

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES) DHANBAD

Tender No. CR-INS-CPPP-283-24-25

Date: 26.03.2025

E-TENDER NOTICE **(Global Tender Enquiry)**

The Indian Institute of Technology (Indian School of Mines) Dhanbad invites Bids from eligible, qualified, and capable manufacturer/dealer/suppliers for **“Supply and Installation of Cryostat Based Low Temperature Physical Property Measurement System”** according to the requirements as defined in the Tender document.

Sl. No	Tender No.	Particulars	Required Quantity	Amount of EMD
1.	CR-INS-CPPP-283-24-25	“Supply and Installation of Cryostat Based Low Temperature Physical Property Measurement System”	1	Rs.12,00,000

Earnest Money Deposit (EMD) in the form of Demand Draft should be drawn in favour of Registrar, IIT (ISM) Dhanbad payable at Dhanbad. EMD can also be deposited in the form of a Term Deposit Receipt/Fixed Deposit Receipt/Bank Guarantee drawn in favour of Registrar, IIT (ISM) Dhanbad. A scanned copy of EMD should be uploaded on www.eprocure.gov.in along with the technical bid.

The hard copy of the same in the original is to be sent to the address mentioned below duly super scribing the Tender Number and Name on the envelope and the same must be reached in the IIT (ISM) Dhanbad on or before the due date and time for the opening of technical bid. If not received within 05 days after the last date of submission of bid, the bid will be summarily rejected.

Sl. No.	Description	Date	Time
1	Tender Publication Date	26.03.2025	06:50 PM
2	Pre-Bid Conference date and time	03.04.2025	11:00 AM
3	Bid submission start date and time	04.04.2025	06:00 PM
4	Bid submission end date and time	02.05.2025	06:00 PM
5	Technical Bid opening date and time	05.05.2025	11:00 AM
6	Financial Bid opening	Technically qualified bidders will be informed about date and time of opening of financial bids through CPPP.	

IIT (ISM) Dhanbad reserves the right to accept or reject the tenders without assigning any reason.

The original EMD should be sent to:

Deputy Registrar (Purchase and Stores)

IIT (ISM) Dhanbad,

Distt. Dhanbad – 826004

Jharkhand.

Deputy Registrar (Purchase and Stores)
IIT (ISM) Dhanbad

Instructions to the bidders for online bid submission

The bidders are required to submit their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal to prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. More information for submitting online bids on the CPP Portal may be obtained at <https://eprocure.gov.in>.

1. Registration:

- (a) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal which is free of charge.
- (b) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- (c) Bidders are advised to register their valid email addresses and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- (d) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India, with their profile.
- (e) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible for ensuring that they do not lend their DSC's to others which may lead to misuse.
- (f) Bidder then logs in to the site through the secured log-in by entering their user ID/ Password and the password of the DSC / e-Token.

2. Searching for tender documents:

- (a) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- (b) Once the bidders have selected the tenders they are interested in, they may download the required documents/tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS/E-mail in case there is any corrigendum issued to the tender document.
- (c) The bidder should make a note of the unique Tender ID assigned to each tender; in case they want to obtain any clarification/help from the Helpdesk.

3. Assistance to bidders:

- (a) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.
- (b) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

4. **Submission of the bid:**

All interested eligible bidders are requested to submit their bids online through CPP Portal: <http://eprocure.gov.in> as per the criteria given in this document:

- (a) Technical Bid should be uploaded online in cover-1.
- (b) One single pdf containing all technical documents, duly filled and signed Annexures, copy of EMD etc. must be uploaded.
- (c) Financial Bid should be uploaded online in cover-2.

Both Technical and Financial Bid covers should be placed online on the CPP Portal <http://eprocure.gov.in>.

(A) Technical bid:

Signed and Scanned copies of the technical bid documents must be submitted online on CPP Portal: <http://eprocure.gov.in>.

List of Documents to be scanned and uploaded with Technical Bid (Under Cover-1). The enclosures have to be attached in the serial order as mentioned hereunder:

- (i) Scanned copy of EMD deposited in the form of Demand Draft, Term Deposit Receipt/Fixed Deposit Receipt/Bank Guarantee drawn in favor of Registrar, IIT (ISM) Dhanbad.
- (ii) A scanned copy of the certificate mentioning the status of the Firm/Agency/Company/proprietary/ partnership (as applicable) from the competent authority.
- (iii) Scanned copy of certificate from the OEM indicating that the Firm/Agency/Company/proprietary/partnership is authorized/registered to sale/ supply the tendered items.
- (iv) Scanned copy of PAN Card (as applicable to the type of tenderer) and Goods and Services Tax Registration Certificate.
- (v) Scanned copy of duly filled **Annexure-A, Annexure-B, Annexure-C, Annexure-D, Annexure-E, Annexure-F and Annexure-G.**
- (vi) Scanned copy of purchase/work/supply order as proof of past performance (if any).
- (vii) Scanned Copy of Original catalogue/brochures of the items quoted.

Note: (a) All the above-mentioned documents must be scanned and merged as a single PDF along with the Technical Bid. This single PDF of Technical Bid should be uploaded under Technical Cover in CPP Portal.

- (b) The technical bid may be rejected, if the above-mentioned documents are not attached.
- (c) For the tender value up to Rs. 10 Crores, Self-Certificate for local content, and for the tender value above Rs. 10 Crores, Certificate for local content from Statutory Auditor/Cost Auditor/Cost Accountant/CA, must be attached.

(B) Financial bid:

In preparing the financial bids, bidders are expected to consider the requirements and conditions laid down in this Tender document. The financial bids should be uploaded online as per the specified “**.xls**” format i.e. Price Bid Excel sheet attached as ‘**.xls**’ with the tender and based on the scope of work, service conditions and other terms of the Tender document.

5. Other instructions:

- (a) The detailed tender documents may be downloaded from <http://eprocure.gov.in> till the last date of submission of the tender. The tender can only be submitted online through CPP Portal <http://eprocure.gov.in>
- (b) Bids will be received only online mode through www.eprocure.gov.in up to the date & time mentioned in the E- TENDER NOTICE. No tender/bid will be accepted in physical form and any tender/bid received in such manner will be treated as non-bonafide tender/bid.
- (c) Bid will be opened on the scheduled date and time in the presence of tenderers/bidders or their authorized representatives (if any), who have uploaded their quotation/ bid and who wish to be present at the time of opening the bids.
- (d) All the bids must be valid for a period of 180 days from the last date of submission.
- (e) Bidders are requested to go through the instructions regarding filling and submission of the tender attached herewith. Bidders may forward their points on tender documents and/or depute their technical representative for discussion on tender/drawing and to clarify doubts, if any, on the stipulated pre-bid date.
- (f) Bidders shall upload a scanned copy of the Earnest Money Deposit (EMD) mentioned in the Notice of Tender and shall ensure the receipt of a hard copy of the same in the Purchase and Stores Section, IIT (ISM) Dhanbad, Distt. Dhanbad - 826004, Jharkhand, within 05 days after the last date of submission of bid. In case of failure of the same, the technical bid will not be evaluated.
- (g) In view of delays due to system failure or other communication-related failures, it is suggested that the tender/bid be uploaded sufficiently in advance of the last due date and time fixed.
- (h) If any alterations to any of the conditions, specifications laid down in the tender documents are found or any new condition is mentioned by the tenderer, in the tender document, such tender/bid will be rejected.
- (i) IIT (ISM) Dhanbad reserves the right to cancel the tender at any point of time without assigning any reason.
- (j) The details of the Independent External Monitors (IEMs) are as under:

Sl. No.	Name of the Independent External Monitor(IEM)	E-mail ID
1.	Shri Anant Kumar	iem1@iitism.ac.in
2.	Shri Hari Shanker Gupta	iem2@iitism.ac.in

Note: Annexure-G (Integrity Pact) is mandatory. In case of non-submission of the duly filled Annexure-G (Integrity Pact) by the bidder, the submitted tender shall be summarily rejected.

TENDER FOR “Supply and Installation of Cryostat Based Low Temperature Physical Property Measurement System”

TERMS AND CONDITIONS

1. The technical specifications/conditions are mentioned in **Annexure-III**. Bidders are required to go through the technical specifications/conditions carefully before submission of bids.
2. Tender Specific Authorization letter from Original Equipment Manufacturer (OEM) in favor of the bidder must be uploaded with technical bid for each item quoted.
3. The tenderer should upload detailed technical description/catalogue/brochure along with the technical bid. If not uploaded, the bid may be summarily rejected. If there is any deviation in specifications mentioned in the technical bid and Catalogue/Brochure, then the specifications given in the technical bid shall be considered and shall be treated as final.
4. The tenderer should not have been debarred or blacklisted by any Central / State Government. A self-attested certification to that effect must be uploaded with the technical bid in the prescribed format. The proforma of the certificate is enclosed with the tender as **Annexure-A**.
5. All the bids must be valid for a period of 180 days from the last date of submission. In exceptional circumstances, prior to expiry of the original time limit, the Institute may request the bidders to extend the period of validity for a specified additional period beyond the original validity of 180 days. The request and the bidders' responses shall be made in writing. The bidders, not agreeing to such extensions will be allowed to withdraw their bids without forfeiture of their Bid Security.
6. **EMD Exemption:** EMD exemption shall be given to those bidders who are registered with the Central Purchase Organization or NSIC or MICRO and Small Enterprises (MSEs) as defined in MSME Procurement Policy issued by the Department of Micro and Small Enterprises (MSME). To claim the exemption, the bidder must be offering goods manufactured by themselves or providing relevant services. Exemption will not be granted in case the bidder is acting as an agent for some other vendor. Bidders are required to upload necessary certificates to claim EMD exemption.
7. **Instruction to the bidder of countries which share land border with India (Rule 144(xi) GFRs).**
Any bidder from a country that shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Department for Promotion of Industry and Internal Trade (DPIIT). As per Office Memorandum No. F.7/10/2021-PPD (1) dated: 23.02.2023 issued by the Department of Expenditure (Ministry of Finance), Govt. of India, the bidder is required to submit an undertaking as per **Annexure-D**.
8. **MII & Purchase Preference:**
The MII compliances shall be as per Govt. of India guidelines. Class-I local suppliers, Class-II local suppliers and non-local suppliers are eligible to participate in this Global Tender Enquiry (GTE). As per the Ministry of Commerce and Industry Order No. P-45021/2/2017-PP(BE-II) dated 04.06.2020 preference shall be given to Make in India products for which bidders must declare Country of Origin of goods and percentage of Local contents in the product. The purchase preference shall be as per Govt. of India guidelines. All the bidders must upload undertaking as per Annexure-C with the Technical Bid. All the bidders must upload undertaking as per **Annexure-C** with the Technical Bid.

9. Evaluation Procedure:

Phase-I: Technical Evaluation

Technical evaluation will be done based on documents submitted by the bidder in the technical bid. Hence bidders are required to enclose all relevant documents along with the technical bid. Discrepancy in relevant supporting documents shall lead to the rejection of technical bids.

Phase-II: Financial Evaluation

- a. Financial bids of the technically qualified bidders shall only be opened.
- b. The bid will be awarded to the L-1 bidder.

10. Delivery, Installation and Commissioning:

For Foreign Consignment: The delivery, installation and commissioning of the item(s) must be made within 180 days from the issue of the Letter of Credit (LC).

For Indigenous Consignment: The delivery, installation and commissioning of the item(s) must be within 180 days from the issue of the Purchase Order.

Any requirement for installation (if applicable) should be communicated at least one month before installation to make suitable arrangements.

11. Prices:

For Foreign Bids: The base price should be quoted on a FOB/FCA basis. Other applicable charges/taxes such as Freight, Insurance and Forwarding charges etc. shall be quoted separately. The exchange rate should be considered on the date of opening of the tender.

For Indigenous Bids: The price should be quoted on FOR IIT(ISM) Dhanbad basis including all applicable taxes, Charges etc.

12. Liquidated damages (LD):

If a bidder fails to deliver/install/commission the item or any part thereof within the period prescribed for delivery, installation and commissioning, the Institute shall be entitled to recover as liquidated damages a sum equivalent to 1% (one percent) per week of the purchase order. The total damages shall not exceed 5% (five percent) of the value of the purchase order.

For Foreign Order: Delivery, Installation and commissioning period will be counted from the date of issue of Letter of Credit (LC).

For Indigenous Order: Delivery, Installation and commissioning period will be counted from the date of issue of Purchase Order.

13. Inspection:

Institute authority will inspect the supplied item after delivery/installation/commissioning, whichever is applicable. In case the item is not supplied/installed (as the case may be) as per specifications of the purchase order or item is not working satisfactorily, then the same will be rejected.

14. Training:

As per point no.13 of Annexure-III.

15. Payment Terms:

For Foreign Payment: The payment will be released through Irrevocable Letter of Credit (LC). Irrevocable Letter of Credit (LC) will be established for 90% of the Purchase Order (PO) value on submission of order acceptance letter, proforma invoice with the details of terms & conditions to open LC with the entire Bank details and integrity pact. The 90% of the invoice amount will be paid on presentation of original shipping documents and other applicable documents to our bankers and the balance 10% will be paid after successful installation, commissioning, demonstration of the whole system, imparting training (if applicable) and on receipt of performance security @ 5% of total order value valid for **14 months** from the date of installation.

For Indigenous Payment: 100% payment shall be made by NEFT/RTGS against submission of bills in triplicate, only after satisfying following conditions:

- a. Successful delivery, Installation and commissioning by supplier.
- b. Inspection and testing of the items by the Institute authority.
- c. Training provided by the supplier.
- d. Supply of all manuals, Installation Certificate and calibration Certificate.
- e. Submission of Performance security.
- f. Submission of duly signed & stamped guarantee / warranty declaration certificate.
- g. Payment shall not be made for part supply/work.

16. Extension of Delivery/Installation/Commissioning Period:

If the supplier is unable to deliver/install and satisfactorily commission the order within the stipulated time, for which the supplier is responsible, he is required to request in writing for the extension of the delivery/Installation/Commissioning period before the stipulated date of delivery/Installation/Commissioning. It may be extended at the discretion of competent authority with/without imposing liquidated damages. In case the supplier has failed to complete the order within the stipulated time, the Institute reserves the right to cancel the purchase order and to forfeit performance security and/or EMD.

17. Warranty:

- a. **Minimum Warranty** is to be provided for **One year**. If the warranty mentioned in the catalogue is less than the specified time, in that case, the supplier must provide for the remaining period. In case the product comes with more than the stipulated guarantee/warranty period, it will be provided by the supplier free of cost.
- b. Guarantee / Warranty will commence from the date of the satisfactory installation/commissioning of equipment against the defect of any manufacturing and poor quality of components.
- c. A signed & stamped guarantee/warranty declaration certificate will have to be furnished by the successful tenderer at the time of supply along with the bills.
- d. In case the supplier has failed to repair/rectify the equipment during the guarantee/warranty period in a reasonable time not exceeding 3 weeks, the Institute may employ or pay other parties for such repairs of the equipment and all such damages, loss and expenses shall be recoverable from the performance security submitted by the supplier.

18. Performance Security:

- a. To ensure due performance of the item, performance security is to be furnished by the successful tenderer.
- b. The performance security should be furnished within 21 days of the award of supply order.
- c. Performance security should be for an amount of five percent (5%) of the total value of the supply order.
- d. Performance security may be furnished in the form of a Demand Draft/ Fixed Deposit Receipt / Bank Guarantee from a commercial bank in favour of Registrar IIT (ISM) Dhanbad, payable at Dhanbad.
- e. Performance security should remain valid for a period of **14 months** from the date of installation. The performance security will be refunded without any interest, provided that the performance is satisfactory.

19. Refund of EMD

- a. EMD will be refunded without any interest to the successful tenderer on receipt of performance security.
- b. The tenderer, who are not qualified for the tender either in technical bid or on any other grounds, their EMD will be refunded within 30 days from the award of the contract.
- c. If supply order is placed and the successful tenderer fails or refuses to supply the item, in such case the EMD will be forfeited.

20. Cancellation of tender: IIT (ISM) Dhanbad reserves the right to cancel the tender at any point of time without assigning any reason.

21. Legal: Any dispute regarding the meaning, effect or interpretation of any clause of this contract/agreement shall be referred to the sole Arbitrator i.e. Director, IIT (ISM) Dhanbad who would act as the sole Arbitrator and proceedings of such arbitration shall be conducted in accordance with the provisions of the Indian Arbitration Act, 1940 or any statutory modification thereof. The venue of Arbitration shall be IIT (ISM) Dhanbad only and the language shall be English only. In case of litigation, if any, the District Court of Dhanbad (Jharkhand) shall have jurisdiction for any such litigation.

Technical Specification

Supply and Installation of Cryostat Based Low Temperature Physical Property Measurement System

Indian Institute of Technology (ISM) Dhanbad invites reputed suppliers to bid for "Cryostat Based Low Temperature Physical Property Measurement System" with temperature range of 1.9 K - 400 K and magnetic fields up to ± 9 Tesla. The system should be fully cryogen free not requiring any liquid cryogens at any point of operation and maintenance.

The system should be capable of measuring magnetic properties and electrical properties of different materials like thin films, bulk, Powder and single crystal samples.

1. Cryostat Basic Requirements

- a) The system should be completely cryogen-free; meaning no need for liquid nitrogen or helium during operation at any stage.
- b) The vendor must specify the amount of helium gas required for the initial cooldown.
- c) The cryostat system startup time from totally warm state must be efficient and preferably ≤ 16 hrs.
- d) A data for initial cool down with log data files must be provided. The vendor may be asked to demonstrate this during the technical evaluation.
- e) An integrated cryo-pump and vacuum gauge for controlling the sample environment is essential. High vacuum in sample chamber should be achieved within 10 minutes.
- f) The vendor must provide data for high vacuum achieved, including log files.
- g) Low-temperature operations must be fully automated and user-friendly. The vendor should specify their temperature control mechanism for achieving low temperature. Inefficient temperature control mechanisms, such as mechanical means like needle valves, are not preferred. A demonstration may be asked during the technical evaluation.
- h) The cryostat system should have temperature stability of $\pm 0.1\%$ for temperatures below 20 K, and $\pm 0.02\%$ for temperatures above 20 K, with automatic temperature control.
- i) All the pumps must be dry pumps. Details of the pumps and vacuum fittings must be provided.
- j) The system should have a 9 T conduction cooled superconducting switchless magnet system with a hybrid magnet controller for precise, quiet control of the magnetic field.
- k) All communications on the system must either use a Universal Serial Bus (USB), Controller Area Network (CAN) or similar high speed and high-fidelity communication protocols.
- l) The live sample temperature and magnetic field should be displayed somewhere on the cryostat cabinet for easy monitoring of the system.

2. Cryostat Magnet Specifications:

- a) Cryostat should have longitudinal magnetic field strength of ± 9 Tesla or higher.
- b) Magnet charging should be efficient. Charging from 0 to 9 T should be completed in less than 10 minutes time.
- c) Field Homogeneity: $\pm 0.1\%$ over a 3 cm region along the axis.
- d) The magnet must be cooled by solid conduction, without the use of liquid helium.
- e) Magnetic field ramping data with log data files at the maximum rate should be provided. Demonstration may be asked during technical evaluation.
- f) Magnet ramping should not affect temperature stability. Supporting data should be provided to confirm this.
- g) The magnet charging and control modes should be fully integrated with software.
- h) The system must include a bi-polar power supply with overvoltage protection and indication.

- i) For magnet charging there should be (at least) "linear", "oscillating", and "no overshoot" mode available.
- j) Detailed information on the "No Overshoot" mode must be provided. There should be no overshoot in the field or the tolerable overshoot in "No Overshoot" mode should be specified for various field strengths.
- k) Magnet control software should monitor the temperature of the magnet and cryostat at various locations to ensure proper operation of the magnet system and quench protection.
- l) The magnet must discharge automatically in the event of accidental cryocooler system failure.
- m) A built-in magnetic shield to maintain 5 gauss line < 30 cm from the surface of the cryostat cabinet allowing the system to be installed closer to other sensitive instruments for better lab space utilization. Data supporting this specification must be provided.

3. Cryostat Temperature Control Specifications:

- a) The system must achieve quick and precise temperature control. It should offer fully automated, low temperature operation of < 4.2 K for a continuous long time.
- b) A fully automated cooling & warm up operation should be possible in the range of 400 K to 1.9 K. The time required for a cooling down from 400 K to 1.9 K and vice versa should both be below 45 minutes. Provide supporting data with data files. Demonstration may be asked during technical evaluation.
- c) The cryostat must be able to hold the measurement temperature within 0.1% in the temperature range of ≤ 1.9 K to 20 K under magnetic fields of up to 9T and within 0.02% at temperatures of 20 K to 400 K. Demonstration may be asked during technical evaluation.
- d) **Provide temperature stability data with Log files at ≤ 1.9 K at a magnetic field of ± 9 T.** Data should be in temperature versus time format in the following cases:
 - i. From 300 K to 1.9 K (or lowest possible temperature) at zero-field
 - ii. Stabilize sample temperature at 1.9 K for 10 min
 - iii. Continuously ramp magnetic field to 9 T while recording the temperature

The vendor should provide recorded data with log data files, clearly indicating the steps as specified above. The vendor may be asked for a demonstration during technical evaluation.
- e) **Data on thermal cycling with Log data files** in the following steps should be provided:
 - i. Thermal recycling from 300 K and 2K, move up to 400 K and set again to 2K (Repeat the process for 5 cycles)
 - ii. Magnetic sweeping log files from 0 T to 9 T at highest possible sweeping rate.
 - iii. Log file of setting the Magnetic field from 9 T to 0 T in oscillating mode.

4. Vacuum Pumps and Fittings

- a. Appropriate vacuum pumps should be used with suitable gauges at different stages as necessary.
- b. Accessories for the pump must also be provided separately.

5. UPS and Chillers

- a. The vendor should provide a suitable UPS with at least 30% more output than the maximum power consumption expected of the instrument. The UPS should be equipped with a battery backup capable of providing continuous power for a minimum of 60 minutes during power outages.
- b. The vendor should provide a high-quality, compatible chiller from a reputed brand that meets the technical requirements of the instrument. The chiller should be designed to operate efficiently under Indian electrical conditions (220V, 50Hz).

6. Data Acquisition and Analysis:

- a. Licensed Windows based operating software and state-of-the-art computer control system compatible with all the measurement and calibration options.

- b. The software must allow the users to remotely control and monitor experiments over any internet connection.

7. Other Accessories:

- Spare fuses, O-rings, hoses for the chiller unit should also be supplied.

8. Future Upgrade:

The system must be designed to be easily upgradable to include the following measurement options whenever required.

- High Temperature VSM (Measurement up to 1000 K)
- Broadband ferromagnetic resonance (FMR)
- AC susceptibility measurement of samples down to 50 mK using Dilution Refrigerator
- Thermal expansion measurements (e.g. Dilatometer)
- Raman and Luminescence measurement.
- Torque Magnetometry
- Dilution Refrigerator capabilities to perform dilution refrigeration using sealed closed cycle $^3\text{He}/^4\text{He}$ mixture.
- Thermal Transport capabilities (eg: Seebeck-coefficient, thermal conductivity)

Supporting data sheets must be attached in this regard.

9. Measurement Options:

I. DC Magnetization (VSM):

- Supported temperature range: $\leq 1.9\text{K} - 400\text{K}$ (specify and provide supporting data).
- Magnetic moment noise levels must be less than 6×10^{-7} emu at 300 K for 1 second integration time and VSM Oscillation Frequency (calibrated) with the range of 20 Hz - 60 Hz or wider.
- RMS Sensitivity at zero magnetic field: 5×10^{-6} emu or better.
- Possibilities for measurements in parallel & perpendicular to applied magnetic Field must be provided.
- Measurement range: 10^{-6} to 100 emu or better.
- The maximum amplitude should be 5 mm or higher.
- VSM measurement data for the temperature range of 1.9 K to 400 K with 1 second averaging, measured during both cooling and heating must be provided with the offer by the bidders. Data files must be sent along with the tender submission. Demonstrations may be asked during technical evaluation. 1 second integration is a must for us to quickly resolve magnetic phase transitions and hysteretic behavior.
- VSM system must perform rapid, completely automated centering operations. There should not be any need to perform manual adjustments to center the sample. Vendor must specify the centering process details and travel range of the motor.
- VSM must support software-based auto positioning of the sample.
- Please provide the following measurement data for a sensitive magnetic sample with your offer.
- Measurement data and data files to be sent along with technical bid. Demonstration of the same may be asked during technical evaluation. The total measurement time must be efficient (< 8 hours).

- (1) Degauss magnet (Set 1 T then Oscillate field to 0 T)
- (2) Set temperature to base temperature ($\leq 1.9\text{ K}$) - Zero field cool the sample (Wait 20 minutes for proper thermalization)
- (3) Set 500 Oe measurement field
- (4) Measure $m(T)$ upon warming @ 500 Oe field ($\leq 1.9\text{ K}$ to 10 K @ 0.2 K/min)
- (5) Set field to 0 T (Oscillate field) and warm up to 300 K
- (6) Zero field cool sample to base temperature (Wait 20 minutes for proper thermalization)

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- (7) Measure $m(H)$ @ ≤ 1.9 K
0 T $\rightarrow$ + 9 T $\rightarrow$ -9 T $\rightarrow$ + 9 T (5 segment loop) @ 100 Oe/s
(8) Set field to 0 T and warm up to 300 K

II. Resistivity:

- The user should be able to perform the 4-point resistance measurement for a minimum of three samples at a time.
- User control for parameters to limit the voltage, current, or power at the sample for protecting sensitive devices and films are required.
- User control for automated polarity-switch averaging to remove static DC offset voltages are needed.
- Source current should span the range from 10 nA to 8 mA
- 15 nV sensitivity
- Sample wiring, test station, and sample mounting pucks (2 minimum nos.) should be included with the system.

III. Heat Capacity:

- Temperature Range: 1.9 K – 400 K. Please provide supporting information to validate the claimed temperature range. Demonstration may be asked during the technical evaluation.
- Measurement should utilize relaxation technique, two-tau model fit analyses, corrections of background from sample platform and adhesives through main system software. Claim needs to be supported by references of the papers published and patents.
- Sample Mass: Typically, a few milligrams.
- Measurement Accuracy: error should be less than 5% in the temperature range 2K – 300K.
- Heat Capacity resolution: less than 10 nJ/mole-K at 2 K temperature. Vendor must submit measurement data with log data files in support of resolutions claimed.
- Thermometers should be placed on the platform to measure the sample temperature accurately.
- Suitable sample holder to keep the sample along the field direction to protect strongly magnetic while sweeping the magnetic field.
- The pressure of sample chamber should be specified.
- A sample mounting station should be included to ensure hassle-free sample mounting.
- Sample heat capacity measurement as a function of temperature as well as measurements under a constant field should be available.
- Vendors should also quote vertical sample mounting scheme for the heat capacity measurements which will be critical for measurements of magnetically anisotropic materials performed in a magnetic field. Supporting details to be provided.
- At least 2 publications should be attached in support of Heat capacity measurement from 1.9 K – 400 K full range by the quoted instruments.

10. Important Notes:

- Measurement data and log files: Vendor must provide all the measurement data with log files wherever asked in the tender document. Data should be sent via email to sourav@iitism.ac.in within the due date.
- The vendor must provide compliance statement in Tabular format with respect to 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.
- The vendor must have a track record of supplying/supporting similar system in India. At least 5 similar systems should be available for verification of performance. Details of such systems should be provided along with the bid.

- d) Technical evaluation by IIT(ISM) Dhanbad may include a demonstration to verify the 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.
- e) Name and details of factory trained service Engineers must be mentioned.
- f) Standard samples are 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 specifications for the demonstration of the performance of the equipment.
- g) No part shipment will be acceptable.
- h) The offer must be supported with all the supporting literature and publications wherever asked in the tender.
- i) Operation requirements Helium Gases, Cylinder Capacities, No. of cylinders, etc. should be mentioned clearly in the offer.

11. Warranty: System must be quoted with a minimum 1-year comprehensive warranty from the date of installation. The service engineer should attend the installation site within 72 hours on breakdown call during warranty period.

12. Supply & Installation:

As per point no.10 of Annexure-II.

13. Training:

Three days dedicated training to operate, and analysis of data should be provided after installation at the installation site. A separate advanced training should be provided by the manufacturer's trained engineer/scientist within six months of installation at the installation site.

SELF-CERTIFIED DECLARATIONS FOR TAKING PART IN TENDER

a. Regarding blacklisting / debarring

b. Insolvency

1. I / We _____ (Tenderer) hereby declare that the firm / agency / Company, namely M/s _____ has not been declared as **insolvent** by the Central/State Government or any other Organization.

AND

2. I / We _____ (Tenderer) hereby declare that the firm / agency / Company, namely M/s _____ has not been **blacklisted or debarred** in the past by the Central/State Government or any other Organization from taking part in Government tenders in India.

OR

I / We _____ (Tenderer) hereby declare that the Firm/Agency/Company, namely M/s _____ was **blacklisted or debarred** by _____ (Name of organization) from taking part in Government tenders for a period of _____ years w.e.f. _____ to _____. The period is expired and now the Firm/Agency/Company is entitled to take part in Government tenders.

In case the above information is found to be false at any point of time, I / We am/are fully aware that the IIT (ISM) Dhanbad can cancel the purchase order and forfeit the EMD. Further, I will not claim any payment for any supplied item against cancelled purchase order.

Date:

Place:

Signature:

Name:

Address:

Stamp:

Details of quoted item

(This Annexure must be submitted separately for each item mentioned in Annexure-III)

Tender No. **CR-INS-CPPP-283-24-25**

Name of Tender: **“Supply and Installation of Cryostat Based Low Temperature Physical Property Measurement System”**

1. Name of the Equipment/Product _____
2. Name of original manufacturer _____
3. Make/Brand: _____
4. Model Number: _____ (provide complete literature/catalogue)
5. Warranty Period: _____ (months)
6. Delivery, Installation and Commissioning Time: _____ (days)
7. Specifications: Details of technical specifications of quoted item are as under

Note: Technical Specifications for quoted item should strictly as per Annexure-III.

Technical Specifications	Quantity

Date:

Place:

Signature: _____

Name: _____

Address: _____

Stamp:

Declaration for Local Content

(For the item value below Rs.10 Crores)

(To be given by the Statutory Auditor/Cost Auditor/Cost Accountant/CA for the item value above Rs.10 Crores)

Date: _____

To,
The Director,
IIT (ISM) Dhanbad.
Sub: Declaration of Local content.

Tender No: **CR-INS-CPPP-283-24-25**

Name of Tender: **“Supply and Installation of Cryostat Based Low Temperature Physical Property Measurement System”**

In accordance with the order No. P-45021/2/2017-PP (BE-II) dated 04th June, 2020, I hereby declare that

- i) I am aware of the Order No. P-45021/2/2017-PP (BE-II) dated 04th June, 2020 and abides by the same.
- ii) I declare that for this tender, I am a **Class-I local supplier / Class-II local supplier / Non-local supplier** (Strike out whichever is not applicable) and classification is based on local content of goods/services/work offered by bidder in this tender.
- iii) **Local content (in percentage) for offered** item is: _____%
Whereas ‘Local Content’ means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.
- iv) The local content for all inputs which constitute the said goods/services/works has been verified and bidder is responsible for the correctness of the claims made therein. I am fully aware that false declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
- v) Details of items, amount and location(s) at which the local value addition is made:

Sl. No.	ITEM (S)	AMOUNT	LOCATION(S)
1.			
2.			
3.			
4.			
5.			

Yours Faithfully,

(Signature)
Seal

Certificate by the bidder

Date:

To,
The Director,
IIT (ISM) Dhanbad.

Subject: Undertaking regarding type of bidder.

Reference: Office Memorandum No. F.7/10/2021-PPD (1) dated: 23.02.2023 issued by
Department of Expenditure, Ministry of Finance, Govt. of India.

Tender No. **CR-INS-CPPP-283-24-25**

Name of Tender: **“Supply and Installation of Cryostat Based Low Temperature
Physical Property Measurement System”**

Sir,

1. I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority is attached.]
2. I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all the requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority is attached.]”

Yours Faithfully,

(Signature of the Bidder)

Seal

Tender Acceptance Letter

To,
The Director,
IIT (ISM) Dhanbad.

Subject: Acceptance of Terms & Conditions of Tender.

Tender No. **CR-INS-CPPP-283-24-25**

Name of Tender: **“Supply and Installation of Cryostat Based Low Temperature Physical Property Measurement System”**

Sir,

1. I / We hereby certify that I/we have read the entire tender document including all annexures. I/we have read all the terms and conditions of the tender documents. I/we hereby undertake that I/we shall abide by the terms/conditions/clauses mentioned in the tender document.
2. The corrigendum(s) issued from time to time by your department/ organization too have also been taken into consideration, while submitting this acceptance letter.
3. I / We hereby unconditionally accept the tender conditions of above-mentioned tender document(s) / corrigendum(s) in its totality/entirety.
4. I / We will supply/provide the goods/services as per the specifications/conditions as mentioned in Annexure-III.
5. I / We do hereby declare that our Firm has not been blacklisted/ debarred/ terminated/ banned by any Govt. Department/Public sector undertaking.
6. I / We certify that all information furnished by me/our firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the Earnest Money Deposit.

Yours Faithfully,

(Signature of the Bidder)

Seal

BID/TENDER SPECIFIC AUTHORIZATION LETTER

(To be given on OEM Letter Head)

To,
The Director
IIT(ISM), Dhanbad.

Tender No.: **CR-INS-CPPP-283-24-25**

Name of Tender: **“Supply and Installation of Cryostat Based Low Temperature
Physical Property Measurement System”**

Equipment Name: _____.

Sir,

1. We, _____, who
are established and reputable manufacturers of _____
having factories at _____ and _____
hereby authorize _____ (Name of Authorized
Dealer/Distributor/Supplier) to bid, negotiate and conclude the contract with IIT (ISM)
Dhanbad against this tender for the above goods manufactured by us.
2. No company or firm or individual other than _____ are
authorized to bid, negotiate and conclude the contract in regard to this business against
this specific tender.
3. We also hereby undertake to provide full guarantee/warranty /Comprehensive Annual
Maintenance Contract as agreed by the bidder in the event the bidder is changed as the
dealers, or the bidder fails to provide satisfactory after-sales and service during such period
of Comprehensive Warranty / Comprehensive Annual Maintenance Contract and to supply
all the spares/accessories/consumables etc. during the said period.
4. We hereby extend our full guarantee and warranty as per the conditions of the tender for
the goods bided for supply against this tender by the above firm.
The authorization is valid up to _____

Yours faithfully,

(Signature of the Tenderer)

For and on behalf of M/s. _____

(Name of manufacturers)/Principal

Seal:

INTEGRITY PACT

(To be executed on a non-judicial Stamp Paper of Rs.100 and applicable for all tenders of threshold value above Rs. 1 Crore)

This **INTEGRITY PACT** is made and executed at..... on day of 2024.

BY AND BETWEEN

The Indian Institute of Technology (Indian School of Mines) Dhanbad represented through having its office located at Dhanbad, Jharkhand – 826004 (hereinafter referred to as "The Principal" which terms or expression shall, unless excluded by or repugnant to the subject or context, mean and include its successor-in-office, administrators or permitted assignees) of the **First Part;**

AND

M/s.....a company incorporated under the Companies act,..... through its representative /authorized signatory (insert name and designation of the officer) vide resolution dated..... passed by the board of directors, having its office at (hereinafter referred to as "The Bidder/Contractor" which terms or expression shall, unless excluded by or repugnant to the subject or context, mean and include its successor-in-office, administrators or permitted assignees) of the **Second Part;**

Preamble

The Principal intends to award, under laid down organisational procedures, contract/s for (Name of the work/ goods/services). The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s) and/or Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitors (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal:

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b) The Principal will during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c) The Principal will exclude from the process all known prejudiced persons.
- (2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/Contractor(s):

- (1) The Bidder(s)/Contractor(s) commit themselves to take all measures necessary to prevent corruption. The Bidder(s)/Contractor(s) commits themselves to observe the following principles during participation in the tender process and during the contract execution.
 - a) The Bidder(s)/Contractor(s) will not, directly or through any other persons or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage or any kind whatsoever during the tender process or during the execution of the contract.
 - b) The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to other, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines of Indian Agents of Foreign suppliers" shall be disclosed by the Bidders(s)/Contractor(s). Further, as mentioned in the Guidelines all payments made to the Indian Agent/representative have to be in Indian Rupees only. "Guidelines on Indian Agents of Foreign Suppliers"
 - e) The Bidder(s)/Contractor(s) will, when presenting their bid, disclose any and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
 - f) Bidder(s)/Contractor(s) who have signed the Integrity Pact shall not approach the courts while representing the matter to IEMs and shall wait for their decision in the matter.
- (2) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts:

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as per the procedure mentioned in the "Guidelines on Banning of business dealing".

Section 4 : Compensation for Damages

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.
2. If the Principal has terminated the contract according to Section3, or if the Principal is entitled to terminate the contract according to Section3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 : Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the anti-corruption approach or with any public sector enterprise in India that could justify his exclusion from the tender process.
2. If the bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealing".

Section 6: Equal treatment of all Bidders / Contractors / Sub-Contractors.

1. In case of sub-contracting, the Principal Contractor shall take the responsibility of adoption of Integrity Pact by the Sub-contractor.
2. The Principal will enter into agreements with the identical conditions as this one with all bidders and Contractors.
3. The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7: Criminal charges against violating Bidder(s) / Contractor(s) / Sub-contractors(s)

If the Principal obtains knowledge of the conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8 : Independent External Monitor

1. The Principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all contract documents, whenever required. It will be obligatory for him/her to treat the information and documents of bidders /contractors as confidential. He/she reports to the Director, IIT(ISM) Dhanbad.
3. The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Subcontractors.

4. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractor(s) with confidentiality. The Monitor has also signed declarations on "Non – Disclosure of Confidential Information" and of "Absence of Conflict of Interest" In case of any conflict of interest arising at a later date, the IEM shall inform the Director, IIT(ISM) Dhanbad.
5. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
6. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
7. The Monitor will submit a written report to the Director, IIT(ISM) Dhanbad within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the Page 5 of 7 occasion arise, submit proposals for correcting problematic situations.
8. If the Monitor has reported to the Director, IIT(ISM) Dhanbad, a substantiated suspicion of an offence under relevant IPC/PC Act, and the Director, IIT(ISM) Dhanbad has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
9. The word "Monitor" would include both singular and plural.

Section 9: Pact Duration

This pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by the Director, IIT(ISM) Dhanbad.

Section 10 - Other provisions:

1. This agreement is subject to Indian Law, Place of performance and jurisdiction is the Office of the Director, IIT(ISM) Dhanbad.
2. Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4. Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

5. Issues like Warranty/Guarantee etc. shall be outside the purview of the IEMs.
6. In the event of any contradiction between the Integrity Pact and its Annexure, the clause in the Integrity Pact will prevail.
7. The actions stipulated in this Integrity Pact are without prejudice to any other legal action(s) that may follow in accordance with the provisions of the extent law in force relating to any civil or criminal proceedings.

IN WITNESS WHEREOF, the parties hereunto set their hands and seals and executed this INTEGRITY PACT as of the day/month/year first above written:

For & on behalf of

Indian Institute of Technology (Indian School of Mines) Dhanbad (First Party)

SIGNED, SEALED AND DELIVERED BY

Name:.....

Designation:.....

Address:.....

Authorized Signatory

For and on behalf of

M/s.(Second Party)

SIGNED, SEALED AND DELIVERED BY

Name:.....

Designation:.....

Address:.....

Representative/authorized signatory

vide resolution datedpassed by the Board of Directors

In the presence of Witness:

1.

2.