

Global Tender Notification for the procurement of a Ferroelectric Test system for Thin film measurement with various FE-Module measurements system at MRC, IISc Bangalore

(Last date of submission of tenders: 25th July 2024)

This is a Request for Quote (RFQ) from Globally, for the supply and installation of a Ferroelectric Test system for Thin film measurement with various FE-Module measurements system at Materials Research Centre (MRC) at the Indian Institute of Science (IISc), Bangalore. Your quotation should indicate the terms and conditions of the quotations, delivery, delivery schedule, entry tax, payment terms, warranty coverage etc. The tender 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 25th July 2024. C.I.P. Bangalore basis (by Air Freight only). Your quotation should mention the terms of delivery, delivery schedule, estimated delivery date, and payment terms.

The bids should be addressed to:

The Chairperson,
Attn: Dr. Sujit Das
Material Research Centre
Indian Institute of Science
Bangalore – 560012, India

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Section 1 - Bid Schedule

1	Tender No	
2	Tender Date	04 th July 2024
3	Item Description	Supply and installation of a Ferroelectric Test system for Thin film measurement with various FE-Module Standard measurements system at MRC, IISc Bangalore
4	Tender Type	Two bid systems (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Proposals should be addressed	The Chairperson, Attn: Dr. Sujit Das Materials Research Centre Indian Institute of Science Bangalore 560012, India
6	Place of tender submission	Main office Materials Research Centre Indian Institute of Science Bangalore 560012, India
7	Last Date & Time for submission of tender	25 th July 2024
8	For further clarification	Dr. Sujit Das at the email address sujitdas@iisc.ac.in with the subject line "Query _Tool name_Bidder's name"

Section 2 – Eligibility Criteria

Prequalification criteria:

1. The Bidder's firm should have existed for a minimum of 5 years. (Enclose Company Registration Certificate)
2. The Bidder should have qualified technical service personnel for the instrument(s) based in India.
3. If the Bidder is a local distributor/dealer/Agent, attaching an authorization certificate with the technical bid from the original equipment manufacturer is mandatory.
4. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4.
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 has to be given as per Annexure 3.

Section 3 – Terms and Conditions

1) Submission of Tender:

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
 - a. **Technical Bid (Part-A)** – Technical bid consisting of all technical details and check list for conformance to technical specifications.

The technical proposal should contain a technical compliance table with 5 columns.

- i. The first column must list the technical requirements, in the order that they are given in the technical requirement below.
 - ii. The second column should provide specifications of the instrument against the requirement. Please provide quantitative responses wherever possible.
 - iii. The third column should describe your compliance with a “YES” or “NO” only. Ensure that the entries in column 2 and column 3 are consistent.
 - iv. The fourth column should state the reasons/explanations/context for deviations, if any.
 - v. The fifth column can contain additional remarks from the **Original Equipment Manufacturer (OEM)**. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details, compare your solution with that of your competitors or provide details as requested in the technical requirements table below. (Suppliers who include any indication of prices in the technical bid will be automatically disqualified).
- b. **Commercial Bid (Part-B)** – Indicating item wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.

3. The technical bid and price bid should each be placed in separate sealed covers, superscripting on both the envelopes the tender no. and the due date. 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.
4. The SEALED COVER superscripting tender number / due date & should arrive Main office, Material Research Centre, Indian Institute of Science, Bangalore 560012, India, on or before due date mentioned in the tender notice. In case due date happens to be holiday the tender will be accepted and opened on the next working day. If the

quotation cover is not sealed, it will be rejected.

5. All queries are to be addressed to the person identified in “Section 1 – Bid Schedule” of the tender notice.
6. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document.
7. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.
8. The vendor should have qualified technical service personnel for the equipment based in India and should assure a response time of <48 hours.
9. Technical evaluation by the purchase committee may include a demonstration to verify functionalities and capabilities of the system quoted. The institute reserves the right to provide samples after opening the technical bids to verify promised specifications. Any discrepancy between the promised specifications and measurements will be deemed as technical non-compliance. The quality of the data will also be considered during the technical evaluation.
10. Imported items should be shipped on C.I.P. Bangalore basis (by Air Freight only), and all components and accessories indicate component-wise and itemized breakup. Provide certificates for the country origin of manufacturing for each line item. The price of every line item in the commercial bid should be quoted along with the total quoted price for the instrument to be operational (installed and ready to use) in our facility.
11. The purchase committee 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 contract, without there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
12. Incomplete bids will be summarily rejected.

2) Cancellation of Tender:

Notwithstanding anything specified in this tender document, IISc purchase committee, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:

- a. To accept OR reject 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 to the tender terms.

3) Validity of the Offer:

The offer shall be valid 180 Days from the date of opening of the commercial bid.

4) Evaluation of Offer:

1. The technical bid (Part A) will be opened first and evaluated.
2. Bidders meeting the required eligibility criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.
3. Pre-qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and / or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and decision in this regard shall be binding on the bidders.
4. The award of contract will be subject to acceptance of the terms and conditions stated in this tender.
5. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
 - a. Non-submission of complete offers.
 - b. Receipt of bids after due date and time and or by email / fax (unless specified otherwise).
 - c. Receipt of bids in open conditions.
6. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall construe that the BIDDER had accepted the clauses as of the tender and no further claim will be entertained.
7. No revision in the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
8. Lowest bid will be calculated based on the total price of all items tendered for Basic equipment along with accessories selected for installation, operation, preprocessing and post processing, optional items, recommended spares, warranty, annual maintenance contract.

5) Pre-requisites:

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

6) Warranty:

The complete system is to be under warranty period of minimum 3 years. Vendor should include cost of any spares that are expected to be needed during the warranty period, including electronics, subcomponents, and software. Vendors can assume usage of 2000 hours/year for this calculation. If the instrument is found to be defective, it has to be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

7) Purchase Order:

1. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.
2. The quantity of the items in tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.
3. If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

8) Delivery, Installation and Training:

- a) The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order.
- b) The system should be delivered, installed and made functional within 90 days from the date of receipt of purchase order.
- c) 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.
- d) After successful installation and inspection, the handover date shall be the start of the warranty period.
- e) No partial shipment is allowed.

f) The bidder should also arrange for technical training to the local facility technologists and users.

9) Payment Terms:

a) The payment will be through a Letter of Credit and the milestone of the payment will be determined after mutual discussions with the successful bidder.

b) AMC cost (if ordered, after completion of warranty period) will be released on half-yearly basis at the end of each six months subject to satisfactory services.

c) The price must be on C.I.P. Bangalore basis (by Air Freight only).

10) Statutory Variation:

Any statutory increase in the taxes and duties subsequent to 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.

11) 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.

12) General:

a) All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension in the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.

2. The bidder may furnish any additional information, which is necessary to establish capabilities to successfully complete the envisaged work. It is however, advised not to furnish superfluous information.

3. The bidder may visit the installation site before submission of tender, with prior intimation.

4. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from tendering/taking up of work in IISc, Bangalore.

Section 4 – Technical Specifications

13. Technical Specifications of the Ferroelectric Test system for Thin film measurement with various FE-Module Standard measurements system.

13.1. Instrument Specifications:

The instrument must have demonstrated Voltage Range (with built-in amplifiers): $\pm 500V$ (No External Amplifier allowed up to 500V **Ferroelectric Test System should not hook up any external amplifier to drive samples up to 500V all amplifier hardware should be built-in to the System and its motherboard**) and Hysteresis Frequency Range: 0.03Hz – 270KHz@100V (100KHz@200V) (5KHz@500V) with 18 BIT ADC.

(Should be mentioned on Company Website, wrong compliance will be subjected to legal action from the Institute)

Maximum Measuring Frequency – **2MHz**

- Maximum Number of Data Points required for Highest Accuracy: 32000 data points
- Voltage Range (with High Voltage Interface (HVI) and external amplifier): +/- 10Kv
- Number of ADC bits: 18 bit
- Minimum Charge Resolution using the In-built Electrometer/Electron Counter: 0.8fC or lower (Femto Coulombs Range)
- Minimum area resolution - 0.080u2
- Pulse Width range: 0.5 μ s to 1s
- Minimum Leakage Current: 2pA or lower

Need to mention level of accuracy on valid datasheets and website as an evidence **PROOF OF ACCURACY SHOULD BE PROVIDED** system will be checked for this spec on user site.

1. **Operating Modes**

The system must be capable of the following measurement modes

- **Hysteresis, Leakage, Charge, Retain, Resist, Fatigue, IV, CV, PUND, Imprint, Leakage Current, customizable pulse sequence measurement, able to measure instantaneous current with some reasonable data sampling etc (with basic system with no hardware configuration change ie. Without changing the probes to the sample all measurements should be carried out simultaneously).**

2. **Type of waveforms**

User defined waveforms must be there such as:

- **Triangular**

- Inverse cosine
- Double bipolar sine
- Sine
- Mono
- Double
- Standard Bipolar
- 10%pulse
- Pulse
- Zero
- Customized.

3. Controller, Electronics and software:

- The software operating the tester must be programmable and capable of executing all measurement types in an arbitrary order ***without configuration change (ie with no connection changes made to the sample)***.
- Captured data must be automatically stored and easily transferred to other testers using network protocols.
- The tester software must be adaptable to future changes in the host computer operating system.
- The tester/setup must be capable of capturing external sensor data synchronously with polarization measurements.
- **Computer and Ferroelectric Test System should be separate and connected through USB Cable, so that in future any advanced new computer can be utilized with Ferroelectric Test System.**
- System should not work with any dedicated sample holder. Any kind of sample should be connected with appropriate wirings and measured & can be connected to any available cryogenic chamber or any available furnace.
- The system should incorporate software for Poling Studies of samples.
- The system should incorporate software for C(V) Measurement.
- The system should incorporate software for Time Dependent/Dynamic Leakage Compensation.
- The system should incorporate software for charge decay analysis using 10% Pulse.
- The system should have a built in electrometer at all test frequencies.

4. Guarantee, Warranty, Support and Service

- Must include three year warranty on all parts and labor

ALL INFORMATION REGARDING EACH AND EVERY SPECIFICATION/ MEASUREMENTS /CALCULATIONS SHOULD BE MENTIONED IN THE COMPANY WEBSITE. DATA IN TYPED FORMAT ON

COMPANY LETTERHEAD IS ALSO UNACCEPTABLE (DATA HAS TO BE SUPPORTED WITH EVIDENCE/ RESEARCH PAPERS ONLY ON WEBSITE ONLY). WRONG COMPLIANCE STATEMENT WILL BE SUBJECTED TO LEGAL ACTION FROM THE INSTITUTE.

- Must include free system software upgrades for the life of the instrument.

14. Spares and accessories

Must provide sample holder, clips, GE Varnish, Apiezon Greases which are relevant for every measurement. Necessary cords and cables.

15. Training and demonstration

Training on usage of the machine (hardware and software) must be provided by the successful bidder at bidder's cost to the end users at IISc, Bangalore.

Section 5- Technical Bid

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

The Chairperson,
Attn: Dr. Sujit Das
Materials Research Centre
Indian Institute of Science
Bangalore – 560012, India

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 Chairperson,
Materials Research Centre
Indian Institute of Science
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of a Ferroelectric Test system for Thin film measurement with various FE-Module Standard measurements system at MRC, 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 Ferroelectric Test system for Thin film measurement with various FE-Module measurements systems.

Signature of the Bidder

Name

Designation, Seal

Date:

Annexure-3:

Declaration regarding track record

To,

The Chairperson,
Materials Research Centre
Indian Institute of Science
Bangalore – 560012, India

Ref: Tender No: XXXXXXXX

Dated: XXXXX

Supply and installation of a Ferroelectric Test system for Thin film measurement with various FE-Module Standard measurements system at MRC, 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 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	Since when and for how long
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(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

Date:

Annexure – 4:

Declaration for acceptance of terms and conditions

To,

The Chairperson,
Materials Research Centre
Indian Institute of Science
Bangalore – 560012, India

Ref: Tender No: XXXXXX

Dated: XXXX

Supply and installation of a Ferroelectric Test system for Thin film measurement with various FE-Module measurements system at MRC, 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. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of 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 2-3 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	Sub total

Addressed to

The Chairperson,
Attn: Dr. Sujit Das
Materials Research Centre
Indian Institute of Science
Bangalore 560012, India

Section 7 – Checklist

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

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

1. Sealed Envelope “A”: Technical Bid

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

2. Sealed Envelope “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.

Thanking you,

Dr. Sujit Das
Assistant Professor
Materials Research Centre
Indian Institute of Science
Bangalore 560012, India
E-mail: sujitdas@iisc.ac.in