Indian Institute of Technology (IIT) Delhi
Department of Civil Engineering
Hauz Khas, New Delhi - 110 016, India.

Date: 3rd February, 2014

Sealed quotations are invited in Indian Rupees (INR) / US Dolor (US$) from authorized representatives for Video Conferencing Solution having the following technical specifications and prescribed terms and conditions as given hereunder. Interested parties are required to submit their sealed quotations **(Technical bid and Commercial bid separately)** for the same.

The NIQ should be addressed to **Dr. Vasant Matsagar** submitted/sent by post at Department of Civil Engineering, Indian Institute of Technology (IIT) Delhi, Hauz Khas, New Delhi - 110 016, India on or before by **3:00 p.m. on Thursday, February 20, 2014.** Technical description for the same is as under.

S.No.	Specifications of High Definition Video Conferencing System
1	A High Definition Video Conferencing System should support PAL with High Definition PTZ cameras, minimum two Omni Directional Microphones having option for mute, wireless remote control for VC etc. The Codec must be based on industry standard such as the H:323 and SIP umbrella standard for IP based Audio/Video and H:320 umbrella standard for ISDN–based audio/video. The detailed specifications for the same is given below: • **MCU:** The Video Conference System should have MCU with capability to connect 1+8 concurrent 1080p videos • **End Points:** Solution should have portability to connect any 8 other end points. • **Capability:** The Solution should have capability to upgrade with MCU (1+8) Locations in a Single Conference in near future. • **Video Codec Resolution:** Video Codec resolution: 4:3 QCIF (176 x 144), CIF (352 x 288), 4CIF (704x576) 16:9 wCIF/w288p (512 x 288), w432p (768 x 432), w4CIF (1024 x 576), 720p (1280 x 720), 1080p (1920 x 1080) @ 30fps, 1080i (1920 x 1080) @ 60fps, • System shall be upgradable to 6&9 sites full HD multiparty conference on continuous presence by using add-on software without any additional hardware In addition, system upgradable to 16 sites HD multiparty conference by using two VC systems with add-on MCU soft wares in cascade. • **Technology:** HDVC Solution should support the state of the Art Compression technology which consumes low bandwidth • **Scalability:** Solution should be upgradable in multiples of minimum 6 (1+5) Location & expandable to 9 (1+8) locations without adding any hardware part only using software. • **One/Two way Conference:** Solution should support upto 1+8 one/two way users with audio enabled capability for future upgrade. • **Application Sharing:** Should have inbuilt application sharing. • **File Sharing:** Should able to share all standard format files including multimedia files along Anotations at all locations. • System shall have 100 camera preset positions can be stored each with a thumbnail image for easy recall. • **Security:** Solution should provision to activate encrypted Video Conference for secure meetings. • The system shall deliver HD video, HD voice & HD content for an overall HD experience • Shall Support IP up to 16 Mbps & minimum 768 over ISDN • System shall have H.261, H.263, H.263+, H.263++, H.264 & MPEG-4 video coding support.

	• System shall have upto MPEG4 AAC, G.728, G.722 & G.711 audio coding support and suitable for 22 KHz stereo audio or better.
	• System must support H.239 for sharing of HD video and graphics content during the video call
	• **File Transfer:** Solution should have capability of file transfer at all locations.
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	• **Audio Codec:** GIPS Voice Technology or better.
	• **Dual Display:** The Solution should be capable to show Presentation and Multiple Videos in Dual Screens as well as Combined Screen.
	• **Remote Control Access of Camera:** The Solution should be capable to remotely Control the PTZ Camera of other Locations.
	• **Video Recording:** Solution should have inbuilt video recording, capable to record audio, video data at all locations.
	• **Multiple Displays:** Shall have Live resolution of 1280x720 & deliver high definition video at 30fps from 1Mbps onwards. In addition, system supports 1920x1080 60i and 1920x1080 30p..It shall be possible to see both the near and far site on one screen thus making most efficient use of a single display area.
	• Shall have Live video resolution 352 x 288 to 1280x720 , 1920x1080.
	• System must be equipped with 2 omni directional High definition microphones.
	• System should have dual network port which support two different netwok connections without switching network cables & conference between two network can be possible.
	• Shall come with easy to use RF Hand held remote control with operating distance of at least 10 mtr.
	• Video codec shall support 16:9 format for supporting LCD/Plasma display and PAL video standard
	• System should have inbuilt USB port for recording – video/presentation data and audio can be recorded for later review.
	• Built-in streaming function for multicasting to large audiences.
	• VC OEM Should have service centre in all major cities in India.
	• Firmware /version upgrade is free for entire product life time.
	
	MINIMUM NUMBER OF PORTS
	    • Video Input Port:- 1xHD camera, 1X HDMI and 2 DVI -1
	    • Video output:- 2 HDMI and 1xDVI-i
	    • Audio Input Ports: External analog microphone input Mini-jack (Plug in power) x 6 (L/R), HDMI (video, audio) x 1, Audio Input (MIC/AUX) x 2 (Phono jack, stereo)
	    • Audio Output Ports: HDMI (video, audio) x 1, Line Output (Phono jack, stereo) x 1, REC Output (Phono jack, stereo) x 1
	    • Network Port: 10BASE-T/100BASE-TX/1000BASE-T x 2, ISDN Unit Interface x 1

2	**Primary PTZ camera:** • Shall include camera with 1920x1080 1/2.8-type Exmor CMOS imager sensor, 20x optical Zoom & 12x digital zoom, 55.4 degree horizontal viewing angle, +/- 170 degrees PAN range, +90 to -20 degrees Tilt range., The camera should be supplied with cord and connectors. • **Camera Other feature:** Auto Gain Control, Auto White Balance, Auto/Manual Focusing, Backlight Compensation, Both Desktop & Ceiling Mountable (Image Flip), VISCA output to the second camera.
3	**Secondary PTZ camera:** • Shall include camera minimum with 1080x720 1/2.8-type Exmor CMOS imager sensor, minimum 12x optical Zoom & 12x digital zoom, 71 degree horizontal viewing angle (wide), +/- 100 degrees PAN range, +/- 25 degrees Tilt range, PAN Speed : up to 300°/sec, Tilt Speed: 126°/sec. The camera should be supplied with cord and connectors. • **Camera Other feature:** Auto Gain Control, Auto White Balance, Auto/Manual Focusing, Backlight Compensation, Desktop mountable & Preferably Ceiling Mountable (Image Flip), VISCA output.
4	**Matrix Switcher:** A high-performance unit designed for transmitting HDMI signals to multiple display units which can reclocks and equalize the signal and capable of routing any input to any or all outputs simultaneously.

	• **Input output ports:** Minimum 4 HDMI input and 4 HDMI output connectors • **Bandwidth/Data Rate:** up to 6.75 Gbps (2.25 Gbps per graphic channel) **or** Higher. • **HDMI Support:** Deep color, x.v.Color, up to 7.1 uncompressed audio channels. • **Resolution:** Up to UXGA, 1080p **or** Higher • **Fast Switching Technology:** Reduces switching delay between DVI/HDMI/HDCD sources. • **Equalization & re-clocking Technology**: Rebuilds the digital signal, allowing it to travel longer distances. • **I-EDIDPro Intelligent EDID Processin**g: Intelligent EDID handling and processing algorithm ensures plug and play operation for HDMI systems. • **Output Disconnect :** Available on each output • **Memory Locations:** Stores multiple switches as presets (salvos) to be recalled and executed when needed. • **Flexible Control Options:** Front panel button, IR remote transmitter, RS-232 (Windows-based software for Router should be included) and Ethernet (Windows-based Ethernet Configuration Manager & Virtual Serial Port Manager should be included). • **Power Supply:** 220V AC at 50/60 Hz as per Indian Standard Power Supply. • **Standard 19" (482.6 mm) Rack Mount Size :** 1U rack ears included • **Applications:** Conference room presentations, advertising applications, rental and staging.
5	**Steel Rack Wall Mountable:** Premium quality standard size 3U rack suitable for placing the VC Equipment and other accessories.
6	**Specifications for cables and connectors:** A premium quality cables and connectors should be used : High quality cables Complete Set: (Falcon/Extron/Percon), High Quality Connectors Complete Set: (Neuteric/MX).
7	**Installation Charges:** charges for Installation, cabling, connecting all the accessories, integration of existing Audio System and Projection System with the VC System should be clearly mentioned.
	Complete training manuals, Connectivity Diagrams and Three year comprehensive warranty on all the equipment and software should be covered.

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Terms and Conditions:

1. The **Technical Bid** with detailed specification and **Commercial Bid** should be in two separate sealed envelopes specifically mentioning the same on the cover of the sealed bid and put them into one larger envelope.

2. If the bidder is an authorized dealer/distributor of any manufacturer, the authorized Indian dealership certificate from the principles should be attached for authenticity of dealership/agency and dealer should be authorized service provider. Quotations without authorized service provider certificate will be rejected.

3. Vendor must get a fresh certificate for this particular quote directly from their product principal's clearly mentioning the purpose.

4. In view of the compatibility issue, the VC equipment, Primary Camera and Secondary Camera should be from the same OEM. The vendors should also mention the MAKE of the cables and connectors to be used for installation.

5. An on-site comprehensive warranty at least for three year on all hardware and software to be delivered shall be applicable from the date of installation. Any new release or update of above said software must be supplied free of cost. The Vendor/Distributor should also mention the after warranty support /AMC charges as on optional item separately.

6. Applicable taxes and duties, terms and conditions, delivery period and warranty details should be clearly mentioned in the quotation.

7. Special discount/rebate wherever admissible keeping in view that the supply is being made for educational purpose in respect of public institution of national importance may please be mentioned clearly.

8. IIT Delhi is exempted from paying Excise Duty and necessary Excise Duty Exemption Certificate will be provided.

9. In case of import of product, payment shall be made through L/C and the foreign bank charges for L/C will be borne by the beneficiary.

10. The above item needs to be supplied with original packing directly from the manufacturing unit to IIT Delhi and the original packing can only be opened at our office for installation purpose only, failing which consignment may not be accepted.

11. The supplied items like all Hardware and Software CDs, DVDs, cables, connectors etc. should have proper authenticity.

12. The payment will be made on the norms and conditions of IIT Delhi after delivery and successful installation of all the items.

13. Vendor should attach the relevant product brochure/leaflet for the items quoted.

14. Validity of the quotation should be at least 90 days from the closing date of this tender.

15. Specifications format should be similar to the given specification sheet and a compliance sheet must be provided along with the technical bid.

16. Vendor shall do the installation at Department of Civil Engineering, IIT Delhi premises.

17. Supplier/distributor shall arrange Video Conferencing training at institute's premises as per the mutual agreed upon dates without any extra cost to IIT Delhi.

18. In case the item is proprietary in nature, a proprietary certificate from parent company must be provided along with the quotation.

Note: The institute authority/ purchase committee has the right to accept or reject any quotation or all quotations without assigning any reasons whatsoever. The purchase committee also has the right to increase OR decrease the number of any item as per the requirement and available budget.