

**DEPARTMENT OF AEROSPACE ENGINEERING**  
**INDIAN INSTITUTE OF SCIENCE(IISc), BENGALURU, INDIA**  
**Global Tender Notification for TEM SAMPLE PREPARATION SETUP**  
**(Last Date for Submission: Feb 15<sup>th</sup> 2025)**

**Tender Notification Ref No.: 022025AE207**

**Date: 10.01.2025**

This is a **Request for Quote (RFQ)** for supply including Installation, Commissioning, and training at the site for the “**TEM SAMPLE PREPARATION SETUP**” at the **Department of Aerospace Engineering Indian Institute of Science, Bengaluru**. 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 **15<sup>th</sup> Feb 2025 on or before 1700 hrs**. The bids should be addressed to:

The Chair  
Attn: Dr. Vivekanand Dabade  
Department of Aerospace Engineering  
Indian Institute of Science,  
Bengaluru, Karnataka 560012, India

Direct all questions concerning the acquisition to Dr. Vivekanand Dabade at: [dabade@iisc.ac.in](mailto:dabade@iisc.ac.in)

**The scope of the supply includes Installation, Commissioning, and Training at the site for the “TEM SAMPLE PREPARATION SETUP”.**

**Tender Summary**

1	Tender number	022025AE207
2	Tender Date	<b>10.01.2025</b>
3	Item Description	<b>TEM SAMPLE PREPARATION SETUP</b>
4	Tender Type	Two Bid System: (a) Technical Bid (Part A) (b) Commercial Bid (Part B)
5	Place of Tender submission	<b>Dr. Vivekanand Dabade</b> <b>Assistant Professor,</b> <b>Department of Aerospace Engineering, Indian</b> <b>Institute of Science, Bangalore - 560012</b>
6	Last date & Time for submission of tender	<b>15<sup>th</sup> Feb 2025 @ 5.00 P.M</b>

## **General Terms and Conditions:**

1. The bid should be submitted in a two-cover system, i.e., technical bid and commercial bid, separately in sealed covers. The technical bid should contain all commercial terms and conditions, except the price.
2. In the commercial bid, the price should be inclusive of all discounts.
3. The lead time for the delivery of the items should not be more than 16 weeks from the date of receipt of our purchase order. It should be clearly mentioned in the technical and commercial bids.
4. All the quotations must be valid for at least 90 days at the time of submission.
5. 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 should be provided.
6. Items in addition to those listed in the technical table that you would like to bring to the attention of the committee, such as data sheets, technical plots, etc., can be listed at the end of the compliance table.
7. Vendors are encouraged to highlight the advantage of their product over comparable products from the competitors.
8. If needed, a meeting for any technical clarifications can be scheduled with the undersigned by sending an email.
9. The Institute reserves the right to accept or reject any bid or to annul the bidding process and reject all bids at any time prior to the award of the contract without thereby incurring any liability of the affected bidder or bidders.
10. After the award of the purchase order, the vendor must provide an Order Acknowledgement within 30 days from the receipt of the Purchase Order.

The tender documents can be sent to the following address:

The Chair  
Attn: Dr. Vivekanand Dabade  
Department of Aerospace Engineering  
Indian Institute of Science,  
Bengaluru, Karnataka 560012, India

## Technical requirements

Please note that the requirements listed below are only guidelines. It does not disbar bids that do not meet the criteria listed. Vendors are requested to quote for equipment that meets the criteria to the best extent possible and list deviations. Deviations are NOT an automatic reason for disqualification. They will be discussed by the technical committee prior to making an informed decision.

### Desired Technical Specifications

This setup is required to prepare samples for microstructure characterization using the Transmission electron microscope. The detailed technical specifications for an ideal setup are mentioned below.

#### TECHNICAL SPECIFICATIONS

**Scope of work:** Supply, installation, and commissioning of electropolishing setup.

S. No.	TEM SAMPLE PREPARATION SETUP	
1	<b>Equipment details</b>	<ul style="list-style-type: none"><li>• <b>Control unit:</b> Fully automatic, microprocessor-controlled control unit for electrolytic thinning of metal specimens. With an electronic thermometer and adapter for the connection of the Polishing Unit. A Polishing Unit is required.</li><li>• <b>Power supply:</b> 1 x 220-240 V / 50-60 Hz, convertible to 1 x 100-120 V/ 50-60 Hz</li><li>• <b>Polishing unit:</b> For electrolytic thinning of metal specimens. With specimen holder for 3 mm dia. specimens, set of jets, pump, cooling coil, insulated PVC container, non-insulated PVC container, and built-in photocell</li><li>• <b>Tape kit:</b> For electrolytic blanking of 3 mm / 2.3 mm specimens to be electrolytically thinned. 1 roll of tape and 1 hole punch</li><li>• <b>Sets of Jet:</b> Twin jets should be used. For specimen holder with 1 mm dia. Bore. For specimen holder with 2.5 mm dia. bore.</li><li>• <b>Specimen Holder:</b> For the preparation of thin foils for TEM. For polishing unit. For 3 mm dia. specimens</li><li>• For pre-thinning of thin foils for TEM. For the polishing unit, the Diaphragm aperture should be 10 mm dia. For the preparation of thin foils for TEM. For polishing unit. For 2.3 mm dia. specimens</li><li>• <b>Electrolytes for polishing:</b> Stainless steels, aluminum and aluminum alloys, copper and copper alloys, nickel alloys, tin and titanium, molybdenum, titanium, zirconium, and vanadium</li><li>• The external cooling unit and tubing for connection to the external cooling unit should be included and must be sourced alternatively.</li><li>• Display screen, Touch pad control</li><li>• Database for defined methods for conventional metals steels, aluminum, titanium, magnesium, etc.</li><li>• Should display the scan curve while the user selects and sets the voltage</li><li>• Automatic calibration of the voltage-current curve, electrolyte flow rate,</li></ul>

		<p>and selection of the optimum polishing conditions, Automatic clean-up procedures</p> <ul style="list-style-type: none"> <li>• There should be a three-year warranty</li> </ul>
<b>2</b>	<b>Pre-dispatch inspection</b>	<ul style="list-style-type: none"> <li>• Equipment should be checked before shipping. Data should be shared with IISc, and approval should be obtained before shipping.</li> </ul>
<b>3</b>	<b>Acceptance</b>	<ul style="list-style-type: none"> <li>• The supplier must demonstrate all the functions of the system according to the specifications after successful commissioning at IISc.</li> <li>• Within one week of delivery, if the supplier cannot demonstrate the equipment's functioning, the tender will be cancelled.</li> </ul>

- ✚ Should have a proven record of successful installations within Indian education/research institutes. Proof of such installation must be enclosed.
- ✚ The OEM/Supplier should have trained service engineers stationed in India for any onsite service requirement, details to be provided in the offer.
- ✚ OEM/supplier should have the requisite stock of necessary spare parts in India.

## TERMS AND CONDITIONS

1. Supplier Credibility:
  - a. The Bidder/Vendor Must have supplied a minimum of 3 similar orders to reputed Government Organizations in the past 3 years. Copies of Purchase Orders are to be enclosed along with the Technical Bid as proof.
  - b. Supplier should compulsorily indicate details of facilities/expertise/ qualification of support staff in India. Factory-trained engineer/s should be available in India for complete product support.
  - c. Please enclose the User list in INDIA.
  - d. Minimum 3 Reference letters of similar system supplied need to be submitted for further consideration.
2. Publications:
  - a. As our Research Work is of a critical nature, Vendors need to enclose reference publications/application notes on the usage of the “**TEM SAMPLE PREPARATION SETUP**” to show the expertise of the product being offered.
3. The institute reserves the right to the final selection of items.
4. Only the Original Equipment Manufacturer or their authorized representatives across the globe shall participate in the bid.
5. The order will be placed only on the bidder who participated in the bid.
6. Vendors may quote for any other items/accessories separately as “Optional Items”.
7. Cancellation of Tender: Notwithstanding anything specified in this tender document, the purchase committee, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
  - a. To accept OR reject the lowest tender or any other tender or all the tenders.
  - b. To accept any tender in full or in part.
  - c. To reject the tender, offer not confirming the tender terms.
8. Warranty: Maximum Duration Possible.
9. Annual Maintenance Contract: AMC is not required
10. Delivery, Installation, and Training: The bidder shall provide the lead time to delivery, installation, and function at IISc, Bangalore, from the date of receipt of the purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking over of the entire system by the IISc, Bangalore, shall be taken as the start of the warranty period. No partial shipment is allowed. The bidder should also arrange for technical training for the local facility technologists and users.

11. Payment Terms: The payments to non-domestic vendors will be through a Letter of Credit, and the milestone of the payment will be determined after the mutual discussions with the successful bidder. As per GFR, no advance payment can be made to domestic vendors unless an equal amount of bank guarantee is provided.
12. Statutory Variation: Any statutory increase in the taxes and duties subsequent to the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore, subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will have to be passed on to IISc, Bangalore.
13. Disputes and Jurisdiction: Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.

For queries or clarifications, please contact:

*Dr. Vivekanand Dabade at [dabade@iisc.ac.in](mailto:dabade@iisc.ac.in)*

## Annexure-I

Note: Compliance Certificate must be enclosed with the technical bid. Non-submission of Compliance Certificate will lead to disqualification of the bidder.

### Desired Technical Specifications

S. No.	TEM SAMPLE PREPARATION SETUP	
1	<b>Equipment details</b>	<ul style="list-style-type: none"><li>• <b>Control unit:</b> Fully automatic, microprocessor-controlled control unit for electrolytic thinning of metal specimens. With an electronic thermometer and adapter for the connection of the Polishing Unit. A Polishing Unit is required.</li><li>• <b>Power supply:</b> 1 x 220-240 V / 50-60 Hz, convertible to 1 x 100-120 V/ 50-60 Hz</li><li>• <b>Polishing unit:</b> For electrolytic thinning of metal specimens. With specimen holder for 3 mm dia. specimens, set of jets, pump, cooling coil, insulated PVC container, non-insulated PVC container, and built-in photocell</li><li>• <b>Tape kit:</b> For electrolytic blanking of 3 mm / 2.3 mm specimens to be electrolytically thinned. 1 roll of tape and 1 hole punch</li><li>• <b>Sets of Jet:</b> Twin jets should be used. For specimen holder with 1 mm dia. Bore. For specimen holder with 2.5 mm dia. bore.</li><li>• <b>Specimen Holder:</b> For the preparation of thin foils for TEM. For polishing unit. For 3 mm dia. specimens</li><li>• For pre-thinning of thin foils for TEM. For the polishing unit, the Diaphragm aperture should be 10 mm dia. For the preparation of thin foils for TEM. For polishing unit. For 2.3 mm dia. specimens</li><li>• <b>Electrolytes for polishing:</b> Stainless steels, aluminum and aluminum alloys, copper and copper alloys, nickel alloys, tin and titanium, molybdenum, titanium, zirconium, and vanadium</li><li>• The external cooling unit and tubing for connection to the external cooling unit should be included and must be sourced alternatively.</li><li>• Display screen, Touch pad control</li><li>• Database for defined methods for conventional metals steels, aluminum, titanium, magnesium, etc.</li><li>• Should display the scan curve while the user selects and sets the voltage</li><li>• Automatic calibration of the voltage-current curve, electrolyte flow rate, and selection of the optimum polishing conditions, Automatic clean-up procedures</li><li>• There should be a three-year warranty</li></ul>
2	<b>Pre-dispatch inspection</b>	<ul style="list-style-type: none"><li>• Equipment should be checked before shipping. Data should be shared with IISc, and approval should be obtained before shipping.</li></ul>
3	<b>Acceptance</b>	<ul style="list-style-type: none"><li>• The supplier must demonstrate all the functions of the system according to the specifications after successful commissioning at IISc.</li><li>• Within one week of delivery, if the supplier cannot demonstrate the equipment's functioning, the tender will be canceled.</li></ul>

**Annexure-1:**

**Details of the Bidder**

The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

**Details of the Bidder**

Sl. No	Items	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

Signature of the Bidder

Name

Designation,

Seal

Date:



Annexure-2:

Declaration regarding experience

To,  
The Chair,  
Attn: Dr. Vivekanand Dabade  
Aerospace Engineering Department  
Indian Institute of Science Bangalore – 560012,  
India

Ref:  
Tender No: XXXXXXXXXXX  
Dated: XXXXX

Supply and installation of **TEM SAMPLE PREPARATION SETUP** & Its Accessories at  
Aerospace Engineering Department, IISc Bangalore.

Sir,

I've carefully gone through the Terms & Conditions contained in the  
above referred tender. I hereby declare that my company/firm has  
----- years of experience in  
supplying and installing a TEM Sample Preparation Setup.

(Signature of the Bidder)

Printed Name

Designation

Seal

Date:

Annexure-3:

Declaration regarding track record

To,  
The Chair,  
Attn: Dr. Vivekanand Dabade  
Department of Aerospace Engineering  
Indian Institute of Science Bangalore – 560012,  
India

Ref:  
Tender No: XXXXXXXXXX  
Dated: XXXXX

Supply and installation of TEM SAMPLE PREPARATION SETUP & It's  
Accessories at Aerospace Engineering Department, IISc Bangalore.

Sir,  
I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company/ firm is not currently debarred/blacklisted by any Government / Semi-Government organizations/institutions in India or abroad. I further certify that I'm a competent officer in my company/firm to make this declaration.

Or

I declare the following

Sl.No	Country in which the company is Debarred /blacklisted / case is Pending	Blacklisted / debarred by Government / Semi Government/Organizations /Institutions	Reason	Sincewhen and for how long
-------	---	--	--------	----------------------------

(NOTE: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

Yours faithfully  
(Signature of the Bidder)  
Name  
Designation,  
Seal

Annexure-4:

Declaration for acceptance of terms and conditions

To,  
The Chair,  
Attn: Dr. Vivekanand Dabade  
Department of Aerospace Engineering  
Indian Institute of Science Bangalore – 560012,  
India

Ref:  
Tender No: XXXXXX  
Dated: XXXX

Supply and installation of TEM SAMPLE PREPARATION SETUP & It's  
Accessories at Aerospace Engineering Department, 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:

**Annexure-5:**

Details of items quoted:

- a. Company Name
- b. Product Name
- c. Part / Catalogue number
- d. Product Description / main features
- e. Detailed technical specifications
- f. Remarks

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. The bidder should attach product brochures along with the technical bid.
3. Bidders should clearly indicate compliance or non-compliance with the technical specifications provided in the tender document.

**Section 6-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 noted in the technical specification				
2.a	... (details of essential items)				
2.b	...				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software to be supplied locally				
5.	Warranty (3 years)				
6.	AMC 2 years beyond warranty				
7.	Cost of Insurance and Airfreight				
8.	CIP/CIF IISc, Bengaluru				

Any additional items

S. No	Description	Cat. Number	Quantity	Unit Price	Subtotal

Addressed to

To,

The Chair,

Attn: Dr. Vivekanand Dabade

Department of Aerospace Engineering

Indian Institute of Science Bangalore – 560012,

India

## **Section 7–Checklist**

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

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

### **1. Sealed Envelope “A”: Technical Bid**

1. Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:
  - a. Annexure 1: Bidders details
  - b. Annexure 2: Declaration regarding experience
  - c. Annexure 3: Declaration regarding clean track record
  - d. Annexure 4: Declaration for acceptance of terms and conditions
  - e. Annexure 5: Details of items quoted
2. A copy of this tender document duly signed by the authorized signatory on every page and sealed.

### **2. Sealed Envelop “B”: Commercial Bid**

#### **Section 6: Commercial Bid**

Your quotation must be submitted in two envelopes: Technical Bid (Envelope A) and 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.