

**Global Tender Notification for the Procurement of a Research Grade FT-IR with ATR and accessories.**

**(Last Date for Submission: April 4<sup>th</sup>, 2024)**

Indian Institute of Science, Bangalore invites the best quotations from the bonafide, resourceful, and eligible manufacturer/exclusive distributor/vendors for the procurement of a Research Grade FT-IR with ATR and accessories with the following technical specifications on C.I.P. Bangalore basis (by **Air Freight** only). The quotation should clearly mention the validity of the quote (minimum 90 days validity), terms of delivery, delivery schedule, estimated delivery date, and payment terms. The tender should be submitted in two separate sealed and distinctly marked envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach us duly signed on or before 17:00 hours, April 4<sup>th</sup>, 2024.

*As per the OM No.F.4/1/2023-PPD dated 03-04-2023 on Relaxation on Procurement of Certain Items through GTE, Fourier Transform – Infra Red (FT-IR) Spectrophotometer with Attenuated Total Reflectance (ATR) System (among 364 Medical devices) are exempted from the instructions related to GTE (for details, see the Annexure A of the OM, Sl. No. 19, 21, 32, 187, 189, 190, 191).*

The bids should be addressed to:

**The Chairman**

Solid State and Structural Chemistry Unit  
Chemical Sciences Division  
Indian Institute of Science (IISc)  
Bengaluru, India - 560012  
Kind attention: **Prof. Abhishake Mondal**  
Email: [mondal@iisc.ac.in](mailto:mondal@iisc.ac.in)

The sealed bids should be sent to the following address:

**Prof. Abhishake Mondal**

Solid State and Structural Chemistry Unit  
Room F-213, F-Block, Second Floor  
Chemical Sciences Division  
Indian Institute of Science (IISc)  
Bengaluru, India - 560012  
Ph: +91-9932207177  
Email: [mondal@iisc.ac.in](mailto:mondal@iisc.ac.in)

**Please enclose a compliance statement along with the technical bid.**

## Section 1: Bid Schedule

1.	Tender No	<i>IISc/SSCU/2024/Tabletop FT-IR-ATR Spectrophotometer</i>
2.	Tender date	13 <sup>th</sup> March 2024
3.	Instrument	<i>Research Grade FT-IR with ATR and accessories</i>
4.	Tender type	Global Tender
5.	Documents to be submitted	i) Technical bid (part A) ii) Commercial bid (part B)
6.	Place of tender submission	<b>Prof. Abhishake Mondal</b> Solid State and Structural Chemistry Unit Room F-213, F-Block, Second Floor Chemical Sciences Division Indian Institute of Science (IISc) Bengaluru, India – 560012
7.	Last date and time of tender submission	April 4 <sup>th</sup> , 2024, 17:00 hours
8.	For Further clarification	<b>Prof. Abhishake Mondal</b> Solid State and Structural Chemistry Unit Chemical Sciences Building Indian Institute of Science (IISc) Bengaluru- 560012, India Ph: +91-9932207177 Email: <a href="mailto:mondal@iisc.ac.in">mondal@iisc.ac.in</a>

## Section 2 - Eligibility Criteria:

Prequalification criteria:

1. All documentation in the tender should be in English.
2. The tender should be submitted in two envelopes (two bid systems)
  - a) Technical Bid (Part-A) – Technical bid consists of all technical details and a checklist for conformance to technical specifications. The proposal should contain a compliance table with 4 columns in addition to the ones in the technical requirements table that has been included with this RFQ above. The compliance table should include all the items in the same order and format. The first column should describe your compliance in a “Yes” or “No” response. If “No” the second column should state the extent of the deviation. The “third” 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. (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 the tender, and other commercial terms and conditions.
3. The technical bid and price bid should be placed in separate sealed covers, superscripting the tender no. and the due date on both 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.

4. The SEALED COVER superscripting tender number / due date & should reach the office of **Prof. Abhishake Mondal**, Room F-213, F-Block, Second Floor, Solid State and Structural Chemistry Unit, Chemical Sciences Building, Indian Institute of Science, Bangalore – 560012, India, on or before the due date mentioned in the tender notice. In case 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.
5. Notwithstanding anything specified in this tender document, IISc Bangalore, 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.
6. The Bidder should sign and submit the declaration of Acceptance of Terms and Conditions as per -Annexure 4.
7. 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 must be given as per Annexure 3.

### Section 3 - Technical Specifications for Research Grade FT-IR with ATR and accessories

#### **Broad System Requirements and Usage:**

We are intent to purchase a *Research Grade FT-IR with Attenuated Total Reflectance (ATR) Mode* with the following minimum specifications or better for our lab at the Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore. The following technical criteria are to be met by any Research Grade MID-IR Fourier Transform – Infra Red (FT-IR) Spectrophotometer with Attenuated Total Reflectance (ATR) Mode with beam splitter, beam path and detector switchover under automatic motorized control and Variable Temperature Liquid Nitrogen based Cryostat interfacing with the FTIR Spectrometer and accessories that being quoted under this notice:

- 1) Access to the quoted instrument should be multi-user friendly with an easy-to-use software interface and modular hardware design that allows rapid user training. It should also be easy to change from one operational mode to another with relative ease so that our students can set up experiments and handle the instrument.
- 2) In addition, the system being quoted should have a modular design, providing the flexibility to support upgradation for the possibility of integrating future updates either at the time of procurement or at a later date.

**Principal:** Supply and installation of a computer-controlled, user-friendly compact *Research Grade FT-IR with Attenuated Total Reflectance (ATR) Mode* with a beam splitter, beam path, and detector and accessories with the modular hardware design for the measurement of IR spectra for different kinds of samples such as polycrystalline, single crystalline, powders, thin films, nano-crystalline and liquid samples.

The modular hardware design and software upgrade for the system is essential so that we can add these new measurement capabilities in the future. However, this modular design should be multi-user-friendly so that the user can change the measurement probes rapidly and with minimal training.

The bid should also include necessary accessories for day-to-day uninterrupted routine operations. A compliance statement with all the specifications below must be attached to the bid. Printed literature and published papers in well-recognized international peer-reviewed journals in support of all compliance to the prescribed specifications should be provided.

#### **Detailed Specifications:**

1. Mid-IR (KBr beam splitter) 8,000-350  $\text{cm}^{-1}$  or Better
2. Spectral resolution 0.5  $\text{cm}^{-1}$  or better
3. Wavelength precision better than 0.01  $\text{cm}^{-1}$  or better at 3000  $\text{cm}^{-1}$
4. Wavelength accuracy  $\pm 0.1 \text{ cm}^{-1}$  or better @ 3000  $\text{cm}^{-1}$

5. Signal-to-noise 9,300:1 peak to peak, 5 seconds or 32000:1 peak to peak or better, 1 minute for 4  $\text{cm}^{-1}$  scan or better.
6. Improved Rotary Michelson Interferometer (Non mechanical bearing) for fast scanning, self-compensating for dynamic alignment changes due to a tilt and shear, incorporating high reflectivity coated optics.
7. System must incorporate a vibration isolated base plate and must have automatic compensation for Vapor &  $\text{CO}_2$ .
8. The system must offer a solid state laser in the interferometer system for higher longevity and lower maintenance.
9. Detector: Room Temperature stabilized LitaO3 or DTGS or DLATGS or better type.
10. Assured interferometer protection from high humidity through in-built Automatic Solid High-Polymer Electrolytic Desiccators for long instrument life.
11. FTIR should be portable for easy movement & even suitable Field Application can be chargeable from car battery. It can be switched in and switched off without any risk to sensitive optical Components when not in use. Must be able use in Fume hood / GloveBox.
12. It should have Barometric Bag built-in to compensate for atmospheric pressure.
13. Transmission Accessory should be included with Mid IR Polystyrene reference card.
14. It must be possible to power the spectrophotometer from main electricity supply or external rechargeable battery pack or 12V car battery supply. The software control must incorporate scheduled instrument power on/off to better control power consumption.
15. The system must be controllable *via* TCP/IP interface or wireless configuration.
16. A single software platform incorporates all of the functions required for infrared analyses; instrument control, data manipulation and analysis, flexible report utilities, and must run under Windows 7 or 10, routines Spectral calculator, Spectral comparison, PLS\PCR\Beer's Law predictions, Beer's Law Quant method development, IR Tutor, and with Multimedia training CD.
17. Quoted FTIR should be future upgradable to Evolved Gas Analysis like. TGA-FTIR, TGA-FTIR-GCMS Hyphenation for advanced research works. Same vendor / make TGA and GCMS is mandatory.
18. Quoted FTIR should be compatible IR Microscope for future upgradation.
19. Quote Must include Research Grade ATR: Quote with the following Minimum Specifications to cover 8,000-350  $\text{cm}^{-1}$  or Better

Universal ATR must be an excellent general accessory for the analysis of solids and liquids. The ATR must produce high quality spectra through the use of a pressure arm allowing good contact of the sample with the diamond crystal. The pressure arm force indicator must ensure first-class sample-to-sample and operator-to-operator reproducibility.

ATR Must include:

- Automatic recognition - as soon as the accessory is placed in the sample compartment the Universal ATR module must be recognized along with its unique number, and system suitability checks can be carried out.
- Zero alignment, zero set-up - once locked into the FTIR the system must be ready to be used without any alignment necessary.
- Integrated - the plug-in module design means the accessory must become an integral part of the instrument once installed.

Pressure arm with pressure sensor must be supplied as standard. Live spectral preview mode and force readout in Spectrum must ensure good contact before scanning

***Required Accessories:***

- The quote should also include the required suitable DELL Computer. Suitable Dell Computer: windows 10 OS and 21" Colour Monitor, Intel Core i7- 11500 11th Gen Processor, 16 GB RAM, 2 TB SSD or better.
- FT-IR Equipment with these Accessories should **be offered with 3 years warranty from the date of installation.**

**Optional items:** The following items should be quoted as optional item in the price bid.

**1. Quick Press KBr Pellet Kit**

**2. Specac Mini Pellet Press**

#### Section 4 - Terms and Conditions

- 1) Comprehensive 3-year minimum on-site warranty with additional 3 years on all parts from the date of successful installation.
- 2) The vendor must quote for a non-comprehensive Annual Maintenance Contract (AMC) price beyond the 3-year warranty, with a price lock in for 3 years beyond the standard 3-year warranty period, 2-3 services per year should be included in the AMC. AMC should be clearly mentioned after the warranty period.
- 3) The tender document should also indicate what kind of service/maintenance is required for the system. Also mention that whether the service has to be carried out by a company engineer or it can be carried by trained service personnel within India.
- 4) Power requirement: Indian standard power supply, 220/240 Volts AC with frequency 50 Hz.
- 5) Operation and service manual in English (electronic and hard copy) with complete circuit diagram and PCB layout for all equipment should be provided with the instrument.
- 6) Standard samples (if required) to be provided by the company for testing the instruments at the time of installation on site to the quoted accuracy in the given technical specification for the demonstration of the performance of equipment.
- 7) Pre-installation site preparation requirements to be indicated and specified along with the bid.
- 8) Installation and on-site training of our staff (minimum three training courses with minimum three sessions each) in operation and maintenance are essential by factory trained personal free of cost.
- 9) Please provide the segmented quotation for each optional measurement capabilities. Depending upon the budgetary provision and priority, the items to be purchased will be decided.
- 10) Bid should include all other essential auxiliary equipment and spares for its operation, even which are not explicitly specified above (please provide list with details).
- 11) All sample handling kits/consumables should also be provided.
- 12) The vendor is responsible for the complete and successful installation of the system at the institute.
- 13) The price quotation should include the cost of installation and training of potential users.
- 14) GST is applicable as per Govt. of India GST law and must be mentioned in the price bid. In case due to any error / oversight, the GST quoted by the bidder is less than the actual rate as per tariff, the bidder will not be permitted to rectify the error/oversight. The orders / contract will be placed for the total amount including the (lower) rate/s quoted by the bidder, with reduced basic amount to the extent of difference in tax/duty amount, so that the total amount (basic + actual rate as per tariff), remains same (quoted basic + quoted rate). The difference amount payable, if any, between the quoted rate and actual rate as per tariff shall be borne by the bidder.
- 15) The vendor should have a track record of having previously supplied at least five

identical instruments in CFTIs such as JNCASR, IITs, IISERs, NITs with above mentioned specifications. **Details of such systems should be provided.** Vendor must provide the user list (with contact details including emails and phone numbers) of at least 5 customers from Indian Institutes/Labs with contact person name, address, phone, fax and email Ids should be provided. The primary focus of these installed systems should have included reliable data in the form of pictorial graphs, temperature dependent spectra must be provided.

- 16) List of 20 publications in highly renowned international peer reviewed journals should be provided.
- 17) The committee reserves the right to reject the technical bid if the above condition is not satisfied.
- 18) The vendor should have qualified technical service personnel for the equipment based in India and should assure a response time of <48 hours.
- 19) The lead-time for the delivery of the equipment should not be more than 3 months from the date of receipt of our purchase order.
- 20) If the supplier fails to Supply, Install and Commission the equipment as per the specifications mentioned in the PO within the due date, the Supplier is liable to pay a penalty of @ 0.5% of order value per week of delay subject to a maximum of 10% beyond the due date. IISc reserves the right to cancel the order in case of excessive delay.
- 21) The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.
- 22) Wherever requested data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed technically non-compliant.
- 23) All guaranteed specifications may have to be demonstrated at the time of installation. Any necessary standard samples for that purpose should be brought by the service engineers.
- 24) The vendor must provide a compliance statement in a tabular form concerning each technical specification in the tender document duly supported by the manufacturer's literature and published papers. Any other claim will not be accepted and may lead to rejection of the bid.
- 25) Technical evaluation by the institute 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 for verification of promised specifications. Any discrepancy between the promised specifications and measurements will be deemed as technical non-compliance. Committee also reserves the right to modify the stipulated eligibility criteria at any time during the tenure of procurement.
- 26) The quote should also include additional spares sufficient for 3 years.
- 27) 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.

- 28) 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.
- 29) All Imported items should be shipped on C.I.P. Bangalore basis (by **Air Freight** only).
- 30) All quotations must be valid for at least 90 days at the time of submission.
- 31) When a foreign vendor does not have a local agent in India, he can submit a demand draft equal to 2% or wire transfer the amount to our account as detailed in the attachment (Annexure II) and enclose the proof with the financial bid.
- 32) **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e., (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done). Any loss due to fluctuation in foreign exchange rates will be at the beneficiary account.
- 33) **Performance Security:** -The successful bidder should submit Performance Security for an amount of 5% of the value of the contract/supply within 21 days from the issue of work/purchase order. The Performance Security should be furnished in the form of an Account Payee DD / FD Receipt from the commercial bank (or) Bank Guarantee from any nationalized bank in India.
- 34) **Accept /Reject:** IISc Bangalore reserves the full right to accept / reject any tender at stage without assigning any reason.
- 35) **Settlement of Disputes:** 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 in Karnataka.
- 36) **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.

**Annexure 1:**

Details of the Bidder: The Bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

<b>Sr. No.</b>	<b>Type</b>	<b>Details</b>
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,  
Prof. Abhishake Mondal,  
Solid State and Structural Chemistry Unit,  
Chemical Sciences Building,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of one Research Grade FT-IR with ATR and accessories.

Sir,

I have 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 one Research Grade FT-IR with ATR and accessories.

(Signature of the Bidder)

Printed Name Designation, Seal

Date:

### Annexure 3:

Declaration of track record

To,  
Prof. Abhishake Mondal,  
Solid State and Structural Chemistry Unit,  
Chemical Sciences Building,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXX

Dated: XXXXX

Supply and installation of one Research Grade FT-IR with ATR and accessories

Sir,

I have 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 am competent officer in my company / firm to make this declaration.

OR

I declare the following:

Sr. No.	Country in which the company is debarred/ blacklisted / having pending case	Blacklisted / debarred by Government / Semi Government Organizations or Institutions / having pending case	Reason	Time Period

(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).

(Signature of the Bidder)

Printed Name Designation, Seal

Date:

**Annexure 4:**

Declaration of acceptance of terms and conditions

To,

Prof. Abhishake Mondal,  
Solid State and Structural Chemistry Unit,  
Chemical Sciences Building,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXX

Dated: XXXXX

Supply and installation of one Research Grade FT-IR with ATR and accessories.

I have carefully gone through the Terms & Conditions contained 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 am an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully  
(Signature of the  
Bidder)

Printed Name Designation, Seal

Date:

**Commercial Bid:**

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

Addressed to:

**The Chairman**

Solid State and Structural Chemistry Unit

Chemical Sciences Division

Indian Institute of Science (IISc)

Bengaluru, India - 560012

Kind attention: **Prof. Abhishake Mondal**

Email: [mondal@iisc.ac.in](mailto:mondal@iisc.ac.in)

The sealed bids should be sent to the following address:

Prof. Abhishake Mondal

Solid State and Structural Chemistry Unit

Room F-213, F-Block, Second Floor

Chemical Sciences Building

Indian Institute of Science (IISc)

Bengaluru, India - 560012.

Ph: +91-9932207177

Email: [mondal@iisc.ac.in](mailto:mondal@iisc.ac.in)

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 3 years beyond				

	warranty				
8.	CIP/CIF Bengaluru	IISc,			

Any additional items, such as Spares and Hardware/PCBs Likely to go obsolete after the next 3 Years

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## Section 5: 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**

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 of track record
- d. Annexure 4: Declaration of acceptance of terms and conditions
- e. Annexure 5: Details of item quoted
- f. Declaration of Local Content by Local supplier

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

### **3. Sealed Envelope "B": Commercial Bid**

Your quotation must be submitted in two envelopes: Technical Bid (**Envelope A**) and Commercial Bid (**Envelope B**), superscribing on both the envelopes with, Tender description, 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.