

Tender Notification for the procurement of a “Scanning Electron Microscope coupled with a heating stage” at IISc (Last Date for submission of tenders: 25th May 2022)

Dear Sir/Madam,

We are looking for a high-resolution scanning electron microscope (SEM) coupled with a heating stage, which can enable us to evaluate *in situ* the evolving morphology/microstructure in polymer/polymer systems only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. For our testing and characterization needs, an SEM with tungsten emission system will be the most suitable. Therefore, we request vendors to submit technical and commercial bids for the same.

The technical specifications for the SEM are given below. Kindly send your best quotation for the same on FOR-IISc Bangalore basis in INR only. Your quotation should clearly indicate the terms of delivery, delivery schedule, payment terms etc. The tender should be submitted in two separate sealed envelopes - one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 1700 hours 25th May 2022.

Please enclose a compliance certificate along with the technical bid.

Electron Optical Performance Resolution at optimum working distance	The SEM should offer a minimum of 3 nm resolution in HV mode at 30 kV (SE) with tungsten source
Detector	<ul style="list-style-type: none"> • Standard SE • 4 Quadrant BSD
Acceleration Voltage	Accelerating voltage of 200V to 30kV
Probe Current	Range: 0.5 pA to 3 μA or better to enable high resolution imaging for non-conducting samples even at low accelerating voltages.
Magnification	Lower mag. x30 or less Higher Mag. x1,000,000 or more
Electron Optics: Electron Source	Filament: Tungsten with a long-life mode to extend the life of the emitters when maximum brightness is not required.
Image control	Resolution Mode: Automatically selects the minimum probe diameter for any selected probe current Depth Mode: Automatically selects the maximum depth of field to ensure in-focus imaging even at low magnifications. Analysis Mode: Automatically maintains focus for changes in probe current. Field Mode: A navigation mode with a large field of view combined with a large depth of field. Probe Current Selection: Automatic control of all lenses.

Sample Navigation	Field of view: Maximum 6 mm diameter at the analytical working distance. Field Mode: For navigation and large depth of field.
Specimen Chamber and Stage	Dimensions: 200 mm inner diameter and 220 mm height for large specimens or better Ports: 8 Port system
Specimen Stage	5 axis motorized eucentric stage with X and Y of 80 mm or more and Z-axis = 20 mm or more, Tilt = -10° to +90° or better. Manual Joystick as well as software control for stage movement
Heating Stage	Heating module with temperature range up to 300 C (minimum) or higher with a controller
Image store	The image store should be minimum of 5k*4k or better
Other features required	<ul style="list-style-type: none"> • The system should not require cooling water or compressed air for operation • The system should be capable to change magnification and beam current continuously • The system should have a control panel with integrated keyboard for comments. • The system should always ensure the optimal setting of the electron beam either for maximum resolution or depth of field. • The SEM should be field upgradable to low vacuum or a full extended pressure SEM.
Warranty	3 Years
Installation details in last 3 years	<ul style="list-style-type: none"> • OEM to provide the installation/PO details of 10 or more similar systems in INDIA for the last three years.
Optional items	<ul style="list-style-type: none"> • EDS

Acceptance criterion:

Demonstration of all aforementioned technical specifications on site after installation

Terms & conditions

1. Price for all other upgrades such as “EDS” may also be given. These will be procured at a later date as and when required. The vendor should also make sure that the price quoted would be valid for a period of 2 years. Reasonable change in the price will be accepted.
2. Two-bid system (separate technical and financial) in sealed tenders.
3. The technical bid must clearly specify the prescribed technical specifications without including the prices. Please provide in detail the specifications under the above subheads. Unique characteristics may be highlighted. Vendors

who include price information in the technical bids will be automatically disqualified.

4. Technical bids will be opened first. IISc may seek clarifications after opening of technical bids, and may ask them to perform some example experiments on the sample given by IISc to demonstrate the promised technical specifications. Vendors may be required to give presentations. There are several items that require information to be provided by the supplier. If information is not provided against any of these items, this will disqualify the supplier. After technical evaluation by a committee, vendors may be asked to re-quote in a specific format to facilitate comparison of prices. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.
5. Price bids of only technically qualified vendors will be considered, and the vendors will be informed the day of opening the price bids.
6. The price bids must offer FOR-IISc Bangalore prices in INR only.
7. Prices to be quoted separately for baseline system and options. Prices will should be quoted in adequate detail with relation to packing details to cover insurance compensation in case of damage to any specific modules
8. Indicate separately price of spares listed above in terms of unit cost. The price of these spares will be included in the price comparison. Any additional spares recommended by the company will be considered for ordering but not included in the comparison. The buyer reserves the right to make the final decision on ordered spares
9. Indicate price for annual maintenance contract.
10. The payment will be by letter of credit: payable 80% on shipping, 20% after satisfactory installation and acceptance.
11. Indicate delivery period
12. Order will be placed on lowest bid from technically qualified vendor
13. The tender documents can be sent at the following address:

Prof. Suryasarathi Bose
Department of Materials Engineering
Indian Institute of Science, Bangalore 560012
INDIA