



**NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008 (ODISHA)**

An Institute of National Importance under Ministry of Education, GOI

NOTICE INVITING TENDER

Tender Notification No: NITR/PW/CH/2020/222

Dated: 29/12/2020

The National Institute of Technology, Rourkela invites bids from the eligible bidders for procurement and installation of **A table top research grade SEM (scanning electron microscope) for imaging and microscopic analysis of mostly biological, inorganic nanomaterials with Energy Dispersive X-Ray Analysis (EDX) to department of Chemical Engineering, NIT Rourkela.**

Last date of Submission of Bid : **27/01/2021 by 11:00 AM**

Date of opening of techno-commercial Bid : **28/01/2021 at 11:00 AM**

For Details:

https://nitrkl.ac.in/OldWebsite/Jobs_Tenders/9Equipment/Default.aspx

Contact: Prof. S. Paria

Department of Chemical Engineering
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008, ODISHA, India
Phone: (0661) – 2462262 and 9437684864
E-mail: sparia@nitrkl.ac.in

Bidding through: <https://eprocure.gov.in/eprocure/app>

**Sd/-
REGISTRAR**



NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA-769008, ODISHA

(OPEN TENDER NOTICE NO.: NITR/PW/CH/2020/222

Dated: 29/12/2020)

Tender for Procurement and installation of Procurement and Installation of a table top research grade SEM (scanning electron microscope) for imaging and microscopic analysis of mostly biological, inorganic nanomaterial with Energy Dispersive X-Ray Analysis (EDX) to department of Chemical Engineering, NIT Rourkela.

Item No	Description	Quantity
1	A table top research grade SEM (scanning electron microscope) for imaging and microscopic analysis of mostly biological, inorganic nanomaterials with Energy Dispersive X-Ray Analysis (EDX)	01 Unit

- Quantity required: **As mentioned above (All information regarding technical specification provided in the Annexure-II)**
- Delivery** : Within **90 days** from the date of purchase order.
- Last Date of submission of bid** : **27/01/2021 by 11:00 AM**
- Date of opening of techno-commercial bid** : **28/01/2021 at 11:00 AM**
- The firm should not have been black listed at any time.
- The submission of following bids by the tenderer should be through <https://eprocure.gov.in/eprocure/app> . Please follow the guidelines as per the portal.

Procurement of A table top research grade SEM (scanning electron microscope) for imaging and microscopic analysis of mostly biological, inorganic nanomaterials with Energy Dispersive X-Ray Analysis (EDX)

**(Tender Notice No.: NITR/PW/CH/2020/222 Dated: 29/12 /2020)
Due on 27/01/2021 by 11:00 AM**

- Liquidated damage clause** will be charged for any delay in supply of goods.
- The validity of the tender shall be **120 days** from the date of opening of techno-commercial bids.
- Detailed advertisement including all tender documents is also available in our website at https://nitrkl.ac.in/OldWebsite/Jobs_Tenders/9Equipment/Default.aspx
- NIT reserves the right to qualify or deny prequalification of any or all applicants without assigning any reasons.

(REGISTRAR)
NIT, Rourkela
Fax No- 0661-2462022
Ph. No -0661-2462021

Annexure-I I

A table top research grade SEM (scanning electron microscope) for imaging and microscopic analysis of mostly biological, inorganic nanomaterials with Energy Dispersive X-Ray Analysis (EDX) of following specifications.

MAIN INSTRUMENT	
Resolution in SE (Secondary electron mode)	4 nm or better at 20 kV (High Vacuum mode) 15 nm or better at 1 kV (High Vacuum Mode)
Resolution in BSE (Back scattered electron mode)	5.0 nm or better at 20 kV (Low Vacuum Mode)
Detector	SE, BSE and Low Vacuum SE imaging detector
Magnification	10X or lower to 3,00,000X or higher
Low Vacuum Pressure Range	10 Pa to 100 Pa or better
Motorized Stage	At least 3 Axis motorized stage with X = 50 mm or more, Y = 40 mm or more, Z = 15 mm or more, R = 360 ⁰ , Tilt = - 15 ⁰ or lower to 90 ⁰
Maximum sample Size	80 mm diameter or better and 40 mm height or better with Multiple Specimen Loading Facility
Filament	Tungsten Pre Centred Cartridge Filament or some other better material. Additional 40 nos. tungsten filament should be supplied along with the system.
Accelerating Voltage	Continuously variable, Minimum Operating 500 Volts or lower to Maximum Operating Voltage 20 kV or higher
Astigmatism correction	Electromagnetic 8-pole X-Y type scanning coil
Auto image adjustment	Auto brightness & contrast control, Auto focus control, Auto stigmatism /focus, \Auto filament saturation, Auto beam alignment, Beam alignment (Beam current alignment) , Automatic Beam brightness
Advance software option	Raster rotation, Dynamic focus, Image enhancement function Data display (Image number, accelerating voltage, magnification, Micron marker, Micron value, WD, date, time, vacuum, detector, data display bar setting; transparent), Data input (two points distance measurement, angle measurement, letters) Pre-setting magnification Stage navigation function (SEMMAP)
Image saving	Image saving size (640 × 480 pixel, 1,280 × 960 pixel, 2,560 × 1,920 pixel) or better
Image file format	BMP, TIFF, JPEG
PC Requirement	Compatible Desktop PC (Branded) must be provided with the instrument. Monitor: 21 inches TFT, 16 GB DDR 4 RAM or better, 500 GB SSD storage, 1 TB Hard Disk, SATA (7200 rpm), Intel Core i7 processor (9th Generation), 1 GB dedicated graphics.
Camera Navigation	System with CCD based camera with navigation function
Vacuum System	Turbo Molecular Pump, Rotary Pump
Automatic Image Adjustment	Automatic brightness Control, Focus, Contrast, Beam Adjustment
EDS detector (Optional)	Suitable 30 mm ² detector with software for Line scan, point scan, area mapping, B to U elemental detection.
Accessories (Optional)	Anti-vibration platform/table if required

Safety features	Protection function for the power failure, electric leakage and vacuuming operation are equipped.
UPS	Suitable capacity online UPS power supply must be provided with 1 h battery back-up or better with built in Isolation transformer using PWM IGBT based technology. Maintenance free dry battery from reputed brands (Exide, Amron etc.) with a battery rack for the complete SEM setup including PC, EDS, SEM unit, vacuum pump. UPS warranty minimum one year.
Warranty	At least 3 years comprehensive warranty.
Other conditions	<p>Vendor should be an authorized sales and service provider of the same OEM for at least three years or more in India with a proven track record, if the vendor is not an OEM, authorization certificate from the OEM should be provided. Standard quality certifications such as ISO 9001 etc. of OEM.</p> <p>At least five installations/supply of similar or higher model of scanning electron microscope in India by the vendor (if not an OEM) in past five years. Installation certificate and PO must be given. Number of years of service experience of electron microscopes by the vendor should be provided.</p> <p>The OEM should have supply and installations of Ten scanning electron microscopes during last Five years in Indian reputed Govt. and private organizations. A list must be provided.</p> <p>The vendor must provide a compliance sheet with the technical specification and supporting documents. Software should be free upgradable for at least 10 years, spare parts should be available for 10 years.</p>
Onsite-training and Installation	Basic Training for complete system free of cost post-installation and 6 months later based on the problem arises during operation. Installation by the vendor free of cost.
a)Installation & Commissioning:	<ul style="list-style-type: none"> • At N.I.T-Rourkela site by the supplier. • Pre-installation Civil / Electrical/ Water/Radiation safety requirement/ instructions should be mentioned well in advance along with Bid. • Satisfactory performance of the installed instrument should be demonstrated.

GENERAL CLAUSES TO BE FOLLOWED BY THE BIDDER

1. Bidders are requested to carefully go through the bid document, including tender specifications. It will be the responsibility of the bidders to ensure that all required documents, data, information, undertaking, certificates etc. are provided as per the bid document. Bids which fail to provide the required documents, data and information, as mentioned in the bid document, may be declared non-responsive and rejected.
2. All goods and materials should be new, unused, and of the most recent or current models, and should incorporate all recent improvements in design and materials unless provided for otherwise in the specifications below. Bidders may offer higher/better specifications but not the lower ones.
3. The bidder should provide the access to all genuine, original and licensed Software along with their update releases during the warranty period and the validity period of contract.

4. The bid must specify the pre-requirements (such as electrical power requirements, flooring etc.) for installation.
5. All bids must be accompanied by bid security Declaration as specified in **Annexure-I**.
6. In the event of the date specified for bid receipt and opening being declared as a closed holiday for purchaser's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.

Amendment of Bidding Documents:

7. At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, Modify the bidding documents by amendment.
8. All prospective bidders who have received the bidding documents will be notified of the Amendment in writing or by cable or by fax or through uploading in the website (URL: <https://www.nitrkl.ac.in>), and will be binding on them.
9. In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.
10. It is to be noted that in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has to provide documentary evidence that the Bidder has been duly authorized (as per authorization form in Section XII) by the goods' Manufacturer or producer to supply the goods in India.
11. The bid should include item wise detailed description of the technical specification of all the components of the table top research grade SEM (scanning electron microscope) for imaging and microscopic analysis of mostly biological, inorganic nanomaterials with Energy Dispersive X-Ray Analysis (EDX) unit.
