

Online Bids

(Through E-Procurement Portal of CPPP)

are invited

for

Design, Development, Simulation, and Analysis Facility Along with Power Backup for Centre of Excellence on Machine Tools Design

Tender No.: IIT(BHU)/COE/MTD/2022-23/TD/001-R Dated: 12.04.2023

Last Date of Submission: 05.05.2023

Tender Opening: 06.05.2023



**Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi - 221005, Uttar Pradesh, India**

E-mail: jpmisra.mec@iitbhu.ac.in

INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI
Varanasi - 221005, Uttar Pradesh, India

DEPARTMENT/ CENTRE: Centre of Excellence on Machine Tools Design, Indian Institute of Technology (BHU) Varanasi, Varanasi - 221005, Uttar Pradesh, India

Advertised Tender Enquiry Documents

(NOTICE INVITING TENDER)

IIT (BHU) Varanasi invites online tender from manufacturers (or their 'authorized' dealers that they have been authorized to quote in response to this NIT) of the following items are invited:

S. No.	Tender No. and Last Date	Specifications & Quantity of the item	Earnest Money Deposit to be submitted
1	Tender No.: IIT(BHU)/COE/MTD/2022-23/TD/001-R Dated: 12.04.2023 Last Date of Submission: 05.05.2023	Design, Development, Simulation, and Analysis Facility Along with Power Backup for Centre of Excellence on Machine Tools Design Quantity: 01 Unit Specifications as per Annexure I	Bid Security Declaration Annexure VIII

Tender Documents may be downloaded from Central Public Procurement Portal <http://eprocure.gov.in/eprocure/app>. Tenderers can access tender documents on the CPP Portal. Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <http://eprocure.gov.in/eprocure/app> as per the schedule given in the next page.

Aspiring Bidders who have not enrolled/ registered in e-procurement should enroll/ register before participating through the website <http://eprocure.gov.in/eprocure/app>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for online Bid Submission'.

No manual bids will be accepted. All quotation (both Technical and Financial should be submitted in the e-procurement portal).

The tender should be addressed to **Coordinator, Centre of Excellence on Machine Tools Design, Indian Institute of Technology (BHU) Varanasi, Varanasi - 221005, Uttar Pradesh, India** and should be submitted online one or before the last Date of Submission as mentioned in critical date sheet.

The Institute shall not be responsible for any delay in submitting online Bids. The Institute reserves the right to accept or reject any bid, cancel the Tender without assigning any reason thereof. No correspondence in this regard will be entertained.

Coordinator
Centre of Excellence on Machine Tools Design
IIT (BHU) Varanasi
Varanasi - 221005, Uttar Pradesh, India

INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI

Varanasi - 221005, Uttar Pradesh, India

DEPARTMENT/ CENTRE: Centre of Excellence on Machine Tools Design, Indian Institute of Technology (BHU) Varanasi, Varanasi - 221005, Uttar Pradesh, India

TENDER DOCUMENT FOR

Design, Development, Simulation, and Analysis Facility along with Power Backup for Centre of Excellence on Machine Tools Design

CRITICAL DATA SHEET

Name of Organization	Indian Institute of Technology (BHU) Varanasi
Tender	Open
Type/ Form of Contract (Work/ Supply/ Auction/ Service/ Buy/ Empanelment/ Sell)	Supply
Date of Issue/Publishing Original Tender	13.04.2023 (03:00 PM)
Document Download Start Date	13.04.2023 (03:00 PM)
Pre-Bid Meeting Date* (*Queries, if any, to be discussed, must be emailed to jpmisra.mec@iitbhu.ac.in , before the date of Pre-Bid meeting for consideration.)	NA
Corrigendum, if any	---
Last Date and Time for Uploading of Bids	05.05.2023 (03:00 PM)
Date and Time of Opening of Technical Bids	06.05.2023 (03:00 PM)
Tender Processing Fee (including GST as applicable)	Rs. 5900/- (For Tender Processing Fee) (To be paid through RTGS/NEFT as per the following details:) Name of Account: Registrar, IIT(BHU) Name of the Bank: State Bank of India Name of Branch: IT, BHU, Varanasi Account No.: 32778803937 IFSC: SBIN0011445 The proof of payment must be enclosed with Technical Bid.
EMD (Earnest Money Deposit)	Rs. Nil/- (For EMD, submit Bid Security Declaration)
No. of Covers (1/2/3/4)	02
Bid Validity Days	180 Days (From last date of opening of the tender)
Address for Communication	Coordinator Centre of Excellence on Machine Tools Design IIT (BHU) Varanasi Varanasi - 221005, Uttar Pradesh, India
E-mail Address	jpmisra.mec@iitbhu.ac.in

INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI
Varanasi - 221005, Uttar Pradesh, India

DEPARTMENT/ CENTRE: Centre of Excellence on Machine Tools Design, Indian Institute of Technology (BHU) Varanasi, Varanasi - 221005, Uttar Pradesh, India

TENDER DOCUMENT FOR

Design, Development, Simulation, and Analysis Facility along with Power Backup for Centre of Excellence on Machine Tools Design

INVITATION FOR BIDS

Online bids are invited from eligible bidders for the following:

S. No.	Tender No. and Last Date	Specifications & Quantity of the item	Earnest Money Deposit to be submitted
1	Tender No.: IIT(BHU)/COE/MTD/2022-23/TD/001-R Dated: 12.04.2023 Last Date of Submission: 05.05.2023	Design, Development, Simulation, and Analysis Facility Along with Power Backup for Centre of Excellence on Machine Tools Design Quantity: 01 Unit Specifications as per Annexure I	Bid Security Declaration Annexure VIII

- Interested eligible Bidders may obtain further information from IIT (BHU) Varanasi website: www.iitbhu.ac.in/iitnotifications/purchase_enquiries/ or from Central Public Procurement Portal (CPPP) <https://eprocure.gov.in/eprocure/app> .
- Intending bidders are advised to visit IIT (BHU) website www.iitbhu.ac.in/iitnotifications/purchase_enquiries/ and CPPP website <https://eprocure.gov.in/eprocure/app> regularly till closing date of BID submission of tender for any corrigendum/ addendum/ amendment.
- Tender Processing Fee is to be deposited electronically by RTGS/NEFT in the account of Registrar, IIT (BHU) in the Bank details mentioned above. Bidders are required to submit the scan copy of payment receipt details of Tender processing fees payment at the time of Bid Preparation.
- This Tender Document contains the following:
 - Instructions for Online Bid Submission
 - Instruction to Bidders
 - General conditions of contract (GCC)
 - Special Condition of Contracts
 - Checklist for Bid/Tender submission
 - Declaration Certificate
 - Technical specifications for the complete project (Annexure 1)
 - Compliance Sheet

SECTION 1: INSTRUCTION FOR ONLINE BID SUBMISSION

As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal (<http://eprocure.gov.in/eprocure/app>). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <http://eprocure.gov.in/eprocure/app>.

1. Registration

1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (<http://eprocure.gov.in/eprocure/app>) by clicking on the link “Click here to Enroll”. Enrolment on the CPP Portal is free of charge.
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g., Sify/ TCS/ nCode/ eMudhra, etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
6. Bidder then logs in to the site through the secured log-in by entering their user ID/ password and the password of the DSC/ eToken.

2. Searching for Tender Documents

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
3. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

3. Preparation of Bids

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content

of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g., PAN card copy, annual reports, auditor certificates, etc.) has been provided to the bidders. Bidders can use “My Space” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

4. Submission of Bids

1. Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e., on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as “on-line” to pay the tender processing fee as applicable and enter details of the instrument. Whenever, Tender processing fees is sought, bidders need to pay the tender processing fee on-line through RTGS.
4. A standard BoQ format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it and complete the white colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
5. The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
6. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done.
7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
9. Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

5. Assistance to Bidders

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

6. General Instructions to the Bidders

1. The tenders will be received online through portal <https://eprocure.gov.in/eprocure/app>. In the Technical Bids, the bidders are required to upload all the documents in **.pdf format**.
2. Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/ e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through <https://eprocure.gov.in/eprocure/app>. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site <https://eprocure.gov.in/eprocure/app> under the link “Information about DSC”.
3. Tenderer are advised to follow the instructions provided in the ‘Instructions to the Tenderer for the e-submission of the bids online through the Central Public Procurement Portal for e Procurement at <https://eprocure.gov.in/eprocure/app>.

SECTION 2: INSTRUCTIONS TO BIDDERS

A. Introduction

1. Scope of Work

IIT (BHU) invites online bids from the manufacturers/suppliers on behalf of The Director, IIT (BHU) for supply of Equipment as per the technical specifications given in Annexure- III and as per terms and conditions of this tender document. Supplier should assure complete commissioning of the system including installation and application training for efficient utilization of **Design, Development, Simulation, and Analysis Facility Along with Power Backup for Centre of Excellence on Machine Tools Design**

2. Cost of Bidding

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.

B. The Bidding Documents

3. Tender Processing Fees

The Tender Processing fees (Rs. 5900/-) should be submitted ONLINE as per the details mentioned above. Further, the proof of payment must be uploaded with Technical Bid. The exemption will be applicable as per Govt. of India norms.

4. Content of Bidding Documents

4.1 The goods required, bidding procedures and contract terms are prescribed in the bidding documents. In addition to Invitation of Bids, the bidding documents include:

- (a) Instructions for Online Bid Submission
- (b) Instruction to Bidders (ITB)
- (c) General Conditions of Contract (GCC)
- (d) Special Conditions of Contract (SCC)
- (e) Schedule of Requirements
- (f) Tender Form (Technical Bid)
- (g) Tender Form (Financial Bid)

4.2 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.

5. Amendment of Bidding Documents

5.1 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 amendment.

5.2 All prospective bidders who have received the bidding documents will be notified of the amendment in writing, which will be binding on them.

5.3 In order to allow prospective bidders reasonable time within which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

C. Preparation of Bids

6. Language of Bid

The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser shall be written in English language.

7. Documents Comprising the Bid

7.1 Techno commercial un-priced bid and priced bid: The bids are to be submitted in two parts i.e.

Techno commercial un-priced bid and priced bid.

- (a) Techno commercial un-priced bid along with Bid Securing Declaration Form (EMD) as shown in invitation to bids shall be submitted through CPP Portal. If the proof of Bid Securing Declaration Form as EMD is not received along with the technical bid, such bid will not be considered. The samples (if required) of all the items shown in the schedule of requirements of each tender should also accompany the techno commercial un-priced bid in a separate cover.
- (b) Priced bid.

7.2 Techno commercial un-priced bid: The techno commercial un-priced bid prepared by the bidder shall be provided in the following Model Response Format:

Model Response Format

- (a) Standing of each Bidder Manufacturer/Dealer and past experience in supply of the material (certificates to be enclosed), proof of manufacturing Unit/Dealership along with all the documents required for proving the credentials regarding the fulfilment of essential pre-bid criteria.
- (b) List of other Govt. Departments, Public Sector units and Central Autonomous Bodies for which the bidder is supplying material or having the similar type of contracts and a certificate regarding the satisfactory performance of the contract (In the Annexure III format).
- (c) Copy of the audited balance sheet of the vendor for the previous financial year indicating the turnover in supply of the relevant materials/service.
- (d) Details of Permanent Account Number and latest income tax clearance certificate.
- (e) Details of GST No. along with a copy of certificate to be attached.
- (f) Submission of samples if required, for all items indicated in the schedule of requirements. The make of items proposed to be supplied should be indicated in the format of the schedule of requirements and submitted along with the techno commercial un-priced bid without indicating the pricing components.
- (g) Willingness to execute all orders which are placed to meet emergency requirement on priority basis. The Bidder shall note that standards for workmanship, material and equipment, and references to brand names designated by the Purchaser in the schedule of requirements are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in his bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

7.3 Price Bid: The price bid shall comprise the techno commercial bid along with the price component indicating the Unit prices for each and every item indicated in schedule of requirements (Annexure 1).

- (i) The prices quoted must be net per unit as shown in the Schedule and must include all charges for delivery at the designated stores i.e., F.O.R. IIT (BHU) Varanasi and should be mentioned clearly.
- (ii) The rate must be stated for each item separately both in words and figures. If there is a discrepancy between the price quoted in word and figures the higher price quoted will be treated as final.
- (iii) Quoted prices should be firm and inclusive of taxes/duties, freight and forwarding charges, handling charges, loading and unloading charges, and insurance charges etc. However, the prices must be reflected clearly in BoQ format by mentioning basic rate, GST, Freight charges, Any other Taxes/Duties/Levies and exemptions thereon as applicable to IITs.
- (iv) The prices once accepted by the Institute shall remain valid till the successful execution of the order and till supplies is fully effected and accepted or 12 months from the date of acceptance of tender whichever is later. The Institute shall not entertain any increase in the rates during the period. However, in the event there is a reduction or increase in Government levy/duties/taxes.
- (v) during the period of execution of the order, the rates shall be suitably adjusted with effect from the date notifying the said reduction or increase in the Government levy/taxes/duty, if any.

8. Bid Prices

8.1 The Bidder shall indicate on the Schedule of requirements (BoQ), the unit prices of the goods it proposes to supply under the Contract and enclose it with the priced bid.

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

- (i) The prices quoted must be net per unit as shown in the schedule of requirements and must include all charges for delivery at the designated stores.
- (ii) Any Indian duties, GST and other taxes which will be payable on the goods, if this Contract is awarded.

8.3 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account.

9. Bid Currencies

Prices shall be quoted in Indian Rupees only.

10. Period of Validity of Bids

10.1 Bids shall remain valid for **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.

10.2 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. A Bidder granting the request will not be required nor permitted to modify the bid.

10.3 Bid evaluation will be based on the bid prices without taking into consideration the above modifications.

D. Submission of Bids

11. The tender has to be submitted **ONLINE** before the due date. The offers received after the due date and time will not be considered. **No manual bids will be considered.**

12. Deadline for Submission of Bids

12.1 Bids must be received by the Purchaser **ONLINE** not later than the time and date specified in the Invitation for Bids.

12.2 The Purchaser may, at his discretion, extend this deadline for submission of bids by amending the bid documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

13. Late/Delayed Bids

The offers received after the due date and time will not be considered.

14. Modifications and Withdrawal of Bids

14.1 The Bidder may modify or withdraw its bid after the **ONLINE** bid's submission, as per the provision of CPP Portal.

14.2 No bid may be modified subsequent to the deadline for submission of bids. No documents will be accepted in support of essential pre-bid criteria after the last date of submission of bids.

14.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity specified by the Bidder on the bid form.

E. Bid Opening and Evaluation of Bids

15. Opening of Techno commercial un-priced Bids

The purchaser will open all techno commercial un-priced bids in the first instance.

16. Clarification of Bids

16.1 During evaluation of the bids, the purchaser may, at its discretion, ask the Bidder for clarification of its bid. The request for clarification and the response shall be in writing and no change in price or substance of the bid shall be sought, offered or permitted.

16.2 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. If the Bidder wishes to bring additional information to the notice of the Institute, it should be done in writing.

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

17. Evaluation of Techno commercial un-priced Bid

17.1 Prior to the detailed technical evaluation, the purchaser will determine the substantial responsiveness of each bid. A substantially responsive bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviations and meets all the essential pre-bid criteria. If any bidder does not meet the essential pre-bid criteria as laid down in the Instruction to Bidders, then his bid will be summarily rejected. No documents will be accepted in support of essential pre-bid criteria after the last date of submission of bids.

17.2 The purchaser will reject a bid determined as not substantially responsive.

17.3 The bidders may be called for discussion and may be allowed to modify their technical bids to suit the organization's requirement. The idea is to arrive at a threshold level of acceptability above which all the bidders shall be treated on par. Those whose technical specifications do not reach the threshold level of acceptability shall be rejected as technically unsuitable. The price bids of the bidders who finally emerge as technically acceptable shall be opened, evaluated and the contract awarded to the lowest evaluated bidder.

17.4 The bidders short-listed by the purchaser based on meeting the essential pre-bid criteria and detailed evaluation regarding satisfying the technical criteria laid down in this tender document may be called for detailed discussions with a team selected for the purpose, at a specified date, time and venue, if needed.

18. Opening of Priced Bids

18.1 The Purchaser will open the Priced Bids of only those bidders who meet the essential pre-bid criteria and whose techno commercial un-priced bids have been found to be substantially responsive.

18.2 The priced Bids of the technically qualified bidders shall be opened by the tender committee.

19. Evaluation and Comparison of priced Bids

19.1 Arithmetical errors will be rectified on the following basis: If there is a discrepancy between words and figures, whichever is the higher of the two shall be taken as bid price. If the Vendor does not accept the correction of errors, its bid will be rejected

19.2 Bidders shall state their bid price for the payment schedule outlined in the Clause 14 of General Conditions of Contract. Bids will be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The purchaser may consider the alternative payment schedule offered by the selected Bidder but it may not be binding on the purchaser.

19.3 The purchaser, at its option may ask some more bidders to match the rates of the lowest bidder for creating parallel suppliers.

19.4 The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: Indian Rupees

19.5 The source of exchange rate shall be: Reserve Bank of India/Any other authentic source.

19.6 The date for the exchange rate shall be: **Last day for submission of Bids.**

20. Purchasers right to accept any bid and to reject any bid or all bids

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 or any obligation to inform the affected Bidder or bidders of the grounds for the Purchaser's action.

21. Award Criteria

- a. IIT (BHU) shall award the contract to the technically qualified eligible BIDDER whose bid has been determined as the lowest evaluated commercial bid.
- b. If more than one BIDDER happens to quote the same lowest price, IIT(BHU) Varanasi reserves the right to award the contract to more than one BIDDER or any BIDDER.

22. Notification of Award

Prior to the expiration of the period validity, the purchaser will notify the successful Bidder in writing by letter or by fax, to be confirmed in writing by speed post or hand delivered letter, that its bid has been accepted.

23. Factors Affecting the Award of Supply

23.1 The bidder should have its own Contract support facilities. The support facilities should be fully owned and managed by the bidder.

23.2 Conformity with the Request for Bid/Tender required and conditions.

23.3 The assessment based on the response to Model Response Outline.

23.4 The assessment of the capability of the bidder to meet the terms and conditions.

23.5 The bidders must have executed similar orders, for which the bidder is quoting, for Govt./Semi-Govt./Autonomous Organizations.

23.6 The cost and the discount offered, if any.

24. Fall clause

24.1 The price quoted by the supplier should not be higher than the maximum retail price, if any, for the stores and the same shall not be higher than the price usually charged by the supplier for stores of the same nature, class or description to any other purchaser.

24.2 The price charged for the stores supplied under the contract by the supplier shall in no event exceed the lowest price at which the supplier sells the stores of identical description to any other person during the period till performance of all supply orders placed during the currency of the contract is completed. If at any time during the period the supplier reduces the sale price of such stores or sells such stores to any other person including his dealers at a price lower than the price chargeable under the contract, he shall forthwith notify such reduction or sale to the purchaser and the price payable under the contract for these items of stores supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

24.3 If it is discovered that the supplier has contravened the above conditions, then without prejudice to any other action which might be taken against him, it shall be lawful for the purchaser to (a) revise the price at any stage so as to bring it in conformity with sub-clause(i) above, or (b) to terminate the contract and purchase the items of stores at the risk and cost of the supplier and in that event the provisions of Clause 28 of General Conditions of Contract shall, as far as possible, be applicable or recover the loss.

SECTION 3: GENERAL CONDITION OF CONTRACTS

1. Definitions

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

- (a) "The order" means the agreement entered between the Purchaser and the Supplier including all the attachments and appendices and all documents incorporated as per notification of award.
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) "The Goods" means all the items, which the Supplier is required to supply to the Purchaser under the Contract.
- (d) "Services" means services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services training and other obligations of the Supplier covered under the Contract.
- (e) "GCC" means the General Conditions of Contract contained in this section.
- (f) "The Purchaser" means the organization purchasing the Goods i.e., IIT (BHU) VARANASI.
- (g) "The Purchaser's country" is India.
- (h) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
- (i) "Day" means calendar day.

2. Application

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

3. Standards

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned Institution.

4. Use of Contract Documents and Information

- 4.1** 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.
- 4.2** The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information except for purposes of performing the Contract.
- 4.3** Any document, other than the Contract itself, 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.

5. Patent Rights

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

6. Submission of the Bids

- 6.1** All bids complete in all respect must be submitted online on or before the Bid Closing date and time as mentioned on Critical Data Sheet. Tenders received without Bid Securing Declaration Form as earnest money etc. shall be rejected.
- 6.2** The Tender document for this supply is available on the website of IIT (BHU) Varanasi (www.iitbhu.ac.in/iitnotifications/purchase_enquiries/) or from Central Public Procurement Portal (CPPP) <https://eprocure.gov.in/eprocure/app>.
- 6.3** Interested bidders may submit their bid through the Central Public Procurement Portal (CPPP) <https://eprocure.gov.in/eprocure/app>.

7. Inspections and Tests

- 7.1** 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.
- 7.2** The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery and/or at the Goods 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.
- 7.3** Any inspected or tested Goods fail to conform to the specifications, the Purchaser 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.
- 7.4** The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at Project Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.
- 7.5** Nothing in GCC Clause 7 shall in any way release the Supplier from any warranty or other obligations under this Contract.

8. Consequences of rejection

If in the event the stores are rejected by the purchaser at the destination and the supplier fails to make satisfactory supplies within the stipulated period of delivery, the purchaser will be at liberty to:

- (a) Allow the supplier to resubmit the stores in replacement of those rejected, within a specified time without any extra cost to the purchaser.
- (b) Reject the material, which shall be final and binding on the contractor.
- (c) Procure the rejected materials of comparable quality from the open market/Govt. stores and the supplier shall be liable to pay the difference in price over the RC prices or get the amount adjusted from the outstanding bills of the supplier, if any.

9. Packing

- 9.1** 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.
- 9.2** 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, in any subsequent instructions ordered by the Purchaser.

10. Delivery and Documents

- 10.1** The Supplier shall make delivery of the Goods within 90 days from the placement of purchase order in pursuance of the notification of award. The purchase order would be placed after assessing the requirements on quarterly basis. However, the supplier shall also arrange to execute all orders on priority basis which would be placed to meet any emergent requirements.
- 10.2** In case the purchaser decides to conclude parallel rate contracts, then the requirements would be split on different firms on equitable basis as per the discretion of the purchaser.
- 10.3** The delivery of Stores shall be affected at the premises of the Institute free of all delivery charges and within the stipulated time and as may be elucidated in the confirmed order, accompanied by a delivery challan. No extension of time for delivery of Stores shall normally be accorded.

The supplier shall mail the following documents to the purchaser with a copy to the insurance company:

1. 3 Copies of the Supplier Invoice showing contract number, goods' description, quantity, unit price, total amount, etc.
2. Installation Certificate.
3. Insurance Certificate if applicable.
4. Manufacturer's/Supplier's Warranty Certificate.
5. Inspection Certificate issued by the nominated inspection agency, if any.
6. Supplier's Factory Inspection Report.
7. Certificate of Origin (if possible, by the beneficiary).

The above documents should be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.

Time and Date of Delivery - Essence of the Contract: The time for and the date of delivery of the stores stipulated shall be deemed to be of the essence of the contract and delivery must be completed not later than the date(s) specified.

11. Insurance

The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. The insurance shall be obtained by the suppliers in an amount equal to 110% of the value of the goods from "warehouse to warehouse" (final destinations) on "all risks" basis including war risks and strikes.

12. Transportation

Where the Supplier is required under the Contract to transport the Goods within India defined as Project site, transport to such place of destination in India including insurance, as shall be specified in the Contract, shall be arranged by the Supplier, and the related cost shall be included in the contract Price.

13. Warranty

13.1 The Supplier warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods in the conditions prevailing in India.

13.2 This warranty shall remain valid for at least **12 months** (or as specified) after the Goods or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, unless specified otherwise.

13.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.

13.4 Upon receipt of such notice, the Supplier shall with all reasonable speed, repair or replace the defective Goods or parts thereof, without any extra cost to the Purchaser.

13.5 If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

14. Payment

14.1 The payment shall be made **100% payment against Supply, Installation and Commissioning and submission of satisfactory PBG @ 3%.**

14.2 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 GCC Clause 10, and upon fulfilment of other obligations stipulated in the contract.

15. Prices

Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in his bid. The bidder must mention the applicable taxes/duty and exemptions thereon, if any, as per the Government of India norms. The Institute will provide requisite certificate, if any, required by the bidder as per the applicable Govt. of India norms.

16. Change Orders

16.1 The Purchaser may at any time, by written order given to the Supplier, 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.

16.2 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 thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.

17. Contract Amendments

Subject to GCC Clause 16, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

18. Assignment

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.

19. Subcontracts

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 his original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.

20. Delays in the Supplier's Performance

20.1 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 as per GCC clause 10.

20.2 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 Supplier's time for performance with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Contract.

20.3 Except as provided under GCC Clause 23, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to GCC Clause 21, unless an extension of time is agreed upon pursuant to GCC Clause 20.2 without the application of liquidated damages.

21. Penalty

Subject to GCC Clause 23, 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 1% per week and the maximum deduction is 10% of the contract price of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 22.

22. Termination for Default

22.1 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 purchase order, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 20;
- (b) If the Supplier fails to perform any other obligation(s) under the Contract;
- (c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

‘For the purpose of this Clause:

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

“Fraudulent practice: a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;”

22.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 22.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.

23. Force Majeure

23.1 Notwithstanding the provisions of GCC Clauses 20 & 21, the Supplier shall not be liable for imposition of 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.

23.2 For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

23.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. 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.

24. Termination for Insolvency

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.

25. Termination for Convenience

25.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. 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.

25.2 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.

26. Resolution of Disputes

26.1 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.

26.2 If, after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms as specified below. These mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and national or international arbitration.

26.3 In case of Dispute or difference arising between the Purchaser and a supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996 as amended from time to time.

27. Governing Language

The contract shall be written in English language. Subject to GCC Clause 28, English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

28. Applicable Law

28.1 The contract shall be governed by the Law of Contract for the time being in force.

28.2 Irrespective of the place of delivery, the place of performance or place of payment under the contract, the contract shall be deemed to have been made at the place from which the acceptance of tender has been issued.

28.3 Jurisdiction of Courts: The courts of the place from where the acceptance of tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of this contract.

28.4 One-month notice will be given by either party for termination of Contract during the tenure of Contract for breach of Clause or otherwise.

29. Taxes and Duties

Suppliers shall be entirely responsible for all taxes, duties, license fees, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.

30. Performance Security

Successful bidder has to furnish **03%** of the order value as a performance security in the shape of Fixed Deposit Receipt / Bank Guarantee in favour of the Registrar, Indian Institute of Technology (BHU) Varanasi valid for a period of 60 days beyond the end of all warranty period / obligations (i.e., must valid for minimum 14 months). Fixed Deposit Receipt / Bank Guarantee should be issued from a schedule bank in India.

31. Supplier Integrity

The Supplier is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state of the art methods and economic principles and exercising all means available to achieve the performance specified in the contract.

The Institute Reserves the Right to:

1. Increase or decrease the quantity of the item(s) as per requirement and GOI Norms only, however, provided within the ceiling of the category in which the original order was placed i.e., if it is within 2.5 Lakh category than should not exceed the 2.5 lakh limit and so on.

2. Reject the quotation in absence of not furnishing the documentary evidence in respect of Trade Tax Registration (G.S.T), Income Tax and Trade Tax clearance certificates together with the performance of supplies in various branches/institutions.
3. Reject the quotation in the event of non-furnishing the authentic documentary evidence in respect of Testing reports / Performance report of the concerned Govt. Organization / Institutions about the products being manufactured and marketed. The performance test of the product can be conducted at Institute level also for which charge will have to be borne by the suppliers.
4. Reject the supplies already made, if not found up to the mark. Thorough checking may be adopted to test the correctness of the supply. In such an event, further action may call to conform or discard the supply.
5. To reject any addition/alteration in respect of local dealerships intimated by the Principals after consideration of the case by the committee appointed by the Institute for the purpose.
6. Cancel this Tender at any point of time without assigning any reason thereof.
7. The Institute also reserves the right to reject the bid of any participated bidder.
8. 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 purchase order, or within any extension thereof granted by the Purchaser.
 - b. If the Supplier fails to perform any other obligation(s) under the Contract.
 - c. If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
9. To reject any or all the offers without assigning any reasons thereof.
10. All disputes are subject to “*Varanasi Jurisdiction*” only.
11. The decisions of the Institute in all respect shall be final and binding on all.
12. The Institute reserves the right to ask the successful bidder to produce all the original documents submitted along with the bids for verification at any point of time. During the verification of the document, if it is found that the bidder has concealed/falsified/fabricated any information, the bid and/or purchase order will be cancelled and performance security will be forfeited and action including blacklisting will be taken against the bidder as per norms of the Institute.
13. Please ensure that your offer is complete in all respect as no further clarifications shall be sought from you and reaches us within the last date mentioned above. **The Institute shall not be responsible for any delay etc.**

Coordinator
Centre of Excellence on Machine Tools Design
IIT (BHU) Varanasi
Varanasi - 221005, Uttar Pradesh, India

SECTION 4: SPECIAL CONDITIONS OF CONTRACT

1. Essential Pre-Bid Criteria

1. Bidders should be the manufacturer (OEM)/authorized dealer. In case the bid is submitted by the Authorized dealer, the currently valid Authorization letter for participating in this Tender (by clearly mentioning the Reference of this Tender) issued by the OEM must be uploaded (in Annexure V format). The Letter of authorization shall remain valid during execution of supply and installation.
2. An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend all support for the warranty in confirmation with this bid for the quoted items. In case the OEM withdraws its authorization from bidder, the above service will be provided by the OEM.
3. A notarized affidavit by the bidder that it has never been black-listed must be uploaded along with the technical Bid under cover 1, failing which the Bid shall be rejected. The original shall be submitted before the award of bid by the lowest evaluated successful bidder.
4. Certified Financial Statement of Bidder from a CA such as Balance Sheet and Profit & Loss account of last three financial years clearly indicating the annual turnover regarding the supply and installation of similar type of items. The annual financial turnover of bidder must not be less than 50 Lakh during Last 3 financial years.
5. The bidder/OEM must have delivered at least two servers/Workstations in the last three financial years to any of the IITs/NITs/IISC/DRDO/Central Govt. Organization/Autonomous Body, costing more than Rs. 20 lakhs for a single order or more than 1 crore for HPC solution/software. Copies of Purchase Orders showing order value along with satisfactory installation certificate to be uploaded under cover 1.
6. Adherence to all specifications is compulsory.
7. Warranty period of not less than 3 years to be clearly mentioned and should begin from the date of installation and successful demonstration.
8. Certificate as per Annexure VI, Annexure VII on the letterhead of the company must be uploaded.

NOTE: THE BID OF THOSE BIDDERS WHO FAILS TO COMPLY THE ABOVE ESSENTIAL CRITERIA WILL NOT BE CONSIDERED FOR TECHNICAL EVALUATION.

2. Documents Comprising the Bid

The tender/Bid shall be submitted online in two parts: Technical Bid and Commercial Bid.

I. Technical Bid

The following documents are to be scanned and uploaded as part of the Technical Bid as per the tender document:

- (a) Scanned copy of Tender Forms (Techno Commercial Un-Priced Bid), Declaration, Bidder's Information Form, and Tender Acceptance Letter.
- (b) Scanned copy of proof for submission of Tender Document Fee/ Earnest Money Deposit/Exemption Certificate, if any etc.
- (c) Scanned copy of written confirmation authorizing the signatory of the Bid to commit the Bidder.
- (d) Scanned copy of quoted product brochure.
- (e) Scanned copy of completely filled Annexure III with supporting documents
- (f) Scanned copy of Technical Bid and essential Pre-bid Details, if any.
 - i. Scanned copy of documentary evidence establishing the Bidder's qualifications to perform the contract if its bid is accepted and the Bidder's eligibility to bid.
 - ii. Scanned copy of documentary evidence, that the Goods and Related Services to be supplied by the Bidder are of eligible origin and conform to the Bidding Documents.
- (g) Scanned copy of Checklist, compliance of Essential pre-bid criteria and Technical Compliance Sheet (Annexure II) and any other document required as per the tender.

II. Commercial Bid

The commercial bid comprises of:

- (a) Scanned copy of Tender Form (Price Bid)
- (b) Price bid in the form of .xls format and to be uploaded in .xls and signed .pdf format.

The Price bid format is provided as .xls format along with this Tender Document at <https://eprocure.gov.in/eprocure/app>. Bidders are advised to download this .xls format and quote their offer/rates in the prescribed column.

In addition to the above requirements, bids submitted by a Joint Venture, shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement, there to.

The Bidder shall furnish in the Tender Forms information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

3. Installation & Demonstration

The supplier is required to done the installation and demonstration of the equipment within one week of the arrival of materials at the IIT (BHU) site of installation, otherwise the penalty clause will be the same as per the supply of materials.

In case of any mis-happening/damage to equipment and supplies during the carriage of supplies from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own risk. Supplier will settle his claim with the insurance company as per his convenience. IIT (BHU) will not be liable to any type of losses in any form.

4. Application Specialist

The Tenderer should mention in the Techno-Commercial bid the availability and names of Application Specialist and Service Engineers in the nearest regional office.

5. Spares

The Supplier is required to provide state availability of spares for ten years, if required.

6. Training of Personnel

The supplier shall be required to undertake to provide the technical training to the personnel involved in the use of the equipment at the Institute premises, immediately after completing the installation of the equipment for a minimum period of one week at the supplier's cost.

7. User List

The bidder must provide the list of users where they have deployed similar nature of equipment's in last 03 years in prescribed format of Annexure III.

8. Manuals/Documents

One set of hard copy and one set of soft copy in English (preferred as following).

- i. Operating manual
- ii. Servicing & Maintenance manual
- iii. Spare parts list with source of supply and prices
- iv. Pre-installation requirements.

9. Services

Vendor must submit Factory Acceptance Test procedure supported with relevant printed literature and certificates.

10. The Tender document should also indicate what kind of service/maintenance is required for the system. Whether this service has to be carried out by a company engineer or it can be carried by trained service personnel within India. The frequency of visit and the charges should be mentioned.

11. The Tender should be enclosed with proper certifications like **Authorization Certificate** and **Proprietary Certificate** (in case of Proprietary items).
12. Pre-installation site preparation/inspection requirements to be indicated and specified along with the bid.
13. Bid should include FOR IIT(BHU) Varanasi prices. The Institute will provide requisite certificate, if any, required by the bidder as per the applicable Govt. of India norms.
14. The vendor to provide compliance statement with respect to each technical specification in the tender document duly supported by the manufacturer's literature. Any other claim will not be accepted and may lead to rejection of the bid.
15. Printed literature in support of compliance to the prescribed specifications is to be submitted.
16. Compliance report needs to be submitted as a part of the technical bid.
17. Exemption is allowed from payment of Tender processing fees as per Government of India norms against submission of currently valid certificate specifically for the item(s) proposed to be procured through this Tender.
18. It is mandatory for bidders to quote items having local content minimum 20%. Refer revised Public Procurement (Preference to Make in India), Order 2017, No. P-45021/2/2017-PP (B.EII) dated 16.09.2020 issued by DPIIT, Ministry of Commerce and Industry, Govt. of India. (Submit duly filled Annexure VII for the same). The Annexure VII once submitted in the Technical Bid will be final. Submission of Revised Annexure VII will NOT be accepted. As per OM of DPIIT, Ministry of Commerce and Industry, Govt. of India No. P-45021/102/2019- BE-II- Part (1) (E-50310) Dated 04.03.2021, Bidders offering Imported products will fall under the category of Non-Local Suppliers. They cannot claim themselves as Class-I or Class-II Local Suppliers by claiming the services such as Transportation, Insurance, Installation, Commissioning, Training and After Sale Service Support like AMC/ CMC etc. as Local Value Addition.
19. As per the Government of India Order, only "Class-I Local Suppliers" and "Class-II Local Suppliers" can participate in this tender.
20. Bidder should confirm their acceptance that they comply with the provisions with report to "Guidelines for eligibility of a bidder from a country which shares a land border with India as detailed at Annexure VI. The bidder should submit Certificate for "Bidder from/ Not from Country sharing Land border with India & Registration of Bidder with Competent Authority" as per Order of DoE F.No.6/18/2019-PPD dated 23.07.2020 as mentioned. A certificate shall be submitted by bidders in the tender documents regarding their compliance with the said order. If the certificate submitted by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law. Annexure VI.
21. Defective Equipment: If any of the equipment supplied by the Tenderer is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the committee will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the Tenderer with 18% interest if such payments for such equipment have already been made. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 30 days on receipt of the intimation from this office at the cost and risk of supplier including all other charges. In case supplier fails to replace above item as per above terms & conditions, IIT (BHU) may consider "Banning" the supplier.

IMPORTANT NOTE

1. Non-compliance of tender terms, non-uploading of required documents, lack of clarity of the specifications, contradiction between bidder specifications and supporting literature etc. may lead to rejection of the bid.
2. In the tender, either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.
3. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

SECTION 5: CHECKLIST FOR BID/TENDER UPLOADING

(The following check-list must be filled in and uploaded with the bid documents)

S. No.	Particulars Techno Commercial Unpriced Bid (Cover 1)	Yes/No
1	Have you uploaded the techno commercial unpriced bid form duly filled in appropriately?	
2	Have you uploaded a copy of the last three financial years audited balance sheet and P & L Account of your firm?	
3	Have you attached the details of the income tax clearance certificate, proof of manufacturing unit/ dealership letter/ general order suppliers and copy of GST registration certificate?	
4	Have you executed the supply of at least two servers/Workstations in the last three financial years to any of the IITs/NITs/IISc/DRDO/Central Govt. Organization, costing more than Rs. 20 lakhs for a single order or more than 1 crore for HPC solution/software and uploaded the copies of relevant work orders and satisfactory installation certificates in prescribed Format?	
5	Have you submitted DD/transferred online Tender Processing Fee asked for and Bid Securing Declaration Form as EMD separately and uploaded their proof of submission?	
6	Have you submitted samples of all items indicated in the respective schedule of requirements at the address of tender inviting authority within due date?	
7	Have you enclosed the schedule of requirement indicating the make offered without indicating the pricing components along with the techno commercial unpriced bid?	
8	Have you uploaded the bids both techno commercial unpriced and priced bid separately for the tender?	
9	Have you enclosed the statement of deviations from financial terms and conditions, if any?	
10	Have you submitted the Technical Compliance Sheet?	
11	Have you attached the compliance of Essential Pre-Bid criteria?	
12	Have you attached Manufacturer's Authorization certificate for this Tender?	
13	Have you attached a notarized affidavit that bidder has never been black-listed along with the technical Bid under cover 1?	
14	Have you attached the Declaration on the letter pad of Bidder?	
15	Have you attached the signed Tender acceptance letter?	
Price Bid (Cover 2)		
1	Have you signed and uploaded the priced bid form?	
2	Have you uploaded the schedule of requirements duly priced i.e., BOQ and its pdf version?	

NOTE: While arranging the Tender Documents, check list should be placed on TOP.

COMPLIANCE SHEET OF ESSENTIAL PRE-BID CRITERIA

S. No.	Essential Pre-Bid Criteria	Compliance
1	Bidders should be the manufacturer (OEM) / authorized dealer. Currently valid Letter of Authorization especially for this Tender from original equipment manufacturer (OEM) should be enclosed in case of authorized dealer participating in the Tender. The Letter of authorization shall remain valid during execution of supply and installation.	
2	An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend all support for the warranty in confirmation with this bid for the quoted items. In case the OEM withdraws its authorization from bidder, the above service will be provided by the OEM.	
3	A notarized affidavit by the bidder that it has never been black-listed must be uploaded along with the technical Bid under cover 1, failing which the Bid shall be rejected. The original shall be submitted before the award of bid by the lowest evaluated successful bidder.	
4	Certified Financial Statement of Bidder from a CA such as Balance Sheet and Profit & Loss account of last three financial years clearly indicating the annual turnover regarding the supply and installation of similar type of items. The annual financial turnover of bidder must not be less than 50 Lakh during Last 3 financial years.	
5	The bidder/OEM must have delivered at least two servers/Workstations in the last three financial years to any of the IITs/NITs/IISC/DRDO/Central Govt. Organization/Autonomous Body, costing more than Rs. 20 lakhs for a single order or more than 1 crore for HPC solution/software. Copies of Purchase Orders showing order value along with satisfactory installation certificate to be uploaded under cover 1.	
6	Certificate as per Annexure VI, Annexure VII on the letterhead of the company must be uploaded.	

All documents in support of above essential pre-bid criteria shall be scanned and uploaded under cover 1.

Signature of the Authorized Person

Date: -----

Full Name -----

Place: -----

Company Address with Seal

SECTION 6: DECLARATION
(On the letter head of the firm submitting the bid)

1. I, ----- Son /Daughter of Shri-----
----- Proprietor/ Partner/ CEO /MD/ Director/
Authorized Signatory of M/s. ----- am competent to sign this
declaration and execute this tender document.
2. I have carefully read and understood all the terms and conditions of the tender and hereby convey my
acceptance of the same.
3. The information/ documents furnished along with the above application are true and authentic to the
best of my knowledge and belief.
4. I/ we/ am are well aware of the fact that furnishing of any false information/ fabricated document would
lead to rejection of my tender at any stage besides liabilities towards prosecution under appropriate
law.
5. Each page of the tender document and papers submitted by my Company is authenticated, sealed and
signed, and I take full responsibility for the entire documents submitted.
6. This is certified that our organization has been authorized (Copy attached) by the OEM to participate
in Tender. We further certified that our organization meets all the conditions of eligibility criteria laid
down in this tender document. Moreover, OEM has agreed to support on regular basis with technology
/product updates and extend support for the warranty.
7. The prices quoted in the price bids are subsidized due to academic discount given to IIT (BHU)
Varanasi.
8. We, further specifically certify that our organization has not been Black Listed/De Listed or put to any
Holiday by any Institutional Agency/Govt. Department/Public Sector Undertaking in the last three
years.

Signature of the Authorized Person

Date: -----

Full Name -----

Place: -----

Company Address with Seal

SECTION 7: TENDER FORM

(Techno commercial un-priced Bid)
(On the letter head of the firm submitting the bid)

Tender No.

To,
Coordinator
Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India

Dear Sir,

1. I/We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders;
2. I/We meet the eligibility requirements and have no conflict of interest;
3. I/We have not been suspended nor declared ineligible in India;
4. I/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: *[insert a brief description of the Goods and Related Services]*
5. I/We offer to supply the items as listed in the schedule to this tender hereto/portion thereof as you may specify in the acceptance of Tender at the price given in the said Schedule and agree to hold this offer open for a period of days from the date of opening of the tender.
6. I/we shall be bound by a communication of acceptance issued by you.
7. I/We have understood the Instruction to bidders and Conditions of Contract in the form as enclosed with the invitation to the tender and have thoroughly examined the specifications quoted in the Schedule hereto and am/are fully aware of the nature of the goods required and my/our offer is to supply the goods strictly in accordance with the specifications and requirements.
8. A proof of payment of Rs..... (Rupees.....only) as Tender Processing Fee in the aforementioned account of Registrar, IIT (BHU).
9. The following have been added to form part of this tender.
 - (a) Schedule of requirements, quoting the make only duly signed and stamped. (without indicating price)
 - (b) Income Tax clearance certificate.
 - (c) Copy of last audited balance sheet.
 - (d) Copy of Valid GST registration certificate.
 - (e) Copy of similar relevant major purchase orders executed during last three years in IITs/NITs/IISC/DRDO/Central Govt. Organization/Autonomous Body,
 - (f) Proof of manufacturing Unit, dealership certificate/general order suppliers.
 - (g) Statement of deviations from financial terms & conditions, if any.
 - (h) Any other enclosure. (Please give details)
10. We undertake to execute all orders which have been placed to meet emergent requirements on priority basis.
11. Certified that the bidder is:

(a) A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of the sole proprietor,

Or

(a) A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney.

Or

(b) A company and the person signing the document is the constituted attorney.

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariable be duly attested by the person authorized to sign the bid document).

12. We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof shall constitute a binding contract between us.

13. If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents.

14. We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process, other than alternative bids submitted.

15. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption.

Name of the Bidder*

Name of the person duly authorized to sign the Bid on behalf of the Bidder**

Title of the person signing the Bid

Signature of the person named above

Date signed day of

* In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Yours faithfully,

(Signature of bidder)

Dated this day of

Address:

Telephone No.:

FAX

E-mail

Company seal

(Priced Bid)
(On the letter head of the firm submitting the bid)

Tender No.

To,
Coordinator
Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India

Dear Sir,

Having examined the bidding documents and having submitted the techno commercial unpriced bid for the same, we, the undersigned, hereby submit the priced bid for supply of goods and services as per the schedule of requirements and in conformity with the said bidding documents.

1. We hereby offer to supply the Goods/Services at the prices and rates mentioned in the enclosed schedule of requirement.
2. We do hereby undertake that, in the event of acceptance of our bid, the supply of Goods/Services shall be made as stipulated in the schedule of requirement and that we shall perform all the incidental services.
3. The prices quoted are inclusive of all charges net F.O.R IIT (BHU) Varanasi. We enclose herewith the complete Price Bid as required by you. This includes:
 - (a) Price Schedule (Bill of Quantity - BOQ) in .pdf format and .xls format
 - (b) Statement of deviations from financial terms and conditions, if any.
4. We agree to abide by our offer for a period of 90 days from the date fixed for opening of the bid documents and that we shall remain bound by a communication of acceptance within that time.
5. We have carefully read and understood the terms and conditions of the bid document and we do hereby undertake to supply as per these terms and conditions. The Financial Deviations are only those mentioned in the statement of deviations from financial terms and conditions.
6. We have paid, or will pay the following commissions, gratuities, or fees 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.”)

7. 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; and
8. We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Certified that the bidder is:

A sole proprietorship firm and the person signing the bid document is the sole proprietor/ constituted attorney of sole proprietor,

Or

A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney,

Or

A company and the person signing the bid document is the constituted attorney.

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorized to sign the bid document.)

We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof, shall constitute a binding contract between us.

Dated this day of

Signature of Bidder

Details of enclosures

Full Address:

.....

Telephone No.

Mobile No.

Fax No.

E-mail:

Company Seal

BIDDER INFORMATION FORM

Date:

ADVT. No.:

1. Bidder's Name:
2. In case of JV, legal name of each member: <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration:
4. Bidder's year of registration:
5. Bidder's Address in country of registration:
6. Bidder's Authorized Representative Information Name: Address: Telephone/Fax: Email: Address:
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement. <input type="checkbox"/> In case of Government-owned enterprise or institution, documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law• Establishing that the Bidder is not dependent agency of the Purchaser Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

TENDER ACCEPTANCE LETTER

(To be given on Company Letter Head)

Date:

**To,
Coordinator
Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India**

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No.

Name of Tender/ Work:

.....

Dear Sir,

1. I/We have downloaded/ obtained the tender document(s) for the above mentioned ‘Tender/Work’ from the web site(s) namely: as per your advertisement, given in the above-mentioned website(s).
2. I/We hereby certify that I/We have read the entire terms and conditions of the tender documents from Page No. to (including all documents like section(s), schedules(s) etc.), which form part of the contract agreement and I/we shall abide hereby by the terms/conditions/ clauses contained therein.
3. The corrigendum(s) issued from time to time by your department/ organization too have also been taken into consideration, while submitting this acceptance letter.
4. I/We hereby unconditionally accept the tender conditions of above-mentioned tender document(s)/ corrigendum(s) in its totality/entirety.
5. In case any provisions of this tender are found violated, then your department/ organization shall without prejudice to any other right or remedy be at liberty to reject this tender.

Yours faithfully,

(Signature of the Bidder, with Official Seal)

FORMAT FOR PERFORMANCE BANK GUARANTEE (PBG)/ PERFORMANCE SECURITY

(To be typed on non-judicial stamp paper of the value of Indian Rupees of One Hundred)

[To Be Established Through Any of the Nationalized Commercial Banks (Whether situated at Varanasi or Outstation) with A Clause to Enforce the Same on Their Local Branch at Varanasi]

To,
The Registrar
Indian Institute of Technology (BHU) Varanasi
Varanasi – 221005, Uttar Pradesh, India

LETTER OF GUARANTEE

WHEREAS Indian Institute of Technology (BHU), Varanasi (Buyer) has invited tender vide Tender No..... dated..... for purchase of
AND WHEREAS the said tender document requires that eligible successful bidder (seller)..... wishing to supply the equipment / machinery, etc. in response thereto shall establish an irrevocable Performance Bank Guarantee in favour of “The Registrar, Indian Institute of Technology (BHU) Varanasi” in the form of Bank Guarantee for Rs. (3% of the contract value) and the Performance Bank Guarantee shall remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the seller, including warranty obligations from the date of issue of Performance Bank Guarantee and the eligible successful bidder (the seller) shall submit the same within 14 (Fourteen) days from the date of Award of Contract.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said bidder (seller) fails to abide by any of the conditions referred to in tender document / Award of Contract / performance of the equipment / machinery, etc. this Bank shall pay to Indian Institute of Technology (BHU), Varanasi on demand and without protest or demur Rs. (Rupees.....).

This Bank further agrees that the decision of Indian Institute of Technology (BHU) Varanasi (Buyer) as to whether the said bidder (Seller) has committed a breach of any of the conditions referred in tender document / Award of Contract shall be final and binding.

We, (Name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the bidder (Seller) and/ or Indian Institute of Technology (BHU), Varanasi (Buyer). **Notwithstanding anything contained herein:**

1. Our liability under this Bank Guarantee shall not exceed Rs. (Indian Rupees only).
2. This Bank Guarantee shall be valid up to (date) and
3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if IIT (BHU), Varanasi serve upon us a written claim or demand on or before(date). This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at situated at (Address of local branch).

Yours truly,

Signature and seal of the guarantor:

Name of Bank:

Address:

Date:

SECTION 8

ANNEXURE I

Design, Development, Simulation and Analysis Facility Along with Power Backup for Centre of Excellence on Machine Tools Design

Description

Computing Systems having GPU, AI enabled and consisting of Academic Research Licenses of Simulation Software for CFD, FEA & EM Simulations with 3 years Technical Support and Updates

Quantity

10 No.

Detailed Specifications

Features	Minimum Requirement
CPU	Intel Xeon 6226R, 2.9GHz 2933MHz 16C 150W CPU or better
Chipset & BIOS	Intel C620 series chipset with minimum PCIe x 8 uplink or higher. BIOS should have tool for Enhanced security features like self-healing, regular checks etc. Details to be provided
RAM	128GB DDR4 2933 DIMM ECC Registered 1CPU Memory with minimum 12 DIMM slots
HDD	1TB TLC M.2 Solid State Drive for operating system & 4 TB 7200RPM SATA 3.5in enterprise HDD
Optical Drive	9.5 mm DVDRW or better
GPU Card	NVIDIA RTX A4000 16 GB, 4DP PCIe x16 Graphics or better with necessary Adapter and all relevant drivers
Keyboard	USB keyboard and Mouse or better
Monitor	68.58 cm (27 inch) IPS, FHD Brightness: Minimum 380 cd/m ² Refresh rate: More than 120Hz Response Time: 1 ms Input Output Ports: HDMI 2.0 x 2, Display Port 1.4 x 1, Headphone Out x 1 Tilt, Height, Pivot OEM Software for controlling/adjusting monitor features like: Brightness, Colour, Contrast, Volume, PIP, Pre-set saving, Screen Partition through Software only BIS Certificate, OEM ISO 9001, 14001 and 18001 certificate
Communications	Integrated Intel® I219-LM PCIe® GbE
Expansion Slots	Minimum 8 PCI Express including 2 PCI Express X16 for storage devices with optional slots and 2 M.2 PCIe Gen 3 x4 slots for SSD
Ports	System should support minimum following ports: Minimum 8 USB 3.1 G1Type A, 2 USB 3.1 G2 Type C, 1 Audio Port, Internal: 1 USB 3.1 G1, 1 USB 2.0 single-port, 1 USB 2.0 dual-port, 2x 1Gbe LAN Ports, Audio: 1 Line out, 1 Line, PS/2 Mouse and Keyboard Port, 1 Rear power button
Operating System	Windows 11 Professional 64 bit for Workstations
Power supply	Maximum 1000 W - 90% Efficient
Security	Provision for Full Volume Encryption, Keyed Cable Lock Kit, Chassis Intrusion Sensor, Self-healing BIOS which Automatically Detect, Stop and Recover from a BIOS Attack or BIOS Corruption without Service Support.
Application Software Certification	System should be certified to run ISV softwares like Ansys, Abaqus, ArcGIS, Erdas, etc. and it should be available on respective ISV vendors website.

Additional Software	Software Tool for Data Visualization, Machine Learning/Deep Learning, Data Science & Statistical Analysis with One Year Subscription
Warranty	Three Year Onsite Warranty
System Configuration Details	The bidder has to provide OEM's Bill of Material with part numbers along with technical bid failing which the bid will be rejected.
Firm's Authorization	Specific authorization by the respective manufacturer for participating in this tender has to be enclosed with technical bid.
Perpetual Academic Associate Licenses for Teaching, Research and Projects with 3 Year Technical Support and Updates	<p>Academic Research simulation software for Mechanical, CFD, Electromagnetic and Engineering material software solution and material learning content (Confirming to the specifications/features at Annexure IA, IB, IC & ID)</p> <ul style="list-style-type: none"> • IA & IB: 5 user license/ 5 tasks • IC & ID: 1 user/ 1 task <p>(Technical compliance mentioning the product and module name complied by respective OEM to be provided. All services to be provided by OEM's service partner or OEM directly)</p>
Perpetual with 3 Years Technical Support & Updates	<p>Research Advance Materials and Libraries: Additive manufacturing with third party/native modules for CAD, CAE, PLM integration confirming to the features at Annexure ID</p> <ul style="list-style-type: none"> • As per details at Annexure ID: 1 user/ 1 task
Server	<p>1U Rack Mountable, 2x Intel Xeon-Silver 4310 2.1GHz 12-core, 18MB cache or better, 2 x 32GB DDR4 RAM or more with 24 or more DIMM Slot</p> <ul style="list-style-type: none"> • As per details at Annexure IE: Quantity 01
Power Backup	<p>Online Ups 20 kVA</p> <ul style="list-style-type: none"> • As per details at Annexure IF: Quantity 01
Additional Requirement	<p>Shipment & Delivery: free of cost Installation & demonstration: free of cost 05 Days Training at free of cost: 02 times/year during the tenure of Technical Support & Updates</p>

Technical Specifications for Finite Element Analysis Software

S. No.	Specification
1	Supply, Installation and Commissioning of software for Computational Mechanics along with perpetual floating license.
2	The software shall be licensed, well proven and established in the market. Software shall be compatible with Microsoft Windows 11. Software should have multicore processing capability during supply and shall have option to choose number of cores for solver.
3	The Software shall be capable of Interacting with other physics solvers for Multiphysics analysis
4	The Software shall be capable of solving different types of analysis as following <ul style="list-style-type: none"> • Full 2D and 3D Capabilities • Static Structural- linear & nonlinear • Linear dynamics – Modal, Harmonic, Random Vibration & Response spectrum • Nonlinear Dynamics- Implicit and Explicit • Thermal – Steady state and transient • Fatigue • Modeling of Composite Materials • Topology Optimization • Wave Hydrodynamics
5	The software shall be capable of importing files in the following formats and perform above tasks CATIA (.CAT Part), Solidworks (.sldprt), Creo/ProE (.prt& .asm), NX (.prt), NEUTRAL (.step, .stp .stl, .iges, .igs& .dxf).
6	Software should allow user to edit the imported geometry, as well as to create new geometry along with following geometry editing tools: <ul style="list-style-type: none"> • Drag and split • Push/pull • Revolve/ Sweep/pattern • Detect & Repair improper geometry • Mid surface extraction for shell meshing
7	Software shall have the following features for different materials models with the appropriate properties: <ul style="list-style-type: none"> • Software should have material library of most used materials with wide range of temperature dependent material flow properties • Material data should be editable (ASCII format) • Isotropic model, Plasticity model – Multi linear and bilinear – kinematic and isotropic Hardening, Composites, Cohesive Material Models, Hyper-elastic, fatigue, temperature dependent material models, User-Defined Materials, etc.
8	The software shall be capable of generation 2D, and 3D mesh. Capable of automatic mesh generation. Should have provision for generating the mesh for simple to complex geometry using the following meshing algorithms: <ul style="list-style-type: none"> • Sweep, Multizone, Patch confirming and Hex dominant with the quality control for different Physics. Global and local setting are to be present to control the mesh settings. • Tetrahedral, Hex, Prism elements should be generated • Adaptive Meshing Algorithm based on Mesh, Energy, contact criteria must be present
9	Software shall have the features to automatically /manual generate contacts. Following contacts are to be present:

	<ul style="list-style-type: none"> • Bonded, Frictional, Frictionless, Rough and No separation. <p>Following contact algorithms are to be present:</p> <ul style="list-style-type: none"> • MPC, Normal Lagrange, Augmented Lagrange, Pure Penalty and Beam connection.
10	<p>Software should be capable of different kinds of boundary conditions as follows:</p> <ul style="list-style-type: none"> • Imported loads from other physics solvers like CFD, Optics etc. • Bolt Pretensions • Force, moment, and displacement-based boundary conditions
11	<p>Graphic User Interface of the software shall have the following features:</p> <ul style="list-style-type: none"> • A common GUI to support and carry out all the operations required for pre-processing, solver submission & post-processing • The process setup specific to Multiphysics analysis • GUI should be user friendly and interactive with modular and import & export features required for pre & post processing. • Capability to assign material property, loads and boundary conditions directly to geometry • Highly automated process with easy setup change and result creation
12	<p>Software should have generalized post-processing ability such as visualization of relevant results by contour plotting, animation, and creation of various kind of plots used in analysis. Post-processing capabilities shall include:</p> <ul style="list-style-type: none"> • Deformation, Temperature, stresses, and strain contour plots • Results can be mapped on node, elements, vertex, edge, surface, and volume • Results on path or surface • Capped Iso-surfaces plot • Acceleration, velocity plots • Safety factor and life • Export the Deformed geometry as STL file • Plotting utilities like multi-page/multi-plot for post processing
13	<p>Software should have High performance capabilities to run on 16 or higher number of cores with an inbuilt job scheduler.</p>

Technical Specifications Computational Fluid Dynamics (CFD) software

S. No.	Specification
1	Supply, Installation and Commissioning of software for Computational Fluid Dynamics (CFD) with perpetual floating license.
2	The software shall be licensed, well proven and established in the market. Software shall be compatible with Microsoft Windows 11. Software should have multicore processing capability during supply and shall have option to choose number of cores for solver
3	The Software shall be capable of advanced design operations like Polyhedral meshing, mosaic enabled Poly-Hexcore meshing, acoustics, heat transfer, standard turbulence models like spalart-allmaras, k-epsilon and advanced models like generalized k-omega model and high-fidelity models like scale-adaptive, detached eddy & large eddy simulations, battery modelling, Fluid-Structure Interaction, Combustion, Single and Multiphase Flows, Shape Optimization, Acoustics, Electric motor cooling.
4	The software shall be capable of importing files in the following formats and perform above tasks CATIA (.CAT Part), Solidworks (.sldprt), Creo/ProE (.prt& .asm), NX (.prt), NEUTRAL (.step,.stp .stl, .iges, .igs).
5	The software shall be capable of exporting results files in the following formats after performing above tasks. CGNS, CDAT, ASCII and Common Fluids Formats.
6	The software shall have the capability to provide solutions in all flow regimes, i.e., subsonic, sonic, supersonic and hypersonic.
7	Software shall have the following features for different fluid & solid materials with the appropriate properties: <ul style="list-style-type: none"> ➤ Should allow the user to define density, specific heat, thermal conductivity & viscosity (only for fluids). ➤ Apart from the above, the software shall have a default database of extensive material library
8	Graphic User Interface of the software shall have the following features <ul style="list-style-type: none"> ➤ A common GUI to support and carry out all the operations required for pre-processing, solver submission & post-processing ➤ The process setup specific to external aerodynamic analyses should be user-friendly. ➤ Easy creation of monitor plots for lift & drag coefficients ➤ GUI should be user friendly and interactive with import & export features required for pre & post processing. ➤ Highly automated process with easy setup change and result creation
9	Software should allow user to edit the imported geometry, as well as to create new geometry along with following geometry editing tools: <ul style="list-style-type: none"> ➤ Drag and split ➤ Push/pull ➤ Revolve/ Sweep ➤ Detect & Repair improper geometry ➤ Automatically create an enclosure and Boolean operation for external analyses ➤ Volume extraction for internal flow analyses
10	Post-processing capabilities shall include: <ul style="list-style-type: none"> ➤ Contours ➤ Vector plots ➤ Creation of custom surfaces/points ➤ XY plots ➤ Transient/unsteady statistics ➤ Streamlines

	➤ Animations
11	The software must be capable of receiving geometry input from a structural solver and output parameters from the aerodynamic analyses in a format compatible with an associated structural solver in a user-friendly manner.
12	Must have the capability to import data from other physics solver to import the temperature, surface heat flux, etc. to perform Multiphysics analyses using Computational Fluid Dynamics and output .csv or .dat files for post-processing.
13	<p>Thermal Analysis for Electronics Capable to handle types of heat transfer: Conduction, Convection, and radiation; combination of all modes of heat transfer</p> <p>Import of mechanical 3D models</p> <ul style="list-style-type: none"> • Should be able to import CAD geometries from solid works, PRO E, Auto CAD, etc. and should be able to cleanup and simplify the CAD models if needed • Should be able to identify electronics objects from the imported CAD geometry and convert them automatically in native objects • Should be able to maintain bi-directional connectivity with CAD software's • Should be able to handle STEP, IGES, ACIS or Para solid formats. <p>Import for ECAD-and PCB models</p> <ul style="list-style-type: none"> • Should be able to import PCB models along with board, vias with layers connectivity from software's like cadence, Allegro, Cadstar, etc. • Should be able to import gerber, gds, ODB++, AEDB files • Should be able to import and model traces with complete details <p>Creation of models</p> <ul style="list-style-type: none"> • Should be able to build components required for cooling of PCB along with details such as vias, layers, Packages, Sources, heat sinks, Vents, fans, filters etc. <p>Libraries</p> <p>➤ Materials:</p> <ul style="list-style-type: none"> • Metals like aluminum, aluminum alloys, copper, nickel gold etc. should be available. The different types of material grades and conditions of aluminum namely HE30, HE 15 etc. to be available • Data base of non-metals like ceramics, polymers, laminates, glasses, minerals should be available. • Components: Inbuilt package libraries like TO-220, SOIC, TO-241, SIP, DIP, FPGa's, CPLD's etc. to be provided • Thermo-Electronic coolers: Data base of single & multistage TEC to be provided • Data base of interface materials like thermal components (manufactures like 3M, Aavid, etc) to be provided • Heat sinks: Standard heat sinks of different manufactures like Aavid, Thermshield, etc. to be provided. Minimum of 500 No's of heat sink database to be provided • Database of two-resistor components to be available • 2D & 3D heat source elements for power generation devices • Ability to create custom-built database and libraries to be provided <p>Boundary conditions</p> <ul style="list-style-type: none"> • Import power maps in form of X, Y, Z, P. X, Y and Z are the coordinates and P is the heat flux

Meshing

- Provision of automatic & manual meshing to be available
- Automatic meshing for fluid & solid regions to be available
- Different type of mesh models like body fitted Cartesian mesh etc. to be available to represent complain shapes in the electronic model
- Ability to import external mesh in addition to native mesh

Post processing

- 2D & 3D color shades of temperature at various planes and locations: Result at any particular point should be available even though monitoring points are not marked before start of simulation
- Ability to perform the post processing of multiple projects in single window for comparison
- Ability to perform automatic post processing for similar cases in case of parametric trials.
- Isosurface contours to locate min & Max variable quantities
- Contours on various cutting planes (x,y,z & user defined planes)
- Summary options to build custom summary reports
- Automatic generation of summary report in MS office

Types of flow

- Laminar, transition & turbulent flows to be available
- Ability to model multiple fluids to be available

Simulation

- Transient, steady state and parametric analysis to be available
- Joule heating in objects with temperature dependent properties supported
- In case of transient simulation, ability to model variables as a function of time should be available
- Capability to parameterize all geometry details, material properties, boundary conditions and even make the objects active and in-active
- Ability to perform optimization on any of the variables like: material properties, object location, power dissipation, presence and absence, turbulence models, flow regime, etc.

Materials

- Constant and variable input material properties Variable resistance, temperature dependent resisting modeling

Multiphysics simulations

- Bi-directional coupling with SIwave for electro-thermal analysis with automatic transfer of power dissipation on PCB along with temperature dependency on material properties
- Bi-directional coupling with Q3D, Maxwell, HFSS for node-to-node EM loss mapping and coupled electro-thermal simulation
- Bi-directional coupling with Mechanical for thermo-structural analysis
- Importing of Chip Thermal model powermap from Apache Redhawk for accurate power dissipation from chip level tool along with die level metal distribution

Finite Element Method (FEM) Explicit/Implicit & Electromagnetic Analysis

<p>Multiple Solution Technique</p>	<p>Non-linear dynamic program that offers a comprehensive set of solution techniques, enabling to select the most appropriate and accurate solver possible for a wide range of problems.</p> <ul style="list-style-type: none"> • Provide connectivity for extensive CAD modeling, Meshing tools (ICEM, LSDYNA, NASTRAN & True Grid) • Provide connectivity with implicit solver for handling prestressed explicit simulations <ul style="list-style-type: none"> ○ Implicit-explicit deformations ○ Implicit-explicit material states • Capability to work with composite material • Interactive pre/post and solution • Generate both structured and unstructured mesh
<p>Lagrange Solver</p>	<p>Lagrange Solver (Solid, Beam & Shell)</p> <ul style="list-style-type: none"> • 2D & 3D Solver • Use meshes that move and distort with the material • Works with both, structured and unstructured mesh • Automatic option to convert structured mesh to unstructured mesh • Three element types <ul style="list-style-type: none"> ○ Solid ○ Shell ○ Beam • Element Erosion capability • Mass scaling • Joint Capability
<p>Euler Solver (Euler Multi Material & Euler Blast Solver)</p>	<ul style="list-style-type: none"> • Multi-material Euler Solver <ul style="list-style-type: none"> ○ 2D & 3D Solver ○ General Euler solver capable of modeling and tracking the motion of multiple materials (with strength) ○ Multiple material Solver with strength <ul style="list-style-type: none"> ▪ Algorithms determine the state of cells containing multiple materials ▪ Uses Godunov method ▪ Material transported from cell to cell ▪ Structured mesh for both, 2D & 3D ○ Used for modelling of fluids, gases and large deformation of solids • Euler Blast Solver <ul style="list-style-type: none"> ○ 2D & 3D Solver ○ Designed for efficient and accurate blast solutions ○ 2nd Order Accurate ○ Hydrodynamic (no shear stress tensor, only normal stresses) ○ Single material, ideal gas ○ Extensive 1-D/2-D/3-D remapping for accurate solutions to blast propagation. <ul style="list-style-type: none"> ▪ Remapping in Space ▪ Remapping solution methods

	<ul style="list-style-type: none"> ○ Refine option to refine a rectilinear 3D Structured mesh ○ Block Remap option to performs a fast remap from a refined mesh to the unrefined mesh ○ Imports a structured mesh and fills Euler Ideal Gas Solver Part from a text file ○ Fill Block, Refine and Block Remap can be used together to perform large range, staged blast calculations
Arbitrary Lagrange Euler Solver (ALE)	<ul style="list-style-type: none"> ● 2D & 3D Solver ● Solid meshes: it embeds in material and move and distort with material ● Automatic rezoning: The mesh within any material region can be continuously adjusted in arbitrary and predefined ways ● Alternate approach for Euler-Lagrange Coupled approach
SPH Solver	<ul style="list-style-type: none"> ● 2D & 3D Solver ● Lagrange particle method (particles are embedded in material) ● Solution for modeling fracture and fragmentation of brittle materials
Body Interactions /Contact	<ul style="list-style-type: none"> ● Contact Detection Algorithm <ul style="list-style-type: none"> ○ Trajectory ○ Proximity Based ● Body Self Contact ● Element Self Contact ● Supported Contact /Body Interaction <ul style="list-style-type: none"> ○ Bonded (Joined) <ul style="list-style-type: none"> ▪ Unbreakable bonds ▪ Breakable Bonds ○ Frictional (contact) <ul style="list-style-type: none"> ▪ Static ▪ Dynamic ● Reinforcement Body Interaction <ul style="list-style-type: none"> ○ Reinforced Concrete ● Spot Weld Connection ● Spring and Damper Connections
Coupling (FSI)	<ul style="list-style-type: none"> ● Different Coupling Types <ul style="list-style-type: none"> ○ Fully Coupling ○ Weak Coupling ○ Rigid Coupling ● Euler-Lagrange Coupling <ul style="list-style-type: none"> ○ Euler-Lagrange Coupling allow regions modeled with Euler and Lagrange meshes to interact. ○ Coupling is in space and time ○ Boundaries of Lagrange meshes act as flow constraints within the Euler meshes ● Automatic and Semi-automatic Euler-Shell Coupling Thickness option ● Blending technique to maintain proper timestep for partially covered Euler cells by automatic blending ● Polygon Coupling for 2D Models ● Euler Subcycling for 3D models
Contact, Erosion and Coupling	<ul style="list-style-type: none"> ● Able to combine all four solvers in a single problem using contact/coupling ● Contact, Erosion and Coupling can be used simultaneously in an analysis

	<ul style="list-style-type: none"> • Should be used simultaneously in an analysis for <ul style="list-style-type: none"> ○ Failure and fragmentation of components ○ Venting of fluids / gases through failed / fragmented components ○ Combined shock (blast) and impact (fragment) loading of structures
Analysis Techniques	<ul style="list-style-type: none"> • Automatic Time stability Algorithm • De-Zoning • Part Activation and deactivation • Part addition/removal during a simulation • Erosion Based on multiple criteria <ul style="list-style-type: none"> ○ Geometric Strain ○ Plastic Strain ○ Timestep ○ Failure • Erosion model should be specified for each material or Globally for all material for Solid Lagrange Bodies
Boundary Condition	<ul style="list-style-type: none"> • Analytical Blast Boundary- Based on formulations of TM 5-855 • Velocity <ul style="list-style-type: none"> ○ Applied to Lagrange, ALE, Shell, Beam and SPH Parts <ul style="list-style-type: none"> ▪ X, Y, Z Velocity Constraints <ul style="list-style-type: none"> Constant Limit- Limit position between max and min coordinates Radial Velocity Piecewise- Piecewise linear segments ▪ General Velocity Constraints <ul style="list-style-type: none"> Fixed constant velocities in X, Y, Z (3D) and fixed rotational velocities about coordinate axes ▪ User Time-Dependant X, Y, Z velocity • Transmit <ul style="list-style-type: none"> ○ Applied to Lagrange, ALE and Euler Parts • Flow <ul style="list-style-type: none"> ○ Applied to Euler Parts <ul style="list-style-type: none"> ▪ Inflow ▪ Outflow ▪ Outflow with reverse • Force <ul style="list-style-type: none"> ○ Applied to Beam Parts <ul style="list-style-type: none"> ▪ Nodal force boundary conditions <ul style="list-style-type: none"> Constant, Piecewise, User Subroutine EXFOR x, y, z and general directions ▪ Element force/unit length boundary conditions <ul style="list-style-type: none"> Constant, Piecewise, User Subroutine EXFOR x, y, z and general directions • Stress <ul style="list-style-type: none"> ○ Constant ○ Trapezoid ○ Triangular ○ Exponents ○ Piecewise ○ User subroutine

Materials	<p>Capability to model</p> <ul style="list-style-type: none"> • Gases, Fluids and Solids under extreme loading conditions • Should have accuracy in predicting the dynamic response of metal, composite, ceramic, glass and concrete materials <ul style="list-style-type: none"> ○ Elastic response ○ Plastic flow ○ Fracture and fragmentation ○ Natural fragmentation model ○ Detonation/deflagration ○ High Explosives (HE) ○ Slow burning propellants and pyrotechnics (Powder Burn Model) ○ Ignition and growth model <ul style="list-style-type: none"> ▪ Determine conditions under which explosives might detonate sympathetically as a consequence of impact or blast loadings ○ Sesame library support ○ The Miller energy release model was used to describe the afterburning process ○ Composite capability <ul style="list-style-type: none"> ▪ Orthotropic elasticity ▪ Orthotropic plasticity ▪ Orthotropic softening • Inbuilt MATERIAL MODEL LIBRARY for Metal, Gas and Explosives, etc. • Extensive material models available for Structural & shock response for solids, liquids and gases
Parallel Processing	<ul style="list-style-type: none"> • 3D simulations run in parallel on <ul style="list-style-type: none"> ○ Cluster of PC's running Windows ○ On Linux • Supports Platform MPI, Intel MPI & Microsoft MPI • Manual and automatic domain decomposition • Include Contact and Coupling (FSI) • View option to check performance of each core using Performance Profiler Viewer
Open Architecture	<ul style="list-style-type: none"> • Should be able to include custom material models, loads, boundary conditions, initial conditions etc. through User-Defined Subroutines
Post Processing	<ul style="list-style-type: none"> • Able to plot deformation, Pressure, Damage, stress, strain, etc. contour results • Time history post processing • Able to create, load and view GIF and GFA (3D) animations • Able to export results file to previous Version • Fragment Analyzer <ul style="list-style-type: none"> ○ Plot Fragment ○ List Fragment velocity, energy & momentum • Interactive option to visualize the results while solution is in progress

Electromagnetic Finite Element Method Software Tool shall comply to following specifications

Design Tool for Analysis

General Capabilities of pre-processing tools:

- Direct Modeling Technology
- Open Data from All Major CAD Systems
- Feature Based Modeling Technology
- Export Data to Neutral File Formats
- Modify Imported Geometry
- Defeaturing and Simplification Tools
- Model Repair
- Add Parameters for Design Exploration
- Shared Topology for Conformal Meshing
- Booleans and Slicing
- Boundary Condition Mapping
- Scripting
- Sketching and Editing Tools

Meshing Capabilities for FEM

- Physics-aware meshing
- Defeaturing
- Surface Meshing
- Automated part repeat
- Automated periodic parts
- Auto update with parameters
- Curvilinear Meshing
- Skin depth-based mesh seeding
- Mapped mesh control
- Tetrahedral Meshing
- Adaptive mesh refinement
- Mesh control
- Mesh reuse
- Phi Mesher

Finite Element Modeling and Solver Deck Creation

Materials

- A comprehensive materials database containing permittivity, permeability, electric and magnetic loss tangents for common substances. Able to include anisotropic materials, ferrites, temperature and frequency-dependent material properties.
- Frequency-dependent material models like DS models
- Provision for Spatially dependent material properties and boundary conditions.
- Material Designer
- Materials Data for Simulation

EM Solver Capabilities

- 3D full-wave Frequency Domain-based electromagnetic field solver based on the Finite Element Method, MOM, FEM Time Domain Methods, Asymptotical electromagnetic field solver - Shooting and Bouncing Ray + (SBR+) method, Eigen Mode Solver,
- Hybridization FEM, IE and SBR+/PO solver in a single design.

- Low-frequency electromagnetic field simulation for 3D/2D structures
- AC Electromagnetic—Analysis of devices influenced by skin/proximity effects, eddy/displacement currents
- 2D low-frequency electromagnetic solver
- Quasi-static electromagnetic field simulation for 2D/3D RLGC extraction
- 3D CFD solver for Transient and Static Thermal Analysis
- 3D FEA solver Mechanical Stress Analysis
- 2.5D EM solver for PCB, Planar structures
- ID circuit simulation, power electronics
- Finite-Difference-Time-Domain (FDTD)
- Hybrid Transmission Line Solver
- Supports Multilevel Shielding
- Thin-Surface Algorithms
- 3D Particle Transport
- Non-linear Air Chemistry Module
- Optimized Charge Balance Equation Solvers
- CTM, CPM Generation
- Static/Transient Thermal Analysis
- Chip/Package/System PI/SI Simulation
- Interposer Model Extraction
- RTL Power Analysis, RTL Power Reduction
- Power Efficiency Metrics
- Power Profiling of Real Applications
- Planar filter realizations
- Automatic filter synthesis
- Distributed filter layout synthesis
- SysML Models with Safety Properties
- Functional Safety Analysis
- Model-Based Safety Analysis
- Safety at System, Software, Hardware, and PCB Levels

Optimization

- Integrated optimization -Parametric, Optimization, Sensitivity and Statistical analysis
- Advanced Optimization Algorithms- Pattern search, Quasi-Newton search, SNLP, Genetic optimization algorithm, etc.
- Analytical derivatives to find output sensitivity to design parameters without resolving structure

HPC Capabilities

- 4 Core as Default Number of Cores and expandable
- Parallel Solving on Local PC
- Parallel Solving on Cluster
- Parallel mesh generation (Fluids)
- GPU Acceleration
- Parallel Solving with Cloud Launched from Desktop

Software Specifications

Life Cycle	Supports multiple phase, separate life cycle editor
Environment	Temperature, Harmonic and Random Vibration, Mechanical Shock, and Bending
File Types	Gerber, ODB++, Images Gerber, ODB++, ODB.xml, Mentor Neutral, GenCAD, Eagle, Images, IPC NetList, IPC 2581
Parts List	Part Number Recognition
Part Properties	Packaging, Location, Quality, Electrical, Thermal, Weight
Part Library	Local, Enterprise and Global Library
Part Wizard	Populated
Materials Library	Electronic materials, including encapsulants, underfills, thermal interface materials, staking compounds, conformal coatings and potting materials
Glass Style Library	Approximately 100 glass styles common to the PCB industry.
Solders Library	Includes solder materials,
Package Library	~2000
Lead Models	Surface Mount and Through Hole and Ball Grid Array
Mechanical Parts	Supported, auto-generation of heatsinks
Underfill / Staking / Edge Bonding / Coating / Potting	Supported (Mechanical and Thermo-mechanical)
Laminate Library	Polymer and Ceramic Materials, Glass Style, Flex and Rigid Flex, Insulated Metal Substrate
Modeling	Box-Level (daughter card, mezzanine structures, other modules)
Thermal Analysis Interpretation	Image Overlay, Flotherm, Native Thermal Analysis
Thermal Derating	Automated (operating and storage)
CAF	Supported
DFMEA	Supported
ICT (Bed of Nails)	Supported (loads and displacements)
PTH Fatigue	Supported (IPC model)
Shock / Vibration	Multi-Axis and Multi-Orientation and Multiple Temperatures
Virtual Accelerometer	Supported
Solder Fatigue	Surface Mount, Through Hole, Die Attach
Wirebond Fatigue	Supported (Vibration / Mechanical Shock / Thermal Cycling)
IC Wearout	Supported (includes data from suppliers)
Component Failure Models	Supported
Heatsink Editor	Create pin- and fin-based heatsinks using fill-in fields and drop-down menus and attach them to components or PCBs.
PCB/BGA Substrate Stackup	Captures stackup from output files (Gerber, ODB++, IPC-2581). Automatically calculates weight, density and in-plane and out-of-plane modulus, coefficient of thermal expansion and thermal conductivity.
3rd Party Software	Software, Abaqus, Nastran, SolidWorks
Results	Summary, Life Curve, Histogram, Table, Overlay, Automated Report, Results Management, 3D PDF, Separate Results Viewer
CAE Interface	Import to and export from finite element analysis (FEA) solvers.
3D Viewer	Supported
High Fidelity Modeling	Model captures all copper features (lines, planes, vias). Range of meshing options. Modeling regions allows you to select regions of coarse and fine mesh
Locked IP Model	Locked IP Model allows designs to travel between design suppliers and design users while preserving PCB design details and without disclosing the intended

	use of PCB design via environmental conditions or reliability requirements. This feature has AES-128 encryption.
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Technical Specifications of Engineering Material Solution Software

S. No.	Specifications
1	<p>Material Data Management</p> <ul style="list-style-type: none"> • Multiple Unit System Support • Browse Materials Data • Edit and Update Materials Data • Search and Query Materials Data • Represent Property Data in Interactive Charts • Comparison Tables and Comparison Charts • Export Data to Excel and Third-Party Software
2	<p>Integration with third party/native modules for CAD, CAE, PLM</p>
3	<ul style="list-style-type: none"> • Materials Selection & Related Tools • Reference Data for Materials Selection on PC/Laptop • Interactive 'Ashby Charts' of Materials Property Space • Systematic Materials Selection Methodology • Filter Materials Based on Property Profile • Filter Materials Based on Links to Other Materials / Processes / Objects • Materials Substitution & Equivalency - 'Find Similar' • Performance Index Finder • Engineering Solver - Convert Engineering Requirements to Materials Properties • Hybrid Synthesizer - Predict Properties of Hybrid Materials • Part Cost Estimator • Selection Reports & Export of Charts for Presentations • Eco Audit for a Product or Conceptual Design
4	<p>Data Library – Material Universe</p> <ul style="list-style-type: none"> • Unique materials screening dataset of around 4000 materials, compiled by materials experts • Covers all classes of engineering materials • Data for generic grades of materials, linked to specialist grades • Includes technical, economic, regulatory & eco data • Process Universe: <ul style="list-style-type: none"> ○ Main manufacturing processes used for shaping, joining and surface treatment ○ Key process characteristics ○ Process capabilities ○ Cost models for primary shaping processes • Battery Cells: Battery cell performance and specifications, representing the performance of the generic battery cell type <ul style="list-style-type: none"> ○ Energy and power specifications ○ Weight ○ Dimensions ○ Nominal ratings ○ Charge/discharge behaviour
5	<p>Data Library – JAHM</p> <ul style="list-style-type: none"> • Database of temperature-dependent materials properties. • Widely respected source of data for simulation. • Over 8500 materials, covering <ul style="list-style-type: none"> ○ Ceramics and glasses

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|--|--|
| | <ul style="list-style-type: none"> ○ Composites (ceramic, metal & polymer matrix) ○ Research Advance Materials - Additive Manufacturing, Composites ○ Elements, organics, hydrocarbons, and other compounds ○ Functional materials ○ (Fuel cells, batteries, electro-ceramics, moulds, semiconductors & optical) ○ Metals and alloys ○ Woods ○ Molten salts and ionic liquids ○ Polymers and elastomers ● Properties available <ul style="list-style-type: none"> ○ Physical: Density, viscosity, vapor pressure ○ Elastic: Bulk and shear moduli, Poisson's ratio ○ Plastic: Tensile and yield strengths, elongation ○ Stress-strain: True stress strain curves ○ Fatigue: S-N and e-N fatigue curves ○ Creep: Creep strength, stress-rupture ○ Thermal: Thermal conductivity, specific heat, thermal expansion, thermal diffusivity, emissivity ○ Electrical: Electrical conductivity, electrical resistivity |
|--|--|

Server

Item	Minimum requirement
Chassis	1U Rack Mountable
CPU	2x Intel Xeon-Silver 4310 2.1GHz 12-core, 18MB cache or better
Memory	2 x 32GB DDR4 RAM or more with 24 or more DIMM Slot
Memory Protection	Advanced ECC with multi-bit error protection, Online spare, mirrored memory and fast fault tolerance or better with supporting documents
HDD Bays	8 SFF Bays available
Hard disk drive	2 x 1.2TB SAS 10K RPM HDD or higher
Controller	PCIe 4.0 based x8 RAID controller, supporting RAID 0, 1,
Networking features	1. 1Gb 4-port network adaptors or more ports
Interfaces	USB 3.0 support With Up to 5 total: 1 front, 2 rear, 2 internal (secure)
Power Supply	Should support hot plug redundant low halogen power supplies with minimum 94% efficiency
Fans	Redundant hot-plug system fans
AI Tools	Software tool for Data Visualization, machine learning/deep learning, Data Science & Statistical Analysis with one year subscription
System Security	<p>UEFI Secure Boot and Secure Start support</p> <p>Security feature to ensure servers do not execute compromised firmware code</p> <p>FIPS 140-2 validation</p> <p>Support for Commercial National Security Algorithms (CNSA)</p> <p>Common Criteria certification</p> <p>Configurable for PCI DSS compliance</p> <p>Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser</p> <p>Tamper-free updates - components digitally signed and verified</p> <p>Secure Recovery - recover critical firmware to known good state on detection of compromised firmware</p> <p>Ability to rollback firmware</p> <p>Secure erase of NAND/User data</p> <p>TPM (Trusted Platform Module) 1.2</p> <p>TPM (Trusted Platform Module) 2.0</p> <p>Chassis Intrusion detection</p>
Operating Systems and Virtualization Software Support	<p>Microsoft Windows Server 2019 standard or latest to be provided</p> <p>Should support Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), VMware</p> <p>Please provide certifications</p>
GPU support	System should support NVIDIA's latest computational accelerators and graphics accelerators.
Secure encryption	System should support Encryption of the data (Data at rest) on both the internal storage and cache module of the array controllers using encryption keys. Should support local key management for single server and remote key management for central management for enterprise-wide data encryption deployment.
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.
Provisioning	<p>1. Should support tool to provision server using RESTful API to discover and deploy servers at scale</p> <p>2. Provision one to many servers using own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell</p>
Firmware security	1. For firmware security, system should support remote management chip creating a fingerprint in the silicon, preventing servers from booting up unless the firmware matches the fingerprint. This feature should be immutable

	2. Should maintain repository for firmware and drivers recipes to aid rollback or patching of compromised firmware. Should also store Factory Recovery recipe preloaded to rollback to factory tested secured firmware
Monitoring, Analytics, and Performance	Should have continuous, proactive health monitoring and recording of required system parameters as well as diagnostic telemetry data on a 24x7 basis.
	Should have monitoring & analytics feature for the offered server/chassis along with its sub-components to predict, prevent, and auto-resolve problems and by providing automating case creation and log file submission for the problems that can't be autoresolved.
	Should help simplify the infrastructure management plan by predicting capacity, performance and bandwidth needs.

Power Backup

Online UPS 20 kVA for minimum 01 Hour Backup

PF	0.8 or better
DC Power	16000w
Inverter EFF	0.93
Wattage	17204.30108 or better
Wattage/Batt	860.2150538
DC BUS Voltage	210 V
Batteries	As per requirement to provide 1 hour back up
Warranty	Minimum One Year Onsite Warranty

Other Terms

1. Price of the facility should be quoted in Indian currency.
2. Price should be quoted F.O.R to IIT (BHU) Varanasi.
3. Custom Clearance will be the responsibility of the supplier.
4. **Indian agency commission:** Should be clearly stated in the financial bid in Indian currency.
5. **Penalty:** A penalty of 1% of the order value will be applied for late delivery of the goods for each week thereof subject to a maximum of 10%.
6. **Bank Guarantee (BG):** Successful bidder have to furnish **03%** of the order value as a performance security in the shape of Fixed Deposit Receipt / Bank Guarantee in favour of the Registrar, Indian Institute of Technology (BHU) Varanasi which will be valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Fixed Deposit Receipt / Bank Guarantee should be issued from a schedule bank in India. Bank guarantee is only applicable for the Supplier who will get the Award of Contract and will submit at the time of installation of the instrument.
7. **Payment:** The payment shall be made by **100% payment against Supply, Installation and Commissioning and submission of satisfactory PBG.**
8. **User List:** Provide users for last 5 years with contact person name, address, phone, and email IDs.
9. **Manuals/Documents:** 1 set of hard copy and 1 set of soft copy in English (preferred as following).
 - i. Operating manuals
 - ii. Maintenance manual
 - iii. Servicing manual
 - iv. Programming manual
 - v. Manuals of bought out items incorporated in the system
 - vi. Details of any custom-made ICs & components & their sources
10. The bidder must be authorized by the respective OEM to supply, install and maintain the system. The Tender should be enclosed with proper certifications like **Authorization Certificate and Proprietary Certificate**, in case of Proprietary items.
11. Pre-installation site preparation/inspection requirements to be indicated and specified along with the bid.
12. Warranty period to be clearly mentioned and should begin from the date of installation. Annual Maintenance Contract Charges should be clearly mentioned after warranty period. Preferably Three years comprehensive warranty with technical support and updates should be included with the offer.
13. Submit Electronic copy of the technical specifications and bids.
14. The vendor to provide compliance statement with respect to each technical specification in the tender document duly supported by the manufacturer's literature. Any other claim will not be accepted and may lead to rejection of the bid.
15. Printed literature in support of compliance to the prescribed specifications is to be submitted.
16. Compliance report needs to be submitted as a part of the technical bid.
17. In case during shipment period newer versions of software/hardware is available with vendor in lieu of the existing one for which Letter of Credit was opened, then improved version should be made available without any extra cost.
18. Institute reserves the right to visit installation in India of similar capabilities the details with to regard to such installation should be given as a part of technical bid.
19. Technical evaluation by the Institute may include demonstration to verify functionalities and capabilities of the system quoted.

Coordinator
Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India

TECHNICAL COMPLIANCE STATEMENT

(To be submitted by bidder duly filled)

Features	Minimum Requirement	Yes/No
CPU	Intel Xeon 6226R, 2.9GHz 2933MHz 16C 150W CPU or better	
Chipset & BIOS	Intel C620 series chipset with minimum PCIe x 8 uplink or higher. BIOS should have tool for Enhanced security features like self-healing, regular checks etc. Details to be provided	
RAM	128GB DDR4 2933 DIMM ECC Registered 1CPU Memory with minimum 12 DIMM slots	
HDD	1TB TLC M.2 Solid State Drive for operating system & 4 TB 7200RPM SATA 3.5in enterprise HDD	
Optical Drive	9.5 mm DVDRW or better	
GPU Card	NVIDIA RTX A4000 16 GB, 4DP PCIe x16 Graphics or better with necessary Adapter and all relevant drivers	
Keyboard	USB keyboard and Mouse or better	
Monitor	68.58 cm (27 inch) IPS, FHD Brightness: Minimum 380 cd/m ² Refresh rate: More than 120Hz Response Time: 1 ms Input Output Ports: HDMI 2.0 x 2, Display Port 1.4 x 1, Headphone Out x 1 Tilt, Height, Pivot OEM Software for controlling/adjusting monitor features like: Brightness, Colour, Contrast, Volume, PIP, Pre-set saving, Screen Partition through Software only BIS Certificate, OEM ISO 9001, 14001 and 18001 certificate	
Communications	Integrated Intel® I219-LM PCIe® GbE	
Expansion Slots	Minimum 8 PCI Express including 2 PCI Express X16 for storage devices with optional slots and 2 M.2 PCIe Gen 3 x4 slots for SSD	
Ports	System should support minimum following ports: Minimum 8 USB 3.1 G1Type A, 2 USB 3.1 G2 Type C, 1 Audio Port, Internal: 1 USB 3.1 G1, 1 USB 2.0 single-port, 1 USB 2.0 dual-port, 2x 1Gbe LAN Ports, Audio: 1 Line out, 1 Line, PS/2 Mouse and Keyboard Port, 1 Rear power button	
Operating System	Windows 11 Professional 64 bit for Workstations	
Power supply	Maximum 1000 W - 90% Efficient	
Security	Provision for Full Volume Encryption, Keyed Cable Lock Kit, Chassis Intrusion Sensor, Self-healing BIOS which Automatically Detect, Stop and Recover from a BIOS Attack or BIOS Corruption without Service Support.	
Application Software Certification	System should be certified to run ISV softwares like Ansys, Abaqus, ArcGIS, Erdas, etc. and it should be available on respective ISV vendors website.	
Additional Software	Software Tool for Data Visualization, Machine/Deep Learning, Data Science & Statistical Analysis with One Year Subscription	
Warranty	Three Year Onsite Warranty	
System Configuration Details	The bidder has to provide OEM's Bill of Material with part numbers along with technical bid failing which the bid will be rejected.	

Firm's Authorization	Specific authorization by the respective manufacturer for participating in this tender has to be enclosed with technical bid.	
Perpetual Academic Associate Licenses for Teaching, Research and Projects with 3 Year Technical Support and Updates	Academic Research simulation software for Mechanical, CFD, Electromagnetic and Engineering material software solution and material learning content (Confirming to the specifications/features at Annexure IA, IB, IC & ID) <ul style="list-style-type: none"> • IA & IB: 5 user license/ 5 tasks • IC & ID: 1 user/ 1 task (Technical compliance mentioning the product and module name complied by respective OEM to be provided. All services to be provided by OEM's service partner or OEM directly)	
Perpetual with 3 Years Technical Support & Updates	Research Advance Materials and Libraries: Additive manufacturing with third party/native modules for CAD, CAE, PLM integration confirming to the features at Annexure ID <ul style="list-style-type: none"> • As per details at Annexure ID: 1 user/ 1 task 	
Server	1U Rack Mountable, 2x Intel Xeon-Silver 4310 2.1GHz 12-core, 18MB cache or better, 2 x 32GB DDR4 RAM or more with 24 or more DIMM Slot <ul style="list-style-type: none"> • As per details at Annexure IE: Quantity 01 	
Power Backup	Online Ups 20 kVA <ul style="list-style-type: none"> • As per details at Annexure IF: Quantity 01 	
Other Details	Specification as per Annexure IA, IB, IC, ID, IE, IF	
Additional Requirement	Shipment & Delivery: free of cost Installation & demonstration: free of cost 05 Days Training at free of cost: 02 times/year during the tenure of Technical Support & Updates	

**Signature of the Authorized
Official with Seal**

SECTION 9
PREVIOUS SIMILAR ORDER EXECUTED

Please quote best minimum prices applicable for a premier Educational and Research Institution. The party must give details of purchase orders identical or similar equipment supplied to any IITs/NITs/Govt. Office/PSU/University/Autonomous Body as per below Format in last Three years (to be enclosed in Price Bid / Commercial Bid) along with the final price paid and details are mandatory.

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	Remarks indicating reasons for late delivery, if any and justification for price difference of their supply order & those quoted to us	Has the Equipment being installed satisfactorily (Attach a Certificate from the Purchaser/ Consigner)	Contact Person along with Telephone No., Fax No. and e-mail address.

(Kindly enclose the scan copy of aforementioned purchase orders)

Details of Technical Expert

Name of application specialist / Service Engineer who have the technical competency to handle and support the quoted product during the warranty period.		
Name of the organization	Name of Contact Person	Contact No.

Place:

Date:

Signature and Seal of the Manufacturer/ Bidder

BID SUBMISSION**Online Bid Submission**

The Online bids (complete in all respect) must be uploaded online in **two covers** as explained below:

Cover - 1			
S. No.	Document	Content	File Type
1	Technical Bid	Technical Compliance Sheet, Bidder information form	.pdf
2		Organization Declaration Sheet, Compliance sheets for Essential Pre-Bid Criteria	.pdf
3		Checklist, Tender Acceptance, Tender Form, Annexure I, etc.	.pdf
4		List of organizations/clients where similar products have been supplied (in last five years) along with their contact number(s). (Annexure III)	.pdf
5		Technical supporting documents in support of all claims made at Annexure I	.pdf
6		EMD and Tender fee submission proof	.pdf
7		Brochure of quoted product and other documents, if any	.pdf
8		Other Documents, if any which are not covered above	.pdf
Cover - 2			
S. No.	Document	Content	File Type
1	Price Bid	Duly filled and signed Tender Form (Price Bid)	.pdf
2		Duly signed BOQ	.pdf
3		BOQ in .xls Format	.xls/ .xlsx

ORIGINAL EQUIPMENT MANUFACTURER (OEM)
Manufacturing Authorization Form (MAF)
(On Letter Head of Manufacturer)

Tender No.:

To,
Coordinator
Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India

Dear Sir,

We manufacturer of original equipment at (address of factory)
do hereby authorize M/s (Name and address of Agent) to submit a bid,
negotiate and receive the order format against your tender enquiry. M/s.
is authorized to bid and conclude the contract in regard to this business. We hereby extend our full guarantee
and warranty as per clause of the terms and conditions NIQ for the goods and
services offered by the above firm.

Yours Faithfully,

(Name)

(Name & Seal of Manufactures)

Note:

1. Items of indigenous nature or quoted in INR, more than 1 authorized representative may participate in the same tender and submit their bids on behalf of their OEM/Principal/Manufacturer if the OEM permits more than one authorized bidder in such case as per their policy.
2. In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer.
3. The letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. The same should be included by the bidder in its techno-commercial unpriced bid.

DECLARATION

(To be submitted on the letterhead of Company)

**To,
Coordinator
Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India**

We certify as under:

We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries, and solemnly certify that we fulfill all requirements in this regard and are eligible to be considered.

We certify that:

- (a) We are not from such a country or, if from such a country, we are registered with the Competent Authority (copy enclosed);
- and**
- (b) We shall not subcontract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

Yours faithfully,

(Signature of the Bidder, with Official Seal)

DECLARATION OF LOCAL CONTENT

(To be given on Company Letter Head for Tender Value below Rs.10 Crores)/ (To be given by Statutory Auditor/ Cost Auditor/ Cost Accountant/ CA for tender value above Rs.10 Crores)

**To,
Coordinator
Centre of Excellence on Machine Tools Design
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India**

Subject: Declaration of Local Content

Tender Reference No:

Name of Tender/ Work:

1. Country of Origin of Goods being offered:

2. We hereby declare that items offered has % local content

3. Details of the Location at which the Local Value Addition is made

4. Details of Local Content

“Local Content” means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent. Bidders offering Imported products will fall under the category of Nonlocal Suppliers. They cannot claim themselves as Class-I or Class-II Local Suppliers by claiming the services such as Transportation, Insurance, Installation, Commissioning, Training and After Sale Service Support like AMC/ CMC etc. as Local Value Addition.

We are solely responsible for the abovementioned declaration. False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Yours faithfully,

(Signature of the bidder, with Official Seal)

Note: It is mandatory for bidders to quote items having local content minimum 20%. Refer revised Public Procurement (Preference to Make in India), Order 2017, No. P-45021/2/2017-PP (B.E-II) dated 16.09.2020 issued by DPIIT, Ministry of Commerce and Industry, Govt. of India.

BID SECURING DECLARATION FORM

(Letterhead of the bidder)

To

(Insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with IIT(BHU) Varanasi for a period of two years from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- (a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity or its extended period, if any; or
- (b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity
 - (i) fail or refuse to execute the contract, if required, or
 - (ii) fail or refuse to furnish the Performance Bank Guarantee, in accordance with the Instructions to Bidders.
- (c) If the bidder is found indulging in any corrupt, fraudulent or other malpractice in respect of the bid; or
- (d) If there is a discrepancy between words and figures quoted by the bidder then in that case the amount quoted in words will be treated as final.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed:

(Insert signature of person whose name and capacity are shown in Bid Securing Declaration)

Name:

(Insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of *(Insert complete name of Bidder)*

Dated on day of *(Insert date of signing)*

Corporate Seal (where appropriate)

(Note: In case of a consortium, the Bid Securing Declaration must be in the name of all partners to the consortium that submits the bid)

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