rear for Cable entries			
4	Panel be constructed with SPCC (Cold rolled steel sheet)			
5	Conformance to Single Mode (ANSI/TIA-568.3-D, Telcordia GR-326-CORE, Telcordia GR-1221-CORE, ISO/IEC 11801, IEC 61754 & IEC 61300 series)			
6	Pigtails consist of LC, SC, FC, ST, MTRJ, and E2000 Connectors.			
7	Pigtails shall be constructured with bend Insensitive Fiber			
8	Repeatability : ≤0.2 dB (Singlemode)			
9	Durability: ≤0.2 dB, 1000mattings			
10	Ferrule Material: Zirconia Ceramic			
11	Operating Temperature: -25 °C to +70 °C			
12	Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse in India. All Related documents to be submitted. The Proposed OEM should be a member of BICSI and should have a CDCP and a PMI-PMP / RCDD on the OEM's payroll sitting in India whose services can be utilized for this project.			

	OEM offered must be in India	/ SAARC for at-least 10 years or more.Should have	
	Indian Technical Support Cer	tre, Warehouse and RMA centre in India.	
26	Make	Any globally reputed Manufacturer presence in India.	

LC-SC Single Mode Fiber Optic Patch Cord, 3 Mtr.

Make Mode	- 	Part No.		
MOU	C1.	r ai t NU.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
		The armored patch cord uses metal tube inside the outer jacket as an armor to protect the fiber glass inside		
1	Features	The protective layer of Metal braiding is adopted, which has excellent side pressure resistance, flexibility and bending performance.		
		Good mechanical and temperature characteristics.		
		Small diameter, lightweight, easy to connect and support large capacity data transmission.		
5	Fiber Count	2		
6	Outer jacket OD	3.0 mm X 2		
7	Metal tube OD	1.4 ± 0.3 mm		
8	Insertion Loss Return Loss	≤0.2 dB (Singlemode) ≥50 dB (UPC), (Singlemode), ≥60 dB (APC) (Singlemode)		
9	Durability	≤0.2 (1000 mattings)		
10	Minimum allowable Tensile strength(N)	500 (short Term),300(Long Term)		
11	Minimum allowable Crush Load strength(N/100mm)	3000(short Term),2000(Long Term)		
12	Minimum bending radius(mm)	20D(short Term),10D(Long Term)		
13	Operating Temperature	-20ºC to + 75ºC		
14	Storage Temperature	-20°C to + 85°C		
		Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units,		
14	Regulatory Compliances	Components and Finished Goods Warehouse in India. All Related documents to be submitted. The OEM shall be recognized by the Department for Promotion of Industry and Internal Trade under the 'Telecommunication & Networking' Industry and 'Network Technology Solutions'		

		sector by Government of India. OEM offered must be in India / SAARC for at-least 10 years or more. Should have Indian Technical Support Centre, Warehouse and RMA centre in India.	
13	Make	Any globally reputed Manufacturer presence in India.	

CAT6 4-Pair UTP Cable.

Mak				
Mod	el:	Part No.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Туре	CAT6 U/UTP, 23 AWG solid bard copper, Unshielded Twisted 4 Pair, Category 6, confirming to ANSI-TIA 568.2-D for Category 6 & ISO/IEC 11801 for Class E.		
2	Conductors	Solid bare copper 23 AWG		
3	Pair Separator	+ Shape Spline		
4	Packing	Box of 305 meters		
5	Cable Outer Diameter	6.0 ± 0.2 mm		
6	Delay Skew	< 45 ns		
7	Conductor Resistance	≤ 93.8 Ω/km		
8	Pulling Force	25 lb		
9	Nom. Velocity of Propagation	69%		
10	Flame Properties	Flammability Test: IEC 60332-1 Acid Gas Emission Test: IEC 60754-1 Smoke Density Test: ASTM 2843		
11	Regulatory Compliances	Should be ETL channel performance verified on a 04-Connector channel or more, tested upto 350Mhz or more with an MTPL Plug as per ANSI/TIA-568.2-D (Part Code to be mentioned in report and should be submitted along with bid) and UL Listed (Relivent Document to be shared) Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 Shall be registered under ETL Verification Program OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse & R&D labs in India. All Related documents to be		

		submitted.	
		OEM factory test reports must be provided.	
12	Make / Brand	Any globally reputed Manufacturer presence in India.	

Cat6 Modular Jack, Keystone Style

Make	Make:				
Mode	el:	Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Туре	CAT6 RJ45 Modular Jacks shall meet and exceed channel specification of ANSI/TIA 568.D-2, IEC/ISO 11801 & IEC 60603-7-41 when used as a component in a properly installed UTP channel.			
2	Housing Material	High impact Fire Proof ABS UL94V-0			
3	Front Connection	RJ 45 : PCB, 50µ Phosphor bronze gold over nickel plating contacts			
4	IDC Connector	Phosphor bronze , Tin-plating contacts			
5	PCB Material & Thickness	FR-4, 1.2mm thickness			
	Termination Interface	Front Mated Connection: 750 Cycles			
6		Rear Mated Connection: 200 Cycles			
7	Plug and Outlet Contact force	≥ 100 Grams with FCC Compliant RJ-45 plug			
8	Plug retention Force	≥ 11lbf			
9	Jack wire material and thickness	0.35mm Phosphor bronze gold over nickel plating			
10	IDC Conductor	0.5mm Phosphor bronze , Tin-plating			
11	Contact Compatibility	Accommodates 23 to 26AWG solid			
12	Termination Pattern	TIA / EIA 568 A and B and Shall not have an integrated spring shutter as the shutter malfunctions and causes operational issues.			
13	Storage Temperature :	-40° to +70°C			
14	Electrical Performance	Insulation Resistance : $\geq 500 \text{m}\Omega$ Contact Resistance : $\leq 10 \text{m}\Omega$ Current rating : 1.5 Amps DC Resistance : $\leq 0.1\Omega$			
		DC/AC Volt Endurance : DC1000V/AC750V 1min			
15	Regulatory Compliances	Should be ETL channel performance verified on a 04-Connector channel or more, tested upto 350Mhz or more with an MTPL Plug as per ANSI/TIA-568.2-D (Part Code to be mentioned in			

		report and should be submitted along with bid) and UL Listed (Relivent Document to be shared)	
		Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863	
		OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse & R&D labs in India. All Related documents to be submitted.	
16	Make	Any globally reputed Manufacturer presence in India.	

Face Plate

Make	Make:				
Mode	el:	Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)	
1	Туре	UK Style with Built-in Dust Covers / Shutters on Face Plate for closing ports to prevent from dust entry			
2	Material	Fire-retardant Plastic, ABS + PC, White color, UK Style.			
3	Acceptability	Should be able to accept Cat6A, Cat6 and Cat5e information outlets, Modules, Keystones and Adaptors to suit all installation requirements			
4	Approvals	UL 94V-0			
5	No. of plates	2 Plates/Pieces Face Plate for better aesthetic look			
7	Mounting screws	Include mounting screws and Label Holders with Plastic covers			
8	Available	Single/Dual/Quad network faceplate			
9	Dimensions	(H x W x D) 86 x 86 x 14.42 mm			
10	Regulatory Compliances	All networking passive material (Fiber Cable, Copper Cables, Networking Racks and their connectivity components) should be from one OEM make only who is a Class 1 local supplier as defined in public procurement (Preference to Make in India),. Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse & R&D labs in India. All Related documents to be submitted. Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units,			

		Components and Finished Goods Warehouse & R&D labs in India. All Related documents to be submitted.	
16	Make	Any globally reputed Manufacturer presence in India.	

Backbox for Face Plate

Make:				
Mod	Model: Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Type	Back Box for UK Style Faceplate		
2	Material	White High impact plastics.		
3	Entry	Adjustable cable entries		
4	Dimensions	38 x 87 x 87 mm		
5	Compatible	Back box allows for mounting a various ports of Faceplates		
6	Regulatory Compliances	All networking passive material (Fiber Cable, Copper Cables, Networking Racks and their connectivity components) should be from one OEM make only who is a Class 1 local supplier as defined in public procurement (Preference to Make in India), . Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 OEM offered must be in India / SAARC for at-least 10 years or more. Should have Indian Technical Support Centre, Warehouse and RMA centre in India.		
7	Make	Any globally reputed Manufacturer presence in India.		

24 Port Patch Panel

Make:				
Model	:	Part No.		
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Туре	24 Port, 1U, Loaded, Rack mountable Patch Panel offers fast and reliable installation of Unshielded cables on to a jack.		

Patch panels IDC (IDC of Information Out Connectivity Snap in Type should be at re	
Connectivity Span in Type should be at re	
RJ-45 jack on front panel, 19" rack moun	
CAT6 RJ45 Modular Jacks shall meet and	
channel specification of ANSI/TIA 568.De	
IEC/ISO 11801 & IEC 60603-7-41 when the state of the desired transfer of the d	
component in a properly installed UTP cl	
Each port of the panel is numbered for cl	
identification. Patch Panel includes with	
cable ties, cage nuts and rare cable mana	
2 Availability Patch Panel includes with mini cable ties	s, cage
nuts and rare cable management Cable management A rear cable management bar is supplied	l ruhi ah
Cable management A rear cable management bar is supplied acts as stress reliever for terminated cab	
port of the panel is numbered for clear p	
identification.	loi t
Compatibility Patch Panel should be able to accept Cate	6A Cat6
4 and Cat5e information outlets for backward	
forward compatibility	
5 Height 1U (1.75")	
3	
6 Operating Temperature -10Deg C to +60 Deg C range	
7 Storage Temperature : -40° to +70°C	
Electrical Performance Insulation Resistance : ≥ 500mΩ	
Contact Resistance : ≤10mΩ	
8 Current rating: 1.5 Amps	
DC Resistance : ≤ 0.1Ω	
DC/AC Volt Endurance : DC1000V/AC75	60V 1min
Metal SPCC, Black, plastic inserts, Double	e layer -
9 Color and Material 1.5mm, provided with mini cable ties, ca	ge nuts &
rare cable management.	
10 Housing Material PCUL94V-2	
11 Termination Interface Front Mated Connection: 750 Cycles	
12 Rear Mated Connection: 200 Cycles	
13 Plug and Outlet Contact force ≥ 100 Grams with FCC Compliant RJ-45 p	plug
14 Plug retention Force ≥ 15Nm	
15 Jack Contact Material Gold Plated Bronze pins	
16 Contact Compatibility Accommodates 23 to 26AWG solid	
Termination Pattern TIA / EIA 568 A and B and Shall not have	e an
integrated spring shutter as the shutter	
malfunctions and causes operational issu	
Should be ETL channel performance veri	
04-Connector channel or more, tested up	
350Mhz or more with an MTPL Plug as p	
18 Regulatory Compliances ANSI/TIA-568.2-D (Part Code to be ment	
report and should be submitted along wi	
and UL Listed (Relivent Document to be	
Compliant as per RoHS Directive 2011/6 and (EU) 2015/863	DS/EU

19	Test Reports	Shall be tested for Corrosion as per ASTM B117: 2019. (Relivent Document to be shared) The OEM shall be recognized by the Department for Promotion of Industry and Internal Trade under the 'Telecommunication & Networking' Industry and 'Network Technology Solutions' sector by Government of India. OEM factory test reports must be provided.	
20	Make & Model	Bidder to specify	
21	Operating Temperature	-10° to +60°C	
22	Storage Temperature :	-40° to +68°C	
23	Operating Humidity:	10% to 90% PH	
24	Regulatory Compliances	Should be ETL Listed in a 04-Connector Shielded Channel Tested upto 635Mhz with MTPL Plug as well as performance testing as per IEEE 802.3bt (All Report should be submitted along with bid) and UL Listed (Relevant Document to be shared) OEM should be an ISO9001, ISO 14001 and ISO 45001 should have its Manufacturing units, Components and Finished Goods Warehouse & R&D labs in India. All Related documents to be submitted. OEM offered must be in India / SAARC for at-least 9 years or more. Should have Indian Technical Support Centre, Warehouse and RMA centre in India. All passive products from single OEM & should be manufactured as per latest TIA/EIA or ISO/ IEC standard and have 25 years of channel performance and 5 Years component warranty	
25	RoHS Compliant	Should be Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863	
26	Make / Brand	Any globally reputed Manufacturer presence in India.	

Cat 6 Patch Cords 1/2 Mtr

Make:				
Mode	Model: Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Туре	CAT6 Unshielded LSZH rated Modular Cord shall meet and exceed channel specification of ANSI/TIA 568.2-D, ISO/IEC 11801 Class E, IEC 61156-6 and IEC 61935-2 Standard.		
2	Conductor	Flexible Stranded Bare Copper, 24 AWG		
3	Feature	Transparent Strain Relief easy latch-cover boot design for easy depression		

		Backward compatible for easy integration with any network component that uses a RJ45 connection	
4	Length	2/3/5 Meter & Customized length	
5	Connectors	High Grade 50 μ gold plated RJ45 Connectors	
6	Conductor Material	Stranded Bare Copper	
7	Storage Temperature Range :	-20 °C to +70°C	
8	Cable Diameter	5.86 ± 0.3mm	
9	Regulatory Compliances	Should be ETL channel performance verified on a 04-Connector channel or more, tested upto 350Mhz or more with an MTPL Plug as per ANSI/TIA-568.2-D (Part Code to be mentioned in report and should be submitted along with bid) and UL Listed (Relivent Document to be shared) Compliant as per RoHS Directive 2011/65/EU and (EU) 2015/863 Shall be registered under ETL Verification Program The OEM shall be recognized by the Department for Promotion of Industry and Internal Trade under the 'Telecommunication & Networking' Industry and 'Network Technology Solutions' sector by Government of India. OEM offered must be in India / SAARC for at-least 10 years or more.Should have Indian Technical Support Centre, Warehouse and RMA centre in India.	
10	Test Reports	OEM factory test reports must be provided.	
11	Make / Brand	Any globally reputed Manufacturer presence in India.	

12U Wall Mount Rack

Make	:			
Mode	Model: Part No.			
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)
1	Mount	Wall Mount		
2	Basic Frame	Steel		
3	Construction	Welded / CKD		
4	Top & Bottom Cover	Welded to Frame with Cable entry exit cut outs		
5	Front Door	Lockable Toughened Glass Door		
6	19" Mounting Angle	Formed Steel		
7	Std. Equipment Mounting	DIN Std. 10mm Sq. Slots		

8	Standard Finish	Powder coated	
9	Standard Colour	Grey & Off White OR Black	
10	Rack Standard	Conforms to DIN 41494 or equivalent standard	
11	Static Load	30Kg	
12	Dimensions	12Ux 600 x 600 MM	
13	Accessories	Cable Organisers Power Distribution Units Shelves Fan Moduels Rack ground Kit	
14	Make	Any globally reputed Manufacturer presence in India.	

Conduit Pipe	
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Make	Make:					
Mode	el:					
Sl. No	Feature	Technical Specification	Compliance (Yes/No)	If any deviation (Yes/No)		
1	Туре	Conduit Pipe				
2	Dia	25mm				
3	Thickness	2MM				
4	Materials	U PVC(FRLS) Conduit Heavy Duty				
6	Make / Brand	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:	

<u>SECTION - I</u>

TECHNICAL CAPABILITY OF BIDDER

(Tender No. WTL/NDITA/ICT/23-24/077)

Sl. No.	Project Name	Start Date	End Date / Status	Brief description of project & scope of work (implementation, operation & maintenance)	Type of project	Approx. value of the project	Contact details of the Customer

Authorized Signatory (Signature In full):	
Name and title of Signatory:	
Stamp of the Company:	

Note:

- A. Type of Project shall indicate the implementation of services (Delivery, Installation & Commissioning of Closed Circuit Television (CCTV) surveillance system, Wi-Fi and LAN, Audio-Visual system).
- B. Scope of work shall indicate whether it is implementation, Operation or maintenance.
- C. Submit Customer Order Copy details of the order indicating the project value, customer contact details.

SECTION - K

FINANCIAL CAPABILITY OF BIDDER

(Tender No. WTL/NDITA/ICT/23-24/077)

FINANCIAL INFORMATION

Sl. No.	Name of the Bidder	Turnover (Rs. / Crores)			
51. NO.		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 five financial years.

SECTION - L

BIDDERS'S DETAILS

(Tender No. WTL/NDITA/ICT/23-24/077)

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	
4		
	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, 	
	0&M)	

	IT Company	
14	Number of Offices in district headquarters in West Bengal	
15	Is your organization has ISO 9001:2015 / 2018 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		

SECTION - M

MANUFACTURER'S AUTHORIZATION FORM

Date:		
To Webel Technology limited Plot-5, Block-BP, Sector-V Salt Lake <u>Kolkata-700 091</u>		
Ref: Tender No.: WTL/NDITA/ICT/23-24/0	077 dated 15.03.2024	
Sir,		
WHEREAS and having production facilities at _	who are official producers of	do hereby authorize
(hereinafter, the "Bidder") to submit a bid associated with the above Invitation for Bid	l of the following Products produced	d by us, for the Supply Requirements
When resold by, t	hese products are subject to our thre	e warranty terms.
We assure you that in the event of Provider in respect of our Warranty Ter arrangements.	, not being able to ms we would continue to meet our	o fulfill its obligation as our Service Warranty Terms through alternate
We also confirm thatprovide maintenance and upgrade support	is our authorized service provi	der/system integrator and can hence
We also confirm that the products quoted a 3 years from the day of this letter. We assu years' warranty.		
We also confirm that the material will be the date of placement of confirmed order.	delivered as per delivery schedule a	gainst above mentioned tender from
Name	In the capacity of	
Signed		
Duly authorized to sign the authorization for	or and on behalf of	
Dated on day of	2024	
Note : This letter of authority must be or signatory.	n the letterhead of the Manufacture	er and duly signed by an authorized

SECTION - N

FORMAT FOR PRE-BID MEETING QUERY

(Tender No. WTL/NDITA/ICT/23-24/077)

	Section No.	Clause No.	Page No.	Queries
Authoriz	zed Signatory	(Signature I	n full):	
	11 60	natory:		
Name aı	id title of Sigr	iatory		

SECTION - 0

LIST OF CLIENTS OF SIMILAR ORDERS

(Tender No WTL/NDITA/ICT/23-24/077)

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

SECTION - P

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 having its Registered office at Plot - 5, Block BP, Sector V, Kolkata-700 091 (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 Nodated issued by the Purchaser fordated)". 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 ofRupees) 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 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.
(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
SIGNED, SEALED AND DELIVERED
(Stamp of the executants)
WITNESS
1)
1)
2)
(Name & address in full with Rubber Stamp)

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.

SECTION - O

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.

Thanking you, we remain

Sub: Supply, Installation, Testing & Commissioning of IP Based CCTV Surveillance system, Local Area Network & Wi-Fi, Audio-Visual System with three years comprehensive warranty for the Nabadiganta Bhavan, situated at Plot No-21, Sector-V, Salt Lake.

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/NDITA/ICT/23-24/077 dated 15.03.2024 for Supply, Installation, Testing & Commissioning of IP Based CCTV Surveillance, Lan & Wi-Fi & Audio-Visual System of The Nabadiganta Bhavan. 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 participating and executing the said tender.

Yours faithfully
Signature
Name in full
Docimation
Designation
Dated this does of 2024
Dated, thisday of2024

Section: R

Make, Model, Part No.

A. CCTV SURVEILLANCE SYSTEM

Sr.	Item Description	Make	Model	Part No.
1	1/2.8" Progressive Scan CMOS,5 MP Vandal proof IR HD Dome Camera, H.265 , 2.7- 13.5mm motorized zoom varifocal lens, 50mtr IR, 120 DB True WDR,TDN, 3D DNR, Multiple Exposure Method, Piris, ONVIF S,G, Triple stream, 2-way audio & alarm in/out, Built-in micro SD/SDHC/ SDXC slot min 1 TB,POE, Advanced intelligent video analytics: Object Classes: Person, Bicycle, Car, Motorbike, Any Class, Tamper Detection, Blur Detection, Corridor Pattern, PoE & 12VDC, support power supply failover IP67 ,IK10, Certification- CE,FCC,UL,BIS.,			
2	Smoke and Fire Detection License.			
3	Server for VMS: Processor: Gen 4 Intel Core i7 and must work on Windows/Linux platform with 2x1 Gbps NIC and 16/32 GB of RAM .Server should support minimum 96 TB of storage (It should be configured as per the storage calculation provided by VMS OEM) It must support DVI-I, HDMI, 1 display ports, max 2 simultaneous monitors Operating temperature should be 5 – 35° C .Server must have 8 HDD slot support 10TB HDD each slot.			
4	Server for Analytics: Processor: Intel Core i7-11700, Memory: 16GB (2x8GB) DDR4 RAM, O/S Ubuntu Linux, Graphic card: Triple Nvidia Quadro RTX 4000, 8GB, Power: Dual, Hot			
5	6TB Surveillance HDD			
6	55 Inch Commercial LED TV Capable of Operating 24X7 With Wall Mount Clamp, Ready VGA & HDMI Port, Remote Control			
7	Client Workstation: Processor: Intel Core i9 9920X upto 4.5 GHz, System Memory (RAM): 8 GB DDR4 (upgradable up to 16 GB), Optical Drive: DVD+RW, write to CD/DVD, Hard Disk Drives: 1TB SATA (expandable), Network Interface Card (NIC): Dual or compatible pair of NICs, with each port having 1 Gbps capacity., Human Interface: keyboard and a mouse, Port: USB, VGA, HDMI, Multi card reader, Ethernet port., Graphics Card: 2 GB Internal Graphic Card,, Two USB 2.0 ports • Two USB 3.0 ports, One VGA port (min) • One HDMI port(min), LAN port, Wi Fi, Original Operating System: Windows 10 Professional,			
8	VMS Software Including Perpetual License			
9	12Ux 600 x 600 MM Rack for Enclosure of Field Switches & Accessories			
10	17u x 600 x 600 MM Floor Standing Rack System, Lockable, Front Glass Door, 10 Points Power Distribution Unit, Fan			

	with Fan Tray, Wheel Their Nos, Heavy Duty Self, 100 Hardware Mount Screw		
11	FO Cable, Single Mode, Outdoor, 6 Core, True Armoured (Single Length = 2Kms)		
12	24 Port LIU, Indoor Standard, 24 Nos. Loaded Coupler, Pigtail, FO Core Dressing Tray		
13	Cat6 Cable		
14	Fully Loaded 24 Port Patch Panel		
15	Cat 6 Patch Cords 1 Mtr		
16	RJ 45 Plug, Solid Copper, UTP		
17	25 mm U PVC(FRLS) Conduit Heavy Duty, 2MM Thickness		
18	FO Duplex Patch Cord, Single Mode, 3 Mtrs, LC- SC Type		
19	Layer 2 Managed Switch (Gigabit) 24 Port PoE+ 10/100/1000 TX with 4 Nos. 1G SFP Port, Certification: UL, CUL, FCC, EN, ROHS		
20	Layer 2 Managed Switch (Gigabit) 16 Port PoE+ 10/100/1000 TX With 2 Nos. 1G SFP Port Certification: UL, CUL, FCC, EN, ROHS		
21	SFP Module		
22	3 KVA True Online UPS System, Single Phase Input, Single Phase Output, 30 Min Battery Backup, Battery Rack, Interconnecting for Cables for Battery, Surge Protector at UPS End		
23	UPS Battery; 12V, 65AH		
24	3 Core 1.5 Sq. MM Armoured FRLS Power Cable.		
25	Fiber & Copper & Electrical Cable Pulling & Laying with Stay-Wire, Proper Fixing.		
26	Installation, Testing, Commissioning & Training of Whole System With 1 Year Maintainace.		

B. LAN & EPABX SYSTEM

Sr.	Item Description	Make	Model	Part No.
	Layer 2 quitch 24v10/100/1000Page T DoE: Ports 2v1 C			
1	Layer 2 switch, 24x10/100/1000Base-T PoE+ Ports, 2x1 G Base-T Uplink-Ports, 4x1G/10G Base-X Uplink Ports from Day 1, 480W PoE Budget, Basic L3 (Static Routing and RIP) With Life Time Hardware Warranty Replacement			
2	1000Base-LX SFP Optic SMF, LC Duplex Connector Along with 5 Years Hardware Warranty Replacement.			

C. AUDIO-VISUAL SYSTEM

Sr.	Item Description	Make	Model	Part No.
1	Microphones, Shall Have Cardioid Super Cardioid Polar Pattern Reduces Background Noise & Provides an Impressive Gain Before Feedback Shall Have 12-48 V Phantom Power Operation. Capable of withstanding Up to 120 dB SPL With-Out Distortion Shall Have RFI Suppression, Shall Have a Three-Position BASS-TILT Switch: FLAT. CUT, & ROOST. Low-Frequency Response is Adjustable, Polar Pattern: Cardioid Frequency Range: 50 to 20,000 Hz, Impedance: 150 OHMS, Sensitivity: 22 MV/Pa (-30 dBV), Equivalent Noise Level: 22 dB-A			
2	ON/OFF Button Waterproof			
3	12 x 8 Networked Digital Signal Processor With AEC, Should Have 12 Floating AEC in Group of 4 Channel DSP with 12 Inputs and 8 Outputs, 12 Control Inputs and 6 Logic Outputs for GPIO Integration, 48V Phantom Power on All Analog Inputs, THD: <0.01% 20Hz to 20KHz-10dBu Cutout, Crosstalk: <-75dB. Open Architecture Software Configurable. Separate Logic Processing Power. 2 Digital Audio Bus RJ 45 Port, 1 Ethernet Port for Monitoring and Configuration, Capable to Handle +SV Unloaded logic Output Voltage. Should Have Speech Sense Engine. Capable to Control 3rd Party Devices with TCP IP and RS 232. Should Have Inos of RS 232 Port for Integration with Control System. Should Have Bi-Directional Locate Functionality. Should have 48 or More Digital Audio Channel Bus. Should Have Monitoring LED for COM, STAT, ERR and PWR			
4	Wireless Handheld Microphone System with MHZ Carrier sequence Band, up to 16 Pre-Programmed Frequencies Within the Same Frequency Band. Audio Bandwidth 35-20,000 Hz. THD At 1 KHz: <0.3% (Receiver), Signal-To-Noise: 120 dB(A) (Receiver) Wideband FM Modulation, up to 48 Simultaneous Channels, Upto 14 Hours Operation with One Singie AA Battery or Better Pilot Tone Transmission to Know the Transmitter Battery Status. Receiver Should Have Microphone Level and Line Level Output, Transmitter Should Have Display to Show the Battery and LED to Show the Muted Unmuted Status. Sensitivity 6.3 dB V-100 dBm, Should Have Microprocessor- Controlled Diversity T.H.D. 0,7% (Transmitter), Infrared Programmable RF Output Power: 10 or 50 MW			
5	Wireless Presenter Microphone System with MHZ Carrier Frequency Band, up to 16 Pre-Programmed Frequencies Within the Same Frequency and. Audio Bandwidth 35-20,000 Hz, THD at i kHz 0.3% (Receiver), Signal-To-Noise: 120 dB(A) (Receiver) Wideband FM Modulation. Up to 48 Simultaneous Channels, Upto 14 Hours operation. with one single AA			

	battery or better Pilot Tone transmission to know the			
	transmitter battery status, Receiver should have microphone			
	level and line level output Transmitter should have display to show the battery and LED to show the Muted/Unmuted			
	status, Sensitivity 6.3 dB V/-100 dBm, should have			
	Microprocessor-controlled diversity, T.H.D. 0.7%			
	(Transmitter), Infrared programmable RF output power: 10			
	or 50 mW			
	Constant Beam width Technology, Line Array Column			
	Loudspeaker with 200 W Power, Built-in 70V/100V			
	Transformer, Frequency Range: 80 Hz-20 kHz, Coverage:			
6	Vertical Broad Mode: 40°. Horizontal 150° Sensitivity			
	(2.83V@Im): 96 dB or better. Power Capacity: 1300W peak			
	and 200W cont. Enclosure: Fiberglass reinforced ABS			
	cabinet, Components: ten or more minimum 50 mm (2 in)			
-	Full- Range drivers Two-Way 4" Coaxial Ceiling Loudspeaker. Frequency Range			
	74 Hz-20 kHz, Power Capacity: 60 Watts, should have			
	70/100V Transformer taps, Nominal Coverage Angle: 120°			
7	conical, Rated Maximum SPL:108 Peak, HF Driver: 19 mm or			
'	better, Materials: ABS baffle with UL94-V0 and UL94-5VB			
	flame class fire rating, Safety Agency: UL1480, UL2043,			
	NFPA90 & NFPA70; S7232/UL Listed			
	Eight-channel, 125W @ 40 Power Amplifier, Sensitivity :1.4 V			
	Rated Power Output (all channels driven): 125W per CH @ 4			
	ohms. 125W per CH @ 8 ohms, Signal to Noise Ratio (below			
	rated power 20 Hz to 20 kHz, A-Weighted) 110 dB THD (full			
8	rated power, 20 Hz - 20 kHz) <0.05%, Intermodulation			
	Distortion (from 0 dB down to -30 dB): < 0.05%. Frequency Response (at IW, 4/8 ohms): +/- 0.5 dB Crosstalk (below			
	rated power) 20 Hz to 1 kHz: > 70 dB, Common Mode			
	Rejection (20 Hz to 1 kHz) >: 55 dB, typically: 70 dB, Voltage			
	Gain: 27 dB, IEC Power Connector 15A			
	Audio amplifier with Power output 4 x 600W @ 4 0hms/8			
	Ohms 70Vrms and 100Vrms output on all channels THD (at			
	full rated power. 20Hz-20kHz) =0.35% Cooling Continuously			
	variable speed forced air Voltage Gain Max level 34dB Audio			
9	Digital channel bus compatibility up to 8 channel bridgeable			
	channels - even in 100Vrms mode 2digital audio bus RJ 45			
	port Ethernet RJ 45 port for monitoring and configuration			
	Should have Limiters. Input/output EQ, Delay Matrix Mixer Speaker Line Monitoring Damping Factor (20 Hz to 100Hz):			
	>1000			
	Room based ITU with standard Video Resolutions H.263,			
	H.263, H.264 High Profile, and H.264 SVC. Resolutions			
	support: 1080p 60 fps for both camera and content for 4 sites			
	with license-based upgradation. HDMI input formats 1920 x			
	1080 @ 25, 30, 50, 60fps, 1280 x 720 @ 25, 30, 50, 60fps,			
	HDMI output formats 1280 x 720 @ 25, 30, 50, 60fps Data			
10	/Content Resolutions on DVI - 1440 x 900 @ 60fps: WSXGA,			
	10 1280 x 1024 @ 60fps: SXGA, 1280 x 720 @ 25, 30, 50,			
	60fps, 1280 x 768@60fps: WXGA, 1024 x 768 @ 60fps: XGA, 800 x 600 @ 60fps: SVGA. 640 x 480 @ 60fps: VGA Full HD			
	camera Resolution: 1080p 60 fps. Optical zoom: Min. 12x			
	optical zoom, Horizontal field of view: min 72°, Video Output			
	USB: YUV2 and MJPEG format 1080p 30/25 fps, 720p 30/25			
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	fps. Video Output HDMI: 1080p 60/50 HZ 720p 60/50 HZ,		
	Camera Control USB, RS-232 In/Out, Autofocus, Auto		
	exposure, auto white balance. Sensor: 1/2.8" 2 MP CMOS,		
	Audio		
	codec - G.711, G.728, G.722, G.722.1, and G.722.1 Annex C.		
	Audio features - 1x POD for		
	covering a large room. Acoustic echo canceller, Independent		
	AEC for each microphone,		
	Automatic Gain Control (AGC) Audio inputs: HDMI and 2		
	other inputs - Audio outputs: 1		
	x HDMI/HDCI: 1 x 3.5 mm line jack. Audio I/O interface of the		
	VC Room System must		
	support both Digital and Analog		
	Wireless Presentation Gateway for Wireless Content to Main		
	display, supports 2X HDMI Output, supports 1080p		
11	Resolution, Frame 11 Rate: 30FPS, Airplay, Miracast, and		
**	Google Cast so users can easily share content from mobile		
	, ,		
-	devices or PC		
	Minimal Proprietary Compression Video Over IP Encoder		
	with PoE, AES67/Dante Support, Video scaling at output		
	allows seamless switching from any source, at any resolution,		
	to any display or projector, while preserving video fidelity.		
	Digital Video Input: HDMI, DVI-D (through adapter),		
	RGB/VGA Analog Video Input: HD- 15 VGA, Component,		
	Formats: HDMI DVI-D (through adapter), Dual-Mode		
	DisplayPort, (DP++). HDCP content protection support,		
12	RGBHV, YPbPr, DVI-D and Dual-Mode DisplayPort (DP++),		
	Progressive Input Resolutions: HD up to 1920x1200. On		
	Board: - Infrared emitter connection, Analog-to-Digital		
	Conversion: 8-bit 165 MHz per each of		
	three-color channels, Input Signal Types: Analog Stereo		
	(Balanced or Unbalanced), Latency: 10 ms at 60 fps,		
	Ethernet: 10/100/1000 Mbps, auto-negotiating, auto-		
	sensing, full/half duplex, DHCP, Auto IP, and Static IP.		
	Regulatory Compliance: FCC, CE, and NTRI.		
	Minimal Proprietary Compression Video Over IP Decoder		
	with Output Scaling - Video Scaling at Output Allows		
	Seamless Switching From any Source, at Any Resolution, to		
	Any Display or Projector, While Preserving video fidelity. On		
	Board - Infrared Emitter Connection. Decoder Features Two		
	RJ45 Network Ports (One PoE), Digital Video Input Network		
	Video Over Ethernet Via RJ45 port or Fiber via IG SFP Port		
	Video Output: HDMI, DVI-D, Input Signal Types Network		
13	Video Over Ethernet via RJ45, HDMI Audio Formats: 8ch		
13	PCM. Analog Audio Format: Stereo 2-Channel, Digital-to-		
	Analog Conversion 16-bit 32 kHz, 44.1 kHz and 48 kHz",		
	Latency: 10 MS at 60 fps, AES67/Dante Support, Ethernet 1:		
	10/100/1000 Mbps, Auto-Negotiating, Auto-Sensing,		
1	Full/Half Duplex, DHCP, Auto IP, and Static IP", Ethernet 2:		
	10/100/1000 Mbps, Auto Negotiating, Auto-Sensing,		
	Full/Half Duplex, DHCP, Auto IP, and Static IP. Regulatory		
	Compliance: FCC, CE, and NTRI.		
	4x1 Windowing Processor + Stacking Video Feature with		
	Multiple Window Layouts Can be Stored a Preset and Quickly		
14	Recalled Using a Control System. The Videos Animate		
	Between the Different Layout's Configurations. Built-in Audio		
	between the binerent bayout a configurations, bunt-in Audio		

	Matrix Switch Allows Selection of any Audio Stream for Windowing Processor output. Input Resolutions: Input Stream Pixel Clock Between 27 MHz - 165 MHz, Minimum Resolution of 640x480p, Maximum Horizontal resolution of 1920 or a Vertical resolution of 1200, Output Resolutions HD up to 1920x1200. Color Space: 4:2:2. LATENCY @ 1080p: 50 MS at 60 fps. WINDOWING: Maximum Number of Windowed Videos 4, Built-in Presets Sound, P-in-P. 3-Stack, Full-1, Maximum of Custom Presets: 1000		
15	Audio Over IP Transceiver with Input: 2-Channel User Selectable Balanced or Unbalanced Audio Output: 2-Channel Balanced Audio 2-Channel Unbalanced Audio (Headphone Jack), Analog-To-Digital Conversation: 16-bit 32 kHz. 44.1 kHz and 48 kHz. LATENCY: Audio 20ms. Ethernet: Multi-cast, Unicast, IGMP v3, IPv6, Layer-2 and Layer- 3 switch compatible. Network port-8-wire RJ-45 female. 10/100/1000 Mbps 10/100/1000Base-T auto-sensing gigabit Ethernet switch port.		
16	Integrated Controller With Power Supply with Dual Network Interface Card, Should Support IPv6, Should Supports IEEE Standard for Port-Based Network Access Control with the Ability to Grant or Deny Network Access to Devices Wishing to attach to a LAN Based on Credentials Tied to the Device Rather Than to a User, Should Have High Performance Architecture, Flexible Programming Platform (Java)- Should Have Ability to Manage Secure Port TLS and SSH 16 Communications with a Remote Device or Server, Enhanced Diagnostics On Serial and IR Ports, Hardware/Software Should be Built for 24/7/365 Operation. Should have Ultra-Fast 1600 MBPS Processor, 512 MB Onboard RAM, IM Non-Volatile Memory, 8 GB SDHC FLASH Memory, I RU Rack Space, 10/100 LAN Interface, 8 x Digital I/O Ports, 2x RS-232/422/485 Port, 6x RS-232-Only Ports, 8x IR/Serial Output Ports, 8x Relay Ports, Regulatory Compliance: UL 60950-1 and RoHS, WEEE		
17	7" Tabletop/Wall Mount Touch Panel fully configurable. Capacitive Touch Screen, Built-in Web Browser and document Viewers Adjustable Security Modes		
18	28 Ports POE+ Network Switch Shall be IGBPS Capable Per Port Shall Have 300W or More Power Dedicated to POE		
19	3x2 Full HD Video Wall Considering 49" IPS, LED, FHD Panel, Hard Coating. Anti-Glare Surface Treatment. Height-411, X Width-7.2 11. Approx, Bezel Width: Less than 1 mm (L/T/R/B) Even Bezel, Brightness: 500 cd/m2 or Higher. Dynamic CR: 500000:1. Built in System - 1.2Gzh Quad Core CPU, 550MHz GPU, 2.5GBDDR3 RAM & 8GB Storage or Higher, SRC, Typical Power Consumption 120W or Less Per Panel, at Least 15x15 Tile Mode, Weight Per Panel Not More than 18KG, USB Cloning		
20	Videowall Retractable Bracket		
21	43" 4K Commercial Edge LED Smart Display with Commercial Smart Home, Web Browser, Pre-Loaded Apps. Connectivity: Soft AP, Wi-Fi (AC), Screen Share (Miracast),		

	Smart Share, DIAL, Bluetooth Sound Sync, Sound Sync, Interface: HDMI In, USB 2.0, USB 3.0, CI Slot, RF In, AV In, Video Component In (Phone Jack Type). Digital Audio Out (Optical), HDMI Input, RS-232C, Headphone Out, Clock Interface, RJ45 (2). External Speaker Out (2). Built in OS
22	15.6" Portable 1080P Monitor USB C 60W Power. 22 Mini HDMI for Conference Table
23	HDMI 2M Cable
24	HDMI SM Cable
25	CAT6 UTP IM Patch Cord
26	Popup box/ Cable cubby with necessary power, VGA & HDMI cable
27	CAT6 UTP Cable with PVC Conduit
28	Interconnects & Connectors
29	23/36 Microphone/Signal Cable-90 Mtrs Roll
30	2 Core, 2.5 Sq.mm Cable
31	Equipment Rack with Necessary Accessories
32	Trail Run of the Entire System as Per the Requirement