

# TATA INSTITUTE OF FUNDAMENTAL RESEARCH

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**Ref.: TIFR/PD/CA17-64/170444**

**June 16, 2017**

NIT cum Tender Document (TWO PART LIMITED TENDER) for the following item:

Supply, Installation and Commissioning of Video Conferencing System  
As Per Attached Tender Document ..... 1 No.

|                                       |   |
|---------------------------------------|---|
| Tender No.                            | <b>TIFR/PD/CA17-64/170444</b>                         |
| Estimate Cost                         | Rs. 16 Lakh   |
| Type of Tender                        | Two Part Limited Tender                               |
| Date of Publishing                    | 16.06.2017  |
| Last Date for<br>Submission of Tender | <b>06.07.2017 on or before 14.00 Hours</b>            |
| Date of Opening Bids                  | <b>06.07.2017 at 15.00 Hours (Only Technical Bid)</b> |

Both Technical Bid (Part A) and Financial Bid (Part B) to be submitted within the due date and time in separate envelopes and marked on top as Part A and Part B. These two sealed envelopes should be further put in one Master Envelope superscribed with the Tender No., Due Date in Bold Letters.

Please see attached sheet for conditions of tender.

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## 1.0 Preamble:

TIFR is a premier research institute located in Colaba, Mumbai, India. This inquiry is for supply, installation and testing of video conference equipment and accessories. **The proposed solution should be fully compliant for dual stack, IPv4 and IPv6 communication from day one.**

## 2.0 Scope of work:

The scope of work in brief includes, supply, installation, testing, commissioning, integration and training on video conference equipment. It is mandatory for the bidder to visit the site to understand the site requirement before bidding for the project. The equipment's to be supplied and commissioned in TIFR campus at, HomiBhabha Road, Colaba, Mumbai – 400005.

## Contact persons:

Following are the contact persons for this inquiry.

Sri SangamSinha , Scientific Officer, 022-22782616, [ssinha@tifr.res.in](mailto:ssinha@tifr.res.in)

Sri Shekhar G. K., Purchase Officer, 022-22782890, [sgk@tifr.res.in](mailto:sgk@tifr.res.in)

Sri Ajay Salve, Scientific Officer, 022-22782214, [ajaysalve@theory.tifr.res.in](mailto:ajaysalve@theory.tifr.res.in)

## 3.0 Terms and conditions of the inquiry:

- a) Both Technical Bid and Commercial Bid should be submitted before the due date. The bidder has to sign and seal all the pages of the inquiry document and Bill Of Material (BOM) before submitting the bid.
- b) Only technically qualified supplier meeting all the criteria will be qualified for further purchase processes. Supplier can request for a site visit to get complete understanding of the requirement.
- c) The validity of the price bids should be at least 90 days from the date of opening of technical bid. If required, should extend the price validity.
- d) The supplier shall bear all costs associated with the preparation and submission of the bids. TIFR will not be responsible or liable for part or all of those costs under any circumstances.
- e) Supplier should have experience of five (5) years in system integration and should have a team of qualified and experienced engineers to handle the project. Details of local technical manpower should be submitted with the technical bid. Supplier should have full-fledged office and support personnel stationed in Mumbai. Relevant documents should be submitted to support this clause.
- f) Supplier representing the Original Equipment Manufacturer (OEM) should submit hard copy on OEM letter head for VC equipment only
  1. Manufacturers Authorization Form (MAF) quoting the inquiry reference number for which authorization is provided
  2. Confirmation of support service for the proposed products for a period of at least six (6) years and confirming that the proposed products are not declared as end of sale / support
  3. Confirmation from OEM to support the project and provide continued support services during project implementation and post installation in all respects in the event of unforeseen circumstances arising from OEM partner.
- g) To qualify to bid for this inquiry, supplier should have given Video Conferencing (VC) solutions to three customers in India of value between ₹ 8 to ₹ 10 L. Purchase order copies and contact details of the technical person(s) (customer end) associated with the order should be part of the submission. TIFR will have right to check on quality of technical services and support with your customers who have given orders for supply of VC equipment. The projects must be pertaining to installation and commissioning of VC equipment in an enterprise environment. Copies of purchase order and commissioning report (customer acceptance report) have to be submitted.

- h) If required supplier shall organize site visits to their completed sites during the process of evaluation.
- i) TIFR reserves the right to accept or reject any or all bids.
- j) Each supplier can bid for single Original Equipment Manufacturer (OEM) only.
- k) The OEM shall also be responsible for proposed solution, successful project implementation and post installation support.
- l) Obsolete or near end of sale products will not be accepted.
- m) The supplier should not be currently blacklisted by any corporate/central/state government department / public sector unit.
- n) The price quoted should be firm and final. Under no condition price escalation is allowed.

**4.0 Other conditions of inquiry:**

- a) All submissions in response to this inquiry shall be submitted in sealed envelope within the due date. Late submissions will not be accepted. Quoted equipment and accessories should have OEM part no.. Supplier should attach only relevant catalogues / leaflets / brochures of the proposed equipment. Incomplete submissions not complying with the requirements are liable for rejection. Bids submitted without supporting documents will be summarily rejected.
- b) The proposal shall be valid for acceptance by the purchaser for 90 (Ninety) days from the date of technical bid opening and shall be extended by such period as may be needed for finalization of order.
- c) Security Deposit: As a security against due fulfillment of terms and obligations of the contract, the successful bidder shall deposit a sum of 10% (ten percent) of the contract value as security deposit on receipt of purchase order. The payment should be by the way of a demand draft or Bank Guarantee (BG) drawn on a scheduled bank payable to Registrar, Tata Institute of Fundamental Research, payable at Mumbai. The security deposit amount will be refunded after three years on successful implementation and support service. Security deposit will not carry any interest. Security Deposit or BG will be forfeited, in case supplier breaches the agreed terms and conditions, abandon the contract, non-fulfillment of the commitment for any reason.
- d) Our standard Payment terms: 100 % on successful commissioning.
- e) Liquidated Damages: The complete project implementation shall be completed within 2 (two) weeks of receipt of equipment at site, failing which liquidated damages at a rate of 1% of P.O. value per week of delay of commissioning beyond the stipulated period with an upper ceiling of 10% of the purchase order amount for all delays which do not merit any extension of time, will be levied. The countdown for commissioning will start from the date of receipt of all ordered material. The liquidated damages shall be recovered from the payment due to supplier from this or any other contract with the purchaser.
- f) On-site hands-on training to TIFR staff for all the equipment supplied to be conducted by the supplier / OEM.
- g) Deviation from the specifications: The offer shall be made conforming to the specifications of this inquiry. Any deviation from the specifications shall be clearly brought out in a separate sheet. The bidder shall not make any addition / alteration in the text of the specifications. TIFR reserves the right to accept or reject the deviation.
- h) In case of any interpretational issue arising in this inquiry, the interpretation / decision of TIFR shall be final and binding on the supplier.
- i) The purchaser reserves the right to accept or reject any or all the bids either in full or in part without assigning any reasons thereof.

- j) The quantity and line items are tentative and may change at the time of ordering. Quote for optional items are mandatory.
- k) Technical and price bid should have OEM part number for each proposed item.
- l) Bundled prices are not accepted, each line item should have a price.
- m) TIFR is a non-profit academic institute, OEM and suppliers to consider special pricing.
- n) Seamless integration of the proposed solution should be possible with other OEM products / equipment and it is the responsibility of the successful bidder.
- o) As purchaser, TIFR has full right to split the order if required.
- p) All clarifications are to be sought officially over e-mail / letter addressed to purchase officer. Verbal clarifications / approvals will not be considered.
- q) Solution based on integrating different OEM products will be disqualified.

### **5.0 Support and technical requirements:**

- a) The proposed solution, hardware and software, shall be covered under comprehensive onsite warranty for three years (3) from the date of final signoff by TIFR. Release of new version of operating system, application, firmware, bug fix patches etc. for the supplied equipment should be patched / upgraded for stability and security of the system by supplier / OEM team. Supplier / OEM support team should advise and support this activity during the warranty period. During warranty period supplier team should upgrade and update the equipment to higher versions of firmware and operating system as and when released by the manufacturer.
- b) All supplies, hardware and software, shall have comprehensive three years onsite support with OEM service window 8x5 (hrs x days), with NBD spare parts delivery. The supplier's technical team on 8x6 should register the service call and take immediate action. If need arises they should visit the site to resolve the problem. Any configuration changes or enabling of built-in feature on the devices should be serviced by supplier's team / OEM during warranty period.
- c) **Necessary mounting brackets, railings, power chord, cables etc. should be part of the proposal.**
- d) The proposed hardware and software should be fully compliant to dual stack, IPv4 and IPv6, functioning from day one.
- e) Supplier should submit schematic of the proposed solution.
- f) All active equipment / component proposed should be of enterprise class only. TIFR will have full right not to accept items which are not of enterprise class during evaluation and / or after supply.
- g) All equipment should be rated for single phase 220 - 240 V, 50 Hz AC supply.
- h) Supplier / OEM should conduct preventive maintenance as recommended by manufacturer or as required depending on the site condition during warranty period.
- i) The scope of work includes cabling, labelling and dressing of cables.
- j) The proposed solution should work seamlessly with other OEM equipment.

## **6.0 Technical Specifications: (For quantity refer Bill Of Materials (BOM))**

### **6.1 High definition video conference equipment and accessories: 1 nos. (Preferred makes: Polycom, Cisco, Lifesize, ClearOne).**

The proposed all-in- one solution should have the following features from day one

- The proposed system with the latest CODEC should support Full High Definition (FHD) (1080P) for transport and receive during point-to-point and multipoint video conference
- Built in MCU (Multipoint Control Unit) to support three (3) remote and one local site on FHD. Equipment should be licensed for 1+3 locations. Propose hardware and software should be scalable to handle at least three more remote locations by purchase of additional software license.
- Transmission speed (H.323/SIP) 64 Kbps - 6 Mbps
- The system should support live video resolution 1080P (1920 x 1080), 720P (1280 x 720). Transmit and receive at 30/60 FPS
- Video input: Two dedicated camera input ports and one dedicated VGA/HDMI port for content
- Video outputs: Two dedicated HDMI/VGA port for two screens simultaneously. Both the interfaces should support FHD displays
- The system should have a dedicated interface for laptop / desktop plugin
- The system should support dedicated interface for balanced audio input and output. Standard 3.5mm jack / RCA for audio input and output
- Automatic noise suppression, automatic gain control and voice activity detection should be enabled
- The system should support video standards H.261, H.263, H.263++, H.264/AVC high profile and any better standards that is compatible with other OEM equipment.
- The system should support audio standards 20 Khz AAC-LD, 14 Khz with G722.1 Annex C, 7Khz with G.722, G.722.1, 3.4 Khz with G.711, G.723.1, G.728, G.729A or Equivalent or better
- The system should have minimum of one 10/100/1000 Mbps Ethernet port supporting IPv4 and IPv6 in dual stack.
- Firewall, adaptive bandwidth management, restricted access, QoS and NAT feature should be enabled on the system.
- System should support secure web and ssh based access.
- The system should utilize latest encryption standards and other security services to ensure that communications and system resources are kept secure and confidential
- The system should be proposed with infrared remote control and system should allow local and remote camera control through remote
- The proposed VC system should support simultaneously dual FHD cameras and content from laptop / desktop
- The proposed system should divide the screen (PIP) depending on the number of sites in participation with zoom and control of individual site.

### **6.2 FHD PTZ Camera: 2 Nos**

- FHD PTZ cameras compatible for the above VC system with all accessories
- The camera interface should be compatible for the proposed VC system
- Minimum 10x optical zoom with wide angle lens and full pan, tilt and zoom with auto focus feature
- Camera configuration should be possible using the remote control supplied with the VC system
- All accessories required for mounting cameras on the display, ceiling should be considered in the proposal
- Cameras should operate at 1080P and 720p at 30/60 FPS or at lower frame rates as required.
- Up to 70 degrees or more horizontal field of view
- Up to 40 degrees or more vertical field of view
- Manual or auto selection feature for camera control

### **6.3 High Definition Microphones: 2 nos.**

- Omni directional high definition wired microphones compatible for the proposed VC system
- All accessories like cable, power supply, mounting brackets etc. should be considered in the proposal.
- The microphones should be sensitive and should have 360 degrees audio pickup feature

**Note: Any deviation from the technical specifications should be clearly mentioned in a separate sheet.**

**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.**

| Sr. No. | Description                       | Specification Parameter   | Compliance |
|---------|-----------------------------------|---|------------|
| 1       | Package                           | Full HD 1080p60 camera, codec, Microphone Array, cables, and remote control   |            |
| 2       | 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  |            |
| 3       | 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                               |            |
| 4       | 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   |            |
| 5       | Video and Audio Inputs            | 1 x HDMI/HDCI input for connecting main HD camera   |            |
|         |                                   | 1 x HDMI/HDCI input for connecting secondary HD camera  |            |
|         |                                   | 1 x HDMI input for connecting PC/Laptop to share HD content   |            |
|         |                                   | 2 x Microphone Input  |            |
|         |                                   | RCA line-in   |            |
| 6       | Video and Audio Outputs           | 2 x HDMI output for connecting main monitor & second monitor.   |            |
|         |                                   | 1 x HD output for connecting additional monitor or DVD recorder.  |            |
|         |                                   | 1 x RCA pair stereo line-out  |            |
| 7       | Other Interfaces                  | 10/100/1000 LAN port  |            |
|         |                                   | USB for software upgrade and connecting external devices  |            |
| 8       | Camera                            | It should support 1080p60fps with 10x optical zoom.   |            |
|         |                                   | Two cameras should be provided from day one.  |            |
|         |                                   | It should support PAN Range of +/-90°, and Tilt of +/-20°   |            |
| 9       | 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  |            |
| 10      | Multisite Feature                 | It should support atleast 1+3 sites at 1080p  |            |
| 11      | Security                          | Media Encryption (H.323, SIP): AES-128, AES-256   |            |
|         |                                   | The system should also support local recording of an encrypted call   |            |
|         |                                   | Authenticated access to admin menus, web interface and telnet API   |            |
|         |                                   | Local account password policy configuration   |            |



|    |                 |  |  |
|----|-----------------|--|--|
| 12 | 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.   |  |
| 13 | Accessories     | <p>Camera 1 should support length of 7 mts from codec.<br/> Necessary hardware and interface, if any, should be provided.<br/> Camera 2 should support length of 20 Mts from codec.<br/> Necessary hardware and interface, if any, required should be provided<br/> HDMI shielded Cable 15 mts<br/> HDMI shielded Cable 20 mts</p> |  |
| 14 | Installation    | Installation Charges   |  |

**Bill of Materials (BOM)**

| Sl<br>n | Part No. | Description  | Qty | Unit | Rate | Cost | Applicable<br>levies in % |            | Total all<br>inclusive<br>cost |
|---------|----------|--|-----|------|------|------|---------------------------|------------|--------------------------------|
|         |          |  |     |      |      |      | Levy<br>-1                | Levy<br>-2 |                                |
| 1       |          | VC System as per specification in sl. No. 6.1 and compliance sheet                   | 1   | No.  |      |      |                           |            |                                |
| 2       |          | PTZ camera as per specification in sl. No. 6.2 and compliance sheet                  | 2   | Nos. |      |      |                           |            |                                |
| 3       |          | High definition microphones as per specification in sl. No. 6.3 and compliance sheet | 2   | Nos. |      |      |                           |            |                                |
| 4       |          | Additional licence for four ( 4) sites and compliance sheet                          | 1   | No.  |      |      |                           |            |                                |
| 5       |          | Installation Charges   |     | LS   |      |      |                           |            |                                |
|         |          | <b>Total (Rs)</b>  |     |      |      |      |                           |            |                                |

Notes:

Any deviation from the technical specification should be mentioned in a separate sheet clearly.

All equipment / devices should be quoted with manufacturer's part number

Supplier should propose a complete solution. Any missing equipment / accessories in the BOM should be considered and quote given for the same.

All accessories should be from the OEM only. Local makes will not be accepted

Breakup of statutory levies should be given for each item

Quantities are indicative and may vary at the time of ordering

# TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Autonomous Institution of the Department of Atomic Energy, Government of India (A Deemed University)

HOMI BHABHA ROAD, COLABA, MUMBAI – 400 005

(PURCHASE SECTION)

## **Instructions to Bidder**

- PART “A” (Technical Bid) consisting of Technical Bid & Commercial Terms** and **PART “B” (Price Bid) consisting of only Price** shall be submitted in **separate** sealed envelopes duly super scribed with the tender enquiry number, and the due date in bold letters, addressed to the Admn. Officer (Purchase), Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai – 400 005. The envelopes should be clearly marked on top as either PART “I” or PART “II”. The two sealed covers should be further put in a master cover super scribed with the Tender Enquiry No., Due Date in bold letters, addressed to the Admn. Officer (Purchase), Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai – 400 005. The sealed master envelop has to be delivered by hand/courier at the security Gate Officer of TIFR on or before 14.00 hrs on the due date specified. The technical bid will be opened in the presence of attending tenderers at 15.00 hrs on the due date at Purchase Section, TIFR Mumbai. Tenders submitted after 14.00 hrs. on due date will not be considered.
- In case the PART ‘A’ and Part ‘B’ bids are not sealed in separate envelopes the tender will be rejected.**
- The technical bid should not contain any indication of the price.**
- After scrutiny of Technical Bids, Price bids of only those bidders who are shortlisted on technical basis will be opened at on later date. The opening date, time and venue will be intimated to the technically successful bidder.
- Bidders who have not accepted the job/order awarded to them or withdrawn from the tender process OR whose EMD/Security deposit has been forfeited in the past their bids will not be considered and treated as ineligible / disqualified.**
- After downloading the documents please inform your company details such as name, address, telephone nos., contact person and email address etc. by email to us. (sgk@tifr.res.in, madhuras@tifr.res.in, sanju@tifr.res.in, dalvidd@tifr.res.in) to enable us to inform prospective bidder for any corrigendum/changes if any; in the Tender document before due date.
- Quotation must be valid for a period of 90 days from the due date.

8. Tenders containing correction, overwriting will not be considered. Late or delayed/Unsolicited quotations/offers shall not be considered at all. These will be returned to the firms as it is. Post tender revisions/corrections shall also not be considered.
9. Tenderer should sign on all the pages of the technical bid and the price bid.
10. In case of any interpretational issues in this tender, the interpretational decision of the TIFR shall be Final & binding on the bidder.
11. TIFR reserve the right to ask for or to provide any clarification, changes after the release of this tender.
12. If equipment offered is to be imported, arrangements for import will be made by us.
13. Tenders who do not comply with any of the conditions are liable to be rejected.
14. The Institute shall be under no obligation to accept the lowest or any other tender received in response to this tender notice and shall be entitled to reject any tender without assigning any reason whatsoever.
15. TIFR reserves the right to place the order for part/reduced quantity than what is specified in the tender
16. The delivery period should be specifically stated and earlier delivery may be preferred.
17. **COMMENCEMENT OF WARRANTY PERIOD:** The warranty period of an item shall commence from the date of receipt of the item in good working condition and satisfactory installation/commissioning/demonstration at the project site. The warranty period and validity of Performance Guarantee shall be extended for the period of delay in satisfactory installation and delay in warranty services

18. Specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying our specifications in the quotation shall not make the parties eligible for consideration of the quotation. A quotation has to be supported with the printed technical leaflet/literature of the quoted model of the item by the quoting party/manufacturer.

**ADMINISTRATIVE OFFICER**  
(PURCHASE SECTION)  
TIFR, MUMBAI