



**Tender for**  
**“Supply, Installation,**  
**Commissioning and**  
**Testing of 3D X-Ray**  
**Microscope”**

**(Revised technical specifications after**  
**Pre-bid conference)**

**By**

**Central Manufacturing Technology Institute**  
**Tumkur Road, Bangalore-560022**

**सेन्दल मैन्युफेक्चरिंग टेक्नोलॉजि इंस्टिट्यूट** 

**CENTRAL MANUFACTURING**  
**TECHNOLOGY INSTITUTE**

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**CMTI - CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE**

Tumkur Road, Bengaluru - 560022, Karnataka, INDIA

**INVITATION FOR BIDS**

Tender No. CMTI/PUR/08/2023-24/BS/SVT

Date: 01.12.2023

1. CMTI - Central Manufacturing Technology Institute, Tumkur Road, Bengaluru - 560022, Karnataka, India, Invites sealed Bids from Manufacturers and their Distributors / Indian Agents, if any, for purchase of items listed below.

Sl. No.	Tender No.	Description of items	Qty	Two Bid	Bid Security (EMD) (Rs.)
1	CMTI/PUR/08/2023-24/BS/SVT	Supply, Installation, Commissioning and Testing of 3D X-Ray Microscope	One No.	Two Bid System [Techno - Commercial	INR 15,00,000.00

2. Interested Bidders may obtain further information from the office of the Group Head, Purchase & Stores, CMTI - Central Manufacturing Technology Institute, Tumkur Road, Bengaluru - 560022, Karnataka, India, mail: [purchase@cmti.res.in](mailto:purchase@cmti.res.in)
3. The Bidding Documents can be downloaded at [www.tenderwizard.com/CMTI/https://cmti.res.in/all-tender/](http://www.tenderwizard.com/CMTI/https://cmti.res.in/all-tender/).
4. The Director, CMTI- Bengaluru, reserves the right to accept any or all tenders either in part or in full or to split the order without assigning any reasons therefore.
5. Please note that, As per GoI notification, EMD exemption will be conceded for (a) Micro and small Enterprises if registered with any government bodies specified by Ministry of Micro, Small & Medium Enterprises (M/o MSME) with valid certificate duly issued by GOI are exempted for submitting the tender fee and earnest money deposit (EMD). **It will be applicable for those bidders who shall produce their own goods or provide their own services, and not applicable for trading purpose.** No entrepreneur or memorandum of application form is acceptable. Kindly provide the valid Udyam MSME Certificate in order to avail EMD Exception otherwise you have to pay the EMD Money.

**SUPPLY, INSTALLATION, COMMISSIONING AND TESTING OF 3D X-RAY MICROSCOPE**

BID REFERENCE	CMTI/PUR/08/2023-24/BS/SVT
PRE-BID CONFERENCE WAS HELD ON	<b>02-11-2023 @ 11.00 hrs</b>
DEADLINE FOR RECEIPT OF BIDS	<b>15.12.2023 – 14.00 hrs</b>
DATE AND TIME OF OPENING OF BIDS (TECHNICAL BID ONLY)	<b>15.12.2023 – 14.30 hrs</b>
DATE AND TIME OF OPENING OF PRICE BIDS	Will be intimated to Technically Qualified Bidders only
VENUE FOR BID OPENING	E-Tender online opening
ADDRESS FOR COMMUNICATION	Group Head, (Purchase & Stores) Central Manufacturing Technology Institute, Tumkur Road, Bengaluru-560022, Karnataka, India Email ID: purchase@cmti.res.in

**N.B.:**

1. All the pages of the Bidding Document should be signed, stamped and submitted with the offer.
2. This Bidding Document is non-transferable.
3. Bidding Document can be downloaded free of cost from our website <https://cmti.res.in/all-tender/>

**CHAPTER - 1**

**INSTRUCTIONS TO BIDDER**

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## **A-Introduction**

### **1.1 Eligible Bidders**

- 1.1.1 (a) Vendor shall be 100% subsidiary or Indian agent / distributor / representative of the parent manufacturing company (OEM) in India. (b) vendor should have service center with trained service engineers in India preferably in Bangalore (c) vendor should have supplied and installed at least 1 similar equipment in India or abroad. and (d) who fulfill the eligibility criteria mentioned in the Chapter-4 is eligible to participate in this tender.
- 1.1.2 Bidders should not be 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 For Bids.

### **1.2 Cost of Bidding**

- 1.2.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser, will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

### **1.3 Fraud and corruption**

- 1.3.1 The Purchaser requires that the Bidders, Suppliers and Contractors observe the highest standard of Ethics during the procurement process and execution of such contracts. In pursuit of this policy, the following are defined:

**“Corrupt practice”** means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;

**“Fraudulent practice”** means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;

**“Collusive practice”** means a scheme or arrangement between two or more bidders, with or without the knowledge of the Purchaser, designed to establish bid prices at artificial, non-competitive levels; and

**“Coercive practice”** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

- 1.3.2 The Purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

## **B - The Bidding Documents**

### **1.4 Cost of Bidding Documents**

1.4.1 The Bidding Documents can be downloaded from Purchaser's website as indicate in the Invitation for Bids [IFB] free of cost.

### **1.5 Content of Bidding Documents**

1.5.1 The Goods required, bidding procedures and contract terms are prescribed in the Bidding Documents which should be read in conjunction. The Bidding Documents, apart from the Invitation For Bids have been divided into 8 chapters as under:

Chapter 1:	Instructions to Bidder (ITB)
Chapter 2:	General Conditions of Contract (GCC) and Special Conditions of Contract (SCC)
Chapter 3:	Schedule of Requirements
Chapter 4:	Specifications and Allied Technical Details PART A: Technical Specifications PART B: Price Bid Format PART C: Acceptance Criteria PART D: Factory Acceptance Test (FAT) Plan at factory prior to dispatch PART E: Site Acceptance Test (SAT) Plan at CMTI, Bangalore after installation
Chapter 5	Price Schedule Forms
Chapter 6	Contract Form
Chapter 7:	Other Standard Forms comprising: (a) Integrity Pact; (b) Bidder Information Form; (c) Bid Security Form; (d) Performance Statement Form; (e) Deviation Statement Form; (f) Service Support details Form; (g) Bid Form; (h) Performance Security Form; (i) Acceptance Certificate Form; (j) Eligibility Certificate Form; (k) Non-Black-Listed Self Certification Form

1.5.2 The Bidder is expected to examine all instructions, 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 risk and may result in rejection of its bid.

### **1.6 Clarification of Bidding Documents**

1.6.1 A prospective Bidder requiring any clarification of the Bidding Documents shall contact the Purchaser in writing at the Purchaser's address specified in the Special Conditions of Contract (SCC). The Purchaser will respond in writing to request for clarification, provided that such request is received not later than ten (10) days prior to the deadline for submission of Bids. The Purchaser shall forward copies of its response to all those who have acquired the Bidding Documents directly from it, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under clause relating to amendment of Bidding Documents and Clause relating to Deadline for

Submission of Bids. The clarifications and amendments issued would also be hosted on the website of the Purchaser for the benefit of the other prospective Bidders.

### **1.7 Amendment of Bidding Documents**

- 1.7.1 At any time prior to the deadline for submission of Bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by an amendment.
- 1.7.2 All prospective Bidders who have received the Bidding Documents will be notified of the amendment in writing or by cable or by fax, or by e mail and the said amendment will be binding on them. The same would also be hosted on the website of the Purchaser and all prospective Bidders are expected to surf the website before submitting their Bids to take cognizance of the amendments.
- 1.7.3 In order to allow prospective Bidders reasonable time to take the amendment into account, while preparing their Bids, the Purchaser, at its discretion, may extend the deadline for the submission of Bids and host the changes on the website of the Purchaser.

## **C - Preparation of Bids**

### **1.8 Language of Bid**

- 1.8.1 The Bidder shall bear all costs of translation, if any, to the English language and all risks of the accuracy of such translation, for documents provided by the Bidder.

### **1.9 Documents Comprising the Bid**

- 1.9.1 The Offer is to be submitted in two parts. One part will be the Un-Priced Techno-Commercial Bid and the other shall be the Priced Bid in the manner described at ITB Clause 1.18.
- 1.9.2 The Un-Priced Techno-Commercial Bid prepared by the Bidder shall include, among other Documents [ like Technical Literature, brochures, drawings, all relevant commercial terms, data sheets etc. ] the following:
- (a) Bidder Information Form;
  - (b) Bid Security as specified in the Invitation For Bids;
  - (c) Service support details form;
  - (d) Deviation Statement Form;
  - (e) Performance Statement Form;
  - (f) Documentary evidence establishing that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;
  - (g) Documents establishing Good eligibility and conformity to Bidding Documents;
  - (h) Current solvency certificate
  - (i) Eligibility Certificate
  - (j) Non-Blacklisted self-certificate
- 1.9.3 The Price Bid prepared by the Bidder shall include, among other Documents the following:
- (a) Bid form.
  - (b) Applicable Price Schedule Form (this forms shall be mandatorily be uploaded in the price bid)

### **1.10 Bid Form and Price Schedule Form**

- 1.10.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule Form furnished in the Bidding Documents. These forms must be completed without any alterations to its format and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

### **1.11 Bid Prices**



1.11.1 The Bidder shall indicate on the appropriate Price Schedule Form, the unit prices and total bid prices of the Goods it proposes to supply under the contract.

1.11.2 Prices indicated on the Price Schedule Form shall be entered separately in the following manner:

**(a) For Goods manufactured within India**

- (i) The price of the Goods quoted ex - works including taxes already paid.
- (ii) GST and other taxes & duties which will be payable on the Goods if the contract is awarded.
- (iii) The charges for inland transportation, insurance and other local Services required for delivering the Goods at the desired destination.
- (iv) The installation, commissioning and training charges including any incidental Services, if any.

**(b) For Goods manufactured abroad**

- (i) The price of the Goods, quoted on EXW/ FCA (named place of delivery abroad) or FOB (named port of shipment), as specified in the Price Schedule Form.
- (ii) The charges for insurance and transportation of the Goods to the port/place of destination. The agency commission charges, if any.
- (iii) The installation, commissioning and training charges including any incidental Services, if any

1.11.3 The terms FOB, FCA, CIF, CIP etc. shall be governed by the rules prescribed in the current edition of the INCOTERMS published-by the International Chambers of Commerce, Paris.

1.11.4 Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc. such offer shall be rejected as incomplete.

1.11.5 The price quoted shall remain fixed during the contract period and shall not vary on any account.

1.11.6 All lots and items must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. Lots or items not listed in the Price Schedule shall be assumed to be not included in the bid.

1.11.7 The purchases made by the Purchaser for scientific purpose are exempt from Customs Duty at a concessional rate is livable [Government of India Notification No. 51/96 - Customs dated 22/07/1996].

1.11.8 The Purchaser shall not issue Exemption Certificates [Customs Duty Exemption Certificate / GST Exemption Certificate] for any raw materials / intermediary products that go into the manufacture of the Goods offered by Bidder.

**1.12 Bid Currencies**

1.12.1 Prices shall be quoted in **Indian Rupees** for offers received for supply within India and in freely convertible foreign currency in case of offers received for supply from foreign countries.

**1.13 Documents Establishing Bidder's Eligibility and Qualifications**

1.13.1 The Bidder shall furnish as part of its bid, documents establishing the Bidder's eligibility to bid and its qualification to perform the contract if its bid is accepted.

1.13.2 The documentary evidence of the Bidder's qualification to perform the contract if the bid is accepted shall establish to the Purchaser's satisfaction that; Bidder meets the qualification/eligibility Criteria listed in Bidding Documents, if any.

1.13.3 Conditional tenders shall not be accepted.

#### **1.14 Documents Establishing Goods Eligibility and Conformity to Bidding Documents**

- 1.14.1 To establish the Goods eligibility, the documentary evidence of the Goods and Services eligibility shall consist of a statement on the country of origin of the Goods and Services offered which shall be confirmed by a certificate of origin issued by a local chamber of commerce at the time of shipment.
- 1.14.2 To establish the conformity of the Goods and Services to the specifications and schedule of requirements of the Bidding Documents, the documentary evidence of conformity of the Goods and Services to the Bidding Documents may be in the form of literature, drawings and data, and 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 following commencement of the use of the Goods by the Purchaser in the Priced - bid; and
  - (c) An item-by- item commentary on the Purchaser's Technical Specifications 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.
- 1.14.3 For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standard workmanship, material and equipment, designated by the Purchaser in its Technical Specifications are intended to be descriptive only not restrictive The Bidder may substitute these in its bid, provided that it demonstrates to the Purchaser's satisfaction that the Substitutions ensure substantial equivalence to those designated in the Technical Specifications.

#### **1.15 Bid Security (BS) / Earnest Money Deposit (EMD)**

- 1.15.1 The Bidder shall furnish, as part of its bid, a Bid Security (BS) / Earnest Money Deposit [EMD] for an amount as specified in the Invitation for Bids.
- 1.15.2 The Bid Security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the security's forfeiture.
- 1.15.3 The Bid Security shall be in Indian Rupees for offers received for supply within India and denominated in the currency of the bid or in any freely convertible foreign exchange in the case of offers received for supplies from foreign countries in equivalent Indian Rupees. The Bid Security shall be in one of the following forms at the Bidder's option:
- (a) A Bank Guarantee [BG] issued by a Nationalized/Scheduled bank in the form provided in the Bidding Documents and valid for 45 days beyond the validity of the bid. In case a Bidder desires to submit a BG issued from a foreign bank, then the same should be confirmed by a Nationalized/Scheduled Indian bank, with all confirmation charges to Bidder's account. Purchaser reserves the right to verify the authenticity of the Bank Guarantees from the issuing/confirming/controlling bank; or
  - (b) Fixed Deposit Receipt pledged in favour of the Purchaser ; or
  - (c) Online payment in favour of the Purchaser.
- 1.15.4 The Bid Security shall be payable promptly upon written demand by the Purchaser in case the conditions listed in the ITB Sub-Clause 1.15.8 are invoked.
- 1.15.5 The Bid Security should be submitted in its original form. Copies shall not be accepted.
- 1.15.6 The Bid Security of unsuccessful Bidder will be discharged / returned as promptly as possible positively within a period of 30 days after the expiration of the period of bid validity or placement of

order whichever is later, without any interest.

1.15.7 The successful Bidder's Bid Security will be discharged upon the Bidder furnishing the Performance Security, without any interest. Alternatively, the BS could also be adjusted against PS, if it is paid through DD/BC.

1.15.8 The Bid Security may be forfeited:

- (a) If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or
- (b) In case of a successful Bidder, if the Bidder fails to furnish Order Acknowledgement within 15 days of the order or fails to sign the contract and/or fails to furnish Performance Security within 21 days from the date of contract/ order.

### **1.16 Period of Validity of Bids**

1.16.1 Bids shall remain valid for a minimum period of 180 days after the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

1.16.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by cable, telex, fax or e-mail). The Bid Security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request will not be required nor permitted to modify its bid.

1.16.3 Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

### **1.17 Format and Signing of Bid**

1.17.1 Bids are invited on two-bid system, the Bidder shall submit the Bids in two separate parts. One part will be the Un-Priced Techno - Commercial Bid and the other shall be the Price Bid.

## **D – Submission of Bids**

### **1.18 Submission of Bids**

1.18.1 The Bidders may submit their Bids in Tender Wizard portal as two separate bids.

## **E - Opening and Evaluation of Bids**

### **1.19 Opening of Bids by the Purchaser**

1.19.1 The Purchaser will open all Bids at a time in Tender portal. The Price Bid shall be opened only after technical evaluation.

### **1.20 Confidentiality**

1.20.1 Information relating to the examination, evaluation, comparison, and post qualification of Bids, and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until publication of the Contract Award.

1.20.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post qualification of the Bids or contract award decisions may result in the rejection of its Bid.

### **1.21 Clarification of Bids**

1.21.1 To assist in the examination, evaluation, comparison and post qualification of the Bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for 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 negotiation shall be held except with the lowest Bidder, at the discretion of the Purchaser. Any clarification submitted by a Bidder in respect to its bid which is not in response to a request by the Purchaser shall not be considered.

## **1.22 Preliminary Examination**

1.22.1 The Purchaser shall examine the Bids to confirm that all documents and technical documentation requested in ITB Clause 1.9 have been provided, and to determine the completeness of each document submitted.

1.22.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.

- (a) Bid Form and Price Schedule Form, in accordance with ITB Clause 1.10. This condition pertains to opening of Price Bid only;
- (b) All the Bids received will first be scrutinized to see whether the Bids meet the basic requirements as incorporated in the Invitation for Bids [IFB]. The Bids, which do not meet the basic requirements, are to be treated as unresponsive and ignored. The following are some of the important points, for which a tender may be declared as unresponsive and to be ignored, during the initial scrutiny:
  - (i) The Bid is unsigned.
  - (ii) Bid Security/ Earnest Money Deposit has not been furnished
  - (iii) The Bidder is not eligible.
  - (iv) The Bid validity is shorter than the required period.
  - (v) The Bidder has quoted for Goods manufactured by a different firm without the required authority letter from the proposed Manufacturer.
  - (vi) Bidder has not agreed to give the required Performance Security.
  - (vii) The Goods quoted are sub-standard, not meeting the required specification etc.
  - (viii) Against the schedule of Requirement (incorporated in the tender enquiry), the Bidder has not quoted for the entire requirement as specified in that schedule.
  - (ix) The Bidder has not agreed to some essential condition(s) incorporated in the tender enquiry.
  - (x) Bidder has not mentioned charges related to packing, forwarding, freight, insurance charges, taxes etc. as required under Instructions to Bidders Clause 1.11 thus rendering such offers as incomplete.

## **1.23 Responsiveness of Bids**

1.23.1 Prior to the detailed evaluation, the Purchaser will determine the substantial responsiveness of each bid to the Bidding Documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the Bidding Documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

- (a) Affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
- (b) Limits in any substantial way, inconsistent with the bidding documents, the purchase's rights or the bidder's obligations under the contract; or
- (c) If rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.

1.23.2 The purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

1.23.3 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

#### **1.24 Non-Conformity, Error and Omission**

1.24.1 Provided that a Bid is substantially responsive, the Purchaser may waive any non-conformities or omissions in the Bid that do not constitute a material deviation.

1.24.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

1.24.3 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

1.24.4 Provided that a bid is substantially responsive, the Purchaser may request that a Bidder may confirm the correctness of arithmetic errors as done by the Purchaser within a target date. In case, no reply is received then the bid submitted shall be ignored and its Bid Security may be forfeited.

#### **1.25 Examination of Terms & Conditions, Technical Evaluation**

1.25.1 The Purchaser shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.

1.25.2 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with ITB Clause 1.14, to confirm that all requirements specified in Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.

1.25.3 If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with ITB Clause 1.23, it shall reject the Bid.

#### **1.26 Conversion to Single Currency**

1.26.1 To facilitate evaluation and comparison, the Purchaser will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to Indian Rupees at the selling exchange rate established by any bank in India as notified in the Newspapers on the date of bid opening in the case of single part bidding and the rates prevalent on the date of opening of the Price Bids in the case of two - part bidding. For this purpose, exchange rate notified in [www.xe.com](http://www.xe.com) or [www.rbi.org](http://www.rbi.org) or any other website could also be used by the Purchaser.

#### **1.27 Evaluation and comparison of Bids**

- 1.27.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.
- 1.27.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined below. No other criteria or methodology shall be permitted.
- 1.27.3 The Bids shall be evaluated on the basis of final landing cost which shall be arrived as under: **For Goods manufactured in India.**
- a. The price of the Goods quoted ex -works including all taxes already paid.
  - b. GST and other taxes & duties like excise duty etc. which will be payable on the Goods if the contract is awarded.
  - c. Charges for inland transportation, insurance and other local Services required for delivering the Goods the desired destination.
  - d. The installation, commissioning and training charges including incidental Services, if any.

**For Goods manufactured abroad**

- a. The price of the Goods, quoted on EXW [duly packed] / FCA (named place of delivery abroad) or FOB (named port of shipment), as specified in the Bidding Documents.
  - b. The charges for insurance and transportation of the Goods to the port/place of destination.
  - c. The agency commission etc., if any.
  - d. The installation, commissioning and training charges including incidental Services, if any.
- 1.27.4 The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF/ CIP basis respectively. However, the CIF/CIP prices quoted by any foreign Bidder shall be loaded further as under:
- a. Towards customs duty and other statutory levies as per applicable rates.
  - b. Towards custom clearance, inland transportation etc.

**Note:** Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc. such offers shall be rejected as incomplete.

- 1.27.5 In the case of Purchase of many items against one tender, which are not inter-dependent or, where compatibility is not a problem, normally the comparison would be made on ex works, (in case of indigenous items) and on FOB / FCA (in the case of imports) prices quoted by the firms for identifying the lowest quoting firm for each item.
- 1.27.6 Orders for imported stores need not necessarily be on FOB/FCA basis. Rather it can be on the basis of any of the INCOTERMS specified in ICC INCOTERMS 2020 as may be amended from time to time by the ICC
- 1.27.7 Wherever the price quoted on FOB/FCA and CIF/CIP basis are the same, the Contract would be made on CIF / CIP basis only.
- 1.27.8 The GCC and the SCC shall specify the mode of transport i.e. whether by air/road/rail.
- 1.27.9 In case optional items are specified in the tendered specifications, the Purchaser reserves the right to buy or not to buy the optional items. In case the option is exercised to buy the optional items after Bid opening, then the cost of optional items would be included to ascertain the Lowest Evaluated Responsive Bid. In case, the option is exercised not to buy the optional items, then the cost of the optional items would not be included in ascertaining the Lowest Evaluated Responsive Bid.

**NOTE: Bidders not quoting the optional items entail the risk of their offer being summarily ignored in the event of the Purchaser deciding to buy the optional items after Bid opening.**

**1.28 Comparison of Bids**

1.28.1 The Purchaser shall compare all substantially responsive Bids to determine the lowest- evaluated responsive bid, in accordance with ITB Clause 1.27.

**1.29 Contacting the Purchaser**

1.29.1 Subject to ITB Clause 1.21, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.

1.29.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.

**1.30 Post qualification**

1.30.1 In the absence of pre - qualification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 1.13.

1.30.2 The determination will take into account the eligibility criteria listed in the Bidding Documents and will be based up on Examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

1.30.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the bidder's bid.

**F- Award of Contract**

**1.31 Negotiations**

1.31.1 There shall not be any negotiation normally. Negotiations, if at all, shall be an exception and only in the case of items with limited source of supply. Negotiations shall be held with the lowest evaluated responsive Bidder. Counter offers tantamount to negotiations and shall be treated at par with negotiations in the case of one time purchases.

**1.32 Award Criteria**

1.32.1 Subject to ITB Clause 1.34 the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

**1.33 Purchaser's right to vary Quantities at Time of Award**

1.33.1 The Purchaser reserves the right at the time of Contract award to increase or decrease the quantity of Goods and Services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions. Further, at the discretion of the Purchaser, the quantities in the contract may be enhanced by 30% within the delivery period.

**1.34 Purchaser's right to accept any Bid and to reject any or All Bids**

1.34.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders.

**1.35 Notification of Award**

1.35.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful Bidder in

writing by registered letter or by cable or telex or fax or e-mail that the bid has been accepted and a separate Purchase Order shall follow through post.

- 1.35.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding contract.
- 1.35.3 Upon the successful bidder's furnishing of the signed contract form and performance security pursuant to ITB clause 1.38, the purchaser will promptly notify each unsuccessful bidder and will discharge its bid security

### **1.36 Signing of Contract**

- 1.36.1 Promptly after notification, the Purchaser shall send the successful Bidder the Agreement/Purchase Order.
- 1.36.2 Within twenty - one (21) days of date of the Agreement / Purchase Order, the successful Bidder shall sign, date, and return it to the Purchaser.

### **1.37 Order Acknowledgement**

- 1.37.1 The successful Bidder should submit Order Acknowledgement within 15 days from the date of issue of the Purchase Order / Contract, failing which it shall be presumed that the Supplier is not interested and his Bid Security is liable to be forfeited pursuant to clause 1.15.11 of ITB.
- 1.37.2 The Order Acknowledgement must be received within 15 days. However, the Purchaser has the powers to extend the time frame for submission of Order Acknowledgement and submission of Performance Security (PS). Even after extension of time, if the Order Acknowledgement /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value shall be invited from the responding firms after forfeiting the Bid Security of the defaulting firm, where applicable, provided there is no change in specifications. In such cases the defaulting firm shall not be considered again for re-tendering in the particular case.

### **1.38 Performance Security**

- 1.38.1 Within 21 days of receipt of the notification of award/PO, the Supplier shall furnish Performance Security in the amount specified in SCC, valid till 60 days after the warranty period. Alternatively, the PS may also be submitted at the time of release of final payment in cases where part payment is made against delivery & part on installation. The PS, where applicable, shall be submitted in advance for orders where full payment is to be made on Letter of Credit (LC) or on delivery. In this case, submission of PS at the time of negotiation of documents through Bank would be stipulated as a condition in the LC and the BS should be kept valid till such time the PS is submitted.
- 1.38.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 1.38.3 The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated in the currency of the contract in the case of offers received for supply from foreign countries.
- 1.38.4 In the case of imports, the PS may be submitted either by the Principal or by the Indian agent and, in the case of purchases from indigenous sources, the PS may be submitted by either the Manufacturer or their authorized dealer/Bidder.
- 1.38.5 The Performance Security shall be in one of the following forms:
  - a. A Bank Guarantee [BG] or Stand- by Letter of Credit [SLC] issued by a Nationalized/Scheduled



bank located in India or a Foreign bank [ i.e. a bank located outside India] with preferably its operating branch in India. The BG shall be issued in the form provided with the Bidding Documents. In case of Performance Security being furnished in the shape of Bank Guarantee or Stand - by Letter of Credit issued by any foreign bank, the said BG/SLC shall have to be confirmed. All confirmation and other bank charges in this respect shall be borne by the Supplier. Purchaser shall independently verify the authenticity of the BGs from the issuing / confirming / controlling banks. Or;

- b. Online payment in favour of the purchaser, or;
- c. A Fixed Deposit Receipt pledged in favour of the Purchaser.

1.38.6 The Performance Security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in SCC, without levy of any interest.

1.38.7 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, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.

1.38.8 The Order Acknowledgement should be received within 15 days from the date of notification of award. However, the Purchaser has the powers to extend the time frame for submission of Order Acknowledgement and submission of Performance Security (PS). Even after extension of time, if the Order Acknowledgement /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value would be invited from the responding firms after forfeiting the Bid Security of the defaulting firm, where applicable provided there is no change in specifications. In such cases the defaulting firm would not be considered again for re- tendering in the particular case.

**CHAPTER – 2**

**CONDITIONS OF CONTRACT**

**A. GENERAL CONDITIONS OF CONTRACT (GCC)**

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## **2.1. Definitions**

2.1.1. The following words and expressions shall have the meanings hereby assigned to them:

- (a) "Contract" means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (b) "Contract Documents" means the documents listed in the Contract Agreement, including any amendments thereto.
- (c) "Contract Price" means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments
- (d) "Day Means" calendar day
- (e) "Completion" means the fulfillment of the related services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (f) "GCC" means the General Conditions of Contract
- (g) "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (h) "Related Service", means the services incidental to the supply of the Goods, such as transportation, insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (i) "SCC" means the Special Conditions of Contract.
- (j) "Subcontractor" means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (k) "Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (l) The "Institute" means CMTI, Central Manufacturing Technology Institute registered under the Societies Registration Act, 1860 of Govt. Of India having its registered office at Tumkur Road, Bengaluru - 560022, Karnataka, India and the "Purchaser" also means the above Institute situated at the above address in India as specified in SCC.
- (m) "Final Destination", where applicable, means the place named in the SCC.

## **2.2. Contract Documents**

Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

## **2.3. Fraud and Corruption**

2.3.1. The Purchaser requires that Bidders, Suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,

- (a) The terms set forth below are defined as follows:
  - (i) "**Corrupt practice**" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
  - (ii) "**Fraudulent practice**" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
  - (iii) "**Collusive practice**" Means a scheme or arrangement between two or more Bidders,

with or without the knowledge of the Borrower, designed to establish bid prices at artificial, noncompetitive levels; and

(iv) **“Coercive practice”** means harming or threatening to harm, directly or indirectly, persons or their Property to influence their participation in the procurement process or affect the execution of a contract;

(b) The Purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

#### **2.4. Joint Venture, Consortium or Association**

2.4.1. If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

#### **2.5. Scope of Supply**

2.5.1. The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.

#### **2.6. Suppliers’ Responsibility**

2.6.1. The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with Scope of Supply Clause of the GCC, and the Delivery and Completion Schedule, as per GCC Clause relating to delivery and document.

#### **2.7. Contract price**

2.7.1. Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.

#### **2.8. Copyright**

2.8.1. The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including Suppliers of materials, the copyright in such materials shall remain vested in such third party

#### **2.9. Application**

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

#### **2.10. Standards**

2.10.1. The Goods supplied and Services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications and Schedule of requirements, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods’ country of origin and such standards shall be the latest issued by the concerned institution.

#### **2.11. Use of Contract Documents and Information**

2.11.1. The Supplier shall not, without the Purchaser’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information

furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far, as may be necessary for purposes of such performance.

- 2.11.2. The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated above except for purposes of performing the Contract.
- 2.11.3. Any document, other than the Contract itself, enumerated above shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract, if so required by the Purchaser.

## **2.12. Patent Indemnity**

- 2.12.1. The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 2.12.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:
  - (a) The installation of the Goods by the Supplier or the use of the Goods in India; and
  - (b) The sale in any country of the products produced by the Goods.
- 2.12.2. If any proceedings are brought or any claim is made against the Purchaser, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may as its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claims.

## **2.13. Performance Security**

- 2.13.1. Within 21 days of receipt of the notification of award / PO, the Supplier shall furnish Performance Security in the amount specified in SCC, valid till 60 days after the warranty period. Alternatively, the PS may also be submitted at the time of release of final payment in cases where part payment is made against delivery & part on installation. The PS, where applicable, shall be submitted in advance for orders where full payment is to be made on Letter of Credit (LC) or on delivery. In this case, submission of PS at the time of negotiation of documents through Bank would be stipulated as a condition in the LC and the PS should be kept valid till such time the PS is submitted.
- 2.13.2. The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 2.13.3. The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated in the currency of the contract in the case of offers received for supply from foreign countries.
- 2.13.4. In the case of imports, the PS may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources, the PS may be submitted by either the Manufacturer or their authorized dealer/Bidder.
- 2.13.5. The Performance Security shall be in one of the following forms:

- (a) A Bank Guarantee [BG] or Stand - by Letter of Credit [SLC] issued by a

Nationalized/Scheduled bank located in India or a Foreign bank with preferably its operating branch in India. The BG shall be issued in the form provided with the Bidding Documents. In case of Performance Security being furnished in the shape of Bank Guarantee or Stand - by Letter of Credit issued by any foreign bank, the said BG/SLC shall have to be confirmed by any nationalized bank of India. All confirmation and other bank charges in this respect shall be borne by the Supplier. Purchaser shall independently verify the authenticity of the BGs from the issuing / confirming / controlling banks. Or;

- (b) Online payment in favour of the Purchaser. Or;
- (c) A Fixed Deposit Receipt pledged in favour of the Purchaser.

2.13.6. The Performance Security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in SCC, without levy of any interest.

2.13.7. 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, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.

2.13.8. The order confirmation should be received within 15 days from the date of notification of award. However, the Purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order confirmation /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value would be invited from the responding firms after forfeiting the Bid Security of the defaulting firm, where applicable provided there is no change in specifications. In such cases the defaulting firm would not be considered again for re- tendering in the particular case.

#### **2.14. Inspections and Tests**

2.14.1. The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the SCC or as discussed and agreed to during the course of finalization of contract.

2.14.2. The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. The Technical Specifications and SCC shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes.

2.14.3. The inspections and tests may be conducted on the premises of the Supplier or its subcontract or(s), at the 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 the Purchaser.

2.14.4. Whenever the Supplier is ready to carry out any such test and inspection, it shall give reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or Manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.

2.14.5. Should any inspected or tested Goods fail to conform to the specifications, the Purchase or 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 the Purchaser.

- 2.14.6. The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at final destination shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.
- 2.14.7. The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 2.14.8. With a view to ensure that claims on insurance companies, if any, are lodged in time, the Bidders and /or the Indian agent shall be responsible for follow up with their principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the Bidder/ Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the Purchaser on the event of the delay.

**2.15. Packing**

- 2.15.1. The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
- 2.15.2. The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any, specified in SCC and in any subsequent instructions ordered by the Purchaser.

**2.16. Delivery and Documents**

- 2.16.1. Delivery of the Goods and completion and related Services shall be made by the Supplier in accordance with the terms specified by the Purchaser in the contract. The details of shipping and/ or other documents to be furnished by the Supplier are specified in SCC.
- 2.16.2. The terms FOB, FCA, CIF, CIP etc. shall be governed by the rules prescribed in the current edition of the INCOTERMS published by the International Chambers of Commerce, Paris.
- 2.16.3. The mode of transportation shall be as specified in SCC.

**2.17. Insurance**

- 2.17.1. Should the Purchaser elect to buy on CIF/CIP basis, the Goods supplied under the Contract shall be fully insured in Indian Rupees against any loss or damage incidental to manufacture or acquisition, transportation, Storage and delivery in the manner specified in SCC.
- 2.17.2. Where delivery of the Goods is required by the Purchaser on CIF or CIP basis the Supplier shall arrange and pay for Cargo Insurance, naming the Purchaser as beneficiary and initiate & pursue claims till settlement, on the event of any loss or damage.
- 2.17.3. Where delivery is on FOB or FCA basis, insurance would be the responsibility of the Purchaser.
- 2.17.4. With a view to ensure that claims on insurance companies, if any, are lodged in time, the Bidders and /or the Indian agent shall be responsible for follow up with their principals for

ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the Bidder/Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the Purchaser on the event of the delay.

**2.18. Transportation**

- 2.18.1. Where the Supplier is required under the Contract to deliver the Goods FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract price. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the supplier, and the cost thereof shall be included in the Contract price.
- 2.18.2. Where the Supplier is required under the Contract to deliver the Goods CIF or CIP, transport of the Goods to the port of destination or such other named place of destination in the Purchaser's country, as shall be specified in the Contract shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.
- 2.18.3. In the case of supplies from within India, where the Supplier is required under the Contract to transport the Goods to a specified destination in India, defined as the Final Destination, transport to such destination, including insurance and storage, as specified in the Contract, shall be arranged by the Supplier, and the related costs shall be included in the Contract Price.

**2.19. Incidental Services**

- 2.19.1. The Supplier may be required to provide any or all of the Services, if any, specified in SCC.

**2.20. Spare Parts**

- 2.20.1. The Supplier shall be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:
- (a) Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
  - (b) In the event of termination of production of the spare parts:
    - (i) Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
    - (ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.
  - (c) In case of OEM Supplier companies merges, amalgamation, take over or bifurcation etc., it is the responsibility of the Original Supplier to maintain the spare parts requirements for 10 years with the new Entity. Failing which Performance Security will be forfeited.

**2.21. Warranty**

- 2.21.1. The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 2.21.2. The Supplier further warrants that the Goods shall be free from defects arising from any act or



omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.

- 2.21.3. Unless otherwise specified in the SCC or technical specifications, the warranty shall remain valid as specified in the contract.
- 2.21.4. The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 2.21.5. Upon receipt of such notice, the Supplier shall, within a reasonable period of time, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 2.21.6. If having been notified, the Supplier fails to remedy the defect within the reasonable period of time, the Purchaser expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.
- 2.21.7. Goods requiring warranty replacements must be replaced on free of cost basis to the Purchaser at Purchaser site.

## **2.22. Terms of Payment**

- 2.22.1. The method and conditions of payment to be made to the Supplier under this Contract shall be as specified in the SCC.
- 2.22.2. The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to Delivery and document Clause of the GCC and upon fulfillment of other obligations stipulated in the contract.
- 2.22.3. Payments shall be made promptly by the Purchaser within a reasonable time after submission of the invoice or claim by the Supplier.
- 2.22.4. Payment shall be made in currency as indicated in the contract.

## **2.23. Change Orders and Contract Amendments.**

- 2.23.1. The Purchaser may at any time, by written order given to the Supplier pursuant to Clause on Notices of the GCC make changes within the general scope of the Contract in any one or more of the following:
  - (a) Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
  - (b) The method of shipping or packing;
  - (c) The place of delivery; and/or
  - (d) The Services to be provided by the Supplier.
  - (e) The delivery schedule.
- 2.23.2. If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within fifteen (15) days from the date of the Supplier's receipt of the Purchaser's change order.
- 2.23.3. No variation or modification in the terms of the contract shall be made except by written amendment signed by the parties.

**2.24. Assignment**

2.24.1. The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

**2.25. Sub contracts**

2.25.1. The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or duties or obligation under the Contract.

**2.26. Extension of time**

2.26.1. Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser.

2.26.2. If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may, at its discretion, extend the suppliers time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract.

2.26.3. Except as provided under the Force Majeure clause of the GCC, a delay by the Supplier in the performance of its delivery Obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause of the GCC unless an extension of time is agreed upon pursuant to above clause without the application of penalty clause.

**2.27. Penalty clause**

2.27.1. Subject to GCC Clause on Force Majeure, 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, the Purchaser 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 SCC of the delivered price of the delayed Goods or unperformed Services or contract value for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the Percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause on Termination for Default. The SCC shall also indicate the basis for ascertaining the value on which the penalty shall be applicable.

**2.28. Termination for Default**

2.28.1. The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part

- (a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause on Extension of Time; or
- (b) If the Supplier fails to perform any other obligation(s) under the Contract; or
- (c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent or collusive or coercive practices as defined in GCC Clause on Fraud or Corruption in competing for or in executing the Contract.

2.28.2. In the event the Purchaser terminates the contract in whole or in part, he may take recourse

to any one or more of the following action:

- (a) The Performance Security is to be forfeited;
- (b) The Purchaser may procure, upon such terms and in such manner as it deems appropriate, stores similar to those undelivered, and the Supplier shall be liable for all available actions against it in terms of the contract.
- (c) However, the Supplier shall continue to perform the contract to the extent not terminated.

**2.29. Force Majeure**

- 2.29.1. Notwithstanding the provisions of GCC Clauses relating to extension of time, penalty and Termination for Default the Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages 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.
- 2.29.2. For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 2.29.3. If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within 21 days of its occurrence. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 2.29.4. If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of force majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.

**2.30. Termination for Insolvency**

- 2.30.1. The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

**2.31. Termination for Convenience**

- 2.31.1. The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 2.31.2. The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
  - (a) To have any portion completed and delivered at the Contract terms and prices
  - (b) To cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

**2.32. Settlement of Disputes**

- 2.32.1. The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 2.32.2. If, after twenty - one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.
- 2.32.3. The dispute settlement mechanism/arbitration proceedings shall be concluded as under:
- (a) In case of Dispute or difference arising between the Purchaser and a domestic Supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re - enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director, Central Manufacturing Technology Institute and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
  - (b) In the case of a dispute between the Purchaser and a Foreign Supplier, the dispute shall be settled by arbitration In accordance with provision of sub - clause (a) above. But if this is not acceptable to the Supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.
- 2.32.4. The venue of the arbitration shall be the place from where the purchase order or contract is issued.
- 2.32.5. Notwithstanding any reference to arbitration herein,
- (a) The parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
  - (b) The Purchaser shall pay the Supplier any monies due the Supplier.

**2.33. Governing Language**

- 2.33.1. The contract shall be written in English language which shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the English language only.

**2.34. Applicable Law**

- 2.34.1. The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction as specified in SCC.

**2.35. Notices**

- 2.35.1. Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing or by cable, telex, FAX, e-mail or and confirmed in writing to the other party's address specified in the SCC.
- 2.35.2. A notice shall be effective when delivered or on the notice's effective date, whichever is later.

**2.36. Taxes and Duties**

- 2.36.1. For Goods manufactured outside India, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside India.
- 2.36.2. For Goods Manufactured within India, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred till its final manufacture/production.
- 2.36.3. If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in India, the Purchaser shall make its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

**2.37. Right to use Defective Goods**

- 2.37.1. If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the Goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such Goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the purchaser's operation.

**2.38. Protection against Damage**

- 2.38.1. The system shall not be prone to damage during power failures and trip outs. The normal voltage and frequency conditions available at site as under:
  - a) Voltage 230 -V Single phase/ 415 V Three phase ( $\pm 10\%$ )
  - b) Frequency 50 Hz.

**2.39. Integrity Pact**

As per directive of CVC all organizations have to adopt an Integrity Pact(IP) to ensure transparency, equity and competitiveness in major Public procurement activities. The integrity Pact envisages an agreement between the prospective Bidders/Vendors with the buyer committing the persons/officials of both the parties with the aim not to exercise any corrupt influence on any aspect of the contract. Only these Bidders/Vendors who are willing to enter into such an Integrity Pact with the buyer i.e, CMTI would be competent to participate in the bidding.

**B. SPECIAL CONDITIONS OF CONTRACT (SCC)**

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 2.1(l)	The <i>Purchaser</i> is: CMTI - Central Manufacturing Technology Institute, Tumkur Road, Bengaluru - 560022, Karnataka, India
GCC 2.1 (m)	The <i>Final Destination</i> is: CMTI - Central Manufacturing Technology Institute, Tumkur Road, Bengaluru - 560022, Karnataka, India,
GCC 2.14.1	<p><i>Inspection and Acceptance Tests at Final Destination:</i></p> <p><b>The Inspection and Tests prior to shipment of Goods and at final acceptance are as follows:</b></p> <p>After the Goods are manufactured and assembled, Pre-dispatch Equipment Audit and testing of the Goods shall be carried out at the Supplier's plant by the Supplier in the Presence of purchaser, prior to shipment to check whether the goods are in conformity with the technical specifications and acceptance criteria. Manufacturer's Test Certificates, test plots with data sheet shall be issued to this effect and submitted along with the delivery documents. The Technical Specifications shall specify whether any Pre-dispatch Equipment Audit is required and the nature of such inspection.</p> <p><b>The Inspection and Acceptance Tests at Buyer's site (Final Destination) are as follows:</b></p> <p>The acceptance test will be conducted after the equipment is installed at Purchaser's site by Supplier's representatives to check conformity with the technical specifications and acceptance criteria. The acceptance will involve trouble free operation. There shall not be any additional charges for carrying out acceptance test. No malfunction, partial or complete failure of any part of the equipment is expected to occur. The Supplier shall maintain necessary log in respect of the result of the test to establish to the entire satisfaction of the Purchaser, the successful completion of the test specified. In the event of the ordered item failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which, the Purchaser reserves the right to get the equipment replaced by the Supplier at no extra cost to the Purchaser. Successful conduct and conclusion of the acceptance test for the installed Goods and equipment shall also be the responsibility and at the cost of the Supplier. Before the Goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance Manuals together with Drawings of the Goods and equipment built. These shall be in such details as will enable the Purchase to operate, maintain, adjust and repair all parts of the works as stated in the specifications. The Manuals and Drawings shall be in the ruling language (English) and in such form and numbers as stated in the Contract. Unless and otherwise agreed, the Goods and equipment shall not be considered to be completed for the purposes of taking over until such Manuals and Drawing have been supplied to the Purchaser. On successful completion of acceptability test, receipt of deliverables, etc. and after the Purchaser is satisfied with the working of the equipment, the acceptance certificate signed by the Supplier and the representative of the Purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the equipment.</p>
GCC 2.15.2	<p><b>Packing</b></p> <p>The marking and documentation within and outside the packages shall be: Each package should have a packing list within it detailing the part No.(s), description, quantity etc.</p> <p>Outside each package, the contract No., the name and address of the Purchaser and the final destination should be indicated on all sides and top. Each package should be marked as 1/x, 2/x, 3/x.....x/x, where "x" is the total no of packages contained in the consignment. All the sides and top of each package should carry an appropriate indication / label / stickers indicating the precautions to be taken while handling / storage</p>

<p>GCC 2.16.1</p>	<p><b><i>Shipping/Dispatch documents</i></b></p> <p>Details of Shipping and other Documents to be furnished by the Supplier are</p> <p><b><u>A. For Goods manufactured within India</u></b></p> <p>Within 24 hours of dispatch, the Supplier shall notify the Purchaser the complete details of dispatch and also supply following documents by registered post / speed post and copies thereof by FAX/ E-mail.</p> <p>(a) Two copies of Supplier’s Invoice indicating, inter - alia description and specification of the Goods, quantity, unit price, total value;</p> <p>(b) Packing list;</p> <p>(c) Certificate of country of origin;</p> <p>(d) Insurance certificate, if required under the contract;</p> <p>(e) Railway receipt/Consignment note;</p> <p>(f) Manufacturer’s guarantee certificate and in- house inspection certificate;</p> <p>(g) Inspection Certificate issued by Purchaser’s inspector, if any and</p> <p>(h) Any other document(s) as and when required in terms of the contract.</p> <p>Note: 1. The nomenclature used for the item description in the invoices(s), packing list(s) and the delivery note(s) etc. Should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s)</p> <p>Note: 2. The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses</p> <p><b><u>[B] For Goods manufactured abroad</u></b></p> <p>Within 24 hours of dispatch, the Supplier shall notify the Purchaser the complete details of dispatch and also supply following documents by Registered Post/courier and copies thereof by FAX.</p> <p>(a) Two copies of Supplier’s Invoice giving full details of the Goods including quantity, value, etc.;</p> <p>(b) Packing list;</p> <p>(c) Certificate of country of origin issued by a local chamber of commerce;</p> <p>(d) Manufacturer’s guarantee and Inspection Certificate;</p> <p>(e) Inspection certificate issued by the Purchaser’s Inspector, if any;</p> <p>(f) Insurance Certificate, if required under the contract;</p> <p>(g) Name of the Vessel/Carrier</p> <p>(h) Port of Loading;</p>
	<p>(i) Date of Shipment;</p> <p>(j) Port of Discharge &amp; expected date of arrival of Goods and</p> <p>(k) Any other document(s) as and when required in terms of the contract</p>
	<p>Note: 1.The nomenclature used for the item description in the invoices(s), packing list(s) and the delivery note(s) etc. should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s)</p> <p>Note: 2. The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses</p>
<p>GCC 2.16.3</p>	<p><b>Transportation/ Dispatch</b></p> <p>In case of supplies from within India, the mode of transportation shall be by Air/Rail/Road. In case of supplies from abroad, the mode of transportation shall be by Air. For supplies from abroad, Supplier shall ensure that the Goods are transported through the authorized freight forwarder of Purchaser, whose name and other contact details shall be made available to Purchaser.</p> <p>Purchaser shall not accept dispatch / transportation of Goods through any other forwarder. Payment by L/C shall only be released against presentation of the House Air Way Bill issued by the authorized freight for warder of Purchaser.</p>

<p>GCC 2.17.1</p>	<p><b>Insurance</b> The Insurance shall be for an amount equal to the 110% of the CIF or CIP value of the contract from within “warehouse to warehouse (final destination)” on “ALL- RISKS basis including strikes, riots and civil commotion”</p>
<p>GCC 2.19.1</p>	<p><b>Incidental Services</b> The Incidental Services to be provided are:  <ol style="list-style-type: none"> <li>1. Pre-dispatch Equipment Audit.</li> <li>2. Installation and Commissioning of Goods / Equipment.</li> <li>3. Training on use/application.</li> <li>4. Warranty Support [to be effective from the date of final acceptance at site, [CMTI - Central Manufacturing Technology Institute, Tumkur Road, Bengaluru, Karnataka, India-560022]</li> </ol> The Cost of the above incidental services shall be included in the Contract Price and a Price Break-up shall also be given</p>
<p>GCC 2.21.3</p>	<p><b>Warranty</b> The period of validity of Warranty shall be effective from the date of acceptance of the Goods to the entire satisfaction of the Purchaser. The Warranty shall be Comprehensive in nature. The warranty period shall be for the period as stipulated in the Technical Specifications</p>
<p>GCC 2.22.1</p>	<p><b>Payment</b> The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:  <b>Payment for Goods supplied from abroad:</b>  Payment of foreign currency portion shall be made in the currency of the contract in the following manner:  <b>(i)</b> On Shipment: <i>80%(Eighty) percent</i> of the Contract Price of the Goods shipped shall be paid through irrevocable letter of credit opened in favour of the Supplier in a bank in its country, upon submission of shipping documents specified in GCC Clause 2.16.1</p>
	<p><b>(ii)</b> On Acceptance: <i>20% (Twenty) percent</i> of the Contract Price of Goods received shall be paid after successful installation &amp; commissioning at CMTI upon submission of acceptance certificate.</p>
<p>GCC 2.22.1</p>	<p>The L/ C will be confirmed at the Suppliers cost, if requested specifically by the Supplier. All bank charges abroad shall be to the account of the beneficiary i.e. Supplier and all bank charges in India shall be to the account of the opener i.e. Purchaser. If L/C is requested to be extended/ reinstated for reasons not attributable to the Purchaser, the charges thereof would be to extended/ reinstated for reasons not attributable to the Purchaser; the charges thereof would be to the Suppliers’ account. Payment of local currency portion shall be made in Indian Rupees within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed. The LC for 100% value of the contract shall be established after deducting the agency commission payable if any, to the Indian agent from the FOB/FCA/CIF value.  <b>[B] Payment for Goods and Services supplied from India:</b>  Payment for Goods and Services supplied from within India shall be made in Indian Rupees, as follows:  <b>On shipment:</b> 80% (Eighty) percent of the Contract Price shall be paid on receipt of the Goods and upon submission of the documents specified in GCC Clause 2.16.1  <b>On Acceptance:</b> The remaining 20% (Twenty) percent of the Contract value shall be paid to the Supplier upon submission of the acceptance certificate.</p>



GCC 2.27.1	<p><b>Liquidated Damages</b></p> <p>(i) The penalty shall be: [0.5%] Percent per week or part of a week towards late delivery and towards delay in installation and commissioning.</p> <p>(ii) The maximum amount of liquidated damages shall be: [10 %] TEN Percent. The liquidated damages shall be levied on the delivered price of the delayed Goods or unperformed Services or contract value.</p>
GCC 2.34.1	The place of jurisdiction is BENGALURU [KARNATAKA]
GCC 2.35.1	<p>For notices, the Purchaser's address is:</p> <p>Attention: Group Head (Purchase &amp; Stores)</p> <p>CMTI - Central Manufacturing Technology Institute, Tumkur Road, Bengaluru - 560022, Karnataka, India</p> <p>Email : purchase@cmti.res.in</p>

**CHAPTER - 3****SCHEDULE OF REQUIREMENTS**

TO BE FILLED BY BIDDER AND ENCLOSED WITH THE TECHNO- COMMERCIAL BID

Brief Description of Goods and Services	Quantity
Procurement of SUPPLY, INSTALLATION, COMMISSIONING AND TESTING OF 3D X-RAY MICROSCOPE  [Technical Specifications and Other Details as per Chapter 4 of this Bidding Documents]	One Set
Final Destination	CMTI - Central Manufacturing Technology Institute, Tumkur Road, Bengaluru - 560022, Karnataka, India
Period of Delivery shall count from	< TO BE FILLED BY BIDDER>
Time period by which the goods shall be ready at manufacturer's site for pre-dispatch Equipment Audit	< TO BE FILLED BY BIDDER>
Delivery Period [Goods to be delivered in one lot at final destination CMTI-Central Manufacturing Technology Institute, Tumkur Road, Bengaluru, Karnataka, India-560022]	< TO BE FILLED BY BIDDER>
Time frame required for conducting installation, commissioning of the Goods etc. after arrival of the Goods at Final destination	< TO BE FILLED BY BIDDER>

NOTE: The party has to offer their product/equipment strictly based on the specifications asked in the Bidding Documents.

**CHAPTER – 4**

**PART-A**

**Annexure - 1**

**Technical Specification**

**3D X-Ray Microscope**

**Important Note to Vendor:** Merely stating, “Comply” does not constitute sufficient information. Exact numerical values are to be specified wherever applicable. Specified technical data should be supported by OEM product catalogues, manuals, test procedures, test plots, etc. and demonstrated at site. In case of insufficient technical data / false claims, the quote will be summarily rejected without seeking any clarifications.

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
<p><b>Primary Requirement Description:</b> 3DX-Ray Microscope system, using optical magnification, capable of non-destructive 2D imaging and 3D computed tomography imaging of interior details of a test specimen with excellent image contrast and high spatial resolution.</p> <p>The system will be primarily used in applications like non-destructive inspection of MEMS packages, EV applications, semiconductor and electronics inspection.</p> <p>A system that can produce high 2D and 3D image quality with low noise, low distortion, high contrast and clarity, high speed acquisition, 3D viewing and basic measurement capabilities is expected.</p> <p>The system should be compliant with specifications comparable or better than that specified below.</p>					
1	<b>X-Ray Imaging Capabilities</b>	Spatial Resolution: ≤ 0.5 μm on 2D resolution standard.	Essential	Specify spatial resolution	
		Spatial Resolution at a distance: ≤ 1 μm at working distance of ≥ 50 mm. The system should be able to maintain high resolution at large (≥ 50 mm) working distances.  A feature where the capture can start with a larger sample area, low resolution scan, from which particular ROI can be selected and zoomed in further down to that ROI in order to scan at higher resolution, without disturbing the sample should be possible.	Essential	Specify resolution at 50mm working distance	
		Minimum Achievable Voxel: ≤ 70 nm	Essential	Specify minimum achievable voxel	
		Absorption Contrast Imaging:  The equipment should be capable of producing tomograms on the conventional absorption contrast	Essential	Specify availability	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
		<p>technique, which produces images based on differences in absorption of x-rays. Contrast being driven by absorption differences, differences in density and object thickness.</p> <p>Phase Contrast Imaging:</p> <p>The equipment should be capable of producing tomogram by transforming X-Ray phase changes due to the object, into X-Ray intensity variations in the acquired images. The contrast technique should be suitable for objects that present weak absorption contrast, like</p> <ul style="list-style-type: none"> <li>✓ Low Z materials</li> <li>✓ Soft Materials</li> <li>✓ Imaging a mix of high density and low density materials.</li> <li>✓ Imaging similar density materials.</li> </ul>	Essential	Specify availability. Provide OEM document.	
		<p>Optical magnification through at least 4 Objectives of 0.4X, 4X, 20X and 40X, mounted on software controlled turret</p> <p>or</p> <p>Alternate architecture if it can be demonstrated that zooming in at different magnifications or resolution can be carried out from &lt;0.5 μm to &gt; 10 μm resolution at higher efficiency or throughput. It should also be demonstrated that high resolution of &lt; 1.0μm can be achieved at a source-sample distance of &gt; 50 mm.</p>	Essential	Specify availability	
2	<b>X-Ray Source</b>	Tube Type: Sealed Transmission Tube or open transmission tube.	Essential	Specify tube type, approximate lifetime and cost of tube change.	
		Life time of tube: > 3000 hours	Essential	Specify lifetime in hours	
		Tube Voltage Range: 30 - 160 kV	Essential	Specify tube voltage range	
		Power: ≥ 10 W	Essential	Specify	
		Source should not be in fixed position and the source to sample distance must be adjustable	Essential	Specify	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
3	<b>X-Ray Detector</b>  Detectors should be with optimized scintillator based high resolution systems and should be capable of producing images with low noise, distortion free, best focussed and with high contrast and clarity.	≥ 2k x 2k CCD Detector with pixel size ≤ 15 μm and user selectable scintillator coupled objectives to give small FOV and high resolution or high-performance detector which can provide higher resolution, better image quality and distortion free images.	Essential	Specify type, resolution, pixel size of detector	
		Detector should work for entire tube voltage range of 30 – 160 kV	Essential	Specify	
		Detector should not be in fixed position and the detector to sample distance must be adjustable	Essential	Specify	
4	<b>Sample Handling</b>	Sample weight carrying capacity: ≥ 20 kg	Essential	Specify	
		Sample Size that can be accommodated on the stage: ≥ 300 mmx 300 mm x 300 mm	Essential	Specify	
		Sample Holders: Sample Holders (if any) which come as standard with the system to be included.	Essential	Specify the types of sample holders.	
4.1	<b>Stage movements</b>	At least 4 axes of sample movement: X, Y, Z and 360° rotation.	Essential	Specify	
		XY and Z Stage accuracy: ≤ 1.25 μm	Essential	Specify	
		Rotary stage accuracy: ≤ 0.1 deg	Essential	Specify	
		XYZ least count: ≤ 1.25 μm	Essential	Specify	
		Angular least count: ≤ 0.1 deg	Essential	Specify	
4.2	<b>View of Inspection Area</b>	The system should have either of the below options for viewing the inspection area: <ul style="list-style-type: none"> <li>- Integrated visible light camera to visualize the process. The visible light camera should be integrated to the control software of the equipment.</li> <li>- A view window complying to radiation safety standards to manually visualize the process.</li> </ul>	Essential	Specify	
5	<b>Software Features</b>	Software should have full control of the system and should easily support in positioning the region of interest, setting the parameters and performing the scans.	Essential	Specify	
		Software should be capable of performing Tomographic imaging	Essential	Specify	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
		using absorption contrast and phase contrast techniques.			
		GPU Accelerated Reconstruction time not more than 15 minutes for a dataset of 2k x 2k x 2k.	Essential	Specify the reconstruction time	
		The reconstructed data from the software should be viewable in standard image formats like .jpg, .tiff etc or in standard CAD formats like .stl etc so that the proprietary tools of the OEM is not necessary to view the output.	Essential	---	
		Automated rotation center determination and Image stitching to render complete CT.	Essential	---	
		The instrument control software should be capable of sensing the presence and position of the sample to avoid collision and to ensure safety of the sample and the equipment.	Essential	---	
		Data import and export.	Essential	---	
		Report generation module capable of generating reports in widely used formats like doc, pdf, etc	Essential	---	
		The software should assist in selection of optimum scan parameters.	Essential	---	
		Characterization of porosity, cracks and other details.	Essential	---	
		CT data analysis software should perform 3D data visualization, noise suppression, image filtration, image segmentation and quantification of major structural parameters. Major parameters include porosity, pore diameter distribution, pore sphericity, coordinate measurement, surface determination, wall thickness, CAD import, foam structure, nominal / actual comparison, etc.	Essential	---	
		Automated reconstruction.	Essential	---	
		Collision avoidance during system set-up.	Essential	---	
		Complete 3D tomography image reconstruction, viewing and analysis.	Essential	---	
		Slicing and Section analysis from 3D reconstructed CT.	Essential	---	
		Basic measurement module.	Essential	---	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
6	<b>Beam Hardening Correction, Beam Tuning and System Stability</b>	Beam hardening reduction/compensation for improved image quality.	Essential	Specify the methods.	
		Set of at least 12 high purity X-Ray filters should be available for tuning the beam based on sample size and density.	Essential	Specify the types with details.	
		System Stability to be ensured by providing appropriate motion compensation, vibration isolation and temperature stabilization mechanisms.	Essential	Specify	
7	<b>Workstations</b> A latest high-end proven workstation shall be provided for high-speed & high volume data acquisition and processing.	Ergonomically designed Workstation/ control system that support operation of the equipment with all necessary software installed for smooth control, reconstruction, analysis, viewing and reporting.	Essential	---	
	<b>Primary Workstation</b>	The workstation should satisfy at least minimum requirements mentioned below. The workstation should also support any future software upgrades. <ul style="list-style-type: none"> <li>- High speed processor with intel i7 or better.</li> <li>- High end graphics card with GPU accelerator in addition to in-built graphics card.</li> <li>- RAM: <math>\geq</math> 128GB.</li> <li>- Storage: <math>\geq</math> 1 TB SSD.</li> <li>- Secondary HDD of 10 TB capacity</li> <li>- Minimum 1 gigabit Ethernet port.</li> <li>- Minimum 2 USB 3.0 ports.</li> <li>- Minimum 24" ergonomic display with keyboard and mouse.</li> <li>- Latest OS.</li> <li>- CD &amp; DVD read &amp; write option.</li> <li>- Feature for remote diagnosis.</li> </ul>	Essential	Specify and furnish details of the make, model and specification.	
	<b>Secondary Workstation</b>	Additional secondary computer/workstation, to achieve improved throughput may be specified. Preferable workstation specifications: 1. RAM: $\geq$ 128GB,	Essential  Quote separately	Specify and furnish details of the make, model and specification.	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
		2. Higher end graphics card to support all features of the CT data analysis software, 3. SSD + HDD Combination, ≥ 1 TB SSD and Min 10 TB HDD capacity, 4. Seamless connectivity with primary workstation using appropriate routers, 5. Pre-installed advanced CT data analysis software viz., Dragonfly Pro.			
8	<b>Calibration</b>	Certified calibration tools/ kit with necessary fixtures to calibrate the equipment, should be provided along with calibration certificates.  JIMA resolution test chart for calibrating and monitoring the system resolution.	Essential	Specify the tools.	
		JIMA resolution test chart for calibrating and monitoring the system resolution.	Essential	---	
9	<b>Standard Warranty - Inclusive of parts and labor</b>	The complete system and its associated hardware / software should have a minimum standard warranty for a period of 12 months from the date of installation, commissioning and acceptance of the system at CMTI.  During the warranty period following should be included free of cost: <ul style="list-style-type: none"> <li>- Any number of emergency service requests from CMTI.</li> <li>- Turnaround Time: 48 hours from the time of reporting.</li> <li>- Routine Maintenance</li> <li>- Performance Checks</li> <li>- Re-alignment and calibration</li> <li>- Repair &amp; Replacement of defective components and parts.</li> <li>- Time-to-Time Software updates and patches</li> </ul>	Essential	---	
10	<b>Optional Features/ Items</b>				
10.1	<b>Evolution Studies</b>	Any additional feature/ module/kit to perform evolution studies of 3D interiors of materials, over time, in-situ, when subjected to varying external conditions like temperature, force, electrical bias, pressure etc.	Optional	Quote Separately with full details and brochure	



Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
		Any additional accessories/ feature necessary to support/ enable the evolution study feature (so that it can be field upgraded later) to be specified and included.	Optional	Quote Separately with details of accessories	
10.2	<b>Optional Detector</b>	≥ 3k x 2k large FOV Flat Panel Detector with pixel size ≤ 74 μm	Optional	Quote Separately	
10.3	<b>Optional Software Features</b>  Any additional modules, if available for achieving the mentioned features, may be quoted separately	Software to achieve enhanced image quality.	Optional	Quote Separately	
		Software for improving the throughput.	Optional	Quote Separately	
		Software for carrying out evolution studies (changes over time).	Optional	Quote Separately	
		Software for post processing of phase contrast images for artefact-free tomography data.	Optional	Quote Separately	
10.4	<b>Optional Sample Holders</b>	Optional sample holders for handling flat, cylindrical and spherical parts. Various sample form factors should be handled by holders comprising of screw clamp, spring clip and pin vise etc	Optional	Quote Separately	
		Holders which facilitate additional view axes like for eg: tilt.	Optional	Quote Separately	
10.5	<b>Dosimeter</b>	Calibrated dosimeter.	Optional	Quote Separately	
10.6	<b>Spares and consumables</b>	Optional spares and consumables if any with warranty and shelf life, for smooth operation of the equipment for at least three years.	Optional	Specify and Quote Separately	
10.7	<b>Additional Warranty</b>	<p>24 months additional warranty to be quoted as optional.</p> <p>During the warranty period following should be included free of cost:</p> <ul style="list-style-type: none"> <li>- Any number of emergency service requests from CMTI.</li> <li>- Turnaround Time: 48 hours from the time of reporting.</li> <li>- Routine Maintenance.</li> <li>- Performance Checks.</li> <li>- Re-alignment and calibration if necessary.</li> <li>- Repair &amp; Replacement of defective components and parts.</li> <li>- Time-to-Time Software updates and patches</li> <li>- Online data analysis support and free upgradation from OEMs of CT software</li> </ul>	Optional	Quote Separately	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
11	<b>Clean room Compatibility</b>	The quoted system and parts should be compatible with clean room class 1000 or better.	Essential	Provide OEM document.	
12	<b>Safety</b>	Radiation safe enclosure with radiation level < 1 µS/hr.	Essential	Specify the levels.	
		Occupational radiation exposure level shall not exceed the AERB/USFDA/ICRP recommended limit.	Essential	---	
		All Safety interlocks should be available in the system.	Essential	---	
		Noticeable hazard warning labels should be pasted at appropriate parts.	Essential	---	
		Any specific precautions/ site preparations required for safe operation and maintenance of the equipment to ensure safety of the personnel, the clean room facility and the equipment to be clearly specified.	Essential	Specify	
		CE Mark and Compliance with SEMI S2, SEMI S8, UL safety standards	Essential	Furnish compliance documents of similar installations.	
	System should support user friendly access, operation and maintenance.	Essential	---		
13	<b>Electrical Control and Software</b>	Equipment should support Indian Electrical Standards.	Essential	---	
		The power requirement for the equipment, in KVA.	Essential	Specify the exact power consumption.	
		The HT generator, isolation transformer, cooling unit etc should be provided and suitably interfaced to the X Ray source and target.	Essential	---	
		Appropriate lengths of all cables to be ensured by the supplier.	Essential	---	
		Software (both OEM and third party) should be professional versions with perpetual license.	Essential	---	
		One set of complete software (both OEM and third party) should be provided in CD/DVD/ USB Drive.	Essential	---	
14	<b>Site Preparation</b>	Specify foot print and dimensions of the complete equipment	Essential	Specify in H x L x W	
		Supplier shall provide essential accessories with proper isolations like for eg: compressor, cooling unit etc with suitable cables, tubes and fittings.	Essential	---	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
		Suppliers must clearly specify the pre-installation requirements to prepare the site for installation and uninterrupted operation of the equipment. Any additional cost due to requirements other than that specified, will be borne by the supplier.	Essential	---	
		Supplier shall visit and review the site in advance and provide necessary suggestions to install the new system.	Essential	---	
		EMF/EMI/EMC etc testing and validation shall be carried out by supplier, at the site, before installation, free of cost.	Essential	---	
15	<b>Installation, Testing and Commissioning</b>	Supplier should arrange for unloading, unpacking, installation, testing and commissioning by OEM/ authorized factory trained engineers at CMTI, free of cost.	Essential	---	
16	<b>Training</b> Shall be provided free of cost:	Basic Training: For a batch of at least 4 CMTI personnel at site immediately after installation.	Essential	---	
		Advanced Training: For a batch of at least 4 CMTI personnel for a minimum of 3 business days at site after 3 months from installation.	Essential	---	
		Pre-dispatch Equipment Audit: Supplier shall arrange free pre-dispatch equipment audit for two CMTI personnel on compliance to specifications, training on hardware & software, operation, Maintenance and safety, at OEM location including transport, accommodation & hospitality for a period of one-two business week.	Essential	---	
		Training on CT data analysis software by OEM team; both preliminary and advanced training sessions; either physical or online	Essential	Specify	
17	<b>After Sales Service Support</b>	The supplier should support the system and all sub-systems for a minimum 10 years (post warranty, with all spares and services)	Essential	Exact life of the quoted model including availability of spares & support to be specified.	
		Trained technical service support team should be available in India for the supplied equipment and the	Essential	Specify details.	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
		<p>details of the same like address, contact person details, phone/fax Numbers, email shall be provided by vendor.</p> <p>CMTI should be intimated in advance if the quoted model is discontinued.</p>	Essential	Specify details.	
18	<b>Documents/ manuals</b>	<p>1 set of hard copy and 1 set of soft copy of the following in English:</p> <ul style="list-style-type: none"> <li>- Operation Manual with description of control and interfaces.</li> <li>- Trouble shooting Manual.</li> <li>- Maintenance Manual.</li> <li>- Programming Manual.</li> <li>- Spare parts list with source of supply.</li> <li>- Manuals of bought out items, if any, incorporated in the system.</li> <li>- Custom made third-party components and their sources.</li> <li>- Equipment drawings.</li> </ul>	Essential	---	
19	<b>Shipping and Delivery</b>	The vendor should quote the final price on the basis of delivery duty paid (DDP) of equipment to Central Manufacturing Technology Institute (CMTI), Bangalore (final destination) which includes all charges including logistics, insurance, customs and shipping charges.	Essential	---	
20	<b>Installations list</b>	<p>Provide a list of installations for the quoted equipment with same or similar specifications, in India or abroad with date of installation and full contact details.</p> <p>CMTI scientists and committee members may interact/ visit these installations and evaluate the system as part of tender evaluation.</p> <p>This criteria will be used for evaluation of the quoted system for technical suitability and offers without this information will be rejected without any further reference.</p>	Essential	List of users with date of installation and full contact details.	
21	<b>Other Terms</b>	Quote must be complete in all respects (Hardware & Software).	Essential	---	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
		Date of manufacturing of the equipment should be after the placement of purchase order and all the integrated parts should be brand new.	Essential	---	
		Vendor shall be Wholly-Owned Subsidiary of OEM in India or OEM's own Branch/Sales Office in India and who can fulfil after sales service as per Sl. No. 17.	Essential	---	
		All the listed software and hardware items that are quoted in the tender should preferably be a catalogued product and reflected in OEM official webpage and documents like brochure.	Essential	---	
		The vendor should meet all the technical specifications to qualify the bid. The vendor has to furnish the values/units/parameters against each CMTI requirement in the compliance column. Offer without this information or false claims will be rejected without any further reference.	Essential	---	
		The OEM must sign and stamp (company seal) on all the pages of technical compliance sheet.	Essential	---	
22	Technical Evaluation	As part of the technical compliance, the vendor should submit a detailed report of tests conducted and their results using standard specimen or sample to justify the performance of the proposed system in all aspects of the specifications of this tender along with the technical bid.			
		During the technical bid evaluation phase, CMTI will provide samples for evaluating the performance of the system. The vendor should submit the reports of the tests conducted on the samples provided by CMTI with video evidence or in presence of the CMTI Scientists (if required). CMTI shall provide the samples to all bidders of the tender after the bids are submitted.			
	Acceptance	The capabilities of the equipment must be proved by supplier as per CMTI's acceptance criteria both at	Essential	---	

Sl. No	Feature Description	Technical Specification	CMTI Requirement	Information Required from Vendors	Vendor Compliance
23		OEM's place before shipment and at CMTI after installation.			

**PART-B**

**Price Bid format for 3D X-RAY MICROSCOPE**

**A) Price Quotations-The quotations shall clearly mention the unit price and quantity required.**

Sl. No.	Item		Unit Price	Quantity	Total
1.	<b>3D X-Ray Microscope</b>	With all the features mentioned in the technical specifications			
2.	<b>Reconstruction, Post processing and inspection Software modules</b>	Including all necessary softwares as per the technical requirement given.			
3.	<b>Primary Workstation</b>	Compliant with the specification requirement			
4.	<b>Secondary Workstation</b>	Compliant with the specification requirement			
5.	<b>Calibration tools</b>	Compliant with the specification requirement			
<b>Optional Features/ Items</b>					
6.	<b>Evolution Studies</b>	Compliant with the specification requirement			
7.	<b>Optional Detector</b>	Compliant with the specification requirement			
8.	<b>Optional Software Features</b>	Compliant with the specification requirement			
9.	<b>Optional Sample Holders</b>	Compliant with the specification requirement			
10.	<b>Dosimeter</b>	Compliant with the specification requirement			
11.	<b>Spares and consumables</b>	Compliant with the specification requirement			
12.	<b>Additional Warranty</b>	Compliant with the specification requirement			

- Complete details as per specific requirement giving suppliers experience, heritage of the quoted system and customer list for **3D X-Ray Microscope** with contact details, local service support, certificate of origin is to be provided as part of techno commercial offer. **Offers without this information or offers with incomplete or inaccurate or false information will be rejected without any further reference.**
- **Offers from traders / resellers will not be considered.**
- Table of compliance statement (as per the format given in Part-A: Technical Specifications) giving exact numerical values with tolerance or range of values should be supplied along the quote will not be considered. Merely stating, “comply” does not constitute sufficient

technical data. In case of insufficient technical data, the quote will be summarily rejected without seeking any clarifications.

- Specified technical data should be supported by product catalogs, manuals, test procedures and test plots or results.
- Specified **options** will be exercised at the time of order and hence should be **quoted separately**.
- All other **options** and **spares** should be quoted separately.
- **Utilities:** The supplier to specify the various requirements of operation & installation of the **3D X-RAY MICROSCOPE**.
  1. Electrical Power requirements.
  2. Civil requirements like footprint of various systems, minimum area required for entire system like field power supply etc.
  3. Cooling system requirements.
  4. AC requirements like heat dissipation factor for each subsystem.
  5. Foundation requirement for installation, trench requirement, etc.
- Additional features if any may be indicated separately and quoted as optional.
- Supplier shall be ready to give technical presentation/demonstrations if required.
- The performance certificate should be supplied along with the product.
- Minor modifications that are necessary to meet CMTI Bangalore interface requirements should be accommodated while executing the order.



## **PART-C**

### **Acceptance Criteria**

#### **Scope of Work:**

The scope of work and responsibility of supplier include Design, Manufacture, handling at site, and integration of **3D X-Ray Microscope** as per specifications.

#### **General Requirements:**

Vendor will be responsible for the following:

##### **1. Quality:**

- a. The system should be tested prior to shipment as per Factory Acceptance Tests (FAT) plan given in Part-D and the same will be witnessed by CMTI, Bangalore at its discretion. Vendor shall give 30 days advance notice for witnessing the Factory Acceptance Tests (FAT) at their premises. Vendor shall make available the following,
  - i. Calibration records, wherever applicable, with traceability
  - ii. Quality certificates for all deliverables and
  - iii. Reports of all the Tests carried out on the equipment

##### **2. Shipping and Installation:**

- a. The system shall be installed at CMTI Bangalore-560 022, India.
- b. The Vendor shall place the **3D X-Ray Microscope** and auxiliary units in the areas already identified in the building. The **3D X-Ray Microscope** shall be placed on the floor level.
- c. Handling of containers at CMTI Bangalore, unpacking, handling of supplied items at installation site should be taken care by the vendor.
- d. Electrical wiring from the panel, cooling unit and hydraulic connections should be taken care by the vendor.
- e. The vendor shall have responsibility of providing required connecting cables, hoses, water and pneumatic lines. Utility outlets for power, air and water will be provided by CMTI, Bangalore, at locations identified by vendor.

##### **3. Acceptance Test Procedure**

- a. The **3D X-Ray Microscope** shall be as tested as per Factory Acceptance Tests (FAT) plan given in "Part-D" at factory.
- b. After installation at CMTI, Bangalore, the system should be tested as per the site acceptance test plan as given in "Part-E" at CMTI, Bangalore. The site acceptance test results will be the criteria for acceptance of the system.

##### **4. Vendor shall provide the list of sub-contractors supplying critical items for the system.**

##### **5. Warranty and Services:**

- a. The standard 12 months comprehensive warranty will start from the date of acceptance of the system at CMTI.
- b. The system shall be warranted against all design, manufacturing defects, assembly faults and sub-standard quality.

##### **6. Scope of CMTI, Bangalore:**

The Scope of supplies from CMTI, Bangalore will include the following:

- a. Site preparation for the system with general utilities.
- b. Power, water and compressed air outlet points will be provided.

**PART-D****Factory Acceptance Test (FAT) Plan at factory prior to dispatch****Important Notes to Vendor:**

- I. Purchased equipment should meet all the technical specification mentioned in the tender document and acceptance criteria.
- II. Complete technical specifications (both Essential by CMTI & Vendor Specified) in the tender document and acceptance criteria shall undergo physical verification, functionality/performance check, demonstration, verification of certificates and documents at manufacturer place and at installation site CMTI.
- III. All necessary items required to demonstrate the specifications should be arranged by the vendor.

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
1	<b>X-Ray Imaging Capabilities</b>	Spatial Resolution: ≤ 0.5 μm on 2D resolution standard.	Demonstration
		Spatial Resolution at a distance: ≤ 1 μm at working distance of ≥ 50 mm. The system should be able to maintain high resolution at large (≥ 50 mm) working distances.  A feature where the capture can start with a larger sample area, low resolution scan, from which particular ROI can be selected and zoomed in further down to that ROI in order to scan at higher resolution, without disturbing the sample should be possible.	Demonstration
		Minimum Achievable Voxel: ≤ 70 nm	Demonstration
		Absorption Contrast Imaging:  The equipment should be capable of producing tomograms on the conventional absorption contrast technique, which produces images based on differences in absorption of x-rays. Contrast being driven by absorption differences, differences in density and object thickness.	Demonstration
		Phase Contrast Imaging:  The equipment should be capable of producing tomogram by transforming X-Ray phase changes due to the object, into X-Ray intensity variations in the acquired images. The contrast technique should be suitable for objects that present weak absorption contrast, like <ul style="list-style-type: none"> <li>✓ Low Z materials</li> <li>✓ Soft Materials</li> <li>✓ Imaging a mix of high density and low density materials.</li> <li>✓ Imaging similar density materials.</li> </ul>	Demonstration

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
		Optical magnification through at least 4 Objectives of 0.4X, 4X, 20X and 40X, mounted on software controlled turret or Alternate architecture if it can be demonstrated that zooming in at different magnifications or resolution can be carried out from <0.5 $\mu\text{m}$ to > 10 $\mu\text{m}$ resolution at higher efficiency or throughput. It should also be demonstrated that high resolution of < 1.0 $\mu\text{m}$ can be achieved at a source-sample distance of > 50 mm.	Demonstration
		3D FOV: $\geq 90$ mm	Demonstration
2	<b>X-Ray Source</b>	Tube Type: Sealed Transmission Tube or Open Transmission tube	Physical Verification
		Life time of tube: > 3000 hours	Supporting Document
		Tube Voltage Range: 30 - 160 kV	Demonstration
		Power: $\geq 10$ W	Physical Verification/ Supporting Document
		Source should not be in fixed position and the source to sample distance must be adjustable	Functional Verification
3	<b>X-Ray Detector</b>  Detector system should be a high resolution system and should be capable of producing images with low noise, distortion free, best focussed and with high contrast and clarity.	$\geq 2\text{k} \times 2\text{k}$ CCD Detector with pixel size $\leq 15$ $\mu\text{m}$ and user selectable scintillator coupled objectives to give small FOV and high resolution or high performance detector which can provide higher resolution, better image quality and distortion free images.	Functional Verification
		Detector should work for entire tube voltage range of 30 – 160 kV	Functional Verification
		Detector should not be in fixed position and the detector to sample distance must be adjustable	Functional Verification
4	<b>Sample Handling</b>	Sample weight carrying capacity: $\geq 20$ kg	Demonstration
		Sample Size that can be accommodated on the stage: $\geq 300$ mmx 300 mm x 300 mm	Demonstration
		Sample Holders: Sample Holders (if any) which come as standard with the system to be included.	Physical Verification
4.1	<b>Stage movements</b>	At least 4 axes of sample movement: X, Y, Z and 360° rotation.	Functional Verification
		XY and Z Stage accuracy: $\leq 1.25$ $\mu\text{m}$	Functional Verification
		Rotary stage accuracy: $\leq 0.1$ deg	Functional Verification
		XYZ least count: $\leq 1.25$ $\mu\text{m}$	Functional Verification
		Angular least count: $\leq 0.1$ deg	Functional Verification

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
4.2	<b>View of Inspection Area</b>	The system should have either of the below options for viewing the inspection area: <ul style="list-style-type: none"> <li>- Integrated visible light camera to visualize the process. The visible light camera should be integrated to the control software of the equipment.</li> <li>- A view window complying to radiation safety standards to manually visualize the process.</li> </ul>	Physical Verification
5	<b>Software Features</b>	Software should have full control of the system and should easily support in positioning the region of interest, setting the parameters and performing the scans.	Functional verification & Demonstration
		Software should be capable of performing Tomographic imaging using absorption contrast and phase contrast techniques.	Functional verification & Demonstration
		GPU Accelerated Reconstruction time not more than 15 minutes for a dataset of 2k x 2k x 2k.	Functional verification & Demonstration
		The reconstructed data from the software should be viewable in standard image formats like .jpg, .tiff etc., or in standard CAD formats like .stl etc., so that the proprietary tools of the OEM is not necessary to view the output.	Functional verification & Demonstration
		Automated rotation center determination and Image stitching to render complete CT.	Functional verification & Demonstration
		The instrument control software should be capable of sensing the presence and position of the sample to avoid collision and to ensure safety of the sample and the equipment.	Functional verification & Demonstration
		Data import and export.	Functional verification & Demonstration
		Report generation module capable of generating reports in widely used formats like doc, pdf, etc	Functional verification & Demonstration
		The software should assist in selection of optimum scan parameters.	Functional verification & Demonstration
		Characterization of porosity, cracks and other details.	Functional verification & Demonstration
		CT data analysis software should perform 3D data visualization, noise suppression, image filtration, image segmentation and quantification of major structural parameters. Major parameters include porosity, pore diameter distribution, pore sphericity, coordinate measurement, surface determination, wall thickness, CAD import, foam structure, nominal / actual comparison, etc.	Functional verification & Demonstration
		Automated reconstruction.	Functional verification & Demonstration
Collision avoidance during system set-up.	Functional verification & Demonstration		

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
		Complete 3D tomography image reconstruction, viewing and analysis.	Functional verification & Demonstration
		Slicing and Section analysis from 3D reconstructed CT.	Functional verification & Demonstration
		Basic measurement module.	Functional verification & Demonstration
6	<b>Beam Hardening Correction, Beam Tuning and System Stability</b>	Beam hardening reduction/ compensation for improved image quality.	Demonstration
		Set of at least 12 high purity X-Ray filters should be available for tuning the beam based on sample size and density.	Physical Verification
		System Stability to be ensured by providing appropriate motion compensation, vibration isolation and temperature stabilization mechanisms.	Physical Verification
7	<b>Workstations</b>  A latest high-end proven workstation shall be provided for high-speed & high volume data acquisition and processing.	Ergonomically designed Workstation/ control system that support operation of the equipment with all necessary software installed for smooth control, reconstruction, analysis, viewing and reporting.	Physical Verification
	<b>Primary Workstation</b>	The workstation should satisfy at least minimum requirements mentioned below. The workstation should also support any future software upgrades. <ul style="list-style-type: none"> <li>- High speed processor with intel i7 or better.</li> <li>- High end graphics card with GPU accelerator in addition to in-built graphics card.</li> <li>- RAM: ≥ 128GB.</li> <li>- Storage: ≥ 1 TB SSD.</li> <li>- Secondary HDD of 10 TB capacity</li> <li>- Minimum 1 gigabit Ethernet port.</li> <li>- Minimum 2 USB 3.0 ports.</li> <li>- Minimum 24" ergonomic display with keyboard and mouse.</li> <li>- Latest OS.</li> <li>- CD &amp; DVD read &amp; write option.</li> <li>- Feature for remote diagnosis.</li> </ul>	Physical & Functional Verification
	<b>Secondary Workstation</b>	Additional secondary computer/ workstation, to achieve improved throughput may be specified. Preferable workstation specifications: <ol style="list-style-type: none"> <li>1. RAM: ≥ 128GB,</li> <li>2. Higher end graphics card to support all features of the CT data analysis software,</li> <li>3. SSD + HDD Combination, ≥ 1 TB SSD and Min 10 TB HDD capacity,</li> </ol>	Physical & Functional Verification

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
		4. Seamless connectivity with primary workstation using appropriate routers, 5. Pre-installed advanced CT data analysis software viz., Dragonfly Pro.	
8	<b>Calibration</b>	Certified calibration tools/ kit with necessary fixtures to calibrate the equipment, should be provided along with calibration certificates.	Physical Verification & Supporting Document
		JIMA resolution test chart for calibrating and monitoring the system resolution.	Physical Verification
9	<b>Standard Warranty - Inclusive of parts and labor</b>	<p>The complete system and its associated hardware / software should have a minimum standard warranty for a period of 12 months from the date of installation, commissioning and acceptance of the system at CMTI.</p> <p>During the warranty period following should be included free of cost:</p> <ul style="list-style-type: none"> <li>- Any number of emergency service requests from CMTI.</li> <li>- Turnaround Time: 48 hours from the time of reporting.</li> <li>- Routine Maintenance</li> <li>- Performance Checks</li> <li>- Re-alignment and calibration</li> <li>- Repair &amp; Replacement of defective components and parts.</li> <li>- Time-to-Time Software updates and patches</li> </ul>	Certificate Verification
10	<b>Optional Features/ Items</b>		
10.1	<b>Evolution Studies</b>	Any additional feature/ module/kit to perform evolution studies of 3D interiors of materials, over time, in-situ, when subjected to varying external conditions like temperature, force, electrical bias, pressure etc.	Demonstration
		Any additional accessories/ feature necessary to support/ enable the evolution study feature (so that it can be field upgraded later) to be specified and included.	Physical Verification
10.2	<b>Optional Detector</b>	$\geq 3k \times 2k$ large FOV Flat Panel Detector with pixel size $\leq 74 \mu m$	Functional verification
10.3	<b>Optional Software Features</b>	Software to achieve enhanced image quality.	Functional verification & Demonstration
		Software for improving the throughput.	Functional verification & Demonstration
		Software for carrying out evolution studies (changes over time).	Functional verification & Demonstration
		Software for post processing of phase contrast images for artefact-free tomography data.	Functional verification & Demonstration
	Any additional modules, if available for achieving the mentioned features, may		

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
	be quoted separately		
10.4	<b>Optional Sample Holders</b>	Optional sample holders for handling flat, cylindrical and spherical parts. Various sample form factors should be handled by holders comprising of screw clamp, spring clip and pin vise etc	Physical Verification
		Holders which facilitate additional view axes like for eg: tilt.	Physical Verification
10.5	<b>Dosimeter</b>	Calibrated dosimeter.	Functional Verification & Supporting Document
10.6	<b>Spares and consumables</b>	Optional spares and consumables if any with warranty and shelf life, for smooth operation of the equipment for at least three years.	Physical Verification
10.7	<b>Additional Warranty</b>	<p>24 months additional warranty to be quoted as optional.</p> <p>During the warranty period following should be included free of cost:</p> <ul style="list-style-type: none"> <li>- Any number of emergency service requests from CMTI.</li> <li>- Turnaround Time: 48 hours from the time of reporting.</li> <li>- Routine Maintenance.</li> <li>- Performance Checks.</li> <li>- Re-alignment and calibration if necessary.</li> <li>- Repair &amp; Replacement of defective components and parts.</li> <li>- Time-to-Time Software updates and patches</li> </ul> <p>Online data analysis support and free upgradation from OEMs of CT softwares</p>	Certificate Verification
11	<b>Clean room Compatibility</b>	The quoted system and parts should be compatible with clean room class 1000 or better.	Supporting Document
12	<b>Safety</b>	Radiation safe enclosure with radiation level < 1 $\mu$ S/hr.	Physical Verification
		Occupational radiation exposure level shall not exceed the AERB/USFDA/ICRP recommended limit.	Supporting Document
		All Safety interlocks should be available in the system.	Physical Verification
		Noticeable hazard warning labels should be pasted at appropriate parts.	Physical Verification
		Any specific precautions/ site preparations required for safe operation and maintenance of the equipment to ensure safety of the personnel, the clean room facility and the equipment to be clearly specified.	Supporting Document
		CE Mark and Compliance with SEMI S2, SEMI S8, UL safety standards	Supporting Document
13		Equipment should support Indian Electrical Standards.	Physical Verification

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
	<b>Electrical Control and Software</b>	The power requirement for the equipment, in KVA.	Physical Verification
		The HT generator, isolation transformer, cooling unit etc should be provided and suitably interfaced to the X Ray source and target.	Physical Verification
		Appropriate lengths of all cables to be ensured by the supplier.	Physical Verification
		Software (both OEM and third party) should be professional versions with perpetual license.	Physical Verification
		One set of complete software (both OEM and third party) should be provided in CD/DVD/ USB Drive.	Physical Verification
14	<b>Installation, Testing and Commissioning</b>	Supplier should arrange for unloading, unpacking, installation, testing and commissioning by OEM/ authorized factory trained engineers at CMTI, free of cost.	Physical Verification
15	<b>After Sales Service Support</b>	The supplier should support the system and all sub-systems for a minimum 10 years (post warranty, with all spares and services)	Supporting Document
		Trained technical service support team should be available in India for the supplied equipment and the details of the same like address, contact person details, phone/fax Numbers, email shall be provided by vendor.	Supporting Document
		CMTI should be intimated in advance if the quoted model is discontinued.	Supporting Document
16	<b>Documents/ manuals</b>	1 set of hard copy and 1 set of soft copy of the following in English: <ul style="list-style-type: none"> <li>- Operation Manual with description of control and interfaces.</li> <li>- Trouble shooting Manual.</li> <li>- Maintenance Manual.</li> <li>- Programming Manual.</li> <li>- Spare parts list with source of supply.</li> <li>- Manuals of bought out items, if any, incorporated in the system.</li> <li>- Custom made third-party components and their sources.</li> <li>- Equipment drawings.</li> </ul>	Physical Verification
17	Technical Evaluation	The test report submitted by the vendor as part of the technical compliance using standard specimen or sample justifying the performance of the proposed system in all aspects of the specification of the tender shall be verified.	Physical and functional verification during FAT
		The test reports submitted as part of the technical bid evaluation on CMTI samples shall be verified.	Physical and functional verification.
18	<b>Acceptance</b>	The capabilities of the equipment must be proved by supplier as per CMTI's acceptance criteria both at OEM's place before shipment and at CMTI after installation.	Features and functionality have to be demonstrated in entirety



**PART- E****Site Acceptance Test (SAT) Plan at CMTI, Bangalore after Installation**

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
1	<b>X-Ray Imaging Capabilities</b>	Spatial Resolution: ≤ 0.5 μm on 2D resolution standard.	Demonstration
		Spatial Resolution at a distance: ≤ 1 μm at working distance of ≥ 50 mm. The system should be able to maintain high resolution at large (≥ 50 mm) working distances.  A feature where the capture can start with a larger sample area, low resolution scan, from which particular ROI can be selected and zoomed in further down to that ROI in order to scan at higher resolution, without disturbing the sample should be possible.	Demonstration
		Minimum Achievable Voxel: ≤ 70 nm	Demonstration
		Absorption Contrast Imaging:  The equipment should be capable of producing tomograms on the conventional absorption contrast technique, which produces images based on differences in absorption of x-rays. Contrast being driven by absorption differences, differences in density and object thickness.	Demonstration
		Phase Contrast Imaging:  The equipment should be capable of producing tomogram by transforming X-Ray phase changes due to the object, into X-Ray intensity variations in the acquired images. The contrast technique should be suitable for objects that present weak absorption contrast, like <ul style="list-style-type: none"> <li>✓ Low Z materials</li> <li>✓ Soft Materials</li> <li>✓ Imaging a mix of high density and low density materials.</li> <li>✓ Imaging similar density materials.</li> </ul>	Demonstration
		Optical magnification through at least 4 Objectives of 0.4X, 4X, 20X and 40X, mounted on software controlled turret. or Alternate architecture if it can be demonstrated that zooming in at different magnifications or resolution can be carried out from <0.5 μm to > 10 μm resolution at higher efficiency or throughput. It should also be demonstrated that high resolution of < 1.0μm can be achieved at a source-sample distance of > 50 mm.	Demonstration
	3D FOV: ≥ 90 mm	Demonstration	

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
2	<b>X-Ray Source</b>	Tube Type: Sealed Transmission Tube or Open Transmission tube	Physical Verification
		Life time of tube: > 3000 hours	Supporting Document
		Tube Voltage Range: 30 - 160 kV	Demonstration
		Power: ≥ 10 W	Physical Verification/ Supporting Document
		Source should not be in fixed position and the source to sample distance must be adjustable	Functional Verification
3	<b>X-Ray Detector</b>  Detector system should be a high resolution system and should be capable of producing images with low noise, distortion free, best focussed and with high contrast and clarity.	≥ 2k x 2k CCD Detector with pixel size ≤ 15 μm and user selectable scintillator coupled objectives to give small FOV and high resolution or high performance detector which can provide higher resolution, better image quality and distortion free images.	Functional Verification
		Detector should work for entire tube voltage range of 30 – 160 kV	Functional Verification
		Detector should not be in fixed position and the detector to sample distance must be adjustable	Functional Verification
4	<b>Sample Handling</b>	Sample weight carrying capacity: ≥ 20 kg	Demonstration
		Sample Size that can be accommodated on the stage: ≥ 300 mmx 300 mm x 300 mm	Demonstration
		Sample Holders: Sample Holders (if any) which come as standard with the system to be included.	Physical Verification
4.1	<b>Stage movements</b>	At least 4 axes of sample movement: X, Y, Z and 360° rotation.	Functional Verification
		XY and Z Stage accuracy: ≤ 1.25 μm	Functional Verification
		Rotary stage accuracy: ≤ 0.1 deg	Functional Verification
		XYZ least count: ≤ 1.25 μm	Functional Verification
		Angular least count: ≤ 0.1 deg	Functional Verification
4.2	<b>View of Inspection Area</b>	The system should have either of the below options for viewing the inspection area: <ul style="list-style-type: none"> <li>- Integrated visible light camera to visualize the process. The visible light camera should be integrated to the control software of the equipment.</li> <li>- A view window complying to radiation safety standards to manually visualize the process.</li> </ul>	Physical Verification
5	<b>Software Features</b>	Software should have full control of the system and should easily support in positioning the region	Functional verification & Demonstration

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
		of interest, setting the parameters and performing the scans.	
		Software should be capable of performing Tomographic imaging using absorption contrast and phase contrast techniques.	Functional verification & Demonstration
		GPU Accelerated Reconstruction time not more than 15 minutes for a dataset of 2k x 2k x 2k.	Functional verification & Demonstration
		The reconstructed data from the software should be viewable in standard image formats like .jpg, .tiff etc., or in standard CAD formats like .stl etc., so that the proprietary tools of the OEM is not necessary to view the output.	Functional verification & Demonstration
		Automated rotation centre determination and Image stitching to render complete CT.	Functional verification & Demonstration
		The instrument control software should be capable of sensing the presence and position of the sample to avoid collision and to ensure safety of the sample and the equipment.	Functional verification & Demonstration
		Data import and export.	Functional verification & Demonstration
		Report generation module capable of generating reports in widely used formats like doc, pdf, etc	Functional verification & Demonstration
		The software should assist in selection of optimum scan parameters.	Functional verification & Demonstration
		Characterization of porosity, cracks and other details.	Functional verification & Demonstration
		CT data analysis software should perform 3D data visualization, noise suppression, image filtration, image segmentation and quantification of major structural parameters. Major parameters include porosity, pore diameter distribution, pore sphericity, coordinate measurement, surface determination, wall thickness, CAD import, foam structure, nominal / actual comparison, etc.	Functional verification & Demonstration
		Automated reconstruction.	Functional verification & Demonstration
		Collision avoidance during system set-up.	Functional verification & Demonstration
		Complete 3D tomography image reconstruction, viewing and analysis.	Functional verification & Demonstration
		Slicing and Section analysis from 3D reconstructed CT.	Functional verification & Demonstration
		Basic measurement module.	Functional verification & Demonstration
6	<b>Beam Hardening Correction, Beam Tuning and System Stability</b>	Beam hardening reduction/ compensation for improved image quality.	Demonstration
		Set of at least 12 high purity X-Ray filters should be available for tuning the beam based on sample size and density.	Physical Verification

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
		System Stability to be ensured by providing appropriate motion compensation, vibration isolation and temperature stabilization mechanisms.	Physical Verification
7	<p><b>Workstations</b></p> <p>A latest high-end proven workstation shall be provided for high-speed &amp; high volume data acquisition and processing.</p>	Ergonomically designed Workstation/ control system that support operation of the equipment with all necessary software installed for smooth control, reconstruction, analysis, viewing and reporting.	Physical Verification
	<p><b>Primary Workstation</b></p>	<p>The workstation should satisfy at least minimum requirements mentioned below. The workstation should also support any future software upgrades.</p> <ul style="list-style-type: none"> <li>- High speed processor with intel i7 or better.</li> <li>- High end graphics card with GPU accelerator in addition to in-built graphics card.</li> <li>- RAM: ≥ 128GB.</li> <li>- Storage: ≥ 1 TB SSD.</li> <li>- Secondary HDD of 10 TB capacity</li> <li>- Minimum 1 gigabit Ethernet port.</li> <li>- Minimum 2 USB 3.0 ports.</li> <li>- Minimum 24" ergonomic display with keyboard and mouse.</li> <li>- Latest OS.</li> <li>- CD &amp; DVD read &amp; write option.</li> <li>- Feature for remote diagnosis.</li> </ul>	Physical & Functional Verification
	<p><b>Secondary Workstation</b></p>	<p>Additional secondary computer/ workstation, to achieve improved throughput may be specified. Preferable workstation specifications:</p> <ol style="list-style-type: none"> <li>1. RAM: ≥ 128GB,</li> <li>2. Higher end graphics card to support all features of the CT data analysis software,</li> <li>3. SSD + HDD Combination, ≥ 1 TB SSD and Min 10 TB HDD capacity,</li> <li>4. Seamless connectivity with primary workstation using appropriate routers,</li> <li>5. Pre-installed advanced CT data analysis software viz., Dragonfly Pro.</li> </ol>	Physical & Functional Verification
8	<p><b>Calibration</b></p>	<p>Certified calibration tools/ kit with necessary fixtures to calibrate the equipment, should be provided along with calibration certificates.</p>	Physical Verification & Supporting Document
		<p>JIMA resolution test chart for calibrating and monitoring the system resolution.</p>	Physical Verification
9	<p><b>Standard Warranty - Inclusive of parts and labor</b></p>	<p>The complete system and its associated hardware / software should have a minimum standard warranty for a period of 12 months from the date</p>	Certificate Verification

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
		<p>of installation, commissioning and acceptance of the system at CMTI.</p> <p>During the warranty period following should be included free of cost:</p> <ul style="list-style-type: none"> <li>- Any number of emergency service requests from CMTI.</li> <li>- Turnaround Time: 48 hours from the time of reporting.</li> <li>- Routine Maintenance</li> <li>- Performance Checks</li> <li>- Re-alignment and calibration</li> <li>- Repair &amp; Replacement of defective components and parts.</li> <li>- Time-to-Time Software updates and patches</li> </ul>	
10	<b>Optional Features/ Items</b>		
10.1	<b>Evolution Studies</b>	Any additional feature/ module/kit to perform evolution studies of 3D interiors of materials, over time, in-situ, when subjected to varying external conditions like temperature, force, electrical bias, pressure etc.	Demonstration
		Any additional accessories/ feature necessary to support/ enable the evolution study feature (so that it can be field upgraded later) to be specified and included.	Physical Verification
10.2	<b>Optional Detector</b>	≥ 3k x 2k large FOV Flat Panel Detector with pixel size ≤ 74 μm	Functional verification
10.3	<b>Optional Software Features</b>	Software to achieve enhanced image quality.	Functional verification & Demonstration
		Software for improving the throughput.	Functional verification & Demonstration
	Any additional modules, if available for achieving the mentioned features, may be quoted separately	Software for carrying out evolution studies (changes over time).	Functional verification & Demonstration
		Software for post processing of phase contrast images for artefact-free tomography data.	Functional verification & Demonstration
10.4	<b>Optional Sample Holders</b>	Optional sample holders for handling flat, cylindrical and spherical parts. Various sample form factors should be handled by holders comprising of screw clamp, spring clip and pin vise etc	Physical Verification
		Holders which facilitate additional view axes like for eg: tilt.	Physical Verification
10.5	<b>Dosimeter</b>	Calibrated dosimeter.	Functional Verification & Supporting Document

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
10.6	<b>Spares and consumables</b>	Optional spares and consumables if any with warranty and shelf life, for smooth operation of the equipment for at least three years.	Physical Verification
10.7	<b>Additional Warranty</b>	<p>24 months additional warranty to be quoted as optional.</p> <p>During the warranty period following should be included free of cost:</p> <ul style="list-style-type: none"> <li>- Any number of emergency service requests from CMTI.</li> <li>- Turnaround Time: 48 hours from the time of reporting.</li> <li>- Routine Maintenance.</li> <li>- Performance Checks.</li> <li>- Re-alignment and calibration if necessary.</li> <li>- Repair &amp; Replacement of defective components and parts.</li> <li>- Time-to-Time Software updates and patches</li> </ul> <p>Online data analysis support and free upgradation from OEMs of CT softwares</p>	Certificate Verification
11	<b>Clean room Compatibility</b>	The quoted system and parts should be compatible with clean room class 1000 or better.	Supporting Document
12	<b>Safety</b>	Radiation safe enclosure with radiation level < 1 $\mu$ S/hr.	Physical Verification
		Occupational radiation exposure level shall not exceed the AERB/USFDA/ICRP recommended limit.	Supporting Document
		All Safety interlocks should be available in the system.	Physical Verification
		Noticeable hazard warning labels should be pasted at appropriate parts.	Physical Verification
		Any specific precautions/ site preparations required for safe operation and maintenance of the equipment to ensure safety of the personnel, the clean room facility and the equipment to be clearly specified.	Supporting Document
		CE Mark and Compliance with SEMI S2, SEMI S8, UL safety standards	Supporting Document
		System should support user friendly access, operation and maintenance.	Physical Verification
13	<b>Electrical Control and Software</b>	Equipment should support Indian Electrical Standards.	Physical Verification
		The power requirement for the equipment, in KVA.	Physical Verification
		The HT generator, isolation transformer, cooling unit etc should be provided and suitably interfaced to the X Ray source and target.	Physical Verification
		Appropriate lengths of all cables to be ensured by the supplier.	Physical Verification
		Software (both OEM and third party) should be professional versions with perpetual license.	Physical Verification

Sl. No	Feature Description	Technical Specification	Acceptance Criteria
		One set of complete software (both OEM and third party) should be provided in CD/DVD/ USB Drive.	Physical Verification
14	<b>Installation, Testing and Commissioning</b>	Supplier should arrange for unloading, unpacking, installation, testing and commissioning by OEM/ authorized factory trained engineers at CMTI, free of cost.	Physical Verification
15	<b>After Sales Service Support</b>	The supplier should support the system and all sub-systems for a minimum 10 years (post warranty, with all spares and services)	Supporting Document
		Trained technical service support team should be available in India for the supplied equipment and the details of the same like address, contact person details, phone/fax Numbers, email shall be provided by vendor.	Supporting Document
		CMTI should be intimated in advance if the quoted model is discontinued.	Supporting Document
16	<b>Documents/ manuals</b>	<p>1 set of hard copy and 1 set of soft copy of the following in English:</p> <ul style="list-style-type: none"> <li>- Operation Manual with description of control and interfaces.</li> <li>- Trouble shooting Manual.</li> <li>- Maintenance Manual.</li> <li>- Programming Manual.</li> <li>- Spare parts list with source of supply.</li> <li>- Manuals of bought out items, if any, incorporated in the system.</li> <li>- Custom made third-party components and their sources.</li> <li>- Equipment drawings.</li> </ul>	Physical Verification
17	<b>Technical Evaluation</b>	The test report submitted by the vendor as part of the technical compliance using standard specimen or sample justifying the performance of the proposed system in all aspects of the specification of the tender shall be verified.	Physical and functional verification during FAT
		The test reports submitted as part of the technical bid evaluation on CMTI samples shall be verified.	Physical and functional verification.
18	<b>Acceptance</b>	The capabilities of the equipment must be proved by supplier as per CMTI's acceptance criteria both at OEM's place before shipment and at CMTI after installation.	Features and functionality have to be demonstrated in entirety

**CHAPTER - 5**

**CONTRACT FORM**

Contract No. \_\_\_\_\_ Date: \_\_\_\_\_

THIS CONTRACT AGREEMENT is made  
the [ ] day of [ ] month of, [ ] year

**BETWEEN**

The Central Manufacturing Technology Institute (CMTI), a registered Government of India Society under the administrative control of the Ministry of Heavy Industry and Public Enterprises, Government of India having its registered office at Tumkur Road, Bengaluru - 560022, Karnataka, India represented by \_\_\_\_\_ [Insert complete name and address of Purchaser (hereinafter called "the Purchaser"), and

[Insert name of Supplier], a corporation incorporated under the laws of [insert: country of Supplier] and having its principal place of business at [insert: address of Supplier] (hereinafter called "the Supplier").

WHEREAS the Purchaser invited Bids for certain Goods and ancillary Services, viz., [insert brief description of Goods and Services] and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [insert Contract Price in words and figures, expressed in the Contract currency (ies)] (hereinafter called "the Contract Price").

**NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:**

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
  - (a) This Contract Agreement
  - (b) Special Conditions of Contract
  - (c) General Conditions of Contract
  - (d) Technical Requirements (including Schedule of Requirements and Technical specifications)
  - (e) The Supplier's Bid and original Price Schedules
  - (f) The Purchaser's Notification of Award
  - (g) [Add here any other document(s) ]
3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Union of India on the day, month and year indicated above.



For and on behalf of the Central Manufacturing Technology Institute  
Signed: [insert signature]  
in the capacity of [insert title or other appropriate designation] in the  
presence of [insert identification of official witness]

Signed: [insert signature]  
in the capacity of [insert title or other appropriate designation]  
in the presence of [insert identification of official witness]

For and on behalf of the Supplier

Signed: [insert signature of authorized representative(s) of the Supplier] in the capacity of [insert title or other  
appropriate designation] in the presence of [insert identification of official witness]

**CHAPTER - 6**

**OTHER STANDARD FORM**

**Table of Contents**

<b>SL. No.</b>	<b>Name</b>
1.	Integrity Pact
2.	Bidder Information form
3.	Bid Security Form
4.	Performance Statement Form
5.	Deviation Statement form
6.	Bid form
7.	Performance Security Form
8.	Acceptance certificate form
9.	Eligibility certificate form
10.	Non Black-listed Self certificate form

**INTEGRITY PACT**

**Tender Ref. No .& Date:.....**

1. This Integrity pact Agreement is made at..... on this.....day of..... .....20..... BETWEEN **Central Manufacturing Technology Institute(CMTI)** represented by its **Purchase Officer/ Executive Engineering Services/ Chief Administrative Officer**, Hereinafter referred as the Buyer/ Owner, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns) AND **M/s .....** hereinafter referred to as the (Details of duly authorized signatory) “Bidder/Contractor” and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

2. Preamble

WHEREAS the Owner/ Buyer has floated the Tender under organizational procedures (hereinafter referred to as “Tender/Bid”) and intends to procure/ award contract for..... hereinafter referred to as the Goods/ Services/ works/ Contract. AND WHEREAS the Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s). AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as “Integrity Pact” or “Pact”), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties. NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

3. **Commitment of the Buyer/ Owner**

3.1 The Buyer/ Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:

- a. No employee of the Buyer/ Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- b. The Buyer/ Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Buyer/ Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
- c. The Buyer/ Owner shall endeavour to exclude from the Tender process all known prejudiced persons or any person, whose conduct in the past has been of biased nature.

3.2 If the Buyer/ Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or if there be a substantive suspicion in this regard, the Buyer/ Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

4. **Commitment of the Bidder(s)/ seller(s)/ Contractor(s)**

4.1 It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to CMTI all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.

- 4.2 The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution.
- a. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Buyer/ Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
  - b. The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
  - c. The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act Indian Legislation, Prevention of Corruption Act 1988 as amended from time to time. Further the Bidder(s)/Contractor(s) will not use improperly, for the purpose of competition or personal gain, or pass on to others, any information or documents provided by the Buyer/ Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign principals/ agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
  - e. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
  - f. The Bidder(s)/Contractor(s) have not sold and will not sell the same material/equipment at prices lower than the bid price.
- 4.3 The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 4.4 The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice (means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of CMTI's interests).
- 4.5 The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).
- 4.6 The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/sub-vendors.
- a. The Buyer/ Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
  - b. The Buyer/ Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Buyer/ Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process

## 5. Previous Transgression

- a. The Bidder declares that no previous transgressions occurred in the last 3 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process. The date of such transgression, for the purpose of disclosure by the bidders in this regard, would be the date on which cognizance of the said transgression was taken by the competent authority. The transgression(s), for which cognizance was taken even before the said period of 3 years, but are pending conclusion, shall also be reported by the bidders.
- b. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Buyer/ Owner.
- c. If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Buyer/ Owner may, at its own discretion, revoke the exclusion prematurely.

## 6. Consequences of Breach

Without prejudice to any rights that may be available to the Buyer/ Owner under law or the Contract or its established policies and laid down procedures, the Buyer/ Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Buyer/ Owner's absolute right:

- a. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Clause 4 & Clause 5 above, or in any other form such as to put his reliability or credibility in question, the Buyer/ Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Buyer/ Owner. Such exclusion may be forever or for a limited period as decided by the Buyer/ Owner.
- b. Forfeiture of EMD/Performance Guarantee/Security Deposit: If the Buyer/ Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- c. Criminal Liability: If the Buyer/ Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Buyer/ Owner has substantive suspicion in this regard, the Buyer/ Owner will inform the same to law enforcing agencies for further investigation.

## 7. Compensation for Damages

- a. If the Buyer/ Owner has disqualified the Bidder(s) / Seller(s) from the tender process prior to the award according to Clause 8, the Buyer/ Owner is entitled to demand and recover the damages equivalent to Earnest Money Deposit in case of open tendering.
- b. If the Buyer/ Owner has terminated the contract according to Clause 6, or if the Buyer/ Owner is entitled to terminate the contract according to Clause 6, the Buyer/ Owner shall be entitled to encash the advance bank guarantee and performance bond/ warranty bond, if furnished by the Bidder(s)/Seller(s), in order to recover the payments, already made by the Buyer/ Owner for undelivered Goods and / or Services and / or Works.

- c. The Bidder(s)/Seller(s) shall also be liable to refund to the Buyer/ Owner, the Agency Commission / payments made by the Seller(s) / Bidder(s) along with interest at the rate of 2% per annum above LIBOR (London Inter Bank Offer Rate) (for foreign vendors) and Base Rate of SBI (State Bank of India) plus 2% (for Indian vendors).

**8. Independent External Monitor(s)**

- a. The Buyer/ Owner has appointed Independent External Monitor(s) for this Integrity Pact after approval by the Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- b. For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- c. The IEM is not subject to instructions by the representatives of the parties and performs his/ her functions neutrally and independently. The IEM would be provided access to all documents/ records pertaining to the contract for which a complaint or issue is raised before them, as and when warranted. However, the documents/ records/ information having national Security Implications and those documents which have been classified as Secret/ Top Secret are not to be disclosed. He/ she reports to the Director, CMTI.
- d. If any complaint with regard to violation of the IP is received by the Buyer/ Owner in a procurement case, the Buyer/ Owner shall refer the complaint to the Independent External Monitor(s) for their report. Contact details of IEMs are given in the bid/ tender documents as well as in the website of CMTI <https://cmti.res.in>
- e. The Bidder(s)/Contractor(s) accepts that the IEM has the right to access without restriction to all Project documentation of the Buyer/ Owner including that provided by the Contractor. The Contractor will also grant the IEM, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.
- f. The IEM is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sub-contractor(s) with confidentiality. The IEM has also signed declarations on 'Non-Disclosure of Confidential Information' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform Director, CMTI and recuse himself / herself from that case.
- g. The Buyer/ Owner will provide to the IEM sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Buyer/ Owner and the Contractor. The parties offer to the IEM the option to participate in such meetings.
- h. As soon as the IEM notices, or believes to notice, a violation of this agreement, he/she will so inform the Management of the Buyer/ Owner and request the Management to discontinue or take corrective action, or to take other relevant action. The IEM can in this regard submit non-binding recommendations. Beyond this, the IEM has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- i. The IEM will submit a written report to the Director, CMTI, within 4 weeks from the date of reference or intimation to him by the Buyer/ Owner and, should the occasion arise, submit proposals for correcting problematic situations
- j. If the IEM has reported to the Director, CMTI, a substantiated suspicion of an offence under relevant IPC/ PC Act, and the Director, CMTI has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the IEM may also transmit this information directly to the Central Vigilance Commissioner.
- k. The word 'Monitor' would include both singular and plural.

**9. Duration of the Pact**

- a. This Pact will be effective from the date of issue of tender (NIT).It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other unsuccessful bidders, within 6 months from date of placement of order / finalization of contract against this tender till the Contract has been awarded.
- b. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Director, CMTI.
- c. Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

**10. Other Provisions**

- a. Changes and supplements need to be made in writing. Side agreements have not been made.
- b. After award of work, the IEMs shall look into any issues relating to execution of contract, if specifically raised before them.
- c. The Bidder(s)/Seller(s) signing this IP shall not initiate any Legal action or approach any court of law during the examination of any allegations/complaint by IEM and until the IEM delivers the report.
- d. In the event of any dispute between the management and the Bidder(s)/Seller(s), relating to those contracts where Integrity Pact is applicable, the same will be settled through mediation before the panel of IEMs within 4 weeks. In case the dispute remains unsolved even after mediation by the panel of IEMs, CMTI will take further action as per the terms and conditions of the contract in respect of dispute resolution/ arbitration.
- e. Nothing contained in this Integrity Pact shall be deemed to assure the Bidder(s)/ Seller(s) of any success or otherwise in the tendering process.
- f. If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- g. Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.
- h. This Integrity pact is subject to Indian Laws, and exclusive Jurisdiction of Courts at Bangalore, India.
- i. The Parties hereby sign this Integrity Pact at \_\_\_\_\_ on \_\_\_\_\_ (Bidder(s)/contractor) and at \_\_\_\_\_ on \_\_\_\_\_ (Buyer/ Owner)

**11. LEGAL AND PRIOR RIGHTS**

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following

witnesses:

(For and on behalf of Buyer/ Owner)

(For and on behalf of Bidder/Contractor)

WITNESSES: 1.....  
(signature, name and address)

2.....  
(signature, name and address)

Place:

Date



**BIDDER'S INFORMATION FORM**

a) [The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. This should be done of the letter head of the firm]

Date: [insert date (as day, month and year) of Bid Submission] Tender No.: [insert number from Invitation for Bids]

Page 1 of \_\_\_\_ pages

1. Bidder's Legal Name [insert Bidder's legal name]
2. In case of JV, legal name of each party: [insert legal name of each party in JV]
3. Bidder's actual or intended Country of Registration: [insert actual or intended Country of Registration]
4. Bidder's Year of Registration: [insert Bidder's year of registration]
5. Bidder's Legal Address in Country of Registration: [insert Bidder's legal address in country of registration]
6. Bidder's Authorized Representative Information Name: [insert Authorized Representative's name] Address: [insert Authorized Representative's Address] Telephone/Fax numbers: [insert Authorized Representative's telephone/fax numbers] Email Address: [insert Authorized Representative's email address]
7. Attached are copies of original documents of: [check the box(es) of the attached original documents] Articles of Incorporation or Registration of firm named in 1, above.

Signature of Bidder \_\_\_\_\_ Name \_\_\_\_\_

Business Address

**BID SECURITY FORM**

Whereas..... (hereinafter called the tenderer") has submitted their offer dated .....for the supply of ..... (Hereinafter called the tender")

Against the Purchaser's tender enquiry no..... Know all men by these Presents that we ..... of ..... having our registered office at ..... are bound unto .....(hereinafter called the "Purchaser" )

In the sum of ..... For which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this ..... day of .....20.....

THE CONDITIONS OF THIS OBLIGATION ARE:

- (1) If the tenderer withdraws or amends, impairs or derogates from the Tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:
  - (a) If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
  - (b) Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date. ....

(Signature of the authorized officer of the Bank)

Name and designation of the officer Seal, name & address of the Bank and address of the Branch

Bidding Document for Supply, Installation, Commissioning & Testing of 3D X-Ray Microscope  
**PERFORMANCE STATEMENT FORM (For a Period of last 3 years)**

Name of the Firm: \_\_\_\_\_

Order placed by (full address of purchaser)	Order No and date	Description and quantity of ordered equipment	Value of order	Date of completion of delivery as per contract	Date of actual completion of delivery	Remarks indicating reasons for late delivery, if any	Has the equipment been installed Satisfactory? (Attach a certificate from the purchaser/consignee)	Contact person along with telephone No: Fax No: And e-mail address

Signature and Seal of the Manufacturer/Bidder \_\_\_\_\_

Place:

Date:

**DEVIATION STATEMENT FORM**

**The following are the particulars of deviations from the requirements of the tender specifications:**

CLAUSE DEVIATION REMARKS (INCLUDING JUSTIFICATION)

Place:

Date:

Signature and seal of the  
Manufacturer/Bidder

NOTE:

1. Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations".

**BID FORM**

[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: [insert date (as day, month and year) of Bid Submission]

Tender No.: [insert number from Invitation for Bids]

Invitation for Bid No.: [insert No of IFB]

To: [insert complete name of Purchaser]

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: [insert the number and issuing date of each Addenda];
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules Specified in the Schedule of requirements the following Goods and Related Services [insert a brief description of the Goods and Related Services];
- (c) The total price of our Bid, excluding any discounts offered in item (d) below, is: [insert the total bid price in words and figures, indicating the various amounts and the respective currencies];
- (d) The discounts offered and the methodologies for their application are:  
**Discounts.** If our bid is accepted, the following discounts shall apply. [Specify in detail each discount offered and the specific item of the Schedule of Requirements to which it applies.]
- (e) Our bid shall be valid for the period of time specified in ITB Sub-Clause 1.16.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) If our bid is accepted, we commit to obtain a Performance Security in accordance with ITB Clause 1.38 and GCC Clause 2.13 for the due performance of the Contract;
- (g) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract: [insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____

\_\_\_\_\_

(If none has been paid or is to be paid, indicate "none.")

- (h) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed: [insert signature of person whose name and capacity are shown]

In the capacity of [insert legal capacity of person signing the Bid Submission Form]

Name: [insert complete name of person signing the Bid Submission Form]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_ [Insert date of signing]

To: \_\_\_\_\_(Name of Purchaser)

WHEREAS \_\_\_\_\_(Name of Supplier) hereinafter called "the Supplier" has undertaken, in pursuance of ContractNo \_\_\_\_\_ dated, 20\_\_\_\_\_to\_\_\_\_\_supply (Description of Goods and Services) hereinafter called "the order".

AND WHEREAS it has been stipulated by you in the said order that the Supplier shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the order

AND WHEREAS we have agreed to give the Supplier a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of (Amount of the Guarantee in Words and Figures and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the order and without cavil or argument, any sum or sums within the limit of (Amount of Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the ..... day of..... 20.

Signature and Seal of Guarantors

.....  
.....  
.....

Date.....20

Address:.....

.....  
.....

All correspondence with reference to this guarantee shall be made at the following address:

(Name & address of the Purchaser)

**ACCEPTANCE CERTIFICATE FORM**

No.

Dated:

M/s .....

Sub: Certificate of commissioning of equipment

1. This is to certify that the equipment as detailed below has/have been received in good condition along with all the Standard and special accessories (subject to remarks in Para 2). The same has been installed and commissioned.

(a) Contract No. \_\_\_\_\_ Date \_\_\_\_\_

(b) Description of the equipment \_\_\_\_\_

(c) Name of the consignee \_\_\_\_\_

(d) Scheduled date of delivery of the consignment to the Institute \_\_\_\_\_

(e) Actual date of receipt of consignment by the Institute \_\_\_\_\_

(f) \_\_\_\_\_ Scheduled date for completion of installation/commissioning \_\_\_\_\_

(g) Actual date of completion of installation/commissioning \_\_\_\_\_

(h) Penalty for late delivery Rs. \_\_\_\_\_

(i) Penalty for late installation at Institute Rs. \_\_\_\_\_

2. Details of accessories/items not yet supplied and recoveries to be made on that account: Sl. No. Description  
Amount to be recovered

3. The acceptance test has been done to our entire satisfaction. The Supplier has fulfilled his contractual obligations satisfactorily or The Supplier has failed to fulfill his contractual obligations with regard to the following:

(a) \_\_\_\_\_

(b) \_\_\_\_\_

(c) \_\_\_\_\_

(d) \_\_\_\_\_

The amount of recovery on account of failure of the Supplier to meet his contractual obligations is as indicated above.

For supplier signature \_\_\_\_\_ Name \_\_\_\_\_ Designation \_\_\_\_\_ Name of Firm \_\_\_\_\_ Date \_\_\_\_\_

For purchase signature \_\_\_\_\_ Name \_\_\_\_\_ Designation \_\_\_\_\_ Name of the Institute \_\_\_\_\_ Date \_\_\_\_\_

**ELIGIBILITY CERTIFICATE FORM**

[To be provided on the letterhead of the Bidder and should be signed by a person with the proper authority to sign documents that are binding on the Bidder]

This is to certify 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 No. \_\_\_\_\_ Dated \_\_\_\_\_

Authorized Signatory

Name: \_\_\_\_\_

Designation: \_\_\_\_\_



**NON-BLACK LISTED SELF CERTIFICATION FORM**

[To be provided on the letterhead of the Bidder and should be signed by a person with the proper authority to sign documents that are binding on the Bidder]

This is to certify that M/s. \_\_\_\_\_ [Name of Bidder] has not been blacklisted by any Indian Central / State Government Department / any other Purchasing authority /organization in last 3 years.

Authorized Signatory

Name: \_\_\_\_\_

Designation: \_\_\_\_\_