

# **TENDER**

**FOR**

**SUPPLY & INSTALLATION OF HD VIDEO CONFERENCING SYSTEM**

**AT**

**REGIONAL INSTITUTE OF OPHTHALMOLOGY,  
INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES, PATNA**



**Tender No.: 01 / HD VC / BME / 2020**

**Last Date of submission: 02.06.2020 up to 4 P.M.**

**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES,  
SHEIKHPURA, PATNA – 800 014 (Bihar, India)  
Tel.: 0612 – 2297631, 2297099; Fax: 0612 – 2297225; Website: [www.igims.org](http://www.igims.org);  
E-Mail: [director@igims.org](mailto:director@igims.org) / [bme@igims.org](mailto:bme@igims.org)**

**Background:**

Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna - 800 014 is the premiere medical institute of the state of Bihar - established by the act of Assembly and functioning under Department of Health, Government of Bihar. Various facilities are being developed at this Institute to cater to needs of patients belonging to the state of Bihar and neighbouring states.

Innovations in computing and telecommunications technology, like Tele-Ophthalmology help in many elements of ophthalmic care to be accomplished when the patient and health care provider are geographically separated. Broadly defined, Tele-ophthalmology is the transfer of electronic medical data (i.e. high resolution images, sounds, live video, patient records etc.) from one location to another where a specialist at the base hospital can give expert advice.

**Aim:**

The aim of this project is to establish Tele-Ophthalmology at Regional Institute of Ophthalmology, Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna (Bihar).

Indira Gandhi Institute of Medical Sciences, Patna (IGIMS) invites tender for supply, erection, installation, commissioning, testing, demonstration and training of HD Video Conferencing System, as per specifications given in the Annexure attached to the Tender form. All offers should be made in English and should be written in both figures and words. Tender forms can be downloaded from the Institute website (<http://www.igims.org>) of the Institute.

The bidders are requested to read the tender document carefully and ensure compliance with all specifications/instructions herein. Non-compliance with specifications/instructions in this document may disqualify the bidders from the tender exercise. The Director, Indira Gandhi Institute of Medical Sciences, Patna reserves the right to select the item (in single or multiple units) or to reject any quotation wholly or partly without assigning any reason. Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored and rejected.

**Terms and Conditions:**

1. The technical and financial bids should be quoted separately and put in different sealed envelopes marked “**Technical bid**” or “**Financial bid**” as applicable. These separate bids envelopes are to be put in an outer envelope which should also be sealed.
2. The Vendors who have earlier supplied the equipment to reputed Govt. / Pvt. Institutions / Organizations and other Medical / Scientific Institute of National Repute may only tender. The details of such institutions and the cost with name of equipment may also be supplied with the bids.
3. The technical and financial bids should be submitted in original. The financial bid should include the cost of main equipment/item and its accessories. If there is any separate cost for installation etc. that should be quoted separately.
4. Each individual sealed envelope as well as the outer envelope should be marked with the following reference on the top left hand corner: “**Tender Notice No.: 01 / HD VC / BME / 2020; Item Name: Supply, Installation and Commissioning of HD Video Conferencing System**”.

5. The printed literature and catalogue/brochure giving full technical details should be included with the technical bid to verify the specifications quoted in the tender. The bidders should submit copies of suitable documents in support of their reputation, credentials and past performance.
6. The rates should be quoted in figures (typed or printed) and cutting should be avoided. The final amount should be in figures as well as in words. If there are cuttings, they should be duly initialed, failing which the bids are liable to be rejected.
7. Any bids received after 4:00 P.M. on 02.06.2020 shall not be considered
8. The Technical Bids will be opened on 03.06.2020 at 03:00 P.M. The date & time for opening of Financial Bids will be informed later on to the technically qualified bidders.
9. While sending rates, the firm shall give an undertaking to the effect that *“the terms/conditions mentioned in the enquiry letter/Tender Notice against which the rates are being given are acceptable to the firm.”* In case the firms do not give this undertaking, their rates will not be considered.
10. If the supplier/firm is original equipment manufacturer (OEM)/authorized dealer/sole distributor of any item, the certificate to this effect should be attached.
11. The quantity shown against the item is approximate and may vary (increase or decrease) as per demand of the Institute at the time of placing order.
12. All tender documents should have to be sent through courier, speed post or registered post only. All tender documents received after the specified date and time shall not be considered.

The postal address for submitting the tenders is:

**The Director,  
Indira Gandhi Institute of Medical Sciences,  
Sheikhpura,  
Patna – 800 014 (Bihar)**

13. In the event of any dispute or difference(s) between the vendee Institute (IGIMS, Patna) and the vendor(s) arising out of non-supply of material or supplies not found according to specifications or any other cause whatsoever relating to the supply or purchase order before or after the supply has been executed, shall be referred to “The Director, IGIMS, Patna”, who may decide the matter himself or may appoint arbitrator(s) under the arbitration and conciliation Act,1996. The decision of the arbitrator shall be final and binding on both the parties.
14. The place of arbitration and the language to be used in arbitral proceedings shall be decided by the arbitrator.
15. All disputes shall be subject to Patna (Bihar) Jurisdiction only.
16. All tenders in which any of the prescribed conditions is not fulfilled or any condition is put forth by the tenderer shall be summarily rejected.
17. IGIMS, Patna reserves the right to cancel the tender at any point of time without assigning

any reason.

18. The bidders or their authorized representatives may also be present during the opening of the Technical Bid, if they desire so, at their own expenses.

**Note:** Price bids of only those bidders will be opened whose technical bids are found suitable by the committee appointed for the purpose. Date and time of opening of price bids will be decided after technical bids have been evaluated by the committee. Information in this regard will be intimated to the technically qualified bidders. In exceptional situation, an authorized committee may negotiate price with the qualified bidder quoting the lowest price before awarding the contract.

19. **Clarifications:**

In case the bidders requires any clarification regarding the tender documents, they are requested to contact our office (e-mail: [bme@igims.org](mailto:bme@igims.org)) on or before 18.05.2020.

20. **Tender Cost:**

A Demand draft of Rs. 2,000/- (Rupees Two Thousand only) towards non-refundable tender fee, drawn in favour of "The Director, IGIMS, Patna" payable at Patna (Bihar) should accompany the Technical bid documents. In the absence of tender cost, the tender will not be accepted.

21. **Earnest Money Deposit (EMD):**

A refundable amount of Rs. 50,000/- (Rs. Fifty Thousand Only) as earnest money deposit (EMD) in the shape of DD from a scheduled bank in India (valid for a minimum period of 3 months from the date of submission of tender) should accompany the bid documents. The DD drawn in favour of "The Director, IGIMS, Patna" payable at Patna (Bihar) should accompany the bid documents. The EMD should be kept in a separate sealed envelope, should be marked clearly and put in the outer envelope that contains the technical and financial bid envelopes. The bidders should enclose a pre-receipted bill for the EMD to enable us to return the EMD of unsuccessful bidders. Failure to deposit Earnest Money will lead to rejection of tender. The bidders should submit separate EMD. In the event of the awardees bidder backing out, EMD of that bidder will be forfeited.

22. **Pre – Qualification Criteria:**

- a. Bidders should be the manufacturer / authorized dealer. Letter of Authorization from original equipment manufacturer (OEM) on the same and specific to the tender should be enclosed.
- b. The Vendors who have earlier supplied the equipment to reputed Govt. / Pvt. Institutions / Organizations and other Medical / Scientific Institute of National Repute may only tender. The details of such institutions and the cost with name of equipment may also be supplied with the bids.
- c. An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for the warranty as well.
- d. OEM should be internationally reputed Branded Company.

- e. Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between bidder specification and supporting documents etc. may lead to rejection of the bid.
- f. Furnishing of wrong/ambiguous information in the compliance statement may lead to rejection of bid and further black listing of the bidder, if prima-facie it appears that the information in the compliance statement was given with a malafide/fraudulent intent.

**23. Prices:**

- a. The Prices quoted should be inclusive of all taxes or duties, packing, forwarding, freight, insurance, delivery and commissioning etc. at destination site (IGIMS, Patna). The rates shall be firm and final. Nothing extra shall be paid on any account. In the price bid/financial bid, the vendor should clearly mention the final price breakup i.e. Ex-work price/FCA price, FOB price, CIP/CIF price & FOR IGIMS, Patna Campus price, as applicable in their bid.
- b. In case of imported equipment(s)/item(s), the agency commission, if any, payable in Indian rupees should be mentioned separately. For imported equipment, the Letter of Credit will be opened for the amount excluding agency commission in Indian Rupees. The firm should clearly mention the address of foreign bank in the financial bid.

**24. Validity:**

The bid should be valid for acceptance up to a period of 180 Days. The Bidders should be ready to extend the validity, if required without any additional financial implications.

**25. Delivery:**

The Equipment should be delivered and installed within the period as specified in the purchase order and be ready for use within 4 weeks of the issue of purchase order unless otherwise prescribed. If the bidder fails to deliver and place any or all the Equipments or perform the service by the specified date, penalty at the rate of 2% per week of the total order value subject to the maximum of 10% of total order value will be deducted.

**26. Training:**

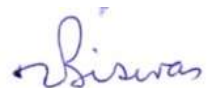
Bidders need to provide adequate training to the nominated persons of IGIMS, Patna at their cost. IGIMS, Patna will not bear any training expenditure.

**27. Warranty Declaration:**

Bidders must give the comprehensive on-site warranty as required from the date of successful installation of Equipment against any manufacturing defects and also give the warranty declaration that *“everything to be supplied by us hereunder shall be free from all defects and faults in material, workmanship and shall be of the highest quality and material of the type ordered, shall be in full conformity with the specification and shall be complete enough to carry out the experiments, as specified in the tender document.”*

Any deviation in the material, and the specifications from the accepted terms may liable to be rejected and the bidders need to supply all the goods in the specified form to the satisfaction / specifications specified in the order / contract and demonstrate at their own cost.

28. **Performance Bank Guarantee:** A performance bank guarantee from a scheduled bank in India for an amount equal to 10% of the price for duration of three months beyond the expiry of warranty period will be taken from the supplier or Indian agent.
29. **Terms of Payment:** Payment will be made only after delivery and satisfactory installation, testing, commissioning etc. and on submission of performance bank guarantee as specified above.
  - In case of imported supplies, payment (excluding Indian agency commission, if any) will be made through irrecoverable Letter of Credit in two installments. 80 % of the money will be released on submission of shipping of documents. Remaining 20 % will be released after successful installation of the instrument and submission of a performance bank guarantee for 10% of the order value from a nationalized bank, valid for 2 months beyond the expiry of the warranty.
30. **Tender expenses and documents:** All costs incurred by the bidder in the preparation of the tender shall be at the entire expense of the bidder.
31. **Tender Evaluation Criteria:** The technical bids will be opened and evaluated by a duly constituted committee. After evaluation of the technical bid, the financial bid for only those offers which have qualified in the evaluation of technical bid will be opened.
32. **Return of EMD:**
  - The earnest money of unsuccessful bidders will be returned to them without any interest within 15 working days after awarding the contract.
  - The earnest money of the successful bidder will be returned to them without any interest within 15 Days after supply of material.
33. **Manual and documentation:** All the manuals necessary for operating and servicing the equipment (including details of electronic circuits) will have to be provided along with the instrument.
34. The IGIMS, Patna reserves the right to cancel the tender at any stage (point of time) without assigning any reason.
35. Bidders should go through the tender terms, conditions and specifications carefully and fill in the attached compliance statement accurately and unambiguously. They should ensure that all the required documents are furnished along with the bid.



**Director,  
I.G.I.M.S. – Patna.**

**BID PARTICULARS**

- 1. Name of the Supplier :
  
- 2. Address of the Supplier :
  
- 3. Availability of demonstration of equipment : Yes / No
  
- 4. Tender cost enclosed: : Yes/No if yes

D. D. No. \_\_\_\_\_ Bank \_\_\_\_\_ Amount \_\_\_\_\_

- 5. EMD enclosed : Yes / No if (Yes)

D. D. No. \_\_\_\_\_ Bank \_\_\_\_\_

- 6. Name and address of the Officer/contact person to whom all references shall be made regarding this tender enquiry.

Name :

Address :

Telephone No. :

Fax No. :

Mobile No :

E-Mail :

Web :

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Ref:- Tender Notice No.:

<b>SN</b>	<b>Minimum Technical Specification of Audio &amp; Visual Projection with VC System for Meeting Room</b>	
	The Bidder must be authorized system integrator of the quoted brand/model, and must be Authorized Dealer to quote in this query by the Manufacturer. Manufacturer's Authorization specific to this query and OEM recommendation for interfaces etc. must be enclosed with the offer, failing which offer will be rejected.	
<b>A</b>	<b>Display &amp; Switching</b>	
<b>1.01</b>	<b>Supply of ULTRA HD 55" Display, Make - Sony, Christie, LG &amp; BARCO</b>	<b>Compliance by Bidder</b>
	<b>Panel</b>	
	Display Type	LED
	Screen Size	54" (diagonal) or Higher
	Aspect Ratio	16:09
	Native Resolution	3,840 x 2,160 (ULTRA HD)
	Brightness	500 nit or cd/m2
	Viewing Angle (H x V)	178 x 178 degree
	Response Time	Up to 9 ms (GTG)
	<b>Connectivity</b>	
	HDMI, Audio, USB 3.0	
	Digital Audio Out, RF, External Speaker out, Headphone Out, HDMI/HDCP	
	RS232C, RJ(Ethernet)	
	<b>Features</b>	
	Built in WiFi, webOS 4.0, Commercial Smart Home, Web Browser, SoftAP, WiFi (ac), ScreenShare (Miracast), Bluetooth Sound Sync, Hotel Mode, Lock Mode, Welcome Screen, Crestron Connected® Certified, USB Cloning, WOL	
	<b>Environment Conditions</b>	
	Operation Temperature	0 °C to 40 °C
	Operation Humidity	10 % to 80 %
	<b>Power</b>	



	Power Supply	100-240V~, 50/60Hz	
	Typical / Smart Energy Saving	125W(Typ) / 90W(SES) or Less	
<b>1.02</b>	<b>Supply of ULTRA HD 75" Display, Make - Sony, Christie, LG &amp; BARCO</b>		<b>Compliance by Bidder</b>
	<b>Panel</b>		
	Display Type	LED	
	Screen Size	74" (diagonal) or Higher	
	Aspect Ratio	16:09	
	Native Resolution	3,840 x 2,160 (ULTRA HD)	
	Brightness	350 nit or cd/m2	
	Viewing Angle (H x V)	178 x 178 degree	
	Response Time	Up to 8 ms (GTG)	
	<b>Connectivity</b>		
	HDMI, Audio, USB 3.0		
	Digital Audio Out, RF, External Speaker out, Headphone Out, HDMI/HDCP		
	RS232C, RJ(Ethernet)		
	<b>Features</b>		
	Built in WiFi, webOS 4.0, Commercial Smart Home, Web Browser, SoftAP, WiFi (ac), ScreenShare (Miracast), Bluetooth Sound Sync, Hotel Mode, Lock Mode, Welcome Screen, Crestron Connected® Certified, USB Cloning, WOL		
	<b>Environment Conditions</b>		
	Operation Temperature	0 °C to 40 °C	
	Operation Humidity	10 % to 80 %	
	<b>Power</b>		
	Power Supply	100-240V~, 50/60Hz	
	Typical / Smart Energy Saving	220W(Typ) / 160W(SES) or Less	
<b>1.03</b>	<b>Supply of 4 X 4 Video Matrix Switcher, Make -Kramer, Aten, crestron</b>		<b>Compliance by Bidder</b>
	<b>Video Input</b>		
	Interface	4 x HDMI Type A Female	
	Impedance	100 Ω	

	Max Distance	1.8 m	
	<b>Video Output</b>		
	Interface	4 x HDMI Type A Female	
	Impedance	100 $\Omega$	
	Max Distance	15 m	
	<b>Video</b>		
	Max. Data Rate	6.75 Gbps (2.25 Gbps Per Lane)	
	Max. Pixel Clock	225 MHz	
	Compliance	HDMI (3D, Deep Color)	
		HDCP 1.4 Compatible	
		Consumer Electronics Control (CEC)	
	Max Resolutions	Up to 1080p	
	Max Distance	Up to 15 m	
	<b>Control</b>		
	RS-232	<b>Connector:</b> 1 x DB-9 Female	
		<b>Baud rate and protocol:</b>	
		Baud Rate: 19200, Data Bits: 8, Stop Bits:1,	
		Parity: No, Flow Control: No	
	<b>EDID Settings</b>		
		<b>EDID Mode:</b> Default / Port1 / Remix	
	<b>Power</b>		
		<b>Connector:</b> 1 x DC Jack	
		<b>Consumption:</b> 5.3 VDC, 9W	
	<b>Environment</b>		
	Operating Temp.	0-50°C	
	Storage Temp.	-20 - 60°C	
	Humidity	0-80% RH, Non-Condensing	
	Warranty	Minimum 1 (One) year warranty should be provided for this unit from the date of successful commissioning	

<b>B</b>	<b>Audio System</b>		
<b>2.01</b>	<b>Supply of 16 Watt Ceiling Mount Speaker, Make - Bosch, Bose, Televic</b>		<b>Compliance by Bidder</b>
	<b>Parameters</b>	<b>Specification</b>	
	Type	Full Range Driver	
	<b>Driver compliment</b>	One 2.25" (57mm) full-range driver	
	<b>Maximum acoustic output (pink noise)</b>	96 dB-SPL @ 1m	
		102 dB-SPL (peak) @ 1m	
	<b>Impedance</b>	8½ (transformer bypass)	
	<b>Long-term power handling</b>	16W	
	<b>Sensitivity (pink noise) SPL</b>	84 dB-SPL, 1W @ 1m	
	<b>Frequency response (-/+3 dB)</b>	95 Hz - 17 kHz	
	<b>Frequency range (-10 dB)</b>	80 Hz - 19 kHz	
	<b>Nominal Dispersion</b>	140° conical	
	<b>Filter</b>	80 Hz high pass filter	
	<b>Loudspeaker EQ</b>	required	
	<b>Transformer Taps (70/100 V)</b>	70 V: 1 W, 2 W, 4 W, 8 W, 16 W 100 V: 2 W, 4 W, 8 W, 16 W	
	Warranty	Minimum 1 (One) year warranty should be provided for this unit from the date of successful commissioning	
<b>2.02</b>	<b>Supply of Amplifier Make-Bosch, Bose, Televic</b>		<b>Compliance by Bidder</b>
	<b>AUDIO INPUTS</b>		
	<b>Mic/Line Inputs (4 – Balanced)</b>		
	Connectors	3-pin Euroblock	
	Input range	20 Hz – 20 kHz	
	Input impedance	Mic 2 k Ohms /Line 25 k Ohms	
	Maximum input level	Mic -20 dBu/Line 10 dBu	
	Equivalent input noise	122 dB (A-weighted/20 Hz – 20 kHz)	
	<b>Line Inputs (4 – Unbalanced)</b>		
	Connectors	Dual RCA (summed to mono)	
	Input range	20 Hz – 20 kHz	

	Input impedance	10 k Ohms	
	Maximum input level	+10 dBu	
	<b>Page Input (1 – Balanced)</b>		
	Connectors	4-pin Euroblock	
	Input range	20 Hz – 20 kHz	
	Input impedance	400 Ohms	
	Maximum input level	30 dBu	
	Equivalent input noise	122 dB (A-weighted/20 Hz – 20 kHz)	
	<b>Direct Input (1 – Balanced)</b>		
	Connectors	3-pin Euroblock	
	Input range	20 Hz – 20 kHz	
	Input impedance	18 k Ohms	
	Maximum input level	+8 dBu	
	<b>Direct AUDIO OUTPUTS Amplifier Outputs (2)</b>		
	Connectors	5-terminal inverted Euroblock	
	Nominal load	(70/100V) 50 Ohms @ 70V, 100 Ohms @ 100V	
	Output impedance	4 Ohms	
	<b>Auxiliary Output (1)</b>		
	Connectors	3-pin Euroblock	
	Output impedance	400 Ohms	
	Maximum output level	2.2 dBV	
	<b>PERFORMANCE</b>		
	Amplifier power	2 x 120W @ 4 <sup>1</sup> / <sub>2</sub> , 2 x 100W @ 70/100V	
	THD (at full rated power)	<= 0.5%	
	Crosstalk - (below rated power, 1 kHz)	<=-60 dBV	
	Signal-to-Noise ratio - (below rated power, A-weighted)	75 dB	
	Dynamic range	80 dB	
	Frequency response	40 Hz – 16 kHz (+0/-3 dB)	
	Sampling rate	44.1 kHz	

	A/D and D/A converters	24-bit	
	Communication port	RS-232 serial port	
	LED status indicators	Power – blue; Signal present – green; Clip – red	
2.03	<b>Supply of 6 channel Mixer with Effects, Make - Bosch, Yamaha, Shure, Televic</b>		<b>Compliance by Bidder</b>
	Frequency Response		
	Input to STEREO OUT	+0.5 dB/-0.5 dB (20 Hz to 20 kHz),	
		refer to the nominal output level @ 1 kHz, GAIN knob: Min	
	Total Harmonic Distortion(THD+N)		
	Input to STEREO OUT	0.01 % @,+8 dBu(20 Hz to 20 kHz), GAIN knob: Min	
		0.003 % @,+18 dBu(1 kHz), GAIN knob: Min	
	Hum&Noise *1 (20 Hz to 20 kHz)		
	Equivalent Input Noise	-128 dBu (Mono Input Channel, Rs: 150Ω, GAIN knob: Max)	
	Residual Output Noise	-102 dBu (STEREO OUT, STEREO LEVEL knob: Min)	
	Crosstalk (1 kHz) *2	-88 dB	
	Input Channels	6 channels: Mono (MIC/LINE): 2, Stereo (LINE): 2	
	Ouput Channels	STEREO OUT: 2, PHONES: 1	
	Bus	STEREO: 1	
	Mono Input Channel Function		
	PAD	26 dB	
	HPF	80 Hz, 12 dB/oct	
	EQ HIGH	Gain: +15 dB/-15 dB, Frequency: 10 kHz shelving	
	EQ LOW	Gain: +15 dB/-15 dB, Frequency: 100 Hz shelving	
	PEAK LED	LED turns on when post EQ signal reaches 3 dB below clipping	
	Level Meter	Post STEREO LEVEL	
	Knob	2 x 7-segment LED meter [PEAK (+11), +6, +3, 0, -3, -10, -20 dB]	
	Internal Digital Effect (MGo6X)SPX Algorithm	6 programs	
	Phantom Power Voltage	+48 V	
	Warranty	Minimum 1 (One) year warranty should be provided for this unit from the date of successful commissioning	

2.04	<b>Supply of 12" gooseneck microphone. Make-Bosch, Shure, Bose, Televic</b>		<b>Compliance by Bidder</b>
	Audio output signal type	electronically balanced	
	Wide dynamic range and frequency response for accurate sound reproduction across the audio spectrum		
	Interchangeable cartridges provide the right polar pattern for every application		
	Balanced, transformerless output for increased immunity to electromagnetic hum and RF interference over long cable runs		
	Shock mount provides over 20 dB isolation from surface vibration noise		
	Locking flange mount for permanently securing microphone to lecterns, pulpits, or conference tables		
	Snap-fit foam windscreen		
	Programmable on/off switch and LED on/off indicator		
	Brighter LED for visibility under strong ambient lighting		
	Logic input and output terminals for remote control or use with automatic microphone mixers		
	Supplied shock mount for more than 20 dB isolation from surface transmitted noise : applicable only in case of surface mount assembly		
	Supplied threaded flange mount for permanently securing the microphone to a lectern, pulpit, or conference table : applicable only in case of surface mount assembly		
	Type	Condenser (electret bias)	
	Frequency Response	50 to 17000 Hz	
	Output Impedance (at 1000Hz)	EIA Rated at 150 Ohms (180 Ohms actual)	
	Open Circuit Sensitivity (At 1KHz ref 1V per Pascal)	Cardioid : 21.1 mV	
		Super Cardioid : 23.7mV	
	Polarity	Positive Sound Pressure on diaphragm to produce positive voltage on Pin 2 relative to pin 3 of XLR output connector	
	Maximum SPL (1 kHz at 1% THD, 1 kilohm load)	Cardioid: 123 dB	
		Supercardioid: 122 dB	
	Equivalent Output Noise (A-weighted)	Cardioid: 29 dB SPL	
		Supercardioid: 28 dB SPL	
	Signal-to-Noise Ratio (referenced at 94 dB SPL at 1 kHz)	Cardioid: 65 dB	
		Supercardioid: 66 dB	
	Dynamic Range (1 kilohm load at 1 kHz)	94 dB	
	Common Mode Rejection	45 dB minimum	

	Preamplifier Output Clipping Level (1% THD)	-6 dBV (0.5 V)	
	Logic Connections - LED IN ??	Active low ( $\leq 1.0V$ ), TTL compatible. Absolute maximum voltage: -0.7V to 50V	
	Logic Input Output	Loc I/O terminals for remote control	
	Certification	CE Marking, Conforming to European EMC Directive 89/336/EEC. To Meet applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments.	
	Mute Switch Attenuation	50 dB minimum	
	Microphone	<b>12 inches</b> desktop mini condenser, gooseneck mounted microphone	
	Cartridge	interchangeable	
	Warranty	Minimum 1 (One) year warranty should be provided for this unit from the date of successful commissioning	
<b>2.05</b>	<b>Supply of Wireless Hand held microphone (1 Pair). Make-Bosch, Shure, Bose, Televic</b>		<b>Compliance by Bidder</b>
	Wireless miniature-invisible lapel microphone with receiver and transmitter	Wireless Transmitters with Lapel - 2 AA batteries (minimum up to 14 hours of continuous use) 300 feet (91 m) operating range (line of sight), Audio Input Level: gain Max: -16dBV Min: +10dBV, Gain Adjustment Range: 26 dB, Input Impedance - 1 M $\Omega$ , RF Transmitter output - 10mV Lavalier Microphone Impedance minimum 3000 ohms with minimum 1m of cable. Transducer Type : Condenser Polar Pattern: Omnidirectional Frequency Response from: 50 Hz Frequency Response to: 20 KHz Sensitivity (dBV/Pa): -38 dBV/Pa Sensitivity (mV/Pa): 13 mV/Pa Equivalent Selfnoise: 18 dB (A) Sound Pressure: 120 dB	

		Receiver – Microprocessor-controlled internal antenna diversity, One-touch Quick Scan frequency selection quickly locates the best frequency, Two audio status indicator LED, Break-resistant Microphone Clip, Audio Output Impedance : XLR connector: 200 Ω / 6.35 mm (1/4") connector: 50 Ω Audio Output Level: XLR connector: -27 dBV (into 100 kΩ load) / 6.35 mm (1/4") connector: -13 dBV (into 100 kΩ load), (Ref. ±33 kHz deviation with 1 kHz tone) RF Sensitivity : -105 dBm for 12 dB SINAD, typical Image Rejection - >50 dB, typical	
	Warranty	Minimum 1 (One) year warranty should be provided for this unit from the date of successful commissioning	
<b>C</b>	<b>Video Conferencing System</b>		
3.01	<b>Supply of HD Visual Comm (1080p/60), 12X Optical Zoom PTZ Camera, mic, Multipoint License. 6-way, Make - Clearone, Cisco, Polycam</b>		<b>Compliance by Bidder</b>
	Package	Full HD 1080p60 camera, codec, Microphone Array, cables, and remote control	
	Video Standards and Resolutions	It should support H.323, SIP standards for communications.	
		It should support H.261, H.263, H.264 AVC/ SVC, H.264 High Profile	
		It should support 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps	
	Content Standards and Resolutions	It should support content sharing using standard based H.239 & BFCP.It should also support audio from PC used for content sharing.	
		It should transmit both people and content both simultaneously to the far end location at 1080p 30fps	
	Audio Standards and Features	It should support G.711, G.728, G.729A, G.722, G.722.1, AAC-LD or better	
		It should support 20kHz or better bandwidth with crystal clear audio and stereo sound.	
		Automatic Gain Control and Automatic Noise Suppression	
		Keyboard noise reduction and instant adaptation echo cancellation	
	Video and Audio Inputs	1 x HDMI/HDCI input for connecting main HD camera	
		1 x HDMI/DVI & 1 VGA input for connecting PC/Laptop to share HD content	



		1 x Microphone Input or more(Support for minimum 3 mics)	
		1 x 3.5mm stereo line-in	
	Video and Audio Outputs	2 x HDMI output for connecting main monitor & second monitor.	
		1 x 3.5 mm stereo line-out	
	Other Interfaces	1 x 10/100/1000 LAN port	
		2 x USB for software upgrade and connecting external devices	
		1 x RS-232 mini-DIN 8-pin or equivalent	
	Camera	It should support 1080p60fps with 10x optical zoom.	
	Future Upgradable	It should be capable of enhancing video conferencing experience with advanced face-recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the users during a call without any manual intervention.	
		It should support PAN Range of +/-90°, and Tilt of +/-20°	
	Network Features	H.323 and SIP bandwidth up to 6 Mbps	
		IPv4 and IPv6 support from day one	
		Auto Gatekeeper Discovery	
		IP Precedence, QoS	
		H.323 based Packet Lost Recovery	
	Multisite Feature	It should support atleast 6 sites at 1080p from day one	
	Security	Media Encryption (H.323, SIP): AES-128, AES-256	
		Authenticated access to admin menus, web interface and telnet API	
		Local account password policy configuration	
	Other Standards	H224/H.281, H.323 Annex Q, H.225, H.245, H.241, H.239, H.243, H.460	
		It should support native integration with on premise Lync server & SFB server.	
	The OEM should be present in Gartner magic leader's quadrant for Video Conferencing/ Meeting Solutions/ Unified Communication for atleast one year in 2016/ 2017/ 2018/ 2019		
	The proposed system must support PAL with a PTZ camera. The codec must be based on ITU standards The VC End Point should be a codec based hardware. No software based solution is accepted here. All components of the VC system like Codec, Camera and Microphone		

	should be from the same OEM.		
<b>D</b>	<b>Online UPS</b>		
<b>4.01</b>	<b>Supply of 3 KVA Online UPS with one hour backup, Make - Delta, Vertiv, APC</b>		<b>Compliance by Bidder</b>
	<b>Capacity (in kVA / kW)</b>	<b>3kVA/2.7kW 1-Phase Input / 1-Phase Output</b>	
	<b>Technology and Capability</b>	a) True <b>Online</b> configuration with <b>double conversion</b> UPS & Zero transfer time. b) Wide <b>Input voltage range</b> from (110 ~ 300VAC) d) Auto <b>restart &amp; capability</b> with the <b>Independent</b> battery bank operation of the UPS. e) UPS should be designed at <b>Rated PF of 0.9 i.e. 3kVA/2.7kW</b> UPS rating. f) <b>Generator compatibility</b> with <b>cold start</b> and <b>AC start</b> features. g) Automatic bypass to transfer the load on mains due to overload & internal fault. h) ECO mode should be available in the UPS.	
	<b>Model Name &amp; Number</b>		
	3kVA /2.7kW	<b>Make / Model / Part No</b> to be specified by the vendor	
	<b>Input</b>		
	Input facility -Phases / Wires	Single-Phase / 2-Wire & Gnd (1Phase & Neutral + Ground)	
	Input Voltage Range	110-300VAC (load dependent) Range (Full Load) 160 ~300VAC Range for 60 % load - 110 ~160VAC	
	Nominal Input Frequency	50 or 60Hz	
	Input Frequency Range	40 to 70 Hz	
	Input Power Factor	> 0.99(@ full load)	
	Generator Compatibility	Compatibility to genset supply required	
	Input Protection	Should be provided at the input of the UPS suitable for the full rated capacity of the UPS.	
	<b>Output</b>		
	Nominal Output voltage	200/208/220/230/240 VAC	
	Output Voltage Regulation	± 1% for static load	
	Nominal Output Frequency	50 or 60Hz ±3Hz	
	Output Frequency Regulation	± 0.1Hz	

	Output Frequency Slew Rate	< 1Hz/sec	
	Output Wave Form	Pure sine wave	
	Output Voltage Distortion (THDu)	< 3% for linear load & < 6% for non-linear load.	
	Crest Factor	3:1 On Full Load (Minimum)	
	Output Short circuit Protection	Electronic Protection	
	<b>Transfer Time</b>		
	Transfer Time (Mode of operation)	Zero ms from Mains mode to Battery Mode Zero ms from Battery Mode to Mains mode	
	Transfer Time (Inverter to Bypass / Bypass to Inverter)	2~4ms	
	Automatic Bypass switch	UPS should be capable of automatic change over to bypass.	
	<b>Efficiency (At Nominal Voltage &amp; Resistive Load up to kW rating of UPS)</b>		
	Overall Efficiency (AC to AC) - Online (Double Conversion)	Upto 91% (at 100% load)	
	<b>Overload</b>		
	Inverter Overload capacity	100% ~ 110%: warning only; 110% ~ 130%: 2 minutes; 130% ~ 140%: 30 seconds; >140%: 1.5 seconds only	
	<b>Display Panel (In-build LC Display &amp; LED )</b>		
	<b>Measurements</b> (On LCD)	Input & Output Voltage, Input & Output Frequency, Bypass: Voltage & Frequency, Remaining time & Battery Level Indicator, Load Level indicator, Fault codes, Estimated or running autonomy time, UPS alarm enable or disable, Overload, Shortcircuit, Low Battery.	
	<b>Fault Indication</b> (On LCD)	Bus start fail, Bus over & under, Inverter soft start failure, Inverter voltage high & low, Inverter output short, Battery voltage high & low, charger output short, over temperature, overload, charger failure, over input current, over input current, battery not connected, over charge, EPO enable, Programmable output enable.	
	<b>Setable data</b>	Inverter voltage & frequency, Frequency converter, ECO mode, ECO voltage range, Bypass setting, Bypass voltage range, Autonomy limitation setting, Battery total Ah setting, Charger current, Bypass frequency range, Programmable outlet, Programmable outlet setting, Charger	

		boost & float voltage setting, EPO logic setting, Isolation transformer O/P, Display setting for autonomy, Acceptable input voltage range.	
	<b>Alarms</b>		
	Audible Alarms	Replace Battery,Overload warning & shutdown,High Temp,Low Battery,High Temp warning & shutdown	
	<b>Battery Backup / Battery Bank &amp; Charger</b>		
	Backup Required	4680 VAH	
	Battery Bank Voltage	72 V DC	
	Batteries Type	Sealed Maintenance Free (SMF) - 12V Cells,VRLA,GEL	
	Battery Makes	Amara Raja / Exide / HBL / Leoch / Rocket	
	Number of Battery Banks	Single Bank system.	
	Minimum Charger Rating (Including internal / external)	The charger should be able to deliver charging current equivalent to 10% of Battery Ah rating offered.(In case of external chargers, suitable monitoring of the chargers should be provided in the UPS.	
	Charger type / Charging Method & Charging Voltages	<b>Constant Voltage Constant Current</b> Solid state <b>SMPS</b> charger	
	Charger current	1/2/4/6/8/10/12/14/16A	
	Battery Housing (Vendor to provide the GA drawings of the offered Battery Rack)	Should be compact and space saving <b>MS steel open racks</b> complete with interconnectors	
	Battery End Cell Voltage	1.75 V/cell	
	<b>Interfaces</b>		
	USB Port should be available <b>(Mandatory)</b>	There should be provision for USB port also in the UPS.	
	RS232 Port should be available <b>(Mandatory)</b>	There should be provision for RS232 port also in the UPS.	
	EPO Port should be available <b>(Mandatory)</b>	There should be provision for EPO port also in the UPS.	
	Interface to Mini TVSS card	This card enable the UPS with the surge protection <b>(OPTIONAL)</b>	
	Interface to NMS (Network Management System)	SNMP (IPV6) Card for connecting the UPS to LAN thru Ethernet port & monitoring thru NMS should be available (The cost of SNMP Card / NMS software to be quoted separately)	

	<b>Restart / Testing Capability</b>		
	Cold Start	UPS should start up On AC Supply (Mains) without DC Supply (Batteries) On DC Supply (Batteries) without AC Supply (Mains)	
	Automatic Restart	UPS should start up automatically on mains resumption after battery low shutdown	
	Self Diagnosis	UPS should be capable to carry out self test of Rectifier / Charger /Battery & Inverter module during start-up	
	<b>Physical</b>		
	Operating Temperature	0 to 40 deg C	
	Storage Temperature	-25 to 40 deg C	
	Operating Humidity	5% ~ 95%RH (No Condensing)	
	Operating Altitude	0-1000m	
	Type of Cooling	Forced Air	
	Noise Level	< 50 dbA at 1 meter distance	
	Form Factor	Tower mountable	
	Dimension (w x d x h) in mm	Vendor to mention	
	Weight - in kg	Vendor to mention	
	Packaging Material / Vibration Withstand & Drop Test	Recyclable (No CFC) & 1. Vibration testing as per ISTA -1G Non-operational with Packing	
	Standard Package of UPS to include the following minimum accessories	1. UPS 2. Input cable 3. Battery cable 4. USB cable 5. User Manual	
	<b>Certifications</b>		
	Manufacturer	<b>QMS:</b> As per ISO 9001: 2008 <b>EMS:</b> As per ISO 14001: 2004 <b>OSHAS:</b> As per ISO 18001: 2007	
	Product Safety Certifications (Mandatory)	<b>BIS Certification</b>	
<b>E</b>	<b>Miscellaneous Items with Installation</b>		
<b>5.01</b>	<b>Supply of Speaker Cable two core with braided copper. Make-OEM recommended</b>		<b>Compliance by Bidder</b>
	Conductors:	20 AWG, (10/30) tinned copper conductors.	
	Drain Wire:	20 AWG (10/30) tinned copper	

	Insulation:	PVC color coded: Red, Black.	
	Outer jacket color:	Dark Gray w/blue lettering.	
	<b>Diameters</b>		
	Conductor:	0.036 inch, 0.916mm	
	Outer jacket:	0.213 inch, 5.4mm.	
	PVC insulation:	0.44mm nominal thickness. 0.071 inch, 1.8 mm diameter.	
	<b>Electrical</b>		
	DC resistance:	10.5Ω per 1000 ft, 34.6Ω per km.	
	Impedance:	40-100Ω.	
	Mutual capacitance conductor-conductor:	27pF per foot, 89pF per meter.	
	Mutual capacitance connected to shield:	49 pF per foot, 161 pF per meter.	
	Temperature:	- 4 ° to 167° Fahrenheit, - 20° to 75° Celsius.	
<b>5.02</b>	<b>Supply of Microphone Cable two core with braided copper sheild. Make-OEM recommended</b>		<b>Compliance by Bidder</b>
	Conductors:	20 AWG, (10/30) tinned copper conductors.	
	Drain Wire:	20 AWG (10/30) tinned copper (in contact with shield)	
	Insulation:	PVC color coded: Red, Black.	
	Outer jacket color:	Dark Gray w/blue lettering.	
	<b>Diameters</b>		
	Conductor:	0.036 inch, 0.916mm	
	Outer jacket:	0.213 inch, 5.4mm.	
	PVC insulation:	0.44mm nominal thickness. 0.071 inch, 1.8 mm diameter.	
	<b>Electrical</b>		
	DC resistance:	10.5Ω per 1000 ft, 34.6Ω per km.	
	Impedance:	40-100Ω.	
	Mutual capacitance conductor-conductor:	27pF per foot, 89pF per meter.	
	Mutual capacitance connected to shield:	49 pF per foot, 161 pF per meter.	
	Temperature:	- 4 ° to 167° Fahrenheit, - 20° to 75° Celsius.	
<b>5.03, 5.04</b>	<b>Supply of HDMI Cable 15,20 Mtr, Make-Aten, Kramer or Similar brand.</b>		<b>Compliance by Bidder</b>

	Low Smoke	
	Halogen Free	
	High Speed with Ethernet	
	1.4a	
	24Ct Gold Plated contacts	
	3 Fold Shielding	
	Conductor based on high purity copper	
	Ethernet Network (up to 100 Mbit)	
	Audio Return Channel	
	3D-Video	
	Additional Color Spaces	
	Content Type	
	2160p (4K x 2K Video)	
	1080p (Full HD)	
	1080i/720p	
	Data rate up to 10.2 Gbit/s (340 Mhz bandwidth)	
	Deep Color multi-bit; x.v.Color	
	HDMI® 2.0 compatible	
	HD Audio: DTS™ HD, Dolby® True HD, Dolby® Digital Plus, PCM, DVD Audio, SACD	
	Up to 8 Audio-channels (24 Bit /192 kHz)	
	Lip sync: automatic synchronisation between picture and sound	
	2160p (4K x 2K Video)	
	1080p (Full HD)	
	1080i/720p	
	Data rate up to 10.2 Gbit/s (340 Mhz bandwidth)	
	Deep Color multi-bit; x.v.Color	
	HDMI® 2.0 compatible	
	HD Audio: DTS™ HD, Dolby® True HD, Dolby® Digital Plus, PCM, DVD Audio, SACD	
	Up to 8 Audio-channels (24 Bit /192 kHz)	
	Lip sync: automatic synchronisation between picture and sound	

<b>5.05</b>	<b>Supply of 16U Floor Mount Rack Make- OEM</b>	<b>Compliance by Bidder</b>
	16U Floor Mount with Front Glass Door with Lock + 1U Cable Manager-, Roof Mounted Fan Tray with 2 Fan , 230V AC, 3 Unit of 19" Mounted PDU with 4 Sockets of 5/15A Type 3 Pack of Hardware.	
<b>5.06</b>	<b>Supply of 8 Port Gigabit Switch, Make- Neatgear,Dlink,Cisco or Similar</b>	<b>Compliance by Bidder</b>
	<b>Physical Interface</b>	
	8 # 10/100/1000 Mbps Base-T auto-sensing PoE ports	
	2 # 1000 Base-x SFP uplink ports	
	<b>Network Protocol and Standards</b>	
	IEEE 802.3i 10BASE-T	
	IEEE 802.3u 100BASE-TX	
	IEEE 802.3ab 1000BASE-T	
	IEEE 802.3z 1000BASE-X	
	IEEE 802.3x full-duplex flow control	
	IEEE 802.3af (DTE Power Via MDI)	
	IEEE 802.3ad Link Aggregation (manual or LACP)	
	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)	
	IEEE 802.1s Multiple Spanning Trees Protocol (MSTP)	
	IEEE 802.1ab Link Layer Discovery Protocol (LLDP)	
	IEEE 802.1p Class of Service (CoS)	
	IEEE 802.1Q static VLAN	
	<b>Performance</b>	
	Forwarding modes: Store-and-forward	
	Bandwidth: 20 Gbps full duplex	
	Network latency: Less than 4 $\mu$ s for 64-byte frames in store-and-forward mode for 1000 Mbps to 1000 Mbps transmission	
	Buffer memory: 512 KB embedded memory per unit	
	Address database size: 4k media access control (MAC)	
	Mean time between failures (MTBF): 157,000 hours	
	Acoustic noise: 0 dB	
	<b>Other Requirements</b>	
	IEEE 802.1Q static VLAN (64 groups, static)	
	Protected ports	
	Port-based QoS	
	DSCP-based QoS	
	DiffServ	
	LLDP-MED	
	SNMP v1, v2c, v3	
	RFC 1213 MIB II	
	RFC 1643 Ethernet Interface MIB	
	RFC 1493 Bridge MIB	
	RMON group 1, 2, 3, 9	



	Auto voice VLAN	
	DHCP Filtering	
	Auto denial-of-service (DoS) protection	
	HTTP and HTTPS	
	Ping and traceroute	
	Power saving when link down	
	RFC 2131 DHCP client	
	DHCP filtering	
	IEEE 802.1x with Guest VLAN	
	Jumbo frame support	
	Port-based security by locked MAC addresses	
	MAC and IP-based ACL	
	Storm control for broadcast, multicast and unknown unicast packets	
	IGMP snooping v1/v2	
	Port-based egress rate limiting	
	SNTP	
	Port mirroring support (many-to-one)	
	Web-based configuration	
	Configuration backup/restore	
	Password access control	
	TACACS+ and RADIUS support	
	Syslog	
	Firmware upgradeable	
	<b>Power Specifications</b>	
	PoE (46 Watts of power budget)	
	Power consumption: 59.3W maximum	
	48V, 1.25A external power adapter	
	CertificationS	
	CE mark, commercial	
	FCC Part 15 Class B	
	VCCI Class B	
	C-Tick	
	EN 55024	
	cUL IEC 950/EN 60950	
	CB	
	Status LEDS	
	Per RJ45 port: Link/activity, speed, PoE status	
	Per SFP port: Link/speed	
	Per device: Power, PoE Max	
	Warranty	Minimum 1 (One) year warranty should be provided for this unit from the date of successful commissioning

<b>F</b>	<b>Video conferencing for Mobile OT VAN</b>	
<b>6.01</b>	<b>Supply of HD Visual Comm (1080p/60), 12X Optical Zoom PTZ Camera, mic, Make - Clearone, Cisco, Polycam</b>	<b>Compliance by Bidder</b>
	Package	Full HD 1080p60 camera, codec, Microphone Array, cables, and remote control
	Video Standards and Resolutions	It should support H.323, SIP standards for communications.
		It should support H.261, H.263, H.264 AVC/SVC, H.264 High Profile/H.265
		It should support 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps
	Content Standards and Resolutions	It should support content sharing using standard based H.239 & BFCP.It should also support audio from PC used for content sharing.
		It should transmit both people and content simultaneously to the far end location at 1080p @30 fps
	Audio Standards and Features	It should support G.711, G.728, G.729A, G.722, G.722.1, AAC-LD or better
		It should support 20kHz bandwidth or better with crystal clear audio and stereo sound.
		Automatic Gain Control and Automatic Noise Suppression
		Keyboard noise reduction and instant adaptation echo cancellation
	Video and Audio Inputs	1 x HDMI/HDCI input for connecting main HD camera
		1 x HDMI/DVI & 1 VGA input for connecting PC/Laptop to share HD content
		1 x Microphone Input(Support for minimum 2 mics)
		1 x 3.5mm stereo line-in
	Video and Audio Outputs	1 x HDMI output for connecting main monitor
		1 x 3.5 mm stereo line-out
	Other Interfaces	1 x 10/100/1000 LAN port
		2 x USB for software upgrade and connecting external devices
		1 x RS-232 mini-DIN 8-pin or equivalent
	Camera	It should support 1080p60fps with 10x optical zoom.
	Future Upgradable	It should be capable of enhancing video conferencing experience with advanced face-recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the users during a call without any manual intervention.

		It should support PAN Range of +/-90°, and Tilt of +/-20°	
	Network Features	IPv4 and IPv6 support from day one	
		Auto Gatekeeper Discovery	
		IP Precedence, QoS	
		H.323 based Packet Lost Recovery	
	Security	Media Encryption (H.323, SIP): AES-128, AES-256	
		Authenticated access to admin menus, web interface and telnet API	
		Local account password policy configuration	
	Other Standards	H.224/H.281, H.323 Annex Q, H.225, H.245, H.241, H.239, H.243, H.460	
		It should support native integration with on premise Lync server & SFB server.	
	The proposed system must support PAL with a PTZ camera. The codec must be based on ITU standards The VC End Point should be a codec based hardware. No software based solution is accepted here. All components of the VC system like Codec, Camera and Microphone should be from the same OEM.		
<b>7.02</b>	<b>Supply of Full HD 32" Display, Make - Sony, Christie, LG &amp; BARCO</b>		<b>Compliance by Bidder</b>
	Screen Size	32"	
	Native Resolution	1,920 x 1,080 (FHD)	
	Brightness (cd/m <sup>2</sup> )	350	
	Input	HDMI (2), DVI-D, RGB, Audio, USB	
	Output	Audio (Off/Fixed/Variable)	
	External Control	RS232C in/out, RJ45 in, IR in	
	Mechanical Specification		
	Bezel Width	13 mm (T/R/L), 18 mm (B)	
	Monitor Dimension (W × H × D)	729.4 x 428.9 x 55.5 mm	
	Monitor with Optional Stand Dimensions (W x H x D)	729.4 x 481 x 154.2 mm	
	VESA™ Standard Mount Interface	200 x 200 mm	
	Environment Conditions		
	Operation Temperature	0°C to 40°C	
	Operation Humidity	10 % to 80 %	
	10 % to 80 %		
	Power		
	Power Supply	100-240V~, 50/60Hz	
	Power Type	Built-In Power	
	Power Consumption		
	Typ. / Max.	45 W / 80 W	
	Smart Energy Saving	31.5 W	
	Sound		
	Speaker	20 W (10 W x 2)	
	Standard (Certification)		
	Safety	IEC 60950-1 / EN 60950-1 / UL 60950-1	

	EMC	FCC Class "A" / CE / KC	
	ErP / Energy Star	Yes (N/A for EU) / Yes (Energy Star 8.0)	
	Media Player Compatibility		
	OPS Type compatible	Yes	
	External Media player Attachable	Yes	

**General Terms:**

1. The technical specification should be quoted in same manner as described in the tender.
2. Each product should have at least one year warranty and after warranty CAMC for 5 year should be provided by vendor. During warranty period as well as during Comprehensive Annual Maintenance Contract period, firm will maintain the system with all spares, PCB, accessories, electronics components, all type of consumables (including battery of UPS) etc.
3. The vendor should ensure quick back up response in case of equipment failure which should be replacing if needed within 10 days of the distress call.
4. Integration, installation and setup of virtual conference room should be done by vendor.
5. All compatible cables, cords, connectors and other accessories should be provided by vendor to integrate the VC components.
6. Director, IGIMS, Patna reserve the right to purchase either all the items mentioned in BOQ or some parts.



**Director,  
IGIMS, PATNA**

**COMPLIANCE STATEMENT**

**INDIRA GANDHI INSTITUTE FOF MEDICAL SCIENCES,  
SHEIKHPURA, PATNA (BIHAR)**

**Ref:- Tender Notice No.:**

<b>S. NO.</b>	<b>Check list of documents/ Undertakings?</b>	<b>YES/NO (Mention page no. of Technical Bid, where supporting documents are attached.)</b>	<b>Remarks (Give explanation if answer is No)</b>
1	Is Tender fees attached?		
2	Is EMD attached? (if applicable)		
3	Is the bidder original equipment Manufacturer (OEM) / authorized dealer?		
4	If authorized dealer, recent dated Certificate to this effect from OEM, attached or not?		
5	Undertaking from OEM regarding technical support & extended warranty period		
6	Validity of 180 days or not?		
7	Undertaking from bidder regarding acceptance of tender terms & conditions		
8	Whether list of reputed users (along with telephone numbers of contact persons) for the past three years specific to the instrument attached.		
9	Whether special educational discount for Indira Gandhi Institute of Medical Sciences, Sheikhpura, Patna given.		
10	Whether two weeks training of operator and research students without any charges Offered.		
11	Does the instrument complies with all the required specifications as per annexure 1. Attach a separate sheet showing compliance with the specifications and explanations thereto if the equipments varies from the requested specifications.		
12	Whether free Installation, Commissioning and Application Training offered.		

13	Whether required comprehensive onsite extended warranty offered.		
14	Whether Comprehensive Annual maintenance after expiry of comprehensive onsite warranty quoted separately as optional.		

**Bill of Quantity (Video Conferencing System)**  
at  
**Regional Institute of Ophthalmology, IGIMS – Patna.**

<b>HQ SETUP</b>							
SN	Description of Items	Qty	Unit	Unit Rate	Taxes (GST)	Unit Rate with taxes	Amount
<b>A</b>	<b>Display &amp; Switching</b>						
1.01	Supply of ULTRA HD 55" Display, Make - Sony, Christie, LG & BARCO	1	No.				
1.02	Supply of ULTRA HD 75" Display, Make - Sony, Christie, LG & BARCO	1	No.				
1.03	Supply of 4 X 4 Video Matrix Switcher, Make -Kramer, Aten, crestron	1	No.				
<b>Sub Total (A)</b>							
<b>B</b>	<b>Audio System</b>						
2.01	Supply of 16 Watt Ceiling Mount Speaker, Make - Bosch, Bose, Televic	4	No.				
2.02	Supply of Amplifier Make-Bosch, Bose, Televic	1	No.				
2.03	Supply of 6 channel Mixer with Effects, Make - Bosch, Yamaha, Shure, Televic	1	No.				
2.04	Supply of 12" gooseneck microphone. Make-Bosch, Shure, Bose, Televic	1	No.				
2.05	Supply of Wireless Hand held microphone(1 Pair). Make-Bosch, Shure, Bose,Televic	1	No.				
<b>Sub Total (B)</b>							
<b>C</b>	<b>Video Conferencing System</b>						
3.01	Supply of HD Visual Comm (1080p/60), 12X Optical Zoom PTZ Camera, mic, Multipoint License. 6-way, Make - Clearone, Cisco, Polycam	1	No.				
<b>Sub Total (C)</b>							
<b>D</b>	<b>Online UPS</b>						


4.01	Supply of 3 KVA Online UPS with one hour backup, Make - Delta, Vertiv, APC	1	No.				
<b>Sub Total (D)</b>							
<b>E</b>	<b>Miscellaneous Items with Installation</b>						
5.01	Supply of Speaker Cable two core with braided copper. Make-OEM recommended	80	Mtr				
5.02	Supply of Microphone Cable two core with braided copper shield. Make-OEM recommended	50	Mtr				
5.03	Supply of HDMI Cable 20 Mtr, Make-Aten, Kramer or Similar brand	2	No.				
5.04	Supply of HDMI Cable 15 Mtr, Make-Aten, Kramer or Similar Brand	2	No.				
5.05	Supply of 16U Floor Mount Rack Make- OEM	1	No.				
5.06	Supply of 8 Port Gigabit Switch, Make- Neatgear, Dlink, Cisco or Similar	1	No.				
5.07	Supply of Patch Cables & Connector	1	No.				
5.08	Installation Testing & Commissioning.	1	Job				
<b>F</b>	<b>Video conferencing for Mobile OT VAN</b>						
6.01	Supply of HD Visual Comm (1080p/60), 12X Optical Zoom PTZ Camera, mic, Make - Clearone, Cisco, Polycam	2	No.				
6.02	Supply of Full HD 32" Display, Make - Sony, Christie, LG & BARCO	2	No.				
6.03	Supply of 4G LTE SIM Based Router for Internet Connection	2	No.				
6.04	Supply of 4G Internet Connection for 1 year subscription, Make - OEM	2	No.				
6.05	Supply of Patch Cables & Connector	2	No.				
6.06	Installation Testing & Commissioning with Fabrication	2	No.				
<b>G</b>	<b>ILL Connection</b>						
7.01	Supply of 40 Mbps, 1: 1) ILL Connection through Fibre in Ring topology for 1 year subscription, Make -OEM	1	No.				
<b>Sub Total (G)</b>							



<b>Grand Total (A+B+C+D+E+F+G)</b>	
<b>Add any other charges (if any, specify)</b>	
<b>Net Amount</b>	
<b>(Net Amount In Word:-----)</b>	
<b>Warranty Period:</b>	
<b>1<sup>st</sup> Year CAMC Charges after expiry of warranty period: (with out GST)</b>	
<b>2<sup>nd</sup> Year CAMC Charges after expiry of warranty period: (with out GST)</b>	
<b>3<sup>rd</sup> Year CAMC Charges after expiry of warranty period: (with out GST)</b>	
<b>4<sup>th</sup> Year CAMC Charges after expiry of warranty period: (with out GST)</b>	
<b>5<sup>th</sup> Year CAMC Charges after expiry of warranty period: (with out GST)</b>	

**Remarks:**

- **Technical Bid should contain** Annexure – A (Bid Particulars), Annexure – B (Technical Compliance Sheet), and Annexure – C (Compliance Statement) with all supporting documents.
- **Financial Bid should contain** only price in the format as per Annexure – D (BOQ).



**Director,  
I.G.I.M.S. – Patna.**

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