

To Whom It May Concern

**Global Tender Notification to supply In-situ TEM heating and biasing holder.**

**(Last date of submission of tenders: 10<sup>th</sup> October 2022)**

This is an RFQ (Request for Quote) for procurement of an In-Situ TEM heating and biasing holder as part of a global tender for the Centre for Nano Science and Engineering (CeNSE) at IISc, Bangalore.

CeNSE is a multidisciplinary research department at IISc that houses a 14,000 sq. ft. cleanroom and 5000 Sq. ft characterization facility used by more than 100 faculty members from various disciplines at IISc. CeNSE also runs a program called Indian Nanoelectronics Users Program (INUP) which has allowed 4200 participants from more than 700 universities and institutes all over India to use the facilities at CeNSE. Consequently, any tool in CeNSE receives significant exposure to scientific community at IISc and beyond. The vendors are requested to factor in the value of this exposure in to their quotes. Details of existing facilities and INUP program can be found from:

<http://www.mncf.cense.iisc.ac.in/>

<http://nnfc.cense.iisc.ac.in/>

<https://www.inup.cense.iisc.ac.in/>

Also, CeNSE hosts equipment on behalf of vendors, as a national standard or 'model' system. If the vendor is interested, CeNSE can consider working out a similar arrangement for the In-situ heating and biasing holder. In-situ heating and biasing holder is a spare/accessory for Transmission Electron Microscope (TEM), which will be utilized for investigating properties of materials under external stimuli like temperature and biasing. The holder should be compatible with the Thermo Fisher Scientific TITAN THEMIS 300 (D3391) microscope which is available at MNCF, CeNSE, IISc.

Bids should be submitted in two separate sealed envelopes –one containing the "Technical bid" and other containing the "Commercial bid", both of which should be duly signed and must reach the undersigned on or before 17:00 hours 10<sup>th</sup> October 2022. C.I.P. Bangalore basis (by Air Freight only).

The bids should be addressed to:

The Chairperson,

Centre for Nano Science and Engineering

Indian Institute of Science

Bangalore – 560012, India

With attention to: Dr. Suresha S J

Please enclose a compliance statement along with the technical bid.

**Procedure**

1. Vendors must submit a complete bid which includes both the technical and commercial bid with supporting documents.

2. Vendors will be required to submit a technical proposal and a commercial proposal in two separate sealed envelopes. one containing the "Technical bid" and other containing the "Commercial bid."
3. Only vendors who meet the technical requirement will be considered for the commercial negotiation.
4. Incomplete bids will be summarily rejected.
5. The deadline for submission of proposals is the 10th of October 2022, 5:00 pm Indian Standard Time.
6. Proposals should arrive at the Main office, GF-15, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India, by the above deadline.
7. The decision of purchase committee will be final.
8. The technical proposal should contain a compliance table with 5 columns. The first column must list the technical requirements, in the order that they are given in the technical configuration below. The second column should describe your compliance in a "Yes" or "No" response. If "No" the third column should provide the extent of the deviation (please provide quantitative responses). The fourth column should state the reasons for the deviation, if any. The fourth column can be used to compare your tool with that of your competitors or provide details as requested in the technical requirements table below.
9. Any additional capabilities or technical details, that you would like to bring to the attention of the purchase committee, can be listed at the end of the technical table.
10. Vendors are encouraged to highlight the advantages of their tools over comparable tools from the competitors
11. In the commercial bid, please provide itemized cost of the system and required accessories, such as software, power supply, etc.
12. As an option, please provide itemized cost for any suggested accessories/add-ons that may enhance the usability, capability, accuracy, or reliability of the tool. Vendors are encouraged to quote for as many add-ons as their tool portfolio permits.
13. Commercial bids must be valid for 120 days.
14. Commercial bids should indicate the terms and conditions of delivery, delivery schedule, entry tax, payment terms, warranty coverage, etc.
15. The technical and price bids should each be placed in separate sealed covers, superscribing the tender no. and the due date on both the envelopes. Both these sealed covers are to be placed in a bigger cover, which should also be sealed and duly superscripted with the Tender No, Tender Description & Due Date.
16. The SEALED COVER superscribing tender number / due date & should reach CeNSE Main Office, GF-15, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India on or before the due date mentioned in the tender notice. If the due date happens to be a holiday, the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
17. The Bidder's firm should have existed for a minimum of 3 years. (Enclosed Company Registration Certificate)
18. If the Bidder is a local distributor/dealer/Agent, attaching an authorization certificate with the technical bid from the original equipment manufacturer is mandatory.
19. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 1.
20. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 2.

21. The Institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of the contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
22. Please indicate the warranty provided with the tool.
23. The RFQ must include references of 3 previous installations, in a centralized characterization facility of similar size or bigger, preferable in India. Please provide the names and contact addresses of the referees, so that the committee can contact them independently.
24. 18. Any questions can be directed to Dr. Suresha S J, GF-12, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India. ([sureshasi@iisc.ac.in](mailto:sureshasi@iisc.ac.in)).

## 1. Technical Specifications:

The following technical requirements should be strictly met, and necessary documentation must be enclosed along with the Technical Bid:

1. Double tilt biasing + heating holder compatible with ThermoFisher scientific (Titan Themis, Themis Z-aberration corrected) microscopes
2. Holder compatible with MEMS based heater + electrode chips on SiNx membrane
3. Heating and biasing control: 4 point probe with resistive feedback
4. No of contacts: at least 6
5. Temperature range: RT to >1200°C
6. Membrane breakdown voltage > 130 V
7. Attainable E- fields >250 KV/cm at 900°C
8. Detectable current range: 1 pA to 100 Ma
9. Polepiece compatibility (with the Thermofisher TEMs in IISc).
10. Alpha tilt:  $\pm 20^\circ$
11. Beta tilt:  $\pm 20^\circ$
12. Drift rate: < 0.5 nm/min
13. Temperature accuracy: > 95%
14. Temperature homogeneity: >99.5%

## 2. Acceptance tests

The system performance will be verified with standard test/reference samples. The specification must be successfully demonstrated at our site.

## 3. Technical Bid

The technical bid should furnish all requirements of the tender along with all annexures in this section and submitted to

The Chairperson,

**Attn:** Dr. Suresha S J

Centre for Nano Science and Engineering

Indian Institute of Science

Bangalore – 560012, India

#### 4. Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
1.a	... (details of essential items)				
1.b	...				
2.	Optional items				
2.a	... (details of optional items)				
2.b	...				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software				
5.	Warranty				
7.	Cost of Insurance and Airfreight				
8.	CIP/CIF IISc, Bengaluru				

Any additional items

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total

Addressed to

The Chairperson,

Attn: **Dr. Suresha** S J

Centre for Nano Science and Engineering

Indian Institute of Science

Bangalore – 560012, India

## 5. Annexure – 1

Declaration for acceptance of terms and conditions

To,

The Chairperson,

Centre for Nano Science and Engineering

Indian Institute of Science,

Bangalore – 560012, India

Ref: Tender No: XXXXXX

Dated: XXXX

Supply of In-situ TEM heating and biasing holder at MNCF, CeNSE, IISc Bangalore

Sir,

I've carefully gone through the Terms & Conditions as mentioned in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Name

Designation, Seal

Date:

## **6. Annexure – 2**

Details of items quoted:

1. Company Name
2. Product Name
3. Part / Catalogue number
4. Product description / main features
5. Detailed technical specifications
6. Remarks

Instructions to bidders:

Bidder should provide technical specifications of the quoted product/s in detail.

Bidder should attach product brochures along with technical bid.

Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

## **7. Checklist**

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

### **1. Separate Sealed Envelope "A" : Technical Bid**

Section 1 and Section 2- Technical Bid (each page signed by the authorized signatory and sealed) with the annexures below:

- a. Annexure 1: Declaration for acceptance of terms and conditions
- b. Annexure 2: Details of items quoted

Copy of this tender document duly signed by the authorized signatory on every page and sealed.

### **2. Separate Sealed Envelope "B": Commercial Bid**

#### **Section 4: Commercial Bid**

Your Bids should be submitted in two separate sealed envelopes –one containing the "Technical bid" (Envelope A) and other containing the "Commercial bid" (Envelope B), super scribing on both the envelopes with Tender No. and due date and both of these in sealed covers and put in a bigger cover which should also be sealed and duly super scribed with Tender No., Tender description & Due Date

The SEALED COVERS should be duly signed and must reach CeNSE Main Office, GF-15, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India on or before the due date mentioned in the tender notice.