All Bidders

Amendment –VII

Project: Supply, Installation, Testing & Commissioning of Integration & Data Management System for Modular Operation Theatres for Hospital Block, All India Institute of Medical Sciences (AIIMS), Raebareli.

IFB No. HSCC/SES/IOT/AIIMS/Raebareli/2019 dated 29.03.2019

This has reference to above IFB.

The following Amendment may be noted which shall be treated as part of the tender document and to be submitted duly signed & stamp along with tender.

S.No	Bidders' Quaries	Reply
1	Audio Video Communication System Point b Audio Video system should have 8x8 Digital/12x12 Digital with open architecture. In order to make the OT integration more effective and readier of the future OT upgradation . We suggest the following changes. It is requested that the Audio Video system should have minimum 12 x 12 with upgradation to 18 x 18 matrix, digital with open architecture having compatibility of signals like SD, HD, FHD, 3D/4K etc.	Audio Video system should have 8x8 Digital/12x12 Digital with open architecture having compatibility of signals like SD, HD, FHD, 3D/4K signal etc.(e.g Room Camera/OT Light Camera/Endoscopic Camera/ Recorded Videos/etc) The routing/Switch system should be able to integrate Full HD/HD/SD/3D/4Ksignal (e.g. Room Camera/OT LightCamera / Endoscopic Camera/ Recorded Videos/Etc)
2.	Point h Cross conversion and scaling for SD and HD signals should be available as standard (Every SD, HD, 4K & 3D input can be routed to any output within MOT) It is requested that Cross conversion and scaling for SD and HD signals should be available as standard (Every SD, HD, 4K/3D input can be routed to any output within MOT	Patient and image data (Endoscopic or openprocedure) should be able to call up and distributedto required monitors in the operating room. Cross conversion and scaling for SD and HD signals shouldbe available as standard (Every SD,HD,4K & 3Dinput can be routed to any output within MOT)
3	Control System cum Digital Documentation Point C The full high definition medical grade digital documentation system should be a high end computer system based on Windows 7/8 or better embedded platform (for security purposes) designed specifically, for recording, managing, and archiving surgical images and video in native (full HD, HD, SD, 3D, 4K) resolution.	The Medical Grade Digital Documentation Systemshould be a high-end, computer system based onWindows 7/8 or better embedded platform (forsecurity purposes) designed specifically for recording,managing, and archiving surgical images and

	It is requested that The full high definition medical grade digital documentation system should be a high end computer system based on Windows 7/8 or better embedded platform (for security purposes) designed specifically, for recording, managing, and archiving surgical images and video in native (full HD, HD, SD, 3D/4K) resolution.	video innative(full HD, HD,SD,3D,4K) resolution. The captured images & videos can be accessed from the hard drive for printing or saving onto USB Flash Drive & Hospital network.

4	Apart from that kindly put the below mentioned spec in the bid to ensure the state of art technology and high quality machine.
	   1. Integration router should be placed in the Doc station well encapsulated with Modular OT walls to maintain sterility of the O.T. No router should be placed on roll in carts/trolley and all cables should be properly laid in conduits terminating at theDoc Station from Patch Panels, Room Camera, Pendants, OT Lights, 42 inch Monitor and Monitor Arms.
	   2. Streaming solution inside the OT, Integration Router system and Server in the Control Room should be from the same principle manufacturing company and should be classified Medical Device.
	   3. No off the shelf IT DVR solution should be provided.
		1. Integration router should be placed in the Doc station well encapsulated with Modular OT walls
		or
		placed on roll in carts/trolley and all cables should be properly laid in conduits terminating at the Doc Station from Patch Panels, Room Camera, Pendants, OT Lights, 42 inch Monitor and Monitor Arms.
		2. Streaming solution inside the OT, Integration Router system and Server in the Control Room should be from the same principle manufacturing company and should be classified Medical Device.
		3. No off the shelf IT DVR solution should be provided.

5.	**Scope of work** Bidder should be responsible for all cut-outs, patch-panels, flushing of monitors, etc. and repairing & repainting of OTs thereafter (If required) for successful completion of work. It is requested it to be added in the scope of Modular OT vendor.	MOT bidder will do cut-outs, patch-panels, flushing of monitors, etc. in the OTs
6	Bidder has to provide all required trenches/ trays, conduits for fibre optic cables, electrical cables, data cables, etc. with all necessary cabling required for integration system. MOT vendor will provide necessary cut-outs as per approved drawing provided by institute/consignee. MOT vendor will also provide dedicated MCBs/MCCBs minimum 2Nos for integration equipment in MOT Distribution Board (DB) rest cabling will be in the scope of integration vendor for integration equipment's. Institute will provide one-point LAN incoming supply for each MOT, rest bidder is	Bidder has to provide all required trenches/ trays, conduits for fibre optic cables, electrical cables,data cables, etc. with all necessary cabling required for integration system. MOT vendor willprovide necessary cut-outs as per approveddrawing provided by institute/consignee.Integration

	responsible to connect Integrated MOT to Hospital Network. All electrical components should be used as per industry standards and norms It is requested that Bidder has to provide all required trenches/ trays, conduits for fibre optic cables, electrical cables, data cables, etc. with all necessary cabling required for integration system. MOT vendor will provide necessary cut-outs as per approved drawing provided by institute/consignee. MOT vendor will also provide dedicated MCBs/MCCBs minimum 2Nos for integration equipment in MOT Distribution Board (DB) rest cabling will be in the scope of integration vendor for integration equipment's. Institute will provide one-point LAN incoming supply for each MOT, rest bidder is responsible to connect Integrated MOT to Hospital Network. All electrical components should be used as per industry standards and norms. Integration bidder should submit sample/template of all kind of cutouts required in Wall panels, Ceiling panels, Anaesthesia & Surgeon Pendants along with cut out drawings, with the technical bid.		bidder is responsible for laying cable from DB to OT sockets with switchingfor the integration power requirement. However, Integration bidder should submitsample/template of all kind of cutouts required in Wall panels, Ceiling panels, Anesthesia & Surgeon Pendants along with cutout drawings, with the technical bid. In case the cut-outdetails are not provided by the Integrationbidder along with bid, then Integration biddershall carryout all cut-outs at their own cost &risk.MOT vendor will also provide dedicatedMCBs/MCCBs minimum 2Nos for integrationequipment in MOT Distribution Board (DB) restcabling will be in the scope of integration vendorfor integration equipment's. Institute will provideone-point LAN incoming supply for each MOT, rest bidder is responsible to connect IntegratedMOT to Hospital Network. All electrical components should be used as per industrystandards and norms
	2 Medical Grade Monitors		
7	b) One 42-inch FHD (1920X1080p) medical grade color monitor should be flush mounted on OT wall with all necessary frames with glass should be provided by bidder for each integrated MOT. It is requested that One 42-inch FHD (1920X1080p) medical grade(commercial grade monitors will not be accepted) color monitor should be flush mounted on OT wall with all necessary frames with glass should be provided by bidder for each integrated MOT.Medical Grade monitor should be of make: Eizo/Barco/Sony/LG		==Medical== grade Monitor of should be provided. Make-Eizo/Barco/Sony/LG
	3 Audio Video Communication System		
8	a) All AV signals of MOT should be connected to Conference room/Other MOT/Doctors lounge/Etc. for video conferencing and live transmissions in the native form as per the requirement. It is requested that Video Conferencing and live transmission for resolution upto Full High definition.		a) ==All== AV signals of MOT should be connected to Conference room/Other MOT/ Doctors lounge/ Etc. for video conferencing and live transmissions in the native(1080p) form as per

	(1920 X 1080)	the requirement
9	b) The Audio-Video system should have minimum 12 x 12 Digital with open architecture having compatibility of signals like SD, HD, FHD, 3D, 4K, etc. The routing/Switch system should be able to integrate Full HD/HD/SD/3D/4Ksignal (e.g. Room Camera/OT Light Camera/ Endoscopic Camera/Recorded Videos/Etc) It is requested that Audio-Video system should have minimum 8x8 Digital with open architecture having compatibility of signals like SD, HD, FHD, 3D, 4K, etc. The routing/Switch system should be able to integrate Full HD/HD/SD/3D/4Ksignal (e.g. Room Camera/OT Light Camera/ Endoscopic Camera/ Recorded Videos/Etc)	b) Audio-Video system should have 8x8 Digital/12x12 Digital with open architecture having compatibility of signals like SD, HD, FHD, 3D, 4K, etc. The routing/Switch system should be able to integrate Full HD/HD/SD/3D/4Ksignal (e.g. Room Camera/OT LightCamera / Endoscopic Camera/ Recorded Videos/Etc)
10	f) Bi-directional MOT to MOT video conferencing should be possible with exchange of any AV sources along with bi-directional VC. It is requested that dedicated Video Conferncing per OT is provided.	f) Dedicated Video conferencing per OT is to be provided
11	h) Patient and image data (Endoscopic or open procedure) should be able to call up and distributed to required monitors in the operating room. Cross conversion and scaling for SD and HD signals should be available as standard (Every SD/HD input can be routed to any output within MOT) It is requested that Patient and image data (Endoscopic or open procedure) should be able to call up and distributed to required monitors in the operating room. Cross conversion and scaling for SD and HD signals should be available as standard (Every SD,HD,4K & 3D input can be routed to any output within MOT)	h) Patient and image data (Endoscopic or open procedure) should be able to call up and distributed to required monitors in the operating room. Cross conversion and scaling for SD and HD signals should be available as standard (Every SD,HD,4K & 3D input can be routed to any output within MOT)
12	i) All patch panel work required for Hardware of OT Integration system should be in the bidder's scope of work and also necessary co-ordination with consignee, MOT Vendor, construction vendor and HSCC/Institute will be the responsibility of the bidder for successful completion of all the associated works. It is requested that All the cut outs for patch panel on the MOT wall / pendant/ OT Light spring arm suplied by the MOT vendor shall be in the scope of MOT vendor. Design for the same shall be provided by OT integration vendor.	i) Suitable HD(Resolution: minimum 1080p) camera with 10x or more Optical Zoom, Freely PAN/TILT for view setting & controls (2Nos-One for VC & One forRoom View), Speakers & wireless mic., etc. shouldbe provided in each MOT along with a patch panelwhich is capable to path any Standalone VC System, AUX in & AUX out and USB(AUX & USB for musiconly)

13	j) Audio-Video bidirectional Conferencing system should be offered and the system should be able totransfer high quality real time images and audio signals from multipoint at a minimum speed of 2Mbps. The system should able to transmit full HD signals (1080p) over the ISDN lines or IP Service. It is requested that Audio-Video bidirectional Conferencing system should be offered and the system should be able to transfer high quality real time images and audio signals from multipoint(minimum 4 party) at a minimum speed of 2Mbps. The system should be able to transmit full HD signals (1080p) over the ISDN lines or IP Service.	j) ==Audio==-Video bidirectional Conferencing systemshould be offered and the system should be able totransfer high quality real time images and audio signals from multipoint(minimum 4 party) at aminimum speed of 2Mbps. The system should beable to transmit full HD signals (1080p) over the ISDNlines or IP Service
14	k) Suitable HD camera with 10x Optical Zoom, Freely PAN/TILT for view setting & controls (2Nos- One for VC & One for Room View), Speakers & wireless mic., etc. should be provided in each MOT along with a patch panel which is capable to path any Standalone VC System, AUX in & AUX out and USB(AUX & USB for music only) It is requested that Full HD camera with 20X optical zoom. One number of HD Camera to be connected with Integration system and one number of Full HD camera with Full High Definition Video Conferencing system.	k) ==Suitable== HD(Resolution: minimum 1080p) camera with 10x or more Optical Zoom, Freely PAN/TILT for view setting & controls (2Nos- One for VC & One forRoom View), Speakers & wireless mic., etc. shouldbe provided in each MOT along with a patch panelwhich is capable to path any Standalone VC System, AUX in & AUX out and USB(AUX & USB for music only).
15	l) The video conferencing system should be controlled via the touch screen of the integration system and it should capable of sending and receiving of any VC call through IP. All MOTs should be capable of dialling VC calls and receiving VC calls and simultaneously. Parties can be any two MOTs simultaneously of respective institute and any other two parties who having IP based VC anywhere in the world It is requested that the video conferencing system should be capable of sending and receiving of any VC call through IP and should have its own independent remote control. All MOTs should be capable of dialing VC calls and receiving VC calls simultaneously. Parties can be any of the MOTs of respective institute at any time. Upto six MOTs over video conferencing , both internal & external can be connected over a multiparty call.	==Tender== terms & conditions prevail.
	4 Control System cum Digital Documentation	
16	c) The Full High-Definition Medical Grade Digital Documentation System should be a high-end computer system based on Windows 7/8 or better embedded platform (for security purposes) designed specifically	==The== Full High-Definition Medical Grade Digital Documentation System should be a high-end computer system based on

	for recording, managing, and archiving surgical images and video in native full HD resolution. The captured full high-definition images & videos can be accessed from the hard drive for printing or saving onto USB Flash Drive & Hospital network. It is requested that The Medical Grade Digital Documentation System should be a high-end, computer system based on Windows 7/8 or better embedded platform (for security purposes) designed specifically for recording, managing, and archiving surgical images and video in native(full HD, HD,SD,3D,4K) resolution. The captured images & videos can be accessed from the hard drive for printing or saving onto USB Flash Drive & Hospital network	Windows 7/8 or better embedded platform (for security purposes) designed specifically for recording, managing, and archiving surgical images and video in native (full HD,HD, SD,3D,4K)resolution.
17	d) It should have at least 500 GB or more internal Hard Disk Drive (HDD) for in-system archiving. Also, able to automatically transfer the data to storage server present Hospital Network. It should be able to preview and simultaneously record views from two video sources parallel and archive as single patient file It is requested that Internal plus external storage should be 2TB or more.	d) It should have at least 500 GB or more internal Hard==Disk== Drive (HDD) for in-system archiving. Also, able to automatically transfer the data to storage server present Hospital Network. It should be able to preview and simultaneously record views from two video sources parallel and archive as single patient file. 5 TB network storage should be provided with each integrated OT, it should be kept within the integration rack
18	g) The control system rack should be flush mounted into the MOT wall or mounted on rack at dirty corridor, all the suitable flushing/mounting rack & accessories should be provided by the bidder and it should be accessible for servicing purpose It is requested that control system rack should be flush mounted into the MOT wall or mounted on rack (inside or outside the OT at dirty corridor), all the suitable flushing/mounting rack & accessories should be provided by the bidder and it should be accessible for servicing purpose	==Tender== terms & conditions prevail.
	6 Live Video Streaming –	
19	The integration System should be supplied with minimum 10 User License to simultaneously remotely view of video sources of MOTs with following features – It is requested to delete	==Deleted== 6 (a, b,c)
	a) Full HD live streams of at least three-user selectable any Video sources of each integrated MOT should be	

| | provided with suitable encoders & decoders. The sources for the video streaming is freely selectable and the surgeon should be able to put the OT in Private Mode/off, if streaming of Audio-Video is not required to a particular user or to all the users

It is requested to delete | |
|---|---|---|
| | b) The Live Streaming of VC should be possible as one of the AV sources out of three for each MOT as described above

It is requested to delete | |
| 20 | c) All Licensed user should simultaneously login through browser based application, based on user privileges defined, to remotely view all streamed audio-video sources and logged-user should be able to select any video from all the Video Signals streaming from all the Integrated MOTs simultaneously. Any user should be able to see all streamed AV sources like - Endo Cam, In light Cam, Room Cam, C-Arm, etc. of any of the MOT at any given point of time.

It is requested to delete

As per tender specification:
Full MOT Integrations system offered should work without need of Internet within the Hospital/Institute i.e. over INTRANET or OPTICAL FIBER BACKBONE | Full MOT Integrations system offered should workwithout need of Internet within the Hospital/Institutei.e. over INTRANET or OPTICAL FIBERBACKBONE(the cabling for same within the OTcomplex will be responsibility of Vendor and restwill be done by respective institute) |
| 21 | As per tender specification:

Audio Video Communication System(including Router, Rack, VC, HD Cameras, Speakers, Mic, and other accessories as per tender requirement. | Only for Router & Its Accessories |
| 22 | Control System cum DigitalDocumentation System-(19"or moreMedical grade monitor, windows basedrecorder, 5TB Network Storage, PACS &HIS connectivity and other accessories asper tender requirement | Only for Medical Grade

Recorder |

 All other terms & conditions remain unchanged.