

**Request for Quote for the procurement of  
an X-ray Diffractometer for structural characterization at MRC, IISc Bangalore.  
(Last date: 31<sup>st</sup> March 2025)**

This is a Request for Quote (RFQ) from vendors for the supply and installation of an X-ray diffractometer for structural characterization of powder samples at Materials Research Centre (MRC), Indian Institute of Science (IISc), Bangalore.

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## Section 1 - Bid Schedule

1	Tender No	IISc/MRC/FIST-02
2	Tender Date	10 <sup>th</sup> March 2025
3	Item Description	Supply and installation of an X-ray diffractometer for structural characterization of powder samples 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 Chair, Attn: Prof. Prabeer Barpanda 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	31 <sup>st</sup> March 2025
8	For further clarification	Prof. Prabeer Barpanda at the email address <a href="mailto:prabeer@iisc.ac.in">prabeer@iisc.ac.in</a> with the subject line "Query_X-ray Diffractometer_Bidder's name"

## **Section 2 – Eligibility Criteria**

Prequalification criteria:

1. i). Only the Original Equipment Manufacturer or their authorized representatives across the globe shall participate in the bid.  
ii). The order will be placed only on the bidder who participated in the bid.
2. The Bidder's firm should have existence for a minimum of 4 years. (Enclose Company Registration Certificate)
3. Bidder should give the independent references who are already using the system. Also, there should be at least 8 installations in India of similar model.
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

### A) 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)** or from their distributors. 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.
- 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 and 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 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.
9. Incomplete bids will be summarily rejected.

## **B) 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.

## **C) Validity of the Offer:**

The offer shall be valid 90 Days from the date of opening of the commercial bid.

## **D) 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.

## **E) Pre-requisites:**

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

## **F) Warranty:**

The complete system is to be under warranty period of minimum 3 years (year wise breakup value should be shown in the commercial bid) 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 3500 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.

## **G) Annual Maintenance Contract (AMC):**

An annual maintenance contract for a period of at least 3 years post warranty should be provided as an essential optional item on completion of warranty period. If the purchase committee opt for the AMC, then the L1 will be calculated as instrument cost (A) Including warranty + cost of AMC per year (B)\*no of year. If we opt AMC period as 3 years, L1 will be calculated as  $A + 3*B$ .

The AMC costs will not be considered towards classifying the nature (class 1 or class 2) of the vendor (see eligibility criteria in section 2).

As an additional option, provide cost of an annual maintenance contract (AMC) for 3 years, post warranty. The AMC must

- a. cover 1 scheduled and 1 emergency visit per year.
- b. The emergency visit should be supported with a 48-hour response window.
- c. clarify if maintenance will be done by a trained onsite engineer (MRC employee) or a specialist from the OEM.
- d. in case the OEM is foreign, clarify if maintenance will be done by a trained engineer from India (local representative or Indian subsidiary) or by a trained engineer from abroad.
- e. include an itemized list of spares (e.g., maintenance kits) that are essential for scheduled visits.

## **H) 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.

## **I) Delivery, Installation and Training:**

The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The system should be delivered, installed and made functional within 90 days from the date of receipt of 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 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 to the local facility technologists and users.

### **J) Payment Terms:**

100% payments (except AMC) will be released after completion delivery and satisfactory installation subject to TDS as per rules. 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. Advance payment can be made to vendors, unless an equal amount of bank. As per GFR no advance payment can be made to vendors, unless an equal amount of bank guarantee is provided.

### **K) 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.

### **L) 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.

### **M) General:**

1. 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**

### **A. Technical Specifications of the X-ray Diffractometer for powder samples.**

#### **1. Instrument Specifications:**

The instrument must have the following operating features.

- X-ray tube with copper (Cu) source.
- Ni filter for monochromatic radiation.
- X-ray generator with output of 3 kW (with stability of ~0.01%).
- Tube voltage of 30-60 kV.
- Tube current of 40-60 mA (step width ~ 1 mA).
- X-ray tube protection against voltage/current overloading.
- Door lock with emergency stop mechanism.
- When the door is open, X-ray source should be automatically switched off.
- Minimum step angle ~ 0.0001 degree.
- Scanning angle range  $2\theta$  -10 ~ 160 degree.
- 1D Si semiconductor strip detector (high precision).

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.

The vendor must also provide the following items:

- Silicon/Alumina NIST standard for routine calibration.
- 20 sample holders.
- 2 low background sample holders.
- Automatic sample changers for 6-10 samples.

#### **2. Chiller:**

- Water circulating chiller for 3 kW Cu X-ray generator.
- Water temperature between 15-25 degree centigrade.
- Water tank capacity ~ 40-50 liters.
- Water circulator compatible with power supply of 220 V, 1 phase and 50 Hz.
- Controller with digital display showing the temperature and control parameters.
- 20 kVA online UPS (and batteries) complementing the water chiller (with ~30 min. back up time).

#### **3. Computer and software:**

- A desktop computer with monitor and latest version of MS Office software.
- A structural database software for pattern matching.

All above items must come with at least three-year warranty on all parts and service.

**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.

## **B. 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 Chair,  
Attn: Prof. Prabeer Barpanda  
Materials Research Centre  
Indian Institute of Science  
Bangalore – 560012, India

## Annexure-1:

Details of the Bidder: The bidder must provide the following mandatory information and 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,  
Materials Research Centre  
Indian Institute of Science  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of an X-ray Diffractometer for powder sample measurement 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 X-ray diffractometers for powder sample measurements.

Signature of the Bidder

Name

Designation, Seal

Date:

### Annexure-3:

Declaration regarding track record

To,

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

Ref: Tender No: XXXXXXXX

Dated: XXXXX

Supply and installation of an X-ray Diffractometer for powder sample measurement 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
--------	-------------------------------------------------------------------------	------------------------------------------------------------------------------------	--------	-----------------------------

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

Ref: Tender No: XXXXXX

Dated: XXXX

Supply and installation of an X-ray Diffractometer for powder sample measurement at MRC, IISc Bangalore

Dear 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 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 Chair,  
Attn: Prof. Prabeer Barpanda  
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,

Prof. Prabeer Barpanda  
Associate Professor  
Materials Research Centre  
Indian Institute of Science  
Bangalore 560012, India  
E-mail: [prabeer@iisc.ac.in](mailto:prabeer@iisc.ac.in)