

**TATA INSTITUTE OF FUNDAMENTAL RESEARCH**  
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Date: 30-01-2024

**Global Tender Ref. No. TIFR/PD/GT/CA23-07/23-24/M/07 for Supply, Installation and Commissioning of High Resolution Transmission Electron Microscope for TIFR Hyderabad.**

**Sub: Pre Bid meeting Clarification against Global tender issued for Supply, Installation and Commissioning of High Resolution Transmission Electron Microscope for TIFR Hyderabad (Tender Ref. No. TIFR/PD/GT/CA23-07/23-24/M/07)**

Dear Bidders/Vendors,

With reference to above Global tender, the following bidders are participated in the pre bid meeting on 19-01-2024 at 11.00Hrs

1. M/s. Thermofisher scientific Pvt. Ltd., Bangalore.
2. M/s. JEOL India Pvt. Ltd., Bangalore.
3. M/s. Ametek Instruments India Pvt. Ltd., Hyderabad.

The above bidders participated through Zoom online meeting for the Technical and Commercial details of the above Tender.

Technical and Commercial clarification are as follows:

Page # (of tender document Annexure A)	Specification #	Clarification/Suggestion Sought:	TIFRH Response:
3	2c (Electron Source)	Bidder asked to clarify how much power backup is necessary.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
4	6 (Probe current)	The Bidder requested to change probe size at which probe dimension is specified from 0.7 nm to 1.0 nm.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.

4	9a (Image/Data recording system)	Bidder suggested to make the high-resolution CMOS camera bottom-mounted and retractable.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
4	9a and 9b (Image/Data recording system)	Bidder requested for clarification on pixel size.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
4	9b (Image/Data recording system)	Bidder suggested that CMOS sensor should be square with active area >3,700 mm <sup>2</sup> and pixel size of 15 μm.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
4	9e (Image/Data recording system)	Bidder requested to change camera frame rate to ≥ 40 fps. Suggested to add video mode with maximum frame rate of 1,600 frames for second (fps)	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
4	9f (Image/Data recording system)	Bidder requested to change conversion efficiency to greater than 25 counts per primary electron.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
5	9g (Image/Data recording system)	Bidder suggested that the software should include live drift correction at 4,096 x 4,096 pixels.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
5	9h (Image/Data recording system)	Bidder suggested dynamic range should be >80dB with High always-on High Dynamic range sensor	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.

5	11 (Image/Data recording system)	Bidder requested to add ultra dry oil free vacuum system for projection chamber as well along with column, gun & specimen chamber.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
6	15 (Image/Data recording system)	Bidder requested to change monitor size from 27 inches to $\geq 24$ inches.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
8	22 (Image/Data recording system)	Bidder requested to not include quoting antivibration equipment at the tender stage.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
-	-	Bidder suggested to add Multi segmented (at least 8 or more) STEM detector for imaging light elements & DPC, iDPC applications as an optional item.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.
-	-	Bidder requested to add cryo transfer holder for imaging of biological samples as an optional item.	TIFR Hyderabad stated that it will be consulted with technical members and update the same in TIFRH website if any changes required.

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