CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY (C-MET)

(Scientific Society, Ministry of Electronics & Information Technology, MeitY, Govt. of India) Panchawati, Off. Dr. Homi Bhabha Road, Pashan, Pune- 411 008, INDIA

TENDER NOTICE

Advt. No. PN/ADM/TEN/001/2023

Sealed Tenders are invited under Two Bid System (Part I- TECHNO-COMMERCIAL BID & Part II- FINANCIAL BID) from reputed Indian Manufacturers / Indian Agent of Foreign Equipment Manufacturer for the "Supply, Installation, Demonstration and Training" of the following Scientific Instrument.

Tender Reference No.	Brief Description of StoresE.M.D. (Either in Rs. or US\$)		Cost of Tender Fee (Either in Rs. or US \$)		
		In Rs.	In US \$	In Rs.	In US \$
PN/ADM/PUR/037/2022	IonBeamMillingEquipmentalongwithPreliminarySamplePreparationEquipment forFE-TEMSamplePreparationFender	10,50,000.00	12,673.00	2,000.00	24.00
PN/ADM/PUR/053/2022	Cryogenic Station	7,50,000.00	9,052.00	2,000.00	24.00

Last Date of Issue of Tender Document Last Date for Submission of Tenders

: 20.11.2023

: 21.11.2023 up to 14.00 Hrs.

Date of Opening of Technical Bids of Tender : 21.11.2023 at 15.00 Hrs.

For details, please visit our website **http://www.cmet.gov.in**. The Tender document can be obtained either from the In-Charge Administration, C-MET, Pune on payment of requisite tender fee by Demand Draft drawn in favour of 'Centre for Materials for Electronics Technology, Pune' OR may be downloaded from our website. In this regard, tender document fees to be deposited in the form of Demand Draft at the time of submitting technical bid. Tenders submitted as per the terms & conditions mentioned in the Tender Document only will be accepted. C-MET will not be responsible for postal or any other delay and reserves the right to reject any or all the tenders without assigning any reasons.

(Sd/-) In-Charge Administration

Tender Document

For Competitive Bidding for the Supply, Installation and Demonstration of Following Stores/Goods/Equipment

Item No.	Tender Reference No	Brief Description of Stores/Goods/Equipment		
1.	PN/ADM/PUR/037/2022	Ion Beam Milling Equipment along with Preliminary Sample Preparation Equipment for FE-TEM Sample Preparation		
2.	PN/ADM/PUR/053/2022	Cryogenic Station		



Centre for Materials for Electronics Technology (C-MET) (A Scientific Society, Ministry of Electronics & Information Technology, MeitY, Govt. of India) Panchawati, Off. Dr. Homi Bhabha Road, Pashan, Pune- 411 008, INDIA

> Tel No.+91-20- 25898390 / 25899273 / 25898141 Fax: +91-20-25898180 Website - http://www.cmet.gov.in.

TENDER DOCUMENT

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SECTION-I: DEFINITIONS

SECTION-I: DEFINITIONS

In this document, the following terms shall be interpreted as indicated:

- i. C-MET means any one or more of the three laboratories of Centre for Materials for Electronics Technology at Pune, Hyderabad or Thrissur.
- ii. "The Tenderer or the Bidder" means the individual or firm submitting a tender or bid for purchase of the Goods and Services by C-MET against a tender notice.
- iii. "The Purchaser(s) or Client(s)" means the organization purchasing the Goods / Services (i.e. Centre for Materials for Electronics Technology)
- iv. "The Supplier" or "The Vendor" means the individual or firm supplying the Goods and Services under this Contract.
- v. "The Contract" means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form Signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein;
- vi. "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations;
- vii. "The Goods" means all the hardware / equipment, machinery and /or other materials which the Supplier is required to supply to the Purchaser under the Contract;
- viii. "Services" means services ancillary to the supply of the Goods, such as transportation and insurance and any other incidental services, such as installation, commissioning, provision of technical assistance, training and other obligations of the Supplier covered under the Contract;
- ix. "GTC" means the General Terms and Conditions of Contract contained in this section.
- x. "STC" means the Special Terms and Conditions of Contract.
- xi. "The Client's Country" is the country named in STC.
- xii. "Day" means a working day.

SECTION-II: INVITATION FOR BIDS & INSTRUCTION TO BIDDERS (IBIB)

SECTION-II: INVITATION FOR BIDS & INSTRUCTION TO BIDDERS (IBIB)

- 1. Centre for Materials for Electronics Technology, Pune, invites sealed tenders from eligible Indian Manufacturers OR Indian Agent of Foreign Equipment Manufacturer for supply, installation and commissioning of instrument /stores / goods / equipment's listed in **Section V** of this document.
- 2. Interested eligible Bidders may either obtain the Tender Document on submission of a written application along with the tender document fee as indicated against the equipment in Indian rupees or equivalent by Demand Draft in favour of "Centre for Materials for Electronics Technology" payable at Pune (India) from:-

In-Charge Administration Centre for Materials for Electronics Technology Panchawati, Dr. Homi Bhabha Road, Pashan, Pune- 411 008, INDIA

OR

download the Tender Document from our website <u>http://www.cmet.gov.in</u>. Those who are downloading the tender document from the website they shall deposit the tender document fee as indicated against the equipment in Indian rupees or equivalent per tender by demand draft in favour of "Centre for Materials for Electronics Technology" payable at Pune (India) The tender fee shall be deposited in a cover indicating over the cover that the tender fee and put in the technical bid cover.

- 3. A bidder may bid for complete set of items/stores/goods/equipments mentioned in **Section-V**. A separate bid needs to be submitted for each optional item/stores/goods/equipment as per norms given below.
- 4. Two-Bid system will be adopted for this tender:-

In this system, tenderer must submit their offer in two separate sealed envelopes as mentioned below:

Envelope No. 1: Called "Techno-Commercial Bid " shall contain :-

a. <u>Earnest Money Deposit (EMD) / Bid Security</u>: Earnest Money Deposit (EMD) / Bid Security as given in IBIB clause 12 or necessary exemption certificate or Proof of exemption if bidder is exempted from Earnest Money Deposit (EMD)/ Bid Security.

b. Form of Details about Tenderer (**Section- VII**) along with the following documents.

- i. A certified Xerox copy of Partnership deed / memorandum of articles and associations.
- ii. Power of attorney.
- iii. Certified copies of valid latest Income Tax return certificate
- iv. Details of service centers, international offices, point of presence, including registration details, if any.
- v. List of service providers / Customer support stations in India, with detailed address and phone numbers and contact person through whom services will be provided (if required)

- vi. Documents of previous Experience of Bidder's Eligibility, Purchase order & Completion certificate from end users.
- vii. Detailed information regarding previous experience of supply and installation of the similar equipment/systems to any Government Organization and list of the clients along with E-mail & contact details.
- viii. A copy of registration with Central Ministries or Departments by Indian agent of Foreign Supplier, if applicable.
- c. Detailed Technical specifications /features/Data Sheets/Brochures of the equipment/Item quoted.
- d. User's feed back on Quality and Performance of the Item quoted. (If supplied in other Institute)
- e. Technical Compliance for all Clauses in Technical Specifications as given in **Section V**.
- f. Confirmation letter that the financial bid covers all the essential items and optional items separately in the tender document.
- g. Guarantee Bond for Performance Security Deposit as given in Section- VIII.
- h. Manufacturer's Authorization Form as given in Section- IX
- i. Tender Fee to be given in the form of Demand Draft/Account Payee Cheque /Online payment through RTGS/NEFT (those who are down loaded the tender documents from the website) For On-line payment C-MET's Bankers details are as under :

Bankers Name: Punjab National Bank Branch: Pashan Road, Pune, (Maharashtra)- 411 021 Saving Account No. 0495000100063589 IFS Code: PUNB0049500 SWIFT CODE (In case of Foreign Supplier): PUNBINBBPUC

All documents in the Techno-Commercial Bid should be submitted in the above sequence with Index Page and Page Numbers.

Envelope No. 2 : <u>Called " Financial Bid " shall contain:</u>

- i) Duly filled prescribed Bid Form and Price Schedule (**Section -VI**) with proper seal and signature of authorized person on each paper of tender
- ii) Item-wise unit cost as well as total cost for total requirement should be quoted in clean and neat manner in figure as well as words
- iii) Price bid should contain price details as per Section- VI.

The Techno-commercial Bid and Financial Bid should be sealed separately and clearly indicate "Envelope No. 1–Techno-Commercial Bid" and "EnvelopeNo.2 – Financial Bid". The two sealed envelopes should be kept in a third larger envelope and addressed to the:-

In-Charge Administration Centre for Materials for Electronics Technology, Panchawati, Dr. Homi Bhabha Road, Pune- 411 008 (India) Please write the tender reference number on each envelope and seal all the envelopes as per IBIB Clause 14.

If it is found that the Tenderer does not submit any of the above documents or the price quoted is submitted in the techno- commercial bid, the tender shall be rejected & no correspondence in this regard shall be entertained.

INH OKTANT DATES FOR SUBMISSION OF TENDER					
Tender Reference No.	Brief Description of	E.M.D.		Cost of Tender	
	Stores	(Either in Rs. or US\$)		Fee (Either in Rs.	
				or US \$)	
		In Rs.	In US \$	In Rs.	In US \$
PN/ADM/PUR/037/2022	IonBeamMillingEquipmentalongwithPreliminarySamplePreparationEquipment forFE-TEMSamplePreparationSample	10,50,000.00	12,673.00	2,000.00	24.00
PN/ADM/PUR/053/2022	Cryogenic Station	7,50,000.00	9,052.00	2,000.00	24.00

IMPORTANT DATES FOR SUBMISSION OF TENDER

Last Date of Issue of Tender Document: 20.11.2023

Last Date for Submission of Tenders : 21.11.2023 up to 14.00 Hrs.

Date of Opening of Technical Bids of Tender : 21.11.2023 at 15.00 Hrs.

The envelopes containing Techno-Commercial Bid will be opened at **15.00 Hrs.** on **21.11.2023** at **C-MET**, **Pune**, in the presence of the nominated committee of C-MET, Pune and in the presence of the participant bidders or their authorized representatives. Any change in this regard will be duly communicated to the bidders.

5. Eligible Bidders

- 5.1 This invitation for Bids is open to Indian Equipment Manufacturing companies or their authorized distributors/dealers or Indian Agents who are to supply the equipment and provide warranty on behalf of respective original equipment manufacturers and who have their sales and support office(s) in India.
- 5.2 The Indian Equipment Manufacturing companies (or their authorized distributors/dealers/Indian Agents) should have been in the business of supply of the stores/goods / equipment's successively for the last three years or should have MSME certificate.
- 5.3 The bidder should be preferably ISO Certified.

6. Eligible Store/Goods and Services

- 6.1 All store/goods and ancillary services/spares to be provided under the Contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such goods and services.
- 6.2 For purpose of this clause, "origin" means the place from where the goods are supplied, through manufacturing, processing or substantial or major assembling of components from or from which the ancillary services/spares are supplied. Store/Goods are produced, when a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

6.3 The country of origin of goods and services is distinct from the nationality of the Bidder.

7. Cost of Bidding

- 7.1 The Bidder shall bear all the costs associated with the preparation and submission of its bid, and C-MET will in no case be responsible or liable for these costs, regardless of conduct or outcome of bidding process.
- 7.2 The Bidder is expected to follow all instructions & examine forms, terms and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the bidder's perview and may result in rejection of its bid.

8. Clarification of Bidding Documents

A prospective Bidder requiring any clarification of the bidding documents may notify to:-

In-Charge Administration Centre for Materials for Electronics Technology (C-MET), Panchawati, Off. Dr. Homi Bhabha Road, Pashan, Pune- 411 008 INDIA Tel: +91-020-25898390 / 25899273 / 25898141 Fax: +91-20-25898180 Email :- admn-pune@cmet.gov.in

in writing at the address indicated above. C-MET will respond in writing to any request for the clarification of any biding documents which receives 10 days prior to deadline for submission of bids.

B. PREPARATION OF BIDS

9. Language of Bid

The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and C-MET shall be in English language. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an appropriate translation of the relevant document in the English language and in such a case, for purpose of interpretation of the Bid, the English translation shall govern.

10. Bid Form

The Bidder shall complete the Bid Form (**Section - VI**) and the appropriate Price Schedule furnished in the documents indicating the goods to be supplied and services to be offered, a brief description of the goods and services, their country of origin, quantity and price.

11. Documents establishing Good's Eligibility and Conformity to Bidding Documents.

11.1 The Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services, which the Bidder proposes to supply under the contract.

- 11.2 The documentary evidence of the goods and services eligibility shall consist of a statement in the price schedule on the country of origin of goods and services offered with a certificate of origin shall confirm at the time of shipment.
- 11.3 The documentary evidence of conformity of goods and services to the bidding documents may be in the form of literature, drawing and data, & shall consist of:
 - a) A detailed description of the essential technical and performance characteristics of the goods.
 - b) A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for the period for the three years following the commencement of the use of the goods by C-MET.
 - c) An item-by-item commentary on C-MET's Technical Specification demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.
 - d) Bidder should give details of the complete details of all the configurations of the equipment offered along with Model and Modules of the product offered.
 - e) Bidder should give Bill of material in technical bid without any commercial details.
- 11.4 For purposes of the commentary, the Bidder shall note that standards for workmanship, material and equipment, and references to brand names or catalogue numbers designated by C-MET in its Technical Specifications are intended to be descriptive only and not restrictive.

12. Earnest Money Deposit (EMD)/Bid Security

- 12.1 Earnest Money Deposit (EMD)/Bid Security in Indian Rupees or in US \$ (in case of foreign suppliers with no Indian Agent) as per the Table below should be deposited by the Tenderer, as per the Office Memorandum No. F.1/4/2022-PPD dated 05.08.2022 issued by the Govt. of India, Ministry of Finance, Department of Expenditure, PPD, New Delhi in any one of the following forms along with the Technical Bid: -
 - 12.1.1 Insurance Surety Bonds duly endorsed in favour of C-MET, Pune.
 - 12.1.2 Account Payee Demand Draft in favour of C-MET, Pune.
 - 12.1.3 Bankers Cheque or Bank Guarantee including e-Bank Guarantee from a Nationalized Bank /Commercial Bank in favour of C-MET, Pune irrevocable and operative till expiry of sixty days after the validity of offer.
 - 12.1.4 Fixed Deposit Receipt issued by Nationalized Bank/Commercial Bank endorsed in favour of C-MET, Pune.

- 12.1.5 On-line payment in an acceptable form safeguarding the purchaser's interest in all respect.
- 12.1.6 EMD/Bid Security in case of a Foreign Suppliers should be furnished by its Indian Agent in any of the forms of IBIB Clauses 12.1.1 to 12.1.5 In case the Foreign Supplier does not have an Indian Agent, EMD/Bid Security may be paid eighter through Bank Guarantee issued by the foreign branches of Indian Nationalized bank or Bank Draft in US \$ in favour of C-MET payable at Pune as the case mat be.
- 12.1.7 EMD/Bid Security is exempted in case of Micro & Small Enterprise (MSES) as defined in MSE Procurement Policy issued by Deptt. Of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the firm registered with MeitY, Govt. of India.
- 12.1.8 In case the vendor/supplier/contractor would like to submit EMD/Bid Security by Bank guarantee(BG), then the original BG shall be routed through the banker to C-MET, Pune directly by registered post with acknowledgement due. In case the BG is handed over to the vendor/supplier/contractor by the bank for any genuine reasons, the BG issuing branch shall immediately send an unstamped duplicate copy of the BG directly to C-MET, Pune by registered post with acknowledgement due with the covering letter to verify the BG issued by us and confirm that it is in order. The vendor/supplier/contractor shall comply this provision meticulously.

Item	Tender Reference No.	Brief Description of	EMD	
no.		Stores/Goods/	(Either in Rs. or US \$)	
		Equipment	In Rs.	In US\$
1.	PN/ADM/PUR/037/2022	Ion Beam Milling	10,50,000.00	12,673.00
		Equipment along with		
		Preliminary Sample		
		Preparation Equipment		
		for FE-TEM Sample		
		Preparation		
2.	PN/ADM/PUR/053/2022	Cryogenic Station	7,50,000.00	9,052.00

- 12.2 The EMD/Bid Security shall be put in a separate envelope superscribing tender reference no. as such on it and put in the envelope containing Technical bid as described in IBIB Clause 4. In the absence of EMD/Bid Security the Bid Tender will not be accepted (Except MSME).
- 12.3 The EMD / Bid Security will be returned along with necessary endorsement for payment to the bidder (without interest) whose offers are not considered by C-MET, after placing the final order or during technical evaluation stage. (In case of technical rejection)
- 12.4 The EMD / Bid Security shall also be forfeited in case of:-
 - 12.4.1 If a Bidder withdraws its bid or increases rates during the period of Bid validity specified by the Bidder on the Bid Form.

12.4.2 In case of a successful Bidder, if the Bidder fails:

- a) to accept the Purchase Order as per IBIB Clause 25 or refusal to execute the tender after it has been awarded or obligations under the same are not fulfilled; or
- b) to furnish the performance security deposit in accordance with IBIB Clause 26.

13. Period of Validity Bid

- 13.1 Bids shall be remain valid for **240 days** after the date of bid opening prescribed by C-MET. A Bid valid for a shorter period shall be rejected by C-MET as non-responsive.
- 13.2 In exceptional circumstances, C-MET may solicit the Bidder's consent to extend the period of validity of the Bid. The request and the responses thereto shall be made by written notice and may be sent by Fax/E. Mail however the same should be followed by signed confirmation copy & same should reach the purchaser not later than the dead line for the submission of bids.

14. Format and Signing of Bid

- 14.1 Both the Bids envelopes and their contents shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. Written power-of-attorney accompanying the Bid shall support the latter authorization. The person or persons signing the Bid shall initial all pages of the Bid, except for un-amended printed literature.
- 14.2 Any interlineations, corrections, erasures or overwriting shall be valid only if the authorized person or persons signing the bid.

C. <u>SUBMISSION OF BIDS</u>

15. Sealing and Marking of Bids

- 15.1 The Bidders shall seal the two envelopes in separate inner envelopes, duly marking the envelopes as Techno-Commercial Bid and Financial Bid. Tender Reference No. and Name and Address of Bidder should be marked on each of the bid envelops. These two envelopes should be placed inside an outer envelope. The outer envelope shall be sealed and indicate Tender Reference No. and the Name and address of the bidder.
- 15.2 The inner and outer envelopes shall be addressed to the: -

In-Charge Administration Centre for Materials for Electronics Technology (C-MET) Panchawati, Off. Dr. Homi Bhabha Road, Pashan, Pune- 411 008 INDIA Tel: +91-020-25898390 / 25899273 / 25898141 Fax: +91-20-25898180 Email : admn-pune@cmet.gov.in

- 15.3 The inner envelopes shall also indicate the name and address of the Bidder to be returned unopened in case it is declared "late".
- 15.4 If the outer envelope is not sealed and marked as specified, C-MET will assume no responsibility for the Bid's misplacement or premature opening.
- 15.5 Telex, cable, e-mail or facsimile bids shall be rejected.
- 15.6 Cartel formation/Bid/rigging/Ring prices cases shall be rejected.

16. Deadline for Submission of Bid

- 16.1 Bids must be received by C-MET at its address mentioned above not later than 21.11.2023 at 14.00 Hrs. at C-MET, Pune. Bids may be sent through courier/speed post or dropped in the Tender Box available at C-MET, Pune. In the event of the specified date for the submission of Bids being declared as a holiday for C-MET, the bids will be received up to the appointed time on the next working day.
- 16.2 C-MET may, at its discretion, extend this deadline for submission of bids by amending the tender document, in which case all rights and obligations C-MET and Bidders will thereafter be subject to the deadline as extended.

17. Late Bid

Any bid inadvertently received by C-MET after the deadline for submission of bids prescribed by C-MET, shall not be considered for procurement process and returned unopened to the Bidder.

D. OPENING AND EVALUATION OF BIDS

18. Opening of Bids by C-MET

- 18.1 A nominated Committee of C-MET, Pune will open Techno-Commercial Bids, in the presence of Bidder or his representative, who choose to attend, at 15.00 Hrs. on 21.11.2023 at C-MET, Pune.
- 18.2 The Bidder's representative who is presence shall sign an attendance register evidencing their attendance. In the event of the specified date of Bid opening being declared holiday for C-MET, the Bid shall be opened at the appointed time and location on the next working day.
- 18.3 The Bidder's Names / Information and other details, will be announced at the time of opening. No Bid shall be rejected at the opening, except for late bids, which shall be returned unopened to the bidders.
- 18.4 After the rigorous evaluation of the Techno- Commercial bids by C-MET (Centre for Materials for Electronics Technology), the qualified tenderers will be short-listed.
- 18.5 No clarification at the initiative of the bidder, after the technical bids are opened shall be entertained.
- 18.6 The Financial Bids will be opened from the Short listed Bidders only at a time and place which be intimated to the Short listed Bidders. The bid prices, discounts and such other details as C-MET, at its discretion, may consider appropriate, will be announced at the time of opening of Financial Bids.
- 18.7 In exceptional circumstances Negotiation Meeting with L1 (Lowest Tenderer) may be carried out only if the Tender pertains to the award of Work/Supply Orders etc. as per the guidelines issued by CVC (Chief Vigilance Commission, Govt. of India) from time to time.

19. Clarification of Bids

During evaluation of bids, C-MET, at its discretion, may ask the Bidder for a

clarification of its bid. The request for a clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted. However, No post bid clarification at the initiative of the bidder shall be entertained.

20. Preliminary Examination

- 20.1 C-MET will examine the Techno- Commercial bids to determine whether they are complete, whether any computational errors have been made, whether sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order. Bids from dealers, without proper authorization from the manufacturer as per **Section - IX**, shall be treated as non-responsive.
- 20.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If the supplier does not accept the correction of errors, its bid will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.
- 20.3 C-MET may waive any minor formality or non-conformity in a bid, which does not constitute a specifications deviation, provided such a waiver does not prejudice or affect the relative ranking of any Bidder. Prior to the detailed evaluation, C-MET will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this Clause, a substantially responsive bid is one, which confirms to all the terms and conditions of the bidding documents without material deviation. Deviations from or objections or reservations to critical provisions such as those concerning, Guarantee Bond for Performance Security Deposit (IBIB Clause 4.g), Warranty (GTC Clause 15), Applicable law (GTC Clause 22) and Taxes and duties (STC Clause 2.1, 2.2 & 2.3) will deemed to be material deviations. C-MET's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 20.4 If a Bid is not substantially responsive, it will be rejected by C-MET and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

21. Evaluation and comparison of Bids

- 21.1 C-MET will evaluate and compare the bids, which have been determined to be substantially responsive.
- 21.2 In C-MET's evaluation of a bid price, such price evaluation shall include all costs as wells as duties and taxes paid or payable on components and raw material incorporated or to be incorporated in the goods, and taxes on the finished goods, (if Payable) and price of incidental services, the following factors, in the manner and to the extent indicated in the Technical Specifications:
 - 21.2.1 Cost of inland transportation, freight, transit insurance, and other costs within India incidental to the delivery of the goods to their final destination.
 - 21.2.2 Delivery schedule offered in the bid.
 - 21.2.3 Deviations in payment schedule from that specified in the General Terms and Conditions of Contract;

- 21.2.4 The availability in India of spare parts and after-sales services for the equipment offered in the bid;
- 21.2.5 While evaluating the tender, C-MET, has the exclusive right to include or exclude any or all the spare parts or accessories mentioned in the tender hence the tenderer is required to quote item wise separately.

21.3 **Delivery Schedule**

C-MET requires that the goods under the Invitation for Bids shall be delivered in the time as specified in the Technical Specifications. The estimated time of arrival of goods at the C-MET site should be calculated for each bid after allowing for reasonable transportation time. The supplier will have to pay a penalty to C-MET in the form and at the rate mentioned in the **GTC Clause No.19**. No credit will be given to earlier deliveries and Bids offering delivery beyond 04 to 06 weeks of stipulated delivery period will be treated as unresponsive.

21.4 **Deviation in Payment Schedule**.

The Special Terms and Conditions of Contract stipulates the payment schedule offered by C-MET.

21.5 Spare parts and after sales services facilities in India

The cost to C-MET of establishing the minimum services facilities and parts inventories, as outlined elsewhere in bidding documents, if quoted separately, shall be added to the bid price.

22. Contacting C-MET

- 22.1 Subject to **IBIB Clause 18**, no Bidder shall contact C-MET, Pune on any matter relating to its bid, from the time of the bid opening to the time of contract is awarded. If he wishes to bring additional information to the notice of C-MET, it should do so in writing. C-MET reserves its right as to whether such additional information should be considered or otherwise.
- 22.2 Any effort by a Bidder to influence C-MET in its decision on bid evaluation, bid comparison or contract award shall result in rejection of the bid.

23. Purchasers Right to Accept Any Bid and to Reject Any or All Bids

C-MET reserves the right to accept or reject any bid and all the bidding process at any time prior to award of contracts, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or Bidders of the grounds for C-MET's action.

24. Notification of Awards

- 24.1 Prior to the expiration of the period of the bid validity, C-MET will notify the successful bidder in writing, to be confirmed in writing by registered letter, that his bid has been accepted unconditionally.
- 24.2 The notification of award will constitute the formation of the Contract at Bidder's cost.

25. Signing of Contract

- 25.1 At the same time as C-MET notifies the successful Bidder that its bid has been accepted, C-MET will send the bidder the Purchase Order, incorporating all the terms and conditions.
- 25.2 Within 10 days of receipt of the Purchase Order/Contract, the successful bidder shall put sign and company seal along with the date in Purchase Order/contract and return it to C-MET along with Performance Security Deposit as per **IBIB Clause 25**

26. Performance Security Deposit

- 26.1 Within 10 days of the receipt of notification of award of purchase order / contract from C-MET, the Bidder shall furnish a Performance Security Deposit equivalent to 3% of the contract value in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Bank Guarantee (including e-Bank Guarantee) from a Nationalized / Commercial Bank or Online payment in an acceptable form safeguarding the purchaser's interest in all respects (As per Office Memorandum No. F. 1/4/2022-PPD dated 05.08.2022 issued by Govt. of India, Ministry of Finance, Department of Expenditure, Procurement Policy Division, New Delhi)
- 26.2 Bank Guarantee from a Nationalized Bank / Commercial Bank in favour of C-MET irrevocable and operative for the entire period starting from acceptance of the contract ending 60 days after completion of the warranty period or 20 months, whichever is longer.

26.3 In case the vendor/supplier/contractor would like to submit security Performance

Security Deposit by Bank Guarantee (BG), then the original BG shall be routed through the banker to C-MET directly (to the concerned lab) by registered post with acknowledgement due. In case the BG is handed over to the vendor / supplier / contractor by the bank for any genuine reasons, the BG issuing h

branch

shall immediately send an unstamped duplicate copy of the BG directly to C- MET, Pune by registered post with acknowledgement due with the covering letter to verify the BG issued by us and confirm is in order. The vendor / supplier / contractor shall comply this provision meticulously.

- 26.4 The Performance Security Deposit is required towards fulfillment of the Purchase order / Contract obligations. This Security Deposit will be forfeited in case the successful Bidder fails to execute the Purchase order/ Contract.
- 26.5. Failure of the successful Bidder to comply with the requirement of the IBIB Clause 27 can constitute sufficient grounds for the annulment of the award in which event C-MET may call for new bids.

27. Corrupt or Fraudulent Practices.

- 27.1 C-MET requires that the bidders/suppliers/ contractors under this tender, observe the highest standards of ethics during the procurement and execution of such contracts. In pursuance of this policy, C-MET:
 - 27.1.1 Defines for the purposes of this provision, the terms set forth as follows:
 - a) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of the

public official in the procurement process or in contract execution; and

- b) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or execution of a contract to the detriment of C-MET, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive C-MET of the benefits of the free and open competition;
- 27.1.2 C-MET will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- 27.1.3 C-MET will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt and fraudulent practices in competing for, or in executing, a contract under <u>Prevention of Corruption Act -1986</u> or any other Act enacted for the same.

28. Interpretation of the clauses in the Tender Document / Contract Document

In case of any ambiguity in the interpretation of any of the clauses in Tender Document or the Contract Document, the interpretation of the Director General, C-MET shall be final and binding on all parties.

29. In case of any legal dispute the jurisdiction will be Pune only.

SECTION III: SPECIAL TERMS AND CONDITIONS (STC)

1. FOR INDIGENOUS BIDDERS:-

GENERAL:

- 1.1 Vendor to specify the quoted price with exclusion of G.S.T./I.G.S.T. or any other statutory duty / taxes & the same should specify separately.
- 1.2 The change in any duty/taxes upward/downward as a result of change in Govt. Policy on duty & taxes taking place within contract terms shall be allowed to extent of actual quantum of such variation of duty / tax paid by the supplier and vice versa.
- 1.3 T.D.S. as per Income Tax Rule will be deducted and a certificate to that effect will be issued by the Buyer.
- 1.4 In case of partnership firm or Hindu Undivided Family (HUF) concern, the names and full particulars of the partners or the members if the Hindu Undivided Family (HUF) owning the concern, the information will have to be submitted on separate sheet along with the Tender. The Tender must be signed:-
 - (i) In the event of being a sole proprietary concern by the sole proprietor or by a constituted attorney duly authorized to enter into and sign agreements on his behalf including agreement to refute disputes arising under or relating to such agreement to arbitration by a power of attorney signed by the proprietor and authenticated by a Notary Public or Magistrate.
 - (ii) In the event of being a partnership firm, by all partners or by a constituted attorney duly authorized to enter into and sign on behalf of the partnership firm including agreements, to refute disputes arising under or relating to such agreements or arbitration by a power of attorney executed under the firm's common seal and authenticated by a Notary Public or a Magistrate.
 - (iii) In the event of being a Hindu Undivided Family concern, by the Kartas of the Joint family

2. <u>CUSTOMS DUTY, GST & IGST :-</u> (In case of item to be procured from Foreign Vendor for Supply to C-MET)

2.1 CUSTOMS DUTY:

Centre for Materials for Electronics Technology(C-MET) has been granted the benefit of exemption from the payment of the Customs Duty by the Department of Scientific and Industrial Research (DSIR), Govt. of India, Under Notifications No.51/96- as amended dt. 23.07.1996, No. 24/2007-Customs dt. 01.03.2007, No. 43/2017 – customs dt. 30.06.17, No. 45/2017 Central Tax (Rate) & 47/2017 – Integrated Tax (Rate) dt. 14.11.2017, No. 9/2018 – Central Tax (Rate) No. 09/2018 – Union Territory Tax (Rate) & No. 10/2018

Integrated Tax (Rate) dt. 25.01.2018 ; and State Tax (Rate) as applicable and all notification, as amended from time to time, in respect of

- a) Scientific and technical instruments, apparatus, equipment including computers.
- b) Accessories and spare parts of goods specified in (a) above and consumables.
- c) Computer software, compact disks, CD ROM, Recording magnetic tapes, microfilms, micro-chips etc.
- d) Prototypes.

Hence, the bidders should take into consideration about this facility of C-MET while quoting for the advertised scientific equipments.

2.2 GST No:

2.2.1 GST No. of C-MET, Pune is :- 27AAAAC0801E2ZI

3. <u>PAYMENT TERMS</u>

For Indigenous Seller:-

"100% Payments shall be made promptly by C-MET, but in no case later than 30 (Thirty) days, after submission of the pre-receipted invoice or bills in duplicate by the Supplier and successful installation, commissioning and demonstration of the stores / goods / equipment by the supplier"

4. Useful Instruction to Foreign Suppliers / Subsidiary Firm:-

- 4.1 Cost of the items should be mentioned clearly in the Commercial Offer (Part-II) only. Essential items / accessories, the optional and any other required for the maintenance of the equipment for the next three years should also be specified in the offer separately.
- 4.2 All costs should be given in Indian rupees and/or in a convertible currency like US-\$, UK- Pounds, Japan- Yen, France- Francs or German Mark or Euro etc.
- 4.3 The Principal Supplier should clearly indicate the address of its Indian Agent, if any, and percentage (%) of Agency Commission payable, if any.
- 4.4 The Indian Agent should produce a copy of the Agency Agreement with the foreign principal giving the precise relationship between them and their mutual interest in business.
- 4.5 The Bidder should indicate the names of the reputed Indian organizations, CSIR Labs and other scientific and technical institutes where the Bidder has supplied similar equipment and attach satisfactory performance report of the equipment from the user organizations.
- 4.6 Details of services rendered by the Bidder as well as after-sales services offered by him should be made clear in the Bid.

- 4.7 The Tenderer's conditions printed on the tender or otherwise sent along with the tender shall not be binding on C-MET.
- 4.8 Supply means "Supply, Installation, Commissioning and satisfactory demonstration of the whole system and training". However, charges for Installation, Commissioning and Training, the same should be specified in the commercial offer only.
- 4.9 The address of Principal's/Manufacturer's and their Banker's details should be furnished.
- 4.10 Installation & commissioning & Training is to be arranged by the supplier free of cost, if not charges to be mentioned separately in the financial bid and the same is to be done within 15 days of the arrival of the equipment at site.
- 4.11 The makes / brand and name and address of the manufacturer, Country of Origin, Country of Shipment and currency in which rates are quoted are to be mentioned.
- 4.12 The payment of local currency portion shall be payable in equivalent Indian Rupees, within 30 days after the receipt of the equipment in good condition and after satisfactory installation and commissioning and demonstration.
- 4.13 Details of onsite warranty, agency that shall maintain the supplied stores/ goods /equipment's during warranty and able to undertake Annual Maintenance Contract (AMC)/Comprehensive Service Maintenance Contract beyond warranty shall be given in the offer. In case of foreign supplier, the Indian Agent who shall maintain supplied stores/goods / equipment's during warranty and provide Annual Maintenance beyond warranty shall be specified in the Technical Offer.
- 4.14 The supply of spare parts is to be guaranteed at least for a period of 5 years after the supply of the equipment. GTC Clause 14 for supply of spare parts shall apply in addition to this.
- 4.15 The price of imported stores/goods / equipment's shall be quoted specifying the following:-
 - (a) F.C.A. Prices in any foreign currency and/or Indian rupees equivalent and port of shipment.
 - (b) C.I.F. Prices in any foreign currency and/or Indian Rupees equivalent.
 F.O.R destination in Indian Rupees only.
 The estimated cost of the freight and insurance should be specified separately and individually.
 - (c) Agency Commission payable to Indian agent, if any, included in the F.C.A. / C.I.F. price should be given separately & following details are to be submitted in commercial bid.
 - C.1 Name of the authorized Agent
 - C.2 Agency agreement between the Seller and the Agent giving details of their contractual obligation.
 - C.3 PAN No., Name & Address of Bankers in India and Abroad

in respect of Indian Agent.

- C.4 The nature of services to be rendered by the Agent.
- C.5 Percentage (%) of Commission payable to the Agent.
- 4.16 Pre requisite /site required for installation and commissioning of equipment to be given well in advance rather immediately after acceptance of Purchase Order.

5. PAYMENT TERMS FOR IMPORT ITEMS:

"100% Payment shall be made through Irrevocable Foreign Letter of Credit (F.L.C.) in favour of the Foreign Supplier through C-MET's banker." The Foreign Letter of Credit will preferably be opened with validity of 90 days from the date of opening of extendable basis by mutual consent of both the parties." However, F.L.C. Charges in India shall be borne by C-MET, Pune and abroad on sellers account at actual. In case of amendment of Foreign Letter of Credit if delay incurred from Principal side/supplier, the F.L.C. charge has to be borne by the Principal Supplier/Authorized Agent.

6. Shipment should be effected as far as possible through Air India.

7. FORWARDING OF SHIPPING DOCUMENTS ETC. TO THE CONSIGNEE FOR CLAIMING THE PAYMENT:

- 7.1 Port of Delivery shall be intimated by the C-MET.
- 7.2 Advance shipment intimation shall be sent to C-MET, by the Tenderer, as required in the purchase order.
- 7.3 After completion of the shipping arrangements by the forwarding agent, he shall promptly provide the following documents to C-MET.
 - i) Clean on Board Airway Bill/ Bill of Landing.
 - ii) Original Invoice in Triplicate
 - iii) Packing List
 - iv) Certificate of Origin from Sellers Country.
 - v) Certificate of Quality and Year of Manufacturing from OEM.
 - vi) Dangerous Cargo Certificate, if any.
 - vii) Physio Sanitary /Fumigation Certificate, if any.
 - viii) Performance Warranty Certificate
 - ix) Evidence of dispatch (A copy of non-negotiable AWB copy)

8. INSPECTION AND WARRANTY:

- 8.1 The physical inspection of the consignment shall be carried out by C-MET, representative before taking over by C-MET.
- 8.2 In all cases, whether physical inspection is carried out by C-MET's Inspector or not, Manufacturer's Test Certificate shall invariably accompany the equipment.
- 8.3 Instruments / Equipment's /Components and all the materials, supplied against the order must be provided with guaranty/warranty against manufacturing and functional defects as given below item and the date of warranty / guarantee shall commence from the date of installation / commissioning.

Item No.	Tender Reference No.	Name of the Equipment	Warranty Period
1.	PN/ADM/PUR/037/2022	Ion Beam Milling Equipment along with Preliminary Sample Preparation Equipment for FE-TEM Sample Preparation	1 Year
2.	PN/ADM/PUR/053/2022	Cryogenic Station	1 Year

9. PERMISSION FOR EXPORT:

The supplier shall be responsible for obtaining permission for export from the Govt. of the country of origin. All expenses in this regard will be borne by the OEM/Supplier

10. INTEGRITY PACT :

Signing of Integrity Pact by successful Vendor shall be submitted asper CVC guidelines, issued by Govt. of India. Ref. No. 007/VGL/033 dated 04.03.02017 vide Order No.41/12/07 dated 04.12.2007. Format for Declaration by the Bidder for Code of Integrity and Conflict of Interest is as per **Section- XI**

SECTION IV: GENERAL TERMS AND CONDITIONS (GTC)

SECTION IV: GENERAL TERMS AND CONDITIONS (GTC)

1. <u>Criteria for pre-qualification of Tender</u>:-

Specifications conforming to the requirement or better than that, Past Performance, Financial Soundness, Technical Competence, Total Cost and Organizational Capability of the Tenderer to provide installation, commissioning, after sale service and spare parts supply shall be some of the crucial parameters for pre-qualification of tenderer.

2. <u>Re-tendering:-</u>

On finding inadequate response to Tender Notice or if the Prices quoted are substantially high and negotiations with the tenderer have not resulted in any positive outcome C-MET may accept or order for re-tendering.

In case a tendering is suspected in view of cartelization Bid rigging/Ring prices the re-tendering will normally be resorted to.

3. Exchange Rate Variation (ERV) Clause:-

- i) The detailed time schedule for procurement of import material and their value at the Foreign Exchange Rates adopted for the contract is to be furnished by the bidder.
- ii) Exchange Variation Rates will be payable/refundable depending upon the movement of exchange rate with reference to exchange rate adopted for the valuation of the contract. For calculation of FE contract the State Bank of India selling rate of the FE element or the date of opening of the price bid.
- iii) The base date for ERV will be the date of opening of price bid and variation on the base date will be given up to the midpoint of manufacture unless the bidder indicates the time schedule within which material will be imported by the then (OEM). Based on the information given above, the cut off date within the delivery schedule for the imported material will be fixed for admissibility of ERV.
- iv) Exchange Rate Variation (ERV) will not be acceptable under following circumstances:
 - a) Cases where delivery periods for imported content are subsequently to be re-fixed / extended except for reason solely attributed to the buyer (C-MET) or force majeure.
 - b) The cases where movement of exchange rate falls within the limit of +/- 2% of the reference exchange rate adopted for the valuation of the contract.
- v) The impact of notified Exchange Rate Variation (ERV) shall be computed on yearly basis & shall be paid/refunded before end of financial year.

4. <u>Performance Security Deposit:-</u>

4.1 The Performance Security Deposit as per **IBIB Clause 26.1** (Office Memorandum No. F.1/4/2022-PPD dated 05.08.2022 issued by Govt. of India, Ministry of Finance, Department of Expenditure, PPD, New Delhi) shall be for entire period from acceptance of Contract to completion of warranty plus 60 days.

- 4.2 The proceeds of the Performance Security Deposit shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 4.3 The Performance Security Deposit will be discharged by C-MET and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including the warranty obligations under the contract.
- 4.4 In the event of any contract amendment, the Supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the Performance Security Deposit, rendering the same valid for the duration of the Contract, as amended for further period of 60 days thereafter.

5. Country of Origin:-

- 5.1. All Goods and Services supplied under the Contract shall have their origin in the member countries and territories eligible.
- 5.2. For purposes of this Clause "origin" means the place where the Goods produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing or substantial and manor assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 5.3. The country of origin of Goods and Services is distinct from the nationality of the Supplier.

6. Standards:-

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications and when no applicable standard is mentioned; to the authoritative standard appropriate of OEM and such standards shall be the latest issued by the concerned institution. The goods to be supplied shall be new brand only.

7. Patent Rights:-

The Supplier shall indemnify C-MET against all third-party claims of infringement of patent, trademark, Copy Right or industrial design rights arising from us of the Goods or any part thereof in India.

8. Tender Specifications:-

8.1 The specifications for the items quoted should be explicitly clear and all available technical literature, catalogues and other data in support of the specifications of the items should be furnished along with the Tender. In the event of an alternative offered by the Tenderer, full specifications, details,

literature, etc., which may justify consideration of such alternative offer, need to be given.

- 8.2 It should specifically be mentioned as to whether the price quoted includes all taxes / duties and levies where legally leviable and intended to be claimed should be distinctly shown separately in the Tender. Packing, Forwarding and Freight Charges, etc., if any, to be quoted separately.
- 8.3 The Tenderer should provide all the information asked for in the Form for details about the Tenderer.
- 8.4 The Tenderer has to state in detail the Electrical Power/UPS requirements, floor Space, head room, foundation needed and also to state whether Airconditioned environment is needed to house the system and to run the tests, i.e., pre-installation facilities required for installation, may please be intimated in the Technical Bid or immediately after acceptance of order.

9. Validity of Tender:-

The quotations should be valid, for a period of **240 days** from the last date of receipt of the Tender.

10. Inspections and Testing:-

- 10.1 C-MET or its representative shall have the right to inspect and/or to test the Goods and services to confirm their conformity to the Contract specifications at no extra cost to C-MET. C-MET shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes.
- 10.2 The inspections and tests may be conducted in the premises of the Supplier or its subcontractor(s), at point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data shall be furnished to the inspectors at no charge to C-MET.
- 10.3 The inspected or tested Goods fail to conform to the specifications, C-MET may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to C-MET, well within the delivery period as stipulated in Purchase Order.
- 10.4 C-MET's right to inspect and test, where necessary, reject the Goods after their arrival at Project Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by C-MET or its representative prior to the Goods shipment.

11. Packing & Marking:-

- a) The seller should provide packing & preservation of the equipment under contract to ensure the safety against damage in the condition of land, sea & air transportation. The packing cases should be strong and should have provision of lifting by crane/forklift track. The tags with proper marking to be fastened to the special equipment.
- b) The packing of the equipment / store should be confirm to the requirement of the specifications and standards in force in the territory of seller's country.

- c) A labeling to be done in ENGLISH Language only and to be pasted on the carton indicating below mentioned details of the item. The carton should then be packed in packing cases as required.
 - i) Part No.
 - ii) Nomenclature
 - iii) Purchase Order No. & Date
 - iv) Qty. Ordered.
- d) One copy of the packing list in English should be inserted in to the cargo package & full set of packing list to be placed in packing case.
- e) The package should be marked with indelible paint in English as follows:
 - i) Purchase Order No. & Date
 - ii) Consignee
 - iii) Port of Destination
 - iv) Ultimate Consignee
 - v) Package No.
 - vi) Gross Weight
 - vii) Net Weight
 - viii) Overall Dimension
- f) Warning inscriptions i.e. 'ToT', DO NOT TURN DOWN, FRAGILE, CATEGORY OF CARGO, This side up with arrow marks, etc.

12. Delivery:-

Foreign bidder's are required to quote on FCA / FOB basis only. Delivery of the Goods and services shall be made by the supplier in accordance with the terms specified by C-MET in the Purchase Order.

13. Insurance:-

Insurance shall be arranged by C-MET for the Goods supplied under the Contract in Indian Rupees against FCA/FOB basis in case of loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

14. Spare Parts:-

The supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or available through authorized supplier / distributor.

- 14.1 Such spare parts as C-MET may select to Purchase from the Supplier, providing that this selection shall not absolve the Supplier of any warranty obligations under the Contract.
- 14.2 In the event of termination of production of the spare parts:
 - i. Advance notification to C-MET of the pending, termination, in sufficient time to permit C-MET to procure needed requirements; and

- ii. Following such termination, furnishing at no cost to C-MET, the blueprints, drawings and specifications of the spare parts, if requested.
- 14.3 Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares. Other spare parts and components shall be supplied as promptly as possible but in any case within one month of placement of order.

15. Warranty:-

- 15.1 The Supplier warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by C-MET's Specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall be as per mentioned in Technical Specification, including the service/maintenance/repair warranty, after the Goods or any portion thereof as the case may be, have been delivered, commissioned and accepted at the final destination indicated in the Contract.
- 15.3 C-MET shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the Supplier, with all reasonable speed, repair or replace the defective goods or parts thereof, free of cost at the ultimate destination. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever shall lie on C-MET for the replaced parts/goods thereafter.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period of one month, C-MET may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which C-MET may have against the Supplier under the Contract.
- 15.6 If the down time is more than eight hours, supplier shall provide temporary replacement of the defective component and remove the defect. If the downtime is more than seventy two hours then the warranty period will be extended by one month for entire contract.
- 15.7 The Bidder must indicate who will maintain equipment/instrument after warranty period (post warranty) by giving the name of Firm, address, contact person, phone no. and Fax No. etc. in the Technical Bid.

16. <u>Payment</u>:-

- 16.1 The methods and conditions of payment to be made to the Supplier under this Contract shall be specified in the STC.
- 16.2 The Supplier's request(s) for payment shall be made to C-MET in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to GTC Clause 12, and upon fulfillment of other obligations stipulated in the contract.

17. <u>Prices</u>:-

Prices payable to the Supplier as stated in the Contract shall not be changed and remains applicable during the performance of the Contract.

18. <u>Advance payment</u>:-

C-MET being an autonomous organization of Govt. of India, normally no advance payment shall be made **OR** Interest free mobilization advance payment of 90% of the contract value may be made (Preferably in not less than Two Installments against submission of Bank Guarantee, in favour of the Director, Centre for Materials for Electronics Technology, Pune, of 110% of advance payment (from First Class Bank of International Repute in case of Foreign Seller) by the private firm or against submission of Indemnity Bond by the Govt. Organization. In case of termination of the contact due to default of the seller, Interest Free Mobilization Advance would be deemed as interest bearing advance, compounded quarterly at the rate of 2% above London Interbank Offer Rate (LIBOR) rate for foreign seller. The rates are applicable on the date of receipt of advance will be considered for this purpose.

19. <u>Penalty Clause</u>:-

Subject to **GTC Clause 21**, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, C-MET shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to the percentage specified in Clause-21 of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to maximum deduction of the percentage specified therein. Once the maximum is reached, C-MET may consider termination of the Contract pursuant to **IBIB Clause 25** resulting in forfeiture of the Performance Security Deposit.

20. Force Majeure:-

- 20.1 Notwithstanding the provisions of GTC Clause 18, the Supplier shall not be liable for forfeiture of its performance security, penalty or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 20.2 For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 20.3 If a Force Majeure situation arises, the Supplier shall promptly notify C-MET in writing of such conditions and the cause thereof within 10 days from their commencement. Unless otherwise directed by C-MET in writing, the Supplier shall continue to perform its obligations under the Contract as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure.

20.4 If there is impossibility of complete or partial performance of an obligation lasts for more than 6 (Six) months, either party hereto reserves the right to terminate the contract totally or partially upon giving prior notice of 30 (Thirty) days to the other party of the intention to terminate without any liability other than reimbursement on the terms provided in the agreement for the goods received.

21. Liquidated Damages:-

The applicable rate is 0.5% of contract value per week and the maximum deduction is 10% of the contract value.

22. <u>Applicable Law:-</u>

The Contract shall be interpreted in accordance with the laws of the Union of India.

23. Applicability to Other Terms and Conditions:-

These General Terms and Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

24. Tenderer must ensure the following while submitting the Tender:-

24.1 Tenderer should state whether he is a relative of any employee of CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY (C-MET) and give the following certificate in the form for details of the Tenderer (s):

" I / We have fully understood the foregoing general terms & conditions of tender as well as the special terms and conditions and having accepted the same in toto and I / we have made my / our offer keeping in view those terms and conditions. I / we fully agree that once I / We have endorsed in whatsoever and whichever way my / our signatures herein below all conditions whatsoever way mentioned by me / us which may not be acceptable to you / your principals shall be deemed to be / withdrawn by me / us and am/ are fully aware that no grievances

whatsoever shall be entertained by you if our tender / quotation is not accepted / finalized."

- 24.2 Tenderer sending their tenders by post/courier (mail) will do so solely at their own risk and C- MET will not be responsible for any loss in transit or postal delay.
- 24.3 Discount offered if any, should be mentioned clearly in the commercial bid only.
- 24.4 The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate the system without any problem. If the manuals are on chargeable basis, the same should be specified in the offer.
- 24.5 It should be noted by the Tenderer that by entering into this contract

C-MET is not precluded from entering into similar contracts with any one else of their choice at any time during the continuance of this contract.

- 24.6 The supplier on receipt of the Purchase order the same must be acknowledge immediately.
- 24.7 C-MET shall have the right to issue addenda to tender documents to clarify amend, modify, supplement or delete any of the conditions /clauses or items stated therein. Each addendum so issued shall form part of original invitation to the Tender.
- 24.8 In case the Bid is not accepted, or otherwise C-MET has elected to withdraw or cancel the invitation to the Tender for which C-MET shall, have the right to do so, at any time, the Tenderer shall not be entitled to claim any cost/charges/expenses incidental to or incurred by the Tenderer through or in connection with the submission of the offer.
- **25.** <u>Installation & Commissioning:</u> Bidder shall be responsible for installation / commissioning & demonstration wherever applicable and for after sales service during the warranty and thereafter.
 - 25.1 The equipment is to be guaranteed for trouble free performance for a minimum period of one year after installation. The defects, if any, during the warrantee period are to be rectified free of charge by arranging free replacement wherever necessary.
 - 25.2 Pre installation information to be provided 3 months before dispatch date.
 - 25.3 C-MET, Pune shall provide Electrical power supply : 220V, 50 Hz, 1 phase (or) 400 V, 50 Hz, 3 phase <u>+</u>10%
- 26. Quantities given in the tender specifications are approximate only and one or more of the items of the stores/goods/equipment tendered for a portion of one or more of the items of such stores/goods/equipment may be accepted and notwithstanding that the tender has not been accepted in whole, supplier shall be bound to supply to C-MET such items and such portion or portions of one or more of the items as may be accepted by C-MET.
- **27.** The Director General, C-MET reserves the right to accept the tender in full or in part or to reject the lowest or any or all tenders without assigning any reason.
- **28.** No Sub-contracting will be allowed for installation or maintaining system/ equipment/instrument during or after warranty period.
- **29.** The Tenderer should note that the General Terms and Conditions are in addition to the Special Terms and Conditions of Tender, which form an integral part of the General Terms and Conditions of the Tender, and any of the General Terms and Conditions of Tender may be altered by the Special Terms and Conditions of Tender.

30. <u>Cancellation of order</u>:-

C-MET reserves the right to cancel the order without any liability in case the stores/goods/equipment's are not supplied within the stipulated period and for non-fulfillment of specifications.

31. <u>Replacement of parts</u>:-

If any equipment or part thereof be lost or rendered defective during transit, a fresh order will be placed on the supplier for such loss or defective equipment, in which case the supplier shall arrange for the supply of the equipment or part thereof, as the case may be, within three months of date.

32. Arbitration:-

Any dispute between the parties on the purchase would be settled by arbitration. The place of arbitration proceedings shall be at the place of the consignee. Applicable laws shall be laws of Union of India.

SECTION V-TECHNICAL SPECIFICATIONS

Technical Specifications for Procurement of Ion Beam Milling Equipment along with Preliminary Sample Preparation Equipment for FE-TEM Sample Preparation.

The scope also includes the cleaning of the polished TEM Sample for good quality TEM Analysis.

The bundled quote of the following items required for TEM specimen preparation as per the detailed specification given below is invited

1. Main Equipment - ION BEAM MILLING SYSTEM with the following Technical Specifications -

The ion-beam thinning equipment should be capable of preparing transmission electron microscopy specimens (3 mm diameter) of both conducting and non-conducting samples, such as Gallium Nitride, Gallium Arsenide, Silicon Carbide, Sapphire, Silicon, ceramics, multi-phase metals and composites etc. It should not induce artifacts in the specimen preparation. Also, it should result in large electron transparent regions for viewing in a TEM; both conventional and high-resolution TEM modes. The construction and operation of the equipment should be user-friendly.

S. No.	Item	Description of the item			
1.	Ion-guns	 Two ion guns, each with independently adjustable gas control utilizing mass flow controllers to permit either rapid milling or slow precise ion polishing. Ion beam energy shall be continuously adjustable from 100 eV to 6 keV or better and ion beam energy can be varied in steps of 100eV. The alignment of the ion beams should be user friendly with either a fluorescent screen or a suitable mechanism. Also, a mechanism is to be provided to measure the ion beam currents/operating voltage. Ion gun should produce narrow ion beam width at the sample (full width at half maximum of the beam diameter shall be around 600-800 µm for standard guns at 5 kV with ion current density of ~ 10mA/cm⁻². The milling angle shall be continuously variable from +10 Deg to -10 deg. or better and fully adjustable during operation and the milling angle can be varied in step of 0.5 deg. The ion guns should have very long life (Minimum of 20000 hours of operation) with no consumable requirements for continuous operation. The current should be measurable for each gun independently and measured at the gun. Special Operational Mode for preparing cross sectional samples for TEM Analysis should be offered as standard. Please provide details in compliance document. Ion Gun Energies for both the ion guns on the ion milling system should 			
2.	Stage an Specimen Holders	 be same. A specimen exchange mechanism shall be incorporated in the system to permit loading or unloading of samples without venting the work chamber to atmosphere. Specimen stage should allow rapid transfer of specimens (~3-5minutes). The Specimen stage should have provision for the rotation of the 			

The required technical specifications of the equipment are given below:

		 specimens during milling. Rotational speed shall be continuously variable from 0 – 5 rpm or better. The Stage should incorporate X, Y motion to assist the user in positioning the specified mill location at the center of the beam polishing area. The minimum stage travel should be at least 1 mm in X and Y directions with good accuracy. Details of how the X Y stage is implemented to be provided in the technical compliance document. The specimen holder should be able to hold 3 mm diameter TEM specimens by either clamping mechanism or sticking mechanism. For loading unloading of the sample in specimen holders, suitable user-friendly mechanism should be provided. Also, they can be rapidly and easily transferred in to the ion beam thinning equipment. Specimen holder for heat sensitive samples: A glue-type specimen holder should be supplied to optimize heat dissipation. The holder should have long life time and durability. They should be compatible for cooling the TEM specimens with liquid nitrogen during the ion milling. Cold stage should be offered as standard as per the following specifications: Dewar and conductor rod should share the main vacuum system. Dewar with 6–8-hour capacity. Sample temperature: - The specimen can be kept in user defined temperature in the range of -75 °C to 30 °C or better, during milling and the temperature can be varied in step of 1 °C. A mechanism to measure the relevant temperature should be done rapidly (~30-45
		 minutes) and in-built mechanism for this operation should be provided. Electronic temperature regulation: minimum range (-180°C to + 100°C
		or better.o Through transmission illumination of sample.
		• Built-in Dewar heater is essential.
3.	Specimen Viewing	 In-situ viewing: provision for in-situ viewing any time without shutting down the ion guns or raising the sample into the airlock should be there. Shutter: An automatic shutter shall be incorporated to reduce window
		• Shutter: An automatic shutter shall be incorporated to reduce window contamination when not viewing the specimen.
		 Sample illumination: Reflection and through transmission with the
		intensity set via the Touch Screen.
		• A Stereo Optical Microscope at least 40X, 80X magnification should be supplied along with the ion milling equipment as standard.
4.	Milling Termination	• Milling termination by elapsed timer or optional light operated Auto-
		Terminator.
5.	User Interface	• A ~10" color touch-screen graphical user interface (GUI) should be supplied as standard. The GUI must be located on the front panel of the
		supplied as standard. The GUI must be located on the front panel of the system for easy access and viewing. All system functions (gun settings,
		gas flow controls, stage movements, etc.) shall be controlled through this
		screen.
		 Remote access to the system must be available through a network connection.
6.	Vacuum	• The vacuum system shall be totally self-contained within the enclosure.

	System and	• A totally oil-free vacuum system, pumping with turbo pump and oil free		
	vacuum	backing pump		
	reading	• Work chamber base pressure: $\sim 1E - 6$ Torr		
		• Operating pressure: $\sim 1E - 5$ Torr.		
		• Suitable gauges to monitor the vacuum levels in main chamber and baking		
		pump should be provided.		
		• Vacuum gauge should be present in the chamber area to read the vacuum		
		in the specimen preparation area.		
		• Sample exchange through air lock should be provided.		
7.	Power	• 230 V, 50 Hz, single phase		
,,,				
8.	Cooling	• The system shall be air cooled only; no water cooling should be required.		
9.	Gas source	• Argon with the 99.9 % purity.		
		• The gas flow should be controlled using suitable MFC and the flow		
		rate can be varied in steps of 0.01 SCCM or smaller.		
10.	Mandatory	• Specimen handling/loading tools, kit/stage tools, specimen holders, O-		
	Accessories	rings etc., which are essential to run the equipment during the warranty period.		
11.	Spares/	Provide the following spares /consumables (optional).		
	consumables	i. DuoPost Glue Type (1 No)		
	(Optional)	ii. DuoPost Clamp Type (2 Nos)		
		iii. Specimen Post Copper (5 Nos)		
		iv. Moly disulfide lubricant (1 Nos)		
		v. Quad-seal #111, Cold stagex2 (1 No)		
		vi. Cold Stage Window (1 No)		
		vii. Service kit with all essential Spare parts for 2 years should be offered (1 No)		
		Please also provide the list of additional spares/consumables of the system required for 3 years normal operation		

Bundled with Preliminary TEM Sample Preparation Equipment Package consisting of -

A. VERTICAL DIAMOND WIRE SAW

Precision vertical diamond wire saw for cutting metals, semiconductor, ceramic, glass, silicon carbide, and Sapphire and composites materials.

The required technical specifications of the equipment are given below:

S. No.	Item	Description of the item	
1.	Precision vertical diamond wire saw	 Smooth, sharp-edged cut surfaces Vertical arrangement of the wire Linear feed (60 mm or more) Variable wire speed Automatic shut-down of the saw upon termination of cutting or in the event of wire breakage Equipment for operation with cutting fluids Easy servicing and largely maintenance free The specimen holder should be situated inside the wire loop such that it can serve as a reference while the specimen can be turned The excellent view of cutting location 	
2.	Power supply requirements	• 230V, 50 Hz Operation, Singh Phase	
3.	Consumables/ Spares (Optional)	 Provide the following spares /consumables. i. Double vice (Dimensions 55 x 75 x 40mm) (1 No) ii. Vice for round samples, Dia.: 12-32mm; Dim.60x45x40mm (1 No) 	

	iii. Turn Table 360° with Graduation include Ceramic Mounting
	Plates (1 No)
	iv. Sample holder (Dimen.60x40x40mm w/5ceramic plates)
	(1 No)
	v. Stereo Microscope, Zoomable (1 No)
	vi. Mounting Assembly for Microscope (1 No)
	vii. Plexiglas cover for Vertical Saw (1 No)
	viii. Replacement Spool of 120m Diamond Wire (Standard Dia.
	0.22mm, of 40μ Diamond Grit) (1 No)
	ix. Adhesive Wax 100° C; (1 No)
	x. Cleansing Concentrate Bottle 500ccm (1 No)
Pl	ease also provide the list of additional spares/consumables of the
sy	stem required for 3 years normal operation

B. ULTRASONIC DISC CUTTER

The required technical specifications of the equipment are given below:

S. No.	Item	Description of the item		
1.	Sample Size	Circular cutting tool 3 mm, 2.3 mm diameter		
		Rectangular cutting tools min. 2mm X 3mm and/or bigger		
2.	Sample monitoring during cutting	 Optical microscope (at least 10X magnification) for sample alignment should be offered as standard. 		
3.	Cutting process specs	 Variable user tunable frequency is essential for cutting process. Also, the method of changing the frequency should be easy & easily accessible to the user. Depth of cut display indicator. Spring loaded sample stage with capability of positioning the cut in the desired position accurately. Should be capable of minimal mechanical and thermal damage. 		
5.	Power supply requirements	230V, 50 Hz Operation, Single phase		
	Consumables/spares (Optional)	 Provide the following spares /consumables (optional). i. Circular Cutting Tool 3mm Ø Disc Diameter (1 No) ii. Circular Cutting Tool 2.3mm Ø Disc Diameter (1 No) iii. Rectangular Cutting Tool, 4x5mm (1 No) iv. Container of 320 cutting grit (0.5 kg x 1 No) v. Copper Washers (set of 5 x 1 No) vi. Brass tubes (set of 10 x 1 No) vii. G1 Epoxy with hardener (2 Nos) viii. Mounting wax (2 Nos) Please also provide the list of additional spares/consumables if the system required for 3 years normal operation 		

C. DISC GRINDER WITH LAPPING KIT

The required technical specifications of the equipment are given below:

S. No.	Item	Description of the item		
1.	Disc grinder	 Disc grinder manual / automated operation for 3 mm dia. specimens Disc mount with goniometer with at least 10-micron graduation on the scale 		
2.	Specimen lapping kit	• One heavy metal base with 3 ultra flat glass lapping plates and approximately 100 lapping discs for each grit size should be provided.		
3.	Consumable/ Spares (Optional)	Provide the following spares /consumablesi.Specimen Mount (Pyrex) (set of 4 x 2 Nos)ii.Specimen Mount (SS) (set of 4 x 2 Nos)		

iii.	Lapping Discs 5um, 15um & 40 µm (100 nos
	each)
Please also pro	ovide the list of additional spares/consumables of the
system require	ed for 3 years normal operation

D. DIMPLE GRINDER WITH OPTICAL MICROSCOPE

The required technical specifications of the equipment are given below:

S. No.	Item	Description of the item
1.	Sample Size	• Suitable for 3 mm dia. Sample
2.	Dimpling process specs	 Dimpling depth down to 10 microns or less Automatic termination of the process Digital Micrometer (least count of 1µm) and Analog Micrometer (least count of 1µm) to indicate depth in Dimple Grinder is essential. Should be able to dimple and polish specimen with uniform thickness. Should be capable of terminating the dimpling process at predefined thickness.
3.	Sample monitoring during grinding	 Optical microscope (at least 10X magnification) for alignment of the sample essential as should be offered as a part of main equipment.
4.	Consumables/spare parts (Optional)	 Should provide the following spares /consumables Phosphor bronze (PB) wheel, spherical, 2mm wide (Set of 4 x 1 No) Stainless steel (SS) wheel, spherical, 2mm wide (Set of 4 x 1 No) Polishing Wheel (Standard) (Set of 4 x 1 No) Felt Rings for 15mm Ø (Set of 15 x 5 No) Felt Rings for 15mm Ø (Set of 15 x 5 No) Diamond Polishing Compound (2-4um) (2 Nos) CBN 0-2um Polishing Compound (1 No) CBN 4-6um Polishing Compound (1 No) Alumina Suspension 0.05 um particle size. (1 No) Please also provide the list of additional spares/consumables required for 3 years normal operation of the system.
5.	Power supply requirements	230V, 50 Hz Operation, single phase

E. COMPLETE KIT FOR PREPARING CROSS-SECTIONAL TEM SAMPLES WITH SPECIMEN MOUNTING HOT PLATE

The required technical specifications of the equipment are given below:

S. No.	Item	Description
1.	Cross-sectional TEM Kit	• The kit should include at least of following parts:
		✓ Goniometer mount
		 Adjustment tool
		✓ Teflon mold
		✓ Cutting Tool
		 Epoxy Mixing Cup
		✓ Rectangular Cutter
		✓ Metal Tubes
		✓ Centering disc
		✓ Wax rods
		 Clamping vice with Teflon jaw
		✓ Epoxy resin
2.	Specimen Mounting Hot	• Hot plate (temperature range of 300 °C or better) With
	plate	thermostatic control of temperature.

		•	Suitable sample mount holders should be Supplied locally along with the set.
3.	Consumables/ Spares (Optional)	•	Offer additional spares for at least 3 years operation if any.

F. PLASMA CLEANER FOR CLEANING ALREADY THINNED TEM SAMPLES

The required technical specifications for the advanced plasma cleaner are given below:

S. No.	Item	Description
1.	Plasma system	 The system shall have a low energy glow discharge ion source creating hydrogen and oxygen radicals The system shall have high frequency (13.56 MHz) Oscillating power supply can initiate and sustain a low-energy, inductively coupled plasma with the suitable matching network between the high frequency field to plasma chamber and compatibility with the specimen holders for TEM. Power 75W and power can be varied in step of 1W. The system shall have auto-tuning to couple the source to the chamber and generator.
2.	Sample Holder adaptor	 Two ports shall be available to accept all side entry TEM holders A 3rd large port shall be available for cleaning of irregular samples, SEM holders and other parts that may affect the performance in an electron column instrument. System should have capability to clean ultra thin carbon coated grids with relevant documents supporting the claim.
3.	Vacuum System	 A totally oil-free vacuum system, pumping with turbo pump and oil free backing pump should be provided. Work chamber base pressure: ~1E - 6 Torr. Suitable gauges to monitor the vacuum levels in main chamber and baking pump should be provided.
4.	Main Chamber	 Multiple entry and viewing ports should be provided. The chamber shall have two airlock ports to support all side entry TEM goniometers. A large entry port shall also be available for SEM holders, samples, and other irregular shaped pieces.
5.	Gas Control System	 The system shall support a two or three gases like, Argon, Hydrogen and Oxygen. The gas flow should be controlled using suitable MFCs so that plasma clean recipes can be set us using combination of all three gases Should be capable of cleaning with minimal plasma damage. Should be capable to clean holey carbon grids without damaging them. Data supporting this should be included along with the offer.
6.	User Interface	 The User Interface shall be a seven inch or larger touch screen. The system shall have two USB ports. Standard Recipes shall be available using mixtures of the three gases. The system should facilitate with touch screen.
7.	Power Supply	230V, 50Hz, Single Phase

Essential Criteria: -

1. The vendor should be capable of preparing samples on site using these equipments and demonstrate, train the users in preparing the samples for TEM analysis.

- 2. One company/supplier should be responsible to supply all the listed equipment as a package/bundle.
- 3. The supplier/company should have the experience of setting up working at least 10 such TEM sample preparation set up or labs in India. User names and references should be provided along with the bid. Vendor /Supplier offering all these equipment as a package should have an experience of setting up such TEM Sample Preparation labs for at least 10 years.
- 4. Warranty:
 - 12 months standard warranty from the date of acceptance of the equipment. Please quote extended warranty for 1 & 2 years as optional item.
 - Faulty components should be repaired or replaced at free of cost.
 - Software upgrades within warranty period to be given free of cost.
 - Labour charges, shipment, packing forwarding charges etc. will not be paid during warranty period.
- 5. Documentation:
 - Operations and maintenance manual (hard & soft copies).
 - Site preparation guide with utilities requirement.
 - Authorization Certificate from OEM, if equipment is sold by authorized dealer.
 - Bill of Materials to prepare supply order.
 - Document certifying that the system offered is brand new and not refurbished/ remanufactured.
- 6. Delivery: 24-28 week
- 7. Installation, Commissioning and Training: The equipment should be installed in the laboratory without additional cost. Start-up assistance and training should be included for two scientists in the laboratory for a week free of cost.
- 8. Documentation/Manuals: Operating and maintenance manual, wiring diagrams, spare part list as applicable should be provided.
- 9. Pre-installation requirement: Bidder should state the space required and condition of floor and any other requirements for installation of the equipment.
- 10. The supplier should be able to provide after sales support on site (C-MET) for at least five years by the factory trained engineers. Also, provide the address in India where support will be available after five years. The supplier should also be able to provide uninterrupted supply of spares and accessories during the above-mentioned period.
- 11. After warranty, indicate the AMC charges for the next 3 years.

* * * * *

Enclosure to Tender Reference No. : PN/ADM/PUR/053/2022

Technical Specifications for Procurement of Cryogenic Station.

1. Cryocooler and compressor:

- a. Should be cryogen free cryocooler with two stages of cooling. Preferable to have 1st stage 40W at 45K and 2nd stage around 1W at 4.2K.
- b. Pulse tube or GM tube based cryogen free cryocooler. Vendor must provide model number of cryocoolers while submitting compliance sheet.
- c. The basic tool kit for installation of the pulse tube system should be provided free of cost.
- d. High pressure Gas lines between compressor and cold head should be least 15-20 meters
- e. Appropriate water-cooled or air cooled helium compressor with full charge of high purity Helium gas. If it is water cooled then chiller should be included. All helium lines shall contain electrical isolators.
- f. Appropriate Gas handling system if required for the equipment.

2. <u>Variable Temperature Insert:</u>

a) 1.5K Basic Probe (DC-MHz frequency operation)

- (1) Temperature range 1.5K to 300K
- (2) Hold time : Continuous
- (3) Wiring : 10 twisted non-magnetic Constantan/manganin DC Pair (i.e. 20 wires total)+ 8 coaxial flexible cable (DC-MHz) assembly+ 2 optical fibres (1 single mode optical fibre operating at 1550 nm and 1 multimode optical fibre operating at 400-2000 nm). DC twisted pair and flexible co-ax wiring should be thermally anchored at different stage of fridge for the thermalization.
- (4) Wiring at RT stage:
 - a. DC twisted pair cables at RT stage should have Fischer or equivalent type of connector.
 - b. 8 flexible coaxial cables and 2 optical fibres can be enclosed in same feed through or can have independent feed though as per vendors design should be acceptable. Coax should be terminated at RT with SMA/BNC or equivalent connectors on feed though for operation up to MHz frequency range.
 - c. Optical fibres at RT should terminate with FC/APC or FC/PC type termination. It is preferable to have FC/APC termination to avoid back scattering of light.
- (5) Wiring at cold Stage:
 - a. All DC and flexible coaxial electrical wires can be terminated with LCC chip carrier.
 - b. It is preferable to have termination using FC/APC or FC/PC connectors for optical fibres however if vendors doesn't have expertise they can left it loose.
- (6) Temperature sensors, controller and heater cables as needed for the full functioning of probe and controllers for monitoring. It is acceptable to have single/multiple temperature controller for 1.5K basic probe and 300 mK probe.
- (7) Usable sample space: 40 mm or larger
- (8) **Sample environment**: Vacuum (better than 10^{-5} mbar)

b) He-3 probe (DC-GHz frequency operation)

- (1) Temperature range ~300mK to 300K
- (2) Hold time: 40 hours @300mK without thermal load guaranteed. With thermal load should be around 24-30 hrs. Vendor must test hold times and send report to C-MET Pune before delivery of the equipment so that if there are any changes needed from bidder side to reduce thermal load then can be suggested to match the hold times.
- (3) Cooling power: 300 mK for 40 hrs with 0uW, 310mK for 25 hr with 10µW, 350 mK for 14 hr with 30 uW applied
- (4) Temperature stability : +/- 3mK at 1.2K, +/-0.1K above 1.2K
- (5) **Charge of He-**3 to be at least : 2.5I active or higher to meet the hold time requirements and cooling power requirements as per sr. no. 2b(2-3)
- (6) Wiring :

- a. **DC:** 10 twisted non-magnetic Constantan/manganin DC pair (20 wires total). DC twisted pair wiring should be thermally anchored at different stage of fridge for the thermalization.
- b. **RF:**4UT47 semi-rigid coax (DC-18 GHz) or any other equivalent cable assembly meeting frequency requirement with comparable attenuation losses at 10GHz frequency operation with having lower thermal load for operation at 300-400mK range
- c. **Optical fibre:** 2 optical fibres (1 single mode optical fibre operating at 1550 nm and 1 multimode optical fibre operating at 400-2000 nm)

(7) Wiring at RT stage:

- a. DC twisted pair cables at RT stage should have Fischer or equivalent type of connector.
- b. 4 RF cables should be terminated at RT with SMA type connectors on feed though for operation up to18 GHz frequency range.
- c. Optical fibres at RT should terminated at RT with FC/APC or FC/PC type termination. It is preferable to have FC/APC termination to avoid back scattering

of light.

(8) Wiring at cold Stage:

- a. All DC cables can be left loose at the cold stage
- b. All semi-rigid electrical wires should be terminated with SMA/Mini-SMP or SMP type connectors. There should be breakout for the semi-rigids so that as per experimental requirement maximum or minimum number of RF cables can used to reduce the thermal load on the system.
- c. It is preferable to have termination using FC/APC or FC/PC connectors for optical fibres however if vendors doesn't have expertise they can left it loose.
- (9) Temperature sensors, controller and heater cables as needed for the full functioning of probe and controllers for monitoring. It is acceptable to have single/multiple temperature controller for 1.5K basic probe and 300 mK probe
- (10) Usable sample space: 40 mm or larger
- (11) Sample environment: Vacuum (better than 10⁻⁵ mbar)

c) <u>Thermometry, sample stage, pumps and safety</u>

- 1. **Needle valve**: Manual or motorized for operation.
- 2. **He-3/He-4 Gas:** Mandatory to have close loop operation for He-3 Gas. For He-4 gas close loop or open loop operation is acceptable.
- 3. **Thermometry:** Appropriate heaters and calibrated sensors should be provided at first, second stages of the VTI. Calibrated cernox/compatible sensor should be installed on the magnet plate. The calibrated ruthenium and cernox/compatible sensors should be installed in He3 probe and 1.5 K probes, respectively. The data sheet should be provided with the calibration curve of each temperature sensor and the type of heater.
- 4. Temperature controller: Temperature controllers for monitoring temperatures from 300K-300mK at different stages including sorption pumps, 1K pot, magnet and sample stage. Temperature controller should have heater card. Temperature Stability: ±5 mK @ 10 K ±10 mK @100 K ±50 mK @ 300 K. Controller must have PID control for performing temperature dependent measurements.
- 5. Electrical isolation: The Cryostat should be electrically isolated from Frame, Controller unit, gas handling rack and compressor.
- 6. Insulation resistance: Insulation (>1GOhm) between twisted pair, between wire and chassis and between inner and outer coax
- 7. Vacuum Pumps: Appropriate dry vacuum pumps and gauges for the close cycle operation of 1.5K and 300 mK VTI inserts should be provided along with the cryostat.
- 8. Safety: Appropriate safety pressure valves present
- 9. Should provide sealing materials like indium if required or pastes for smooth functioning of cryostat at least of one year.

3. Superconducting magnet and power supply

- a) A Superconducting solenoid/vector magnet with minimum magnetic field of ±7 Tesla or a 7T/2T for vector magnet or higher is acceptable.
- b) Central field homogeneity: 0.1% over Ø10 mm spherical volume for non-VSM configurations.
- c) A 20-bit high resolution, bipolar magnet power supply with 4 quadrant operation to be included. Magnet stability in constant current mode should less than 5ppm/K.
- d) Power supply should be equipped with automatic quench detection with fail-safe energy absorption that ensures full protection in the event of a magnet quench or power failure.
- e) Magnet power supply should be able to ramp magnet manually and also through software
- f) Appropriate system software suite to control all aspects of the system operation and measurements including magnet control with flexibility to add modules by the user for customized measurements. The vendor should provide the Labview compatible drivers for all sub-systems including magnet control and temperature control power supplies. If the vendor has Labview interface for integrated control of magnet and temperature, it should be provided along with the system
- g) Magnet power supply should have the provision to produce ultra-low fields, typically in the range of 20-30 mT with a resolution of 1µT (10 mGauss)

4. Installation, delivery and other:

- a) The vendor should specify clearly the power requirements including cables and electrical socket requirements, back-up power capacity required, water line for chiller and all other relevant information for smooth installation at site.
- b) Vendor shall provide total height of system (VTI + Cryogfree system along with magnet).
- c) Pumping station should be quoted as an optional item separately.
- d) UPS with 30 min back up should quoted separately as an optional item
- e) Should provide GE Varnish for heat sinking 100 mL pot
- f) Price should be inclusive of installation, delivery, freight, insurance and any other required so that delivery and installation can be made to C-MET Pune successfully.
- g) Delivery period: 8-9 months from date of receipt of PO/release of LC.

5. Terms and conditions:

- a. Vendor should provide list of customers within India where they have supplied similar kind of equipment in past 5 years.
- b. Vendor must have at least 10 installations within India in last 10 years.
- c. Vendor will be subjected to rejection upon receiving negative feedback from Indian customers.
- d. One set of operating and service manual should be provided along with circuit drawings and other relevant drawings should be provided for fault analysis along with instrument
- e. Warranty: 01 year from date of Installation.
- f. Compliance of every technical specification's point should be provided along with bid document

6. Acceptance Criteria at the time of installation and FAT

- 1. Demonstration of working of 1.5K probe cool down as per specifications
- 2. Demonstration of working of He-3 probe cool down as per specifications
- 3. Demonstration of 7T magnetic field sweep, operation of persistent mode.
- 4. Demonstration of hold times of He-3 probe as per the specifications.
- 5. Demonstration of 1.5K probe with continuous operation for at least 48 hrs.
- 6. FAT (Factory Acceptance) Test/Certificate.

* * * * * *

SECTION VI- BID FROM AND PRICE SCHEDULE

(In the company letter head)

FOR INDIGENOUS ONLY

BID FORM AND PRICE SCHEDULE

Tender Reference No:

Enq. No.:

Name of the Stores/Goods : /Equipment

Sl. No.	Description of the Item	Qty.	Unit Price (Rs.)	Amount (Rs.)
	Total Rs.			
	G.S.T./I.G.S.T. (%)			
	Packing & Forwarding Charges, if any			
	to be quoted separately.			
	Freight Charges, if any to be quoted			
	separately.			
	Transport Charges, if any to be quoted			
	separately.			
	Insurance -OEM to FCA/FOB Basis			
	Installation & Commissioning Charges,			
	if any to be quoted separately.			
	Training (Quote separately)			
	Optional Items (Quote separately)			
	Any other (Please specify)			
	GRAND TOTAL			

FOR IMPORT ONLY

(In the Company Letter Head)

BID FORM AND PRICES SCHEDULE

Tender Reference No: Name of the Stores/ Goods/ Equipment:

SI No.	Description of Items	Part No. If any	Qty.	Unit Price ()	Total Price ()
	Total Ex-Works				
	Add: Packing & Forwarding Charges				
	on FCA /FOB Basis				
	Net Total F.C.A.				

- 1. Payment Terms: As per Annexure-I
- 2. Bid Validity: As per Annexure-I
- 3. Delivery Schedule: As per Annexure-I
- 4. Transit Insurance: Shall be arranged by C-MET for **IMPORT** on FCA/FOB Basis.
- 5. Warranty Period : As per Annexure-I
- 6. Training: As per Annexure-I
- 7. Optional Items: As per Technical/Financial Bid.
- 8. Any other relevant information:

SECTION VII : FORM FOR DETAILS ABOUT THE TENDERER

FORM FOR DETAILS ABOUT THE TENDERER

(To be submitted with the Tender)

1.	Tender Reference No.	:
2.	Name of the Stores/Goods/Equipment	:
3.	Quantity (Unit)	:
4.	Name of the Indian Manufacturer OR Indian Agent of Foreign Equipment Manufacturer	:
5.	Registered Office Address	:
6.	Address for Correspondence	:
7.	Please state whether party is Company/Firm/Agency: Authorized Stuckist/Dealer/Indian Agent (In case of an Indian Manufacturer OR Foreign Equipment Manufacturer, please attach copies of agency agreement and GeM Registration)	
8.	Total value of Annual Turn-Over/ Sales for the las	st 3 Years :
9.	G.S.T No. and validity up to	:
10.	Income Tax (PAN) No. G.I.R No./Circle / Ward	:
11.	Name of the Bankers	:
12.	Address of the Bankers	:
13.	Past Performance of the firm/ Company Please enclose list of Parties (Scientific and Technical Institutions) stating their Names and addresses with telephone no. a nd the names of same or similar items supplied to them during Last three years. Please enclose the reference letter from clients.	: ers

S. No	Type of Stores/Goods/ Equipment	Name of the client	Value of the Purchase Order	Date of award of Purchase Order	Date of completion

:

14. Financial Soundness (Please enclose copies of certified financial statements for the last three years.)

15. Technical Competence & Work Experience in India :

16.	Organizational Capability No. of qualified engineers Name of the key personnel & qualifications (Sales / Technical)	:	
17.	Whether any relative of Tenderer is working in C-MET. If so, give his name, designation and place of posting	÷	
18.	Whether the extra terms quoted and the prices are open to negotiations.	:	Yes / No

"I/We have fully understood the foregoing general terms & conditions of Tender as well as the Special terms & conditions of Tender given in the Tender Document and having accepted the same in toto and I /We have made my / our offer keeping in view those terms and conditions. I/We fully agree that once I / We have endorsed in whatsoever and whichever way my/our signatures herein below all conditions whatsoever way mentioned by me / us which may not be acceptable to you / your principals shall be deemed to be withdrawn by me / us and am / are fully aware that no grievances whatsoever shall be entertained by you if our tender / quotation is not accepted / finalized"

Place Date Office Seal/Stamp Name /Designation and Signature of the Authorized Signatory

SECTION VIII: GUARANTEE BOND FOR PERFORMANCE SECURITY DEPOSIT

GUARANTEE BOND FOR PERFORMANCE SECURITY DEPOSIT

(ON STAMP PAPER WORTH Rs.100/-*)

Date :

Tender Reference No.: Qty (Unit): Name of Stores/Goods/Equipment: To, In-Charge Administration C-MET, Panchawati, Off. Dr. Homi Bhabha Road, Pashan, Pune- 411 008 INDIA Gentlemen:

Having examined the Bidding Documents including Addenda Nos. ______ (*insert numbers, if any*), the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply ______ and ______ (*brief description*

of Goods and Services) in conformity with the said bidding documents for the same for the price quoted in the Commercial Bid or such other sums as may be ascertained in accordance with the Schedule of Prices attached with the Commercial Bid and made part of this bid.

We undertake, if our bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Technical Specifications of the Tender Document.

If our bid is accepted, we will submit the performance security deposit as directed in IBIB Clause 26 of the Tender Document for the due performance of the Contract, in the form prescribed by C-MET.

We agree to abide by this bid for a period of 90 (ninety only) days after the date fixed for bid opening under IBIB Clause 18 of the Tender Document and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of award shall constitute a binding Contract between us.Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Amount :	Rupees:	
Name :_		
Address :_		
Purpose of (Commission or gratuity :	
(if none, sta	tate "none")	
We understa	tand that you are not bound to accept the lowest or any bid you may n	eceive.
Dated this _	day of 20	
	Signature/Seal of Company (in the capac	city of)
Duly autho	orized to sign Bid for and on behalf of	

Note (*) – In case of a Foreign Supplier with no Indian agent, the Guarantee Bond can be given on the letterhead of the Supplier after notarizing it.

SECTION IX: MANUFACTURERS' AUTHORIZATION FORM

MANUFACTURERS' AUTHORIZATION FORM

No. _____ dated _____

То	:							
	In-C	Charge A	dministration	1,				
	C-M							
			Dr. Homi Bh	abha Road,				
	Pash PUN	an, IE- 411	008					
	101		000					
Tende	er Refe	erence N	0. :					
Qty (I	Unit):							
Name	of Sto	ores/Goo	ods/Equipmer	nt :				
Dear S	Sir,							
We					who are	establishe	d and reput	ed
manut	facture	ers						0
having	g			factorio	es			a
factor		do	hereby	authorize	M/s.		(address	6
jucior	<i>y</i>)	uo	nereby	autionze	141/ 5.	(Name	and ad	ldres

ofAgent) to submit a bid, and sign the contract with you against the IBIB of the TenderDocument.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Terms and Conditions and Clause 2.21.3 of the Special Terms and Conditions of the Tender Document for the goods and services offered by the above firm against this tender.

Yours faithfully,

(Name)

(Name of manufacturers / Seal of Company)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturers. It should be included by the Bidder in its bid.

SECTION XI : INTEGRITY PACT. FORMAT FOR DECLARATION BY THE BIDDER FOR CODE OF INTEGRITY AND CONFLICT OF INTEREST

Format for declaration by the Bidder for Code of Integrity & conflict of interest

(On the Letter Head of the Bidder)

No:	Date
To,	

(Name & address of the Purchaser)

Sir,

With reference to your Tender No._____ dated _____ I/We hereby declare that we shall abide by the Code of Integrity for Public Procurement as mentioned under Para 1.3.0 of ITB of your Tender document and have no conflict of interest.

It is certified that we are not associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids / Tender.

The details of any previous transgressions of the code of integrity with any entity in any country during the last three years or of being debarred by any other Procuring Entity are as under:

a

b c

We undertake that we shall be liable for any punitive action in case of transgression/ contravention of this code.

Thanking you,

Yours sincerely,

Signature

(Name of the Authorized Signatory) Company Seal

FORMAT FOR CHECKLIST FOR COMMERCIAL TERMS

ANNEXURE-I

Form for Checklist to be filled by Supplier / Vendor Supplier / Vendor to respond to all queries and strike out which is not applicable

Sr. No	Terms and conditions	C-MET, Pune	Vendor to Specify
1	Delivery terms	Free of Cost at C-MET, Pune	
2	Packing & Forwarding Charges	Charges to be mentioned separately	
3	Freight Charges - FCA / FOB	Charges to be mentioned separately	
4	Transportation Charges	Charges to be mentioned separately	
5	Transit Insurance, if applicable	Charges to be mentioned separately	
6	GST (%)	If any to be specify	
7	Customs Duty, If applicable	Centre for Materials for Electronics Technology (C-MET) has been granted the benefit of exemption from the payment of the Customs Duty by the Department of Scientific and Industrial Research (DSIR), Govt. of India, vide their Notifications No.51/96- Customs dated 23.07.1996, No. 24/2007- Customs dated 01.03.2007, No. 43/2017 – customs dated 30.06.17, No. 45/2017 Central Tax (Rate) & 47/2017 - Integrated Tax (Rate) dated 14.11.2017, No. 9/2018 – Central Tax (Rate) No. 09/2018 – Union Territory Tax (Rate) & No. 10/2018- Integrated Tax (Rate) as applicable and all notification, as amended from time to time.	
8	Erection, Installation & Commission, If Applicable	Charges if any to be specify separately.	
9	Delivery Schedule	Required within minimum 3 months from the date of supply	
10	Training, if applicable	Charges if any to be Specify	
11	Guarantee / Warranty	One year from date of installation & commissioning and acceptance of the material	
12	AMC of Warranty Period (Comprehensive /Non -Comprehensive)	Provided / not provided if yes, provide AMC cost in % of basic cost	
13	Earnest Money Deposit (EMD) /Bid Security	Earnest Money Deposit (EMD)/Bid Security either in Indian Rupees OR in US \$ should be deposited by the Tenderer in the form of Insurance Surety Bonds, Account Payee Demand Draft, Bankers Cheque or Bank Guarantee(including e-Bank Guarantee), Fixed Deposit Receipt, from a Nationalized / Commercial Bank or Online Payment in an acceptable form safeguarding the purchaser's interest in all respects.	

14	Payment terms A) Indigenous	100 % payment within 30 days after satisfactory installation and commissioning and acceptance of material and submission of 3 % Performance Security Deposit in r/o Indigenous item.
	B) Import	100% Payment shall be made through Irrevocable Foreign Letter of Credit (F.L.C.) in favour of the Foreign Supplier through C- MET's banker.
15	Performance Security	3 % of the value of the contract in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Bank Guarantee (including e-Bank Guarantee) from a Nationalized / Commercial Bank or Online Payment in an acceptable form safeguarding the purchaser's interest in all respects. (As per Office Memorandum No. F. 1/4/2022-PPD dated 05.08.2022 issued by Govt. of India, Ministry of Finance, Department of Expenditure, Procurement Policy Division, New Delhi) Performance Security should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations.
16	GST registration No.	To be Specify, if any
17	Income Tax, Pan No.	Please indicate
18	Bifurcation of Imported & Indigenous item / component in terms of % of total price	Please specify - Imported%, indigenous%
19	Name of the Original Equipment manufacturer (OEM)	Please specify
20	Name of the Company if Indian Agent / Representative	Please specify
21	Authorization Letter / Agency	Photo copy to be provided
22	Nature of services to be provided by Indian agent / Representative	Please specify sales, after sales services etc.
23	(%) of commission payable to the Indian agent / Representative by the OEM	Please specify
24	Name & Address of the firm for placement of Order CDEC / EDEC if applicable will be issued on the same address	Please specify
25	Currency for Payment	Please specify
26	Validity of Tender	The tender should be valid for a period of 240 days from the last date of receipt of the Tender
27	Samples in case of expendable item / consumable item	Free of cost
28	Name & address of the company where same type of material / equipment supplied	List to be provided
29	Profit and loss A/c statement	To be submitted for last 3 years

30	Signing of Integrity pact by successful vendor as per CVC Ref. No - 007/ VGL/033 dated - 04/03/2007 vide order No 41/12/07 dated - 04/12/2007	Integrity pact to be signed by the vendor as per format Section - X	
31	Signature &Name of the Authorized Signatory with stamp of vendor	To be obtained	