

NOTICE INVITING DOMESTIC TENDER

Supply and installation of Dry Cryofree (Closed cycle) Optical Cryostat



Instrumentation and Applied Physics,
Division of Physical and Mathematical Science,
Indian Institute of Science, Bangalore

June 18, 2024

Terahertz Quantum and Nanotechnology Advancement Research Laboratory,
IAP, IISc, Bangalore 560012

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This is an invited domestic tender.

Section 1 - Bid Schedule

1	Tender No	IAP-MM-24/25-01
2	Tender Date	18/06/2024
3	Item Description	Dry Cryofree (closed cycle) optical cryostat system
4	Tender Type	Two bid system Technical Bid (Part A) Commercial Bid (Part B)
5	Place of tender submission	Chairperson office Ground Floor Instrumentation and Applied Physics Indian Institute of Science, Bangalore 560012
6	Last Date & Time for submission of tender	09/07/2024
7	For further clarification	Dr. Manukumara Manjappa Room No: 113 Instrumentation and Applied Physics Indian Institute of Science, Bangalore 560012 Email: mmanjappa@iisc.ac.in Phone: +91-80-2293-3188

Section 2 – Eligibility Criteria

Prequalification criteria:

1. The bidder must have supplied similar systems to at least 5 educational institutes/universities and/or research organizations and including CFTI's in India along with contact details.
2. The Bidder should belong to either class 1 or class 2 supplier distinguished by their "local content" as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter (Refer in detail to the annexure).
 - a) Class 1 supplier: Goods and services should have local content of equal to or more than 50%.
 - b) Class 2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.
3. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
4. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to Class-1 supplier.
5. MSME can seek exemption to some qualification criteria. IISc follows GFR2017 for such details.
6. The bidder should sign and submit the declaration for 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 has to be given as per Annexure 3.
8. Original Invoice, Original Warranty Certificate, Original Test Reports should be produced for all imported items from OEM (Original Equipment Manufacturer) at the time of supply of the equipments.
9. System Catalogue should be produced with the Technical Bid.
10. Manufacturer should have ISO or equivalent international standard certificate. Please attach the required certificate with the bid.
11. Supplier will support the user with all the spares for a minimum period of 5 years.
12. Details of experienced service engineer including contact detail should be provided in tender document.
13. Bidder shall have to submit audited accounts (Balance sheet profit and loss account) of financial year 2021-22, 2022-23 and 2023-24. Audited statement must be signed and stamped by qualified chartered accounted.
14. Bidder must submit Income Tax return for assessment year – 2021-22, 2022-23 and 2023-24.
15. Valid safety/health/environment protection authority approved certification must be provided for the proposed system. The original/valid certificate should be provided with the Unit.
16. The Bidder should have supplied similar equipment in Central Universities preferably in centrally Funded Technical Institutes (IITs, IISC, IISER, NIT) . Please provide the details and contact informations.

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 OEM. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details.
- 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 reach Chairperson Office, Instrumentation and Applied Physics, 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. The price must be quoted in INR (Indian Rupee). Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. The quotations should be on FOR-IISc Bangalore basis in INR only.
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 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 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 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.

C) Validity of the Offer:

The offer shall be valid at least 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 consider 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 1 year including free supply of consumables, spare parts and data analysis software from the date of functional installation. 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:

An annual maintenance contract for a period of at least 3 years post warranty should be provided on completion of warranty period. The AMC costs will not be considered towards classifying the domestic nature (class 1 or class 2) of the vendor (see eligibility criteria in section 2). In the bid AMC charge should also be provided.

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 90-120 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. The technical installation engineer/personnel should provide one-week of on-site training for the safe and reliable operation of the laser, during the installation. **The technical installation personnel/engineer, who will perform the installation, must**

possess a proof of training certificate from the manufacturing company/factory/principal, which should be submitted along with the tender offer.

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. The AMC will be comprehensive. Price basis must be on FOR-IISc Bangalore basis only. As per GFR no advance payment can be made to domestic 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 onto 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.

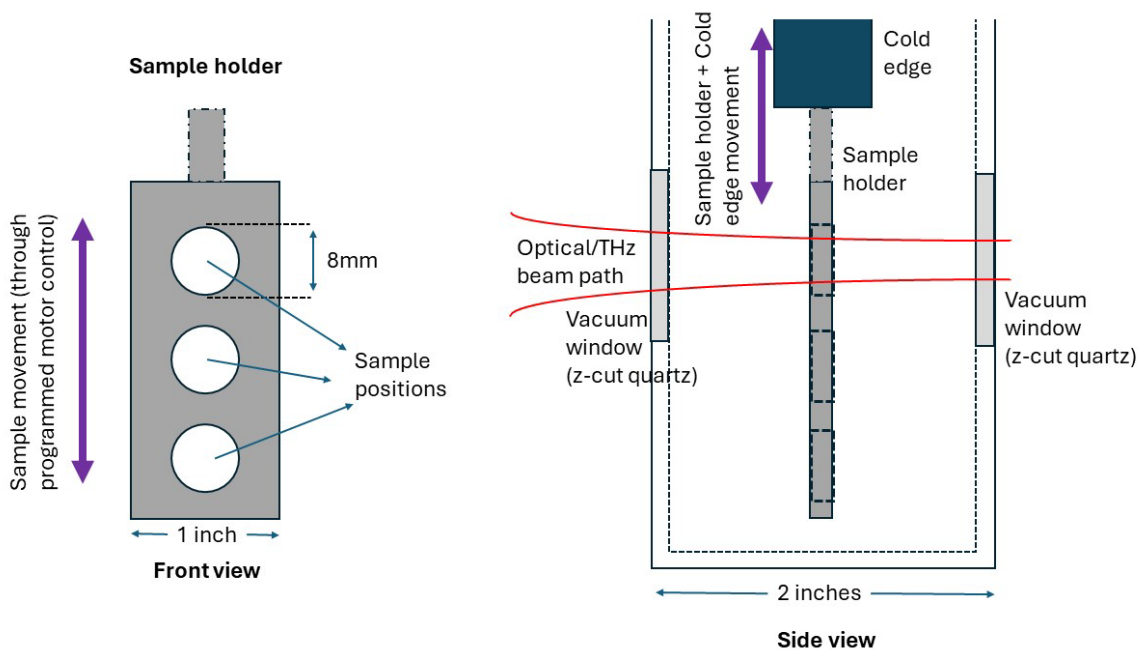
Section 4 – Technical Specifications

A. Technical Specifications of the Dry closed cryocooler optical cryostat system and accessories are provided below:

I. Cryocooler system Essential requirements:

1. Closed cycle operation
2. Temperature range: 2.5K – 350 K
3. Cooling power/capacity @ 50Hz: 0.15 to 0.3W @ 4 K
4. Vacuum shrouds should have at-least two (preferably 4) optical windows made of z-cut Quartz (1-2mm thick) or similar non-birefringent material. Type of window: Transmission should be more than 90% for wavelength range 0.2 microns to 2 microns and 30um to 5 mm (0.05THz-10THz). Window diameter 2-3cm.
5. A narrow optical shroud accessory that allows working distance of sample from front optical port < 15mm, from back optical port < 15 mm in transmission geometry. Please refer to schematic figure. The accessory should have optical windows similar to the specifications above.
6. Appropriate blanking plates for the window ports for non-optical operation of the cryostat should be provided.
7. Temperature stability better than 20mK/hour at sample.
8. Cooldown time < 90 minutes
9. Sample holder: Optical sample holder with at least 3 samples position and a custom optical cube with extension to accommodate the movement of sample holder within the cryostat. The sample holder should be made of material with good thermal conductivity (preferably OFHC copper) and should have a good heat conduction with the cryostat cooling head. The sample access hole diameter ~8mm. Below is the figure describing the sample holder options.
10. The sample holder should be attached to a programmable motorized translation to be able to remotely move and optically access all the samples during the measurements without compromising on the cooling temperature and cryostat performance. The sample holder attached to the cold edge should move inside optical tube relative to the center of the optical (vacuum) window. Compatible software and programs for the motorized sample positioning should be provided.
11. Appropriate temperature controller with atleast two PID channels (and through integrated software), or through external temperature controller. Appropriate heater mounted on sample stage for temperature control upto 350K.
12. Calibrated temperature sensors at cold head and at sample stage positions
13. Vibration levels in all directions < 5 um peak to peak. If performance is not shown at time of installation, vendor should provide factory test report for the supplied system. Test data from other previously-supplied systems will not be sufficient.
14. The system should have at least 12 pins for user experiments. These pins should have (resistive) wires which are thermally lagged at platform stage (1st stage/30K stage). These wires should be connected from atmospheric side to vacuum side for DC electrical measurements.

15. Should have appropriate amount of Helium-4 gas for the system. Appropriate air or water cooled helium compressor with full charge of high purity Helium gas, with appropriate flexible lines/hoses. The hose lines should be equal to or longer than 3 meters. The additional hosing, coolant, tubings, connectors etc. required for complete functioning of the cooling system, should be included in the quotation. Electrical and cooling water requirements for the compressor must be specified, and the air/water chiller should be included in the quote.
16. Maintenance interval for the helium tank and compressor must be at-least 30,000 hours and for the cold head must be at-least 20,000 hours.
17. The system should be mountable on an optical table and should not require any stand to support the system. All necessary equipment to mount the system on the table should be provided.
18. Related accessories such as connectors, adapters, cables etc. necessary for independent operation of the system at 220-240V, 50Hz, single phase.
19. All required softwares, connectors, cables, specific extension boards and other accessories necessary for the safe and reliable operation of the cryostat should be stated and provided in the tender offer.
20. Vacuum pumps are excluded from this tender/quote.
21. One-year warranty.



- Any deviation from not providing proper documentation is subject to rejection as per IISc choice for non-compliance.

B. Training and demonstration

- Complete installation and performance testing of the Cryostat system needs to be performed.
- Training for users by the company personnel present 'on site' immediately after the installation.
- All pre-installation requirements to have the system installed in ideal room conditions should be included in the quote and all the necessary arrangements needs to be in place

before the installation.

- During installation of the product, the specifications should be demonstrated onsite (at IISc, IAP department, Bangalore, India) for the equipment at a minimum, particularly:
 - (1) Stated cryostat power and temperature range 2.5K-350K at the sample position.
 - (2) The stated cooling down time.
 - (3) Temperature stability of < 20mK/hour.
 - (4) Compatibility with the existing vacuum pumps
 - (5) Motorized positioning and remote control of sample holder during the cryostat operation.
 - (6) Performance of thermal sensors and temperature controller

C. Others necessary criteria

- **The necessary graphs and data for each of the specifications should be provided along with the tender documents.** Failing to provide the relevant supporting data/graphs will be treated as technical non-compliance and the bid can be rejected.
- The system with similar specifications must submit references from previous installations.
- The names and contact addresses of the referees must be submitted with the tender.
- The system should require minimal maintenance.
- Mention the recommended preventive maintenance schedule for the system. Any accessories needed for periodic preventive maintenance during the warranty period and later, should be mentioned in separately the itemized quote.
- Factory Inspection and testing: IISc may opt for factory inspection and testing. In order to cover such possibility, a separate quote for inspection and training for one persons at factory site, including travel and stay, should be provided by the supplier
- Can the preventive maintenance be done by a trained on-site engineer or requires a specialist from the OEM? If the latter, please provide cost of a 3year AMC with required kit/consumables.
- Valid and highest-level safety, health and environmental protection certification (depending on the region/country) must be provided for the proposed system. The original certificate should be provided with the Unit.
- Operation Manual to be given after installation and acceptance of equipment.
- The system should be supported by a trained local representative and should have a minimum of 72 hour window of response.

Section 5- 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. Manukumara Manjappa
Instrumentation and Applied Physics,
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,
Instrumentation and Applied Physics, Indian Institute of Science
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXXX Dated: XXXXX

Supply and installation of Dry Cryofree (closed cycle) optical cryostat system in the Terahertz Quantum and Nanotechnology Advancement (Tera-QuANTA) Research lab, IAP, 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 Dry Cryofree (closed cycle) optical cryostat system.

(Signature of the Bidder)

Printed Name Designation, Seal Date:

Annexure-3:

Declaration regarding track record

To,
The Chairperson,
Instrumentation and Applied Physics,
Indian Institute of Science
Bangalore – 560012, India

Ref: Tender No:
XXXXXXXX Dated:
XXXXXX

Supply and installation of Dry Cryofree (closed cycle) optical cryostat system in the Terahertz Quantum and Nanotechnology Advancement (Tera-QuANTA) Research lab, IAP, 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 Chairperson,
Instrumentation and Applied Physics,
Indian Institute of Science
Bangalore – 560012, India

Ref: Tender No:
XXXXXX Dated: XXXX

Supply and installation of Dry Cryofree (closed cycle) optical cryostat system in the Terahertz Quantum and Nanotechnology Advancement (Tera-QuANTA) Research lab, IAP, 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 year)				
6.	AMC 3 years beyond warranty				

Any additional items

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

Addressed to

The Chairperson,
Attn: Dr. Manukumara Manjappa
Instrumentation and Applied Physics,
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

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. **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.