Online Bids

(through E-Procurement Portal of CPPP)

are invited

for

Supply and Installation of Modelling and Simulation software suite (additive manufacturing, welding and forming processes)

Tender No.: IIT (BHU)/PEH/24-25/001 Dated: 03.03.25

Last Date of Submission: 14.03.25

Tender Opening Date: 15.03.2025

Precision Engineering Hub
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India

E-mail: office.peh@itbhu.ac.in

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

DEPARTMENT: Precision Engineering Hub, IIT (BHU) VARANASI

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 Date	Specifications & Quantityof the item	Earnest money depositto be submitted
1.	**Tender No.:** IIT (BHU)/PEH/24-25/001 Dated: 03.03.25 **Last Date of Submission:** 14.03.25	Supply and Installation of Modelling and Simulation software suite (additive manufacturing, welding and forming processes) **Quantity:** 01 Unit Specifications as per Annexure I	Bid security declaration form as per Annexure

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 **Prof. Santosh Kumar, Precision Engineering Hub, Indian Institute of Technology (BHU), Varanasi – 221005, U.P.**, and should be submitted online on or before the date and time of Bid closing date 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.

Prof. Santosh Kumar

Precision Engineering Hub
Indian Institute of Technology
(BHU), Varanasi – 221005

INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI

Varanasi – 221005, Uttar Pradesh, India

DEPARTMENT: Precision Engineering Hub, IIT (BHU) VARANASI

Tender for Supply and Installation of Modelling and Simulation software suite (additive manufacturing, welding and forming processes)

CRITICAL DATA SHEET

Name of Organization	Indian Institute of Technology (BHU) Varanasi
Open/Global	Open
Type/Form of Contract (Work/Supply/ Auction/ Service/ Buy/ Empanelment/ Sell)	SUPPLY
Date of Issue/Publishing Original Tender	04.03.25 (05.00 PM)
Document Download Start Date	04.03.25 (05.00 PM)
Pre Bid Meeting Date* *Queries, if any, to be discussed, MUST be emailed to office.peh@itbhu.ac.in, before the dateof Pre Bid meeting for consideration.	N/A
Corrigendum, if any	As and when required.
Last Date and Time for Uploading of Bids	14.03.25 (04.00 PM)
Date and Time of Opening of Technical Bids	15.03.25 (04.00 PM)
Tender Processing Fee (including GST asapplicable)	**Rs. 2360/- (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 (Bid Security Declaration Form as per as per Annexure-VII)	**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 tender)
Address for Communication	**Prof. Santosh Kumar** **Precision Engineering Hub** **IIT (BHU) Varanasi** **Uttar Pradesh**

E-mail Address	office.peh@itbhu.ac.in

INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI

Varanasi – 221005, Uttar Pradesh, India

DEPARTMENT: Precision Engineering Hub, IIT (BHU) VARANASI

Tender for Supply and Installation of Modelling and Simulation software suite (additive manufacturing, welding and forming processes)

INVITATION FOR BIDS

Online bids are invited from eligible bidders for the following:

Sl. No.	Tender no.	Specifications & quantity of the item	Earnest Money Deposit (EMD)
1.	**Tender No.:** IIT (BHU)/PEH/24-25/001 Dated: 03.03.25 **Last Date of Submission:** 14.03.25	Supply and Installation of Modelling and Simulation software suite (additive manufacturing, welding and forming processes) **Quantity:** 01 Unit Specifications as per Annexure I	Bid security declaration form as per Annexure

1. Interested eligible Bidders may obtain further information from IIT (BHU) website: https://www.iitbhu.ac.in/tenders or from Central Public Procurement Portal (CPPP) https://eprocure.gov.in/eprocure/app.

2. Intending bidders are advised to visit IIT (BHU) website https://www.iitbhu.ac.in/tenders and CPPP website https://eprocure.gov.in/eprocure/app regularly till closing date of BID submission of tender for any corrigendum / addendum/ amendment.

3. 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 fees payment and EMD (Bid Security Declaration Form as per Annexure-VII) at the time of Bid Preparation.

4. This Tender Document contains the following:
   a. Instructions for Online Bid Submission
   b. Instruction to Bidders
   c. General conditions of contract (GCC)
   d. Special Condition of Contracts
   e. Check-list for Bid/Tender submission
   f. Declaration Certificate
   g. Technical specifications for the complete project (Annexure I)

h. 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 (URL: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 responsibleto 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 andthe 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

theywant 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 bidin 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 indicatedin the tender document.

3. Bidder has to select the payment option as "on-line" to pay the tender fee / EMD as applicable and enter details of the instrument. Whenever, EMD / Tender fees are sought, bidders need to pay the tender fee / EMD separately on-line through RTGS.

4. A standard BoQ format has been provided with the tender document to be filled in 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 standardtime 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 fieldsis 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 & timeof 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 http://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

Tender for Supply and Installation of Modelling and Simulation software suite (additive manufacturing, welding and forming processes). Supplier should assure complete commissioning of the system including installation and application training for efficient utilization

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. 2360/-) 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

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)
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

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

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

    a. Techno commercial un-priced bid along with Bid Securing Declaration Form (as Earnest Money Deposit) as shown in invitation to bids shall be submitted through CPP Portal. If the proof of payment of EMD/ Bid Security Declaration Form as per as per Annexure-VII 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 thetechno commercial un-priced bid in a separate sealed envelope.

    b. Priced bid.

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 fulfillment of essential pre-bid criteria.

(b) List of other IITs/NITS/Govt. Offices/PSUs/Govt. Funded Universities/ Govt. Funded Autonomous Bodies/Govt. Bodies for which the bidder has supplied or 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 Bidder 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 thePurchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

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 the schedule of requirements (Annexure I).

(a) 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. DPU, IIT (BHU), Varanasi and should be mentioned clearly.

(b) 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.

(c) Quoted prices should be firm and inclusive of all taxes/duties, freight and forwarding charges, handling charges, loading and unloading charges, and insurance charges etc. However, theprices 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.

(d) Further, if required the Institute will make direct payment to Custom Department against receiptof Challan from the supplier.

(e) The prices once accepted by the Institute shall remain valid till the successful execution of the order and till supplies is fully affected and accepted or **365 days** 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 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

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.
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 mustinclude 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;
3. Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract andnot subject to variation on any account.

9. Bid Currencies

Prices shall be quoted in **Indian Rupees (INR)** only.

10. Period of Validity of Bids

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.

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 may refuse the request without forfeiting its EMD, if any. A Bidder granting the request will not be required nor permitted to modify the bid.
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

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

1. The Bidder may modify or withdraw its bid after the ONLINE bid's submission, as per the provisionof CPP Portal.
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.
3. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry ofthe period of bid validity specified by the Bidder on the bid form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its EMD, if any.

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

1. During evaluation of the bids, the purchaser may, at its discretion, ask the Bidder for clarification of itsbid. 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.
2. No Bidder shall contact the purchaser on any matter relating to its bid from the time of the bid openingto the time the contract is awarded. If the Bidder wishes to bring additional information to the noticeof the Institute it should be done in writing.
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

1. Prior to the detailed technical evaluation, the purchaser will determine the substantial responsivenessof each bid. A substantially responsive bid is one, which conforms to all the terms and conditions ofthe 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.
2. The purchaser will reject a bid determined as not substantially responsive.
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.
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

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

19. Evaluation and Comparison of priced Bids

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 Bidder does not accept the correction of errors, its bid will be rejected
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.
3. The purchaser, at its option may ask some more bidders to match the rates of the lowest bidder for creating parallel suppliers.
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 (INR).**
5. The source of exchange rate shall be: **Reserve Bank of India/Any other authentic source.**
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

1. IIT (BHU) shall award the contract to the technically qualified eligible BIDDER whose bid hasbeen determined as the lowest evaluated commercial bid.
2. In case of abnormally high and abnormally low quoted price, the bidder will be rejectedout rightly.

22. Notification of Award

Prior to the expiration of the period validity, the purchaser will notify the successful Bidder inwriting 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

1. The bidder should have its own Contract support facilities. The support facilities should be fully owned and managed by the bidder.
2. Conformity with the Request for Bid/Tender required and conditions.
3. The assessment based on the response to Model Response Outline.
4. The assessment of the capability of the bidder to meet the terms and conditions.
5. The bidders must have executed similar orders, for which the bidder is quoting, for IITs/NITS/Govt. Offices/PSUs/Govt. Funded Universities/ Govt. Funded AutonomousBodies/Govt. Bodies.
6. The cost and the discount offered, if any.

24. Fall clause

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.
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.
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 into 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 Suppliercovered 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

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 theSupplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
2. 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.
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.

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 earnest money etc. shall be rejected.
2. Tender documents are available on IIT (BHU) website: https://iitbhu.ac.in/tenders or from Central Public Procurement Portal (CPPP) https://eprocure.gov.in/eprocure/app.
3. Interested bidders may submit their bid through Central Public Procurement Portal (CPPP) https://eprocure.gov.in/eprocure/app.

7. Inspections and Tests

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.
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 final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data shall be furnished to the inspectors at no charge to the Purchaser.
3. Should 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.
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.
5. Nothing in GCC Clause 7 shall in any way release the Supplier from any warranty or other obligationsunder 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 or

(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 or EMD, if any.

9. Packing

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 theabsence of heavy handling facilities at all points in transit.
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

1. The Supplier shall make **delivery and installation** of the Goods within 6 months from the placement of purchase order in pursuance of the notification of award. However, the supplier shall also arrangeto execute all orders on priority basis which would be placed to meet any emergent requirements.
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.
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 deliverychallan. 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:

(a) 3 Copies of the Supplier invoice showing contract number, goods' description, quantity unitprice, total amount;
(b) Installation Certificate
(c) Insurance Certificate if applicable;
(d) Manufacturer's/Supplier's warranty certificate;
(e) Inspection Certificate issued by the nominated inspection agency, if any
(f) Supplier's factory inspection report; and
(g) 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 – the 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 against loss or damage incidental tomanufacture or acquisition, transportation, storage and delivery. The insurance shall be obtained by the suppliers of the value of the goods on "all risks" basis.

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 specifiedin the Contract, shall be arranged by the Supplier, and the related cost shall be included in the contract Price.

13. Warranty

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.
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.

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

1. The payment shall be made **100% payment against Supply, Installation and Commissioning andsubmission of satisfactory PBG @ 3-10%.**
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 fulfillment of other obligations stipulatedin 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

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 bespecifically 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.
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

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.
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 andits 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.
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 and install 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 to1% 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

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; or

(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 etc. as per GOI norms.

"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;" etc. as per GOI norms.

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

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.

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 arenot limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

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

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.

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

1. The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

2. 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.

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

1. The contract shall be governed by the Law of Contract for the time being in force.
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.
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.
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 shapeof Fixed Deposit Receipt / Bank Guarantee in favor of the Registrar, Indian Institute ofTechnology (BHU) valid for a period of 60 days beyond the end of all warranty period / obligations (i.e. **must valid for 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 EMD, if any and/or 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.**

Prof. Santosh Kumar

SECTION 4 : SPECIAL CONDITIONS OF CONTRACT

(to be defined by the Purchaser as per the requirement)

1. Essential Pre-Bid Criteria

Mandatory requirements from the bidders. A bid will be disqualified if any of the criteria providedin 1-9 is not fulfilled. Bidders are required to upload the supporting documents for each of the following points under cover 1.

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 period and five years beyond the warranty in confirmation with this bid for the quoted items. In case the OEM withdraws its authorization from bidder, the above service will continued to be provided by the OEM.
3. The bidder has to provide on their letterhead that they were never been black-listed by any IITs/NITs/Govt. Offices/PSUs/Govt. Funded Universities/Govt. Funded Autonomous Bodies/Govt. Bodies and it must be uploaded along with the technical Bid under cover 1.
4. The bidder/OEM must have delivered at least three similar software in the last three financial years to any IITs/NITs/Govt. Offices/PSU/Govt. Funded Universities/Govt. Funded Autonomous Bodies/Govt. bodies. Copies of purchase order, names of user, their mobile number/ phone number and email id need to be uploaded. The purchaser may ask for input from user where the quoted instrument has been installed.
5. The bidder has to give a LIVE ONLINE demonstration of quoted product during the technical evaluation process if required (most probably within one week of opening of technical bid). The institute will inform the date and time through a separate email to all the participating bidders. This will be a part of technical evaluation. The bidder needs to upload an undertaking in this regard that they will provide the demonstration as and when required by the Institute in Annexure IX.
6. Manufacturer AMC for 1 year with all updates.
7. Adherence to all the technical specifications is compulsory.
8. Certificate as per Annexure V, VI, VII, VIII and IX on the letterhead of the company must be uploaded.
9. Only those bidders who quote rates of all the items will be considered for evaluation. The lowest bidder will be decided on an overall L1 basis.

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 part, viz., 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 thetender document:

(a) Scanned copy of Tender Forms (Techno Commercial Un-Priced Bid), Declaration, andTender Acceptance Letter;
(b) Scanned copy of proof for submission of Tender Document Fee/ Earnest Money Deposit/ Declaration Form as per as per Annexure-VII/Exemption Certificate, if any etc.;
(c) Scanned copy of written confirmation authorizing the signatory of the Bid to commit theBidder;
(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 toperform 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, and
(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 & signed copy to be uploadedin **.pdf format**.

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

In addition to the above requirements, bids submitted by a Joint Venture, shall include a copy of theJoint 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 complete the installation and demonstration of the equipment within **two** weeks of the arrival of materials at the IIT (BHU) site of installation, otherwise the penalty clause willbe 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 Manufacturer/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 in last **3** years in prescribed format of Annexure III.

8. Manuals/Documents

One set of hard copy and 1 set of soft copy in English (preferred as following).

(a) Operating manual
(b) Servicing & Maintenance manual
(c) Spare parts list with source of supply and prices
(d) Pre-installation requirements.

9. Services

Bidder 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 DPU, 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 Bidder 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 fees and EMD 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 O.M. 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.
4. **All documents in support of the above essential pre-bid criteria shall be scanned and uploaded under cover 1.**

SECTION 5 : CHECKLIST FOR BID/TENDER SUBMISSION

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

Sl. No.	Particulars Techno Commercial Unpriced Bid (Cover 1)	Yes/No
1	Have you mentioned the page no. and authorized signatory signature on each page ofyour bid document?	
2	Have you attached the techno commercial unpriced bid form duly filled inappropriately?	
3	Have you attached a copy of the last three financial years audited balance sheet of your firm as per tenderrequirement?	
4	Have you attached the details of the income tax clearance certificate, proof ofmanufacturing unit/ dealership letter/ general order suppliers and copy of GSTregistration certificate?	
5	Have you executed the supply of at least three similar softwares in IITs/NITS/Govt. Offices/PSUs/Govt. Funded Universities/ Govt. Funded Autonomous Bodies/Govt. Bodies?	
6	Have you attached the copies of relevant work orders from IITs/NITS/Govt. Offices/PSUs/Govt. Funded Universities/ Govt. Funded Autonomous Bodies/Govt.Bodies in prescribed Format?	
7	EMD/ Bid Security: Have you submitted EMD/ Declaration Form as per as perAnnexure-VII asked for and Bid Securing Declaration Form as EMD separately and uploaded their proof of submission?	
8	Have you submitted samples of all items indicated in the respective schedule ofrequirements at the address of tender inviting authority within due date?	
9	Have you enclosed the schedule of requirement indicating the make offered withoutindicating the pricing components along with the techno commercial unpriced bid?	
10	Have you submitted the bids both techno commercial unpriced and priced bidseparately for each tender?	
11	Have you enclosed the statement of deviations from financial terms and conditions, ifany?	
12	Have you submitted the Technical Compliance Sheet?	
13	Have you attached the compliance of Essential Pre-Bid criteria?	
14	Have you attached Manufacturer's Authorization certificate for this Tender?	
15	Have you attached a notarized affidavit that bidder has never been black-listed along with the technical Bid under cover 1?	
16	Have you attached the Declaration on the letter pad of Bidder?	
17	Have you attached the compliance of Pre-qualification criteria?	
18	Have you attached the signed Tender acceptance letter?	
Price Bid (Cover 2)		
1	Have you signed and attached the priced bid form?	
2	Have you attached the schedule of requirements duly priced i.e BoQ in both .xlsformat and in .pdf format	

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

COMPLIANCE SHEET OF ESSENTIAL PRE BID CRITERIA

Sl. No.	Essential Pre Bid Criteria	Compliance
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 period and five years beyond the warranty in confirmation with this bid for the quoted items. In case the OEM withdraws its authorization from bidder, the above service will continued to be provided by the OEM.	
3.	The bidder has to provide on their letterhead that they were never been black-listed by any IITs/NITs/Govt. Offices/PSUs/Govt. Funded Universities/Govt. Funded Autonomous Bodies/Govt. Bodies and it must be uploaded along with the technical Bid under cover 1.	
4.	The bidder/OEM must have delivered at least three similar software in the last three financial years to any IITs/NITs/Govt. Offices/PSU/Govt. Funded Universities/Govt. Funded Autonomous Bodies/Govt. bodies. Copies of purchase order, names of user, their mobile number/ phone number and email id need to be uploaded. The purchaser may ask for input from user where the quoted instrument has been installed.	
5	The bidder has to give a LIVE ONLINE demonstration of quoted product during the technical evaluation process if required (most probably within one week of opening of technical bid). The institute will inform the date and time through a separate email to all the participating bidders. This will be a part of technical evaluation. The bidder needs to upload an undertaking in this regard that they will provide the demonstration as and when required by the Institute in Annexure IX.	
5	Manufacturer AMC for 1 year with all updates.	
6	Adherence to all the technical specifications is compulsory.	
7	Certificate as per Annexure V, VI, VII, VIII and IX 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: ----------

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,
Prof. Santosh Kumar
Precision Engineering Hub
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
   (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,
Prof. Santosh Kumar
Precision Engineering Hub
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: *[insert legal name of each member in JV]*
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 *[check the box(es) of the attached original documents]* ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above. ☐ In case of JV, letter of intent to form JV or JV agreement. ☐ In case of Government-owned enterprise or institution, documents establishing: • 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,
Prof. Santosh Kumar
Precision Engineering Hub
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. ..... (**3-10% 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:

ANNEXURE-I

SCHEDULE OF REQUIREMENTS

Technical Specification for Modelling and Simulation software suite (additive manufacturing, welding and forming processes)

Quantity
1 No.

Detailed Specifications

Technical Specifications for Additive Manufacturing-PBF simulations

#	Software Specification	Description
1	**GUI**	• GUI should be user friendly and interactive with modular and import & export features required for Additive analysis (pre- & post processing). • A common GUI to support and carry out all the operations required for pre-processing, solver submission & post-processing • The process setup specific to additive operation considered for the analysis should be user-friendly. • No limits on the number of tools in the project setup with 'import and export options' of files with CAD software • Should support assigning material properties defined by user as well as from **material library**
2.	**Geometry creation using GUI**	• Compatible to CAD file formats such as DXF, IGES, STL, Parasolid & STEP etc. in native formats such as Pro-E/Creo, CATIA, unigraphicx NX, Solidworks, Inventor • Preview: Option to import CAD with advanced options such as faces, CAD repair, CAD preview • Ability to **import / export geometry** from results and vice versa
3.	**Meshing and Mesh Editing**	• Software should have the required feature to create Tetrahedral and **Voxel mesh** for the complex geometries with ease & accuracy in single GUI • Software should have ability to build a **volume mesh directly** on STL input mesh • Software should have **adaptive meshing algorithm** based on criteria such as tool penetration, strain change, angle of distortion, minimum thickness & element distortion

4	**Material data**	• Software should have material library of most commonly used materials with wide range of temperature & strain rate dependent material flow properties • Material library should have the material database (Powder) of various grades of S**teels , Aluminum, Titanium and Super Alloys** • Material data should be editable (ASCII format) • **User defined material flow response (stress)** as a function of strain, strain rate and temperature and also in the form of standard equations employed for various models such as work hardening, power law creep, temperature dependence etc. • Ability to incorporate **material models through subroutines**
5	**Support generation**	• Software should be able to import and export the support structure as CAD file • Software should have support generation inside the GUI without extra feature licensing. • Integration with Materialise **Magic's software to create basic support structure** in additive GUI, without additional licensing. • Integration with **CAD additive support software to create basic support structure** in GUI without additional licensing.
6	**Process optimization**	• Software should allow user to edit the process parameters to optimize the process. • Software **should have default machine library (3D printing machine)** • Software should allow **to edit/define Laser and machine parameters**. • Software should be able to optimize following features o **Part orientation (Automatic orientation assist)** o **Support optimization (suggest best support by software)** o **Distortion (Automatic distortion control)** **Software should suggest us on above features based on CAD input data**.
7	**Thermo-mechanical approach**	• Software should be able to simulate following approach's: o Mechanical approach o Thermal approach o Thermo-mechanical approach. • Also should able to simulate Thermo-mechanical approach with capturing effect of mechanical and thermal behaviors. • Software should able to simulate **Dual and Quad lasers** • Software should able to simulate **multiple parts on same baseplate**

8	**3D analysis / Solver capabilities**	• Software should have element technology which is robust, fast & accurate • Software should have full integration element technology to get accurate results with minimum no. of elements • Support for export of 3D finite element meshes (volume meshes) and selected outcome variables • Support for export of work-piece and tool results **Software Solver** • **Pre-Post and solver should be on same GUI** • Software should be compatibility with **Marc Solver** **Capabilities** • Software should have high performance solver which can do faster calculations • Software should have good HPC capabilities such as DDM and SMP • Software should have different types of proven, robust solvers such as multi-frontal, Mumps and interactive sparse which reduces the computation time **Operating System** • Software should support Windows, Linux and HPC platform • Software should work on VDI and AWS

9	**Applications and Technology**	• Software should be able to simulate complete process chain:
		  ○ Build
		  ○ Heat treatment
		  ○ Cutting operation
		  ○ Support removal
		  ○ HIP (Hot Isostatic Pressing)
		• Software should be carry **output results to next stage/operation.**
		• End to end process simulation capabilities for AM process
		  ○ DMLS (Direct Metal Laser Sintering)
		  ○ SLM (Selective Laser Melting)
		• Software should be able to simulate machining processes on 3D printed part.
		• Machining GUI on same platform for distortion and residual predictions.

10	**Additional Requirements**	• Open library of data base for material and machine • The software vendor should have development / **technical support center in India** for any future customization needs & for accounting any customer needs into product road-map • Software should have an ability to incorporate user defined subroutines and functions seamlessly with existing Marc subroutines.

11	**Post-processor**	• Software should have generalized post-processing ability such as visualization of relevant results by contour plotting, animation creation of AM process & creation of various kind of plots used in analysis
		• All geometric, Finite element and text features appear in the 'screen view' should be editable with the respective parameters associated with them
		• It should have ability to add the images to report
		• Software should allow exporting results in UNV file format for other software.
		• Software should have capability to do **Best-fit** in post processing.
		• Software should able to import new geometry in post processing for best fit method and predict the distortion.
		• Software should be able to predict the manufacturing risk.
		  ○ Re-coater build failure/issues
		  ○ Failure mode (brittle and ductile)
		  ○ Temperature, Distortion, stress and strain
		  ○ Shrink line on part (layer offset Intensity)
		  ○ Density and Volume fraction.
		• Machining process simulation results
		  ○ Distortion
		  ○ Residual stresses

12	**Qualification of original software developer**	• Should have a registered office in India for signing the NDA (non-disclosure agreement) to share the confidential files. Person involved in NDA should be of Indian origin & direct employee of software vendor. • Should be an active participant of leading research programmer, customer base and local support team.
13	**Cost estimation per part**	• Software should be able to calculate the cost of 3D printed part for given process condition • Software should allow user to define cost of powder, machine and running cost • Software should be able to calculate **cost savings** with different parts printing strategy. • Software should calculate cost for multiple part on same baseplate • Software should **calculate cost saving based on strategy**.
14	**Integration with machine and Materialize/ magics software**	• Software should be able to read the 3MF file from Materialize/magics software. • Software should able to **import /export 3MF file**, export along with co-ordinate system for part and support. • Software should allow user **to export the build setup to Machine directly, without third party software.**

15	**GUI and licensing**	• Software should have minimum 5 GUI for each solver license
		• Software should have following license features
		  ○ Node lock license
		  ○ Network license
		  ○ Country license

Technical specification for Welding Simulations

#	Software Specification	Description
1	**GUI & Modelling**	The software should have pre-post processing and solver for simulating above listed types of simulations in one GUI.
		The Software should allow for automatic geometry feature recognition & selective fast defeaturing.
		The Software should allow CAE specific direct geometry modelling to identify and modify the features on the go.
		The software should have Interactive vertex manipulation system and methods for geometry repair
		The software should allow for exporting the modified geometry to CAD, error free geometry mode.
		Definition of torch/laser angle relative to components local or global coordinate systems (no reference lines needed).Visual preview of - heat sources- weld paths- orientation (welding) angle (in one GUI)
2	**Meshing and Mesh Editing**	Tools for inspecting mesh quality and diagnosing issues in mesh matrix such as aspect ratio, orthogonality, automatic detection of problematic regions is kewness.
		The software be capable of Automatic mesh smoothing assures best quality mesh
		The software should have 2D and 3D mesh generation capabilities with generalized Surface meshing, Solid mapped- hex meshing, Tetra meshing
		Meshing tool should allow for multi-cut, multi-sweep with Automatic hex meshing
		Automatic mesh refinement & un-refinement (no user subroutines necessary)
		The software should allow non-congruent meshes for components & fillets
		The software should also support Solid-Shell elements for thin-walled structures
3	**Material Data**	Software should have material library of commonly used materials for Ship building application with wide range of temperature, strain rate and phase dependent material properties.
		Material library should have the material database of various grades of steels, non-ferrous alloys like Cu, Al, Inconel.
		Material data should be easily editable (ASCII format)
		Ability to incorporate material models through subroutines and 3rd party software like JMatPro.
		Flow stress data can be strain, strain rate and peak temperature dependent
		Material data should have details on cooling and transformation curves (CCT/ TTT diagrams).
		Easy data import and export option to be available. So seamless integration with other software tools and data format can be carried.
4	**Analysis Type**	Computation should be steady state and transient thermo-mechanical analysis.
		Computation should be coupled thermal – structural analysis.
		Computation should account for elastic and plastic structural analysis.
		Should not be limitation on the node or mesh count.
5	**Solver Capabilities**	The solver should have capability to model the fixtures by actual geometric shape (facets non-congruent to welded structure allowed) & also the automatic definition of heat losses due to contact at clamping devices (no surface mesh has to be defined manually).
		Solver should have capability of definition of local joints/connections between two components locally via GUI (e.g. to represent welds)
		The solver should have Fillet generator that can handle varying cross sections and should have capability of automatic projection of weld path on the fillet surface

		The software should have capability to visualize welding process in a Gant diagram.
		The solver should allow definition of unclamping times for each tool separately.
		Solver should have the capability of contact definition in such a way that it allows force-fitted initial models
		Software should allow the weld bead initially not activated, and then activated with heat-source. Solver should show melt pool in view perpendicular to weld-paths.
		Solver should be capable to predict thermal and mechanical outputs for the connected and unconnected meshes evenly.
		Solver should have the capability to perform thermos-mechanical simulation for single and multiple passes SMAW, MIG, TIG welding
		Software should estimate the residual stresses, associated distortion, weld strength and metallurgical properties for the weld, HAZ and parent zone.
6	**Applications**	The software should also support Solid-Shell elements for thin-walled structures.
		The software should have customization option for customizing modelling parameters to suits specific user's requirement
		The software should support different types of welding processes
		• Arc welding • Brazing • Electron Beam Welding • Laser Welding • Friction stir welding • Resistance spot welding • Direct energy deposition • Post weld heat treatment
7	**Post-processor**	The software should support user defined unit system for pre- and post-processing (avoids unit mistakes)
		The software should allow the definition of local co- ordinate system (including cylindrical co-ordinate system) during post-processing itself for distortion and stresses.
		Software should have Result data management allows direct visualization of results (separate result files for every component and increment)
		Software should be able to export of results in the universal file format which can be imported to Other third-party software like Abaqus, Ansys Hyper works etc
		Software should allow definition of post-variables via mathematical operations on the fly Software should Visualise the progress and intermediate results via GUI
		Software should be export of results in UNV format for further calculations
		Software should have Melt pool geometry control (Weld monitor)
		Software should be able to display hardness, tensile strength and yield strength as a function of the t8/5 times.
8	**Geometry Import**	Direct CAD Translators: Catia v4, Catia v5, PRO/E, Solid works, UG-NX, Inventor
		·Neutral CAD Translators: ACIS, IGES, PARASOLID, STEP
9	**Geometry Clean up Features**	Automatic feature identification (like Fillets, Chamfers, Holes) From Neutral CAD Geometries.
		The Software should allow for automatic geometry feature recognition & selective fast defeaturing.
		Automatic feature identification (like Fillets, Chamfers Holes) From Native CAD Geometries.
10	**Direct modelling**	Interactively Push-Pull for Solid Features

		Interactively Drag vertex/Edge for surface features
11	**Sketching**	Sketch lines, circle, Quadrangle, Ellipsoids.
		Create solid geometries from sketch.
12	**Mid-Surface Creation and Repairs**	Extract Mid-surfaces by Auto offset, Constant thickness, or Distance offset method.
		Variable mid surface creation for variable thick Geometries.
		Connect surface via Direct Modelling (Vertex/Edge Drag), Auto Surface Extend, or Stitching.
		Support unstitching of Stitched Mid-surface
13	**Meshing and Mesh Editing**	
		Support 1D,2D & 3D Elemnts-1st Order & 2nd Order
		Automatic Regeneration Meshes as Geometry is Modified
		Ability to drag Node in-Plane & Out of Plane to correct element quality.
		Mesh Quality checks
14	**Model Attribution**	Automatic thickness Assignment for shell section.
		Support automatic variable thickness assignment for variable mid-surface geometries.
		Material & behaviour Creation & assignment.
		Creation of 1D beam cross section properties.
15	**Generative Framework**	Mesh should update Automatically when geometry is modified
16	**Connectors**	Ability to connect 2 dissimilar parts using glue connection.
		Ability to connect 2 dissimilar parts using Rigid links or Springs.
		Ability to connect 2 dissimilar parts using tie connection (aligned but no merged nodes).
		Connection must regenerate upon geometry modification
17	**Model management**	Model browser tree.
		Model search query.
		Unlimited undo & redo action.
		Space ball support
		Ability to identify part in model browser tree when highlighted in GUI space
18	**Loads & boundary Conditions**	Ability to create point force, pressure loads, gravity load, Point mass.
		Ability to create constraints.
19	**Learn ability**	In-Program Experimental Video Tutorials for all software features
		Mouse tip instruction for all features
20	**Export**	Ability to export Nastran. Bdf file.
		Ability to export Para solid geometry file.

Technical specification for Forming Simulations

#	Software Specification	Description

1	**GUI**	• GUI should be user friendly & interactive with modular and drag & drop features required for metal forming analysis (pre- & post processing). • A common GUI to support and carry out all the operations required for pre-processing, solver submission & post-processing • shall support 2D and 3D multi-stage analysis in addition to axial, planar and cyclic symmetry in single GUI • The process setup specific to metal forming operation considered for the analysis should be user-friendly, dialogue driven to ease the setting up the tools & workpiece and their kinematics without any limitation in representing the actual process even in multi-stage forming operations. • No limits on the number of tools in the project setup with 'import and export options' of files with CAD software • GUI should offer ease of setting up the tools & workpiece with different orientations & positions • Should support assigning material properties defined by user as well as from material library
2.	**Geometry creation using GUI**	• Compatible to CAD file formats such as IGES, STL, Parasolid, ACIS & STEP etc. in native formats such as Pro-E/Creo, CATIA, unigraphicx NX, Solidworks, Inventor • Preview: Option to import CAD with advanced options such as facets, CAD repair, disfeaturing & CAD preview • Ability to create simple tool geometries with in-built drawing features such as line, arc, fillet etc using pre-processor. • Compute simple quantities such as length, area and volume of geometrical features by usual selection process defined by FE related parameters (such as node, element etc.) and geometry related parameters (such as points, lines, surfaces etc.) • Should be able to import geometry files (eg. DXF format) with an ability to define offset, no. of facets, rotation angle, slices, contact angle • Ability to create various geometries including sheet geometry & define other relevant parameters such as feed parameters • Ability to import / export geometry from results and vice versa
3.	**Meshing and Mesh Editing**	• Software should have the required feature to create both 2-D & 3-D finite element mesh for the complex geometries with ease & accuracy in single GUI • Software should have the ability to create hex mesh as well as Tet mesh • Unique meshing techniques to create hex mesh for 3-D geometries in sheet form • Unique meshing techniques for creating hex mesh for the geometries with axial symmetry • Ability to create refined mesh around selected regions of geometry during meshing • Software should have the ability to control the element edge length, vertex/edge angle & coarsening level for both Tet & Hex mesh • Software should have ability to build a volume mesh directly on STL input mesh

		• Software should have adaptive remeshing algorithm based on criteria such as tool penetration, strain change, angle of distortion, minimum thickness & element distortion • Easy selection of regions for refinement with automatic removal of unused and duplicating nodes and elements • Software should have the capabilities to define the adaptive global element size as a function of stroke, distance to BDC or relative process time
4	**Material data**	• Software should have material library of most commonly used materials with wide range of temperature & strain rate dependent material flow properties • Material library should have the material database of various grades of Aluminum, Copper, Titanium, Iron & their various alloys respectively as well as Super Alloys • Material data should be editable (ASCII format) • User defined material flow response (stress) as a function of strain, strain rate and temperature and also in the form of standard equations employed for various models such as work hardening, power law creep, temperature dependence etc. • Ability to incorporate material models through subroutines
5	**Friction models & contact**	• Software should have the ability to define all types of friction conditions required for metal forming analysis • Software should have special friction laws where friction can vary with relative sliding & other parameters for the closed die hot & warm forging processes • Software should have the library of most commonly used application based library of friction parameters • Software should allow assigning variable friction coefficients specific to die - work-piece contact regions • Software should have the ability to define material wear related parameters to study die wear • Software should have both node to segment as well as segment to segment contact capabilities • Automatic contact detection
6	**Press definitions**	• Software should support the process definition with individual wizard for every process type • Software should support all kinds of presses such as crank press, hydraulic press, screw press, hammer press, press with tabular motion, scotch Yoke drive mechanical press & radial press • Software should have the library of most commonly used press parameters based on the application type • Software should support all kind of press kinematics with scope for customization. • Support for local co-ordinate system for easy set-up of tool kinematics & to facilitate easy positioning of tools and workpiece • Software should enable free rotating dies (dragged rollers) • Software should consider machine elasticity for the rotating tools • Tool kinematics : Translation and rotation about the user defined axis (6 DoF) of one or more tools in the same analysis must be possible to enable analysis of processes such as rolling, swaging, pressing, flow forming etc. and should be able to input in tabular form as functions of time and stroke

7	**Heat transfer aspects of work-piece & die**	• Software should account for all kinds of thermal aspects such as heat transfer through conduction, convection as well as radiation, along with geometrical changes due to thermal effect in a tightly coupled manner during analysis • Software should have the facility of maintaining the library of most commonly used heat transfer parameters for both work-piece & die
8	**Die springs & inserts**	• Software should have an ability to define all kinds die springs & die inserts & incorporate them into analysis • Software should be able to define cushion-springs
9	**2D & 3D analysis / Solver capabilities**	• Software should support (with one GUI) both non-linear 2D & 3D analysis taking into account of thermal effects in a tightly coupled manner for elastic, large plastic, elsto - plastic, visco- elasic/plastic, rigid plastic metal forming problems including incremental & sheet metal. • Software should have the ability to simulate the process with both 2D & 3D analysis in single set up in the same project with results of 2D analysis transferable to next 3D stage of analysis • Dual solver technology is desirable to handle implicit & explicit problems with Finite Element and Finite Volume techniques . • Software should have element technology which is robust, fast & accurate • Software should have full integration element technology to get accurate results with minimum no. of elements • Element should have the capability to support under large and elastic strains • Automatic insertion of symmetry planes when switching from 2D axi-symmetric to 3D process to avoid manual intervention while converting results from 2D to 3D. • Software should have process termination criterion based on maximum tool force, maximum press force & contact
		Restart feature with renewed mesh data, tool kinematics, etc., • Support for export of 3D finite element meshes (volume meshes) and selected outcome variables • Support for export of work-piece and tool results **HPC capabilities** • Software should have high performance solver which can do faster calculations • Software should have good HPC capabilities such as DDM and SMP • Software should have different types of proven, robust solvers such as multi-frontal, CASI & Paradiso which reduces the computation time
12	**Die stress analysis**	• Software should be able to do the die stress analysis with as well as without accounting the effect of change of die shape onto the final workpiece geometry.
15	**Spring-back prediction**	• Spring-back results should be in good correlation with reality (compared with text book problem) • Should consider the effect of gravity • Coupled elasto-plastic material law for accurate spring-back and incremental process simulation
17	**Fold detection**	• Software should detect fold for all result steps • It should have capability of fold detection in 2D as well as in 3D • Software should have the capability to define post-particles in folds to track the origin of the fold

20	**Applications**	• Software should be able to simulate cold forging process with good convergence behavior as well as with the accuracy of results matching with shop-floor process • In case of hot forging process, software should be able to predict the final shape accurately with faster performance. It should be able to handle self-contact & excessive flash. • For the complex process such as rolling, ring rolling, & flow forming/ spin forming software should have an ability to produce the results accurately & consistently matching with shop-floor results. This should have been proved in numerous bench-markings carried out in the past. • Software should have the wizard to set up complex process such as rolling & flow forming • Thermal (heat treatment) processes between forming stages should also be considered in the analysis involving multiple processing scheme • Ability to insert & study the grain flow simulation • For the sheet metal forming application software should have an ability predict the thinning characteristics & final formed shape accurately. Software should accurately predict the spring-back as well as the defects like wrinkling.
21	**Additional Requirements**	• Open library of data base for material, press definition & friction • The software vendor should have development / technical support center in India for any future customization needs & for accounting any customer needs into product road-map • Software should have an ability to incorporate user defined subroutines and functions seamlessly
22	**Post-processor**	• Software should have generalized post-processing ability such as visualization of relevant results by contour plotting, animation creation of forming process & creation of various kind of plots used in metal forming analysis • All geometric, Finite element and text features appear in the 'screen view' should be editable with the respective parameters associated with them • Software should have an ability to create text based reports (sorted/unsorted) • It should have ability to add the images to report

DOCUMENTATION, TRAINING & SUPPORT

#	Specification	Description
1.	**Online Help**	• Complete online documentation • Online access to the user service center
2.	**Offline Help**	• Should be able to provide context sensitive help • User guide, including underlying theories, applications and technical references • Tutorial guide, with model-specific examples • Text user interface manual • Five hard copies of each training/tutorial manual

3.	**Training**	• Training to focus on use of software practical applications and tutorials
		• Training licenses to be provided during the course of training
		• 5 days training
		  ○ 2 Days basic training (Local technical team)
		  ○ 3 Days advanced training(along with global technical team)

#	Specification	Description
		• Additional training based on request.
4.	**Support**	• Upon completion of training, OEM support engineer should give stand by support

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 **03-10%** 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. **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
9. 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.
10. Pre-installation site preparation/inspection requirements to be indicated and specified along with the bid.
11. 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 1 year comprehensive warranty.
12. Submit Electronic copy of the technical specifications and bids.
13. 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.
14. Printed literature in support of compliance to the prescribed specifications is to be submitted.
15. Compliance report needs to be submitted as a part of the technical bid.
16. 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.
17. 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.

18. Technical evaluation by the Institute may include demonstration to verify functionalities and capabilities of the system quoted.

Note- Only those bidders who will quote rates of all the items will be consider for evaluation. Lowest bidder will be decided on overall L1 basis.

Prof. Santosh Kumar
Precision Engineering Hub
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India

ANNEXURE II

TECHNICAL COMPLIANCE STATEMENT

(To be submitted by bidder duly filled)

#	Software Specification	Description	Yes/No
1	**GUI**	• GUI should be user friendly and interactive with modular and import & export features required for Additive analysis (pre- & post processing). • A common GUI to support and carry out all the operations required for pre-processing, solver submission & post-processing • The process setup specific to additive operation considered for the analysis should be user-friendly. • No limits on the number of tools in the project setup with 'import and export options' of files with CAD software • Should support assigning material properties defined by user as well as from **material library**	
2.	**Geometry creation using GUI**	• Compatible to CAD file formats such as DXF, IGES, STL, Parasolid & STEP etc. in native formats such as Pro-E/Creo, CATIA, unigraphicx NX, Solidworks, Inventor • Preview: Option to import CAD with advanced options such as faces, CAD repair, CAD preview • Ability to **import / export geometry** from results and vice versa	
3.	**Meshing and Mesh Editing**	• Software should have the required feature to create Tetrahedral and **Voxel mesh** for the complex geometries with ease & accuracy in single GUI • Software should have ability to build a **volume mesh directly** on STL input mesh • Software should have **adaptive meshing algorithm** based on criteria such as tool penetration, strain change, angle of distortion, minimum thickness & element distortion	
4	**Material data**	• Software should have material library of most commonly used materials with wide range of temperature & strain rate dependent material flow properties • Material library should have the material database (Powder) of various grades of S**teels , Aluminum, Titanium and Super Alloys** • Material data should be editable (ASCII format) • **User defined material flow response (stress)** as a function of strain, strain rate and temperature and also in the form of standard equations employed for various models such as work hardening, power law creep, temperature dependence etc. • Ability to incorporate **material models through subroutines**	

5	**Support generation**	• Software should be able to import and export the support structure as CAD file • Software should have support generation inside the GUI without extra feature licensing. • Integration with Materialise **Magic's software to create basic support structure** in additive GUI, without additional licensing. • Integration with **CAD additive support software to create basic support structure** in GUI without additional licensing.	

6	**Process optimization**	• Software should allow user to edit the process parameters to optimize the process.
		• Software **should have default machine library (3D printing machine)**
		• Software should allow **to edit/define Laser and machine parameters**.
		• Software should be able to optimize following features
		  ○ **Part orientation (Automatic orientation assist)**
		  ○ **Support optimization (suggest best support by software)**
		  ○ **Distortion (Automatic distortion control)**
		Software should suggest us on above features based on CAD input data.	

7	**Thermo-mechanical approach**	• Software should be able to simulate following approach's:
		  ○ Mechanical approach
		  ○ Thermal approach
		  ○ Thermo-mechanical approach.
		• Also should able to simulate Thermo-mechanical approach with capturing effect of mechanical and thermal behaviors.
		• Software should able to simulate **Dual and Quad lasers**
		• Software should able to simulate **multiple parts on same baseplate**	

8	**3D analysis / Solver capabilities**	• Software should have element technology which is robust, fast & accurate • Software should have full integration element technology to get accurate results with minimum no. of elements • Support for export of 3D finite element meshes (volume meshes) and selected outcome variables • Support for export of work-piece and tool results **Software Solver** • **Pre-Post and solver should be on same GUI** • Software should be compatibility with **Marc Solver** **Capabilities** • Software should have high performance solver which can do faster calculations • Software should have good HPC capabilities such as DDM and SMP • Software should have different types of proven, robust solvers such as multi-frontal, Mumps and interactive sparse which reduces the computation time **Operating System** • Software should support Windows, Linux and HPC platform • Software should work on VDI and AWS	

9	**Applications and Technology**	• Software should be able to simulate complete process chain:
		  ○ Build
		  ○ Heat treatment
		  ○ Cutting operation
		  ○ Support removal
		  ○ HIP (Hot Isostatic Pressing)
		• Software should be carry **output results to next stage/operation.**
		• End to end process simulation capabilities for AM process
		  ○ DMLS (Direct Metal Laser Sintering)
		  ○ SLM (Selective Laser Melting)
		• Software should be able to simulate machining processes on 3D printed part.
		• Machining GUI on same platform for distortion and residual predictions.	

10	**Additional Requirements**	• Open library of data base for material and machine • The software vendor should have development / **technical support center in India** for any future customization needs & for accounting any customer needs into product road-map • Software should have an ability to incorporate user defined subroutines and functions seamlessly with existing Marc subroutines.	

11	**Post-processor**	• Software should have generalized post-processing ability such as visualization of relevant results by contour plotting, animation creation of AM process & creation of various kind of plots used in analysis
		• All geometric, Finite element and text features appear in the 'screen view' should be editable with the respective parameters associated with them
		• It should have ability to add the images to report
		• Software should allow exporting results in UNV file format for other software.
		• Software should have capability to do **Best-fit** in post processing.
		• Software should able to import new geometry in post processing for best fit method and predict the distortion.
		• Software should be able to predict the manufacturing risk.
		  ○ Re-coater build failure/issues
		  ○ Failure mode (brittle and ductile)
		  ○ Temperature, Distortion, stress and strain
		  ○ Shrink line on part (layer offset Intensity)
		  ○ Density and Volume fraction.
		• Machining process simulation results
		  ○ Distortion
		  ○ Residual stresses	

12	**Qualification of original software developer**	• Should have a registered office in India for signing the NDA (non-disclosure agreement) to share the confidential files. Person involved in NDA should be of Indian origin & direct employee of software vendor. • Should be an active participant of leading research programmer, customer base and local support team.	
13	**Cost estimation per part**	• Software should be able to calculate the cost of 3D printed part for given process condition • Software should allow user to define cost of powder, machine and running cost • Software should be able to calculate **cost savings** with different parts printing strategy. • Software should calculate cost for multiple part on same baseplate • Software should **calculate cost saving based on strategy**.	

14	**Integration with machine and Materialize/ magics software**	• Software should be able to read the 3MF file from Materialize/magics software. • Software should able to **import /export 3MF file**, export along with co-ordinate system for part and support. • Software should allow user **to export the build setup to Machine directly, without third party software.**	
15	**GUI and licensing**	• Software should have minimum 5 GUI for each solver license • Software should have following license features o Node lock license o Network license o Country license	

Technical specification for Welding Simulations

#	Software Specification	Description	Yes/No
1	**GUI & Modelling**	The software should have pre-post processing and solver for simulating above listed types of simulations in one GUI.	
		The Software should allow for automatic geometry feature recognition & selective fast defeaturing.	
		The Software should allow CAE specific direct geometry modelling to identify and modify the features on the go.	
		The software should have Interactive vertex manipulation system and methods for geometry repair	
		The software should allow for exporting the modified geometry to CAD, error free geometry mode.	
		Definition of torch/laser angle relative to components local or global coordinate systems (no reference lines needed).Visual preview of - heat sources- weld paths- orientation (welding) angle (in one GUI)	
2	**Meshing and Mesh Editing**	Tools for inspecting mesh quality and diagnosing issues in mesh matrix such as aspect ratio, orthogonality, automatic detection of problematic regions is kewness.	
		The software be capable of Automatic mesh smoothing assures best quality mesh	
		The software should have 2D and 3D mesh generation capabilities with generalized Surface meshing, Solid mapped- hex meshing, Tetra meshing	
		Meshing tool should allow for multi-cut, multi-sweep with Automatic hex meshing	
		Automatic mesh refinement & un-refinement (no user subroutines necessary)	
		The software should allow non-congruent meshes for components & fillets	
		The software should also support Solid-Shell elements for thin-walled structures	
3	**Material Data**	Software should have material library of commonly used materials for Ship building application with wide range of temperature, strain rate and phase dependent material properties.	
		Material library should have the material database of various grades of steels, non-ferrous alloys like Cu, Al, Inconel.	
		Material data should be easily editable (ASCII format)	
		Ability to incorporate material models through subroutines and 3rd party software like JMatPro.	
		Flow stress data can be strain, strain rate and peak temperature dependent	

		Material data should have details on cooling and transformation curves (CCT/ TTT diagrams).	
		Easy data import and export option to be available. So seamless integration with other software tools and data format can be carried.	
4	**Analysis Type**	Computation should be steady state and transient thermo-mechanical analysis.	
		Computation should be coupled thermal – structural analysis.	
		Computation should account for elastic and plastic structural analysis.	
		Should not be limitation on the node or mesh count.	
5	**Solver Capabilities**	The solver should have capability to model the fixtures by actual geometric shape (facets non-congruent to welded structure allowed) & also the automatic definition of heat losses due to contact at clamping devices (no surface mesh has to be defined manually).	
		Solver should have capability of definition of local joints/connections between two components locally via GUI (e.g. to represent welds)	
		The solver should have Fillet generator that can handle varying cross sections and should have capability of automatic projection of weld path on the fillet surface	
		The software should have capability to visualize welding process in a Gant diagram.	
		The solver should allow definition of unclamping times for each tool separately.	
		Solver should have the capability of contact definition in such a way that it allows force-fitted initial models	
		Software should allow the weld bead initially not activated, and then activated with heat-source. Solver should show melt pool in view perpendicular to weld-paths.	
		Solver should be capable to predict thermal and mechanical outputs for the connected and unconnected meshes evenly.	
		Solver should have the capability to perform thermos-mechanical simulation for single and multiple passes SMAW, MIG, TIG welding	
		Software should estimate the residual stresses, associated distortion, weld strength and metallurgical properties for the weld, HAZ and parent zone.	
6	**Applications**	The software should also support Solid-Shell elements for thin-walled structures.	
		The software should have customization option for customizing modelling parameters to suits specific user's requirement	
		The software should support different types of welding processes	
		• Arc welding • Brazing • Electron Beam Welding • Laser Welding • Friction stir welding • Resistance spot welding • Direct energy deposition • Post weld heat treatment	
7	**Post-processor**	The software should support user defined unit system for pre- and post-processing (avoids unit mistakes)	
		The software should allow the definition of local co- ordinate system (including cylindrical co-ordinate system) during post-processing itself for distortion and stresses.	
		Software should have Result data management allows direct visualization of results (separate result files for every component and increment)	
		Software should be able to export of results in the universal file format which can be imported to Other third-party software like Abaqus, Ansys Hyper works etc	

		Software should allow definition of post-variables via mathematical operations on the fly Software should Visualise the progress and intermediate results via GUI	
		Software should be export of results in UNV format for further calculations	
		Software should have Melt pool geometry control (Weld monitor)	
		Software should be able to display hardness, tensile strength and yield strength as a function of the t8/5 times.	
8	**Geometry Import**	Direct CAD Translators: Catia v4, Catia v5, PRO/E, Solid works, UG-NX, Inventor	
		·Neutral CAD Translators: ACIS, IGES, PARASOLID, STEP	
9	**Geometry Clean up Features**	Automatic feature identification (like Fillets, Chamfers, Holes) From Neutral CAD Geometries.	
		The Software should allow for automatic geometry feature recognition & selective fast defeaturing.	
		Automatic feature identification (like Fillets, Chamfers Holes) From Native CAD Geometries.	
10	**Direct modelling**	Interactively Push-Pull for Solid Features	
		Interactively Drag vertex/Edge for surface features	
11	**Sketching**	Sketch lines, circle, Quadrangle, Ellipsoids.	
		Create solid geometries from sketch.	
12	**Mid-Surface Creation and Repairs**	Extract Mid-surfaces by Auto offset, Constant thickness, or Distance offset method.	
		Variable mid surface creation for variable thick Geometries.	
		Connect surface via Direct Modelling (Vertex/Edge Drag), Auto Surface Extend, or Stitching.	
		Support unstitching of Stitched Mid-surface	
13	**Meshing and Mesh Editing**		
		Support 1D,2D & 3D Elemnts-1st Order & 2nd Order	
		Automatic Regeneration Meshes as Geometry is Modified	
		Ability to drag Node in-Plane & Out of Plane to correct element quality.	
		Mesh Quality checks	
14	**Model Attribution**	Automatic thickness Assignment for shell section.	
		Support automatic variable thickness assignment for variable mid-surface geometries.	
		Material & behaviour Creation & assignment.	
		Creation of 1D beam cross section properties.	
15	**Generative Framework**	Mesh should update Automatically when geometry is modified	
16	**Connectors**	Ability to connect 2 dissimilar parts using glue connection.	
		Ability to connect 2 dissimilar parts using Rigid links or Springs.	
		Ability to connect 2 dissimilar parts using tie connection (aligned but no merged nodes).	
		Connection must regenerate upon geometry modification	
17	**Model management**	Model browser tree.	
		Model search query.	
		Unlimited undo & redo action.	
		Space ball support	
		Ability to identify part in model browser tree when highlighted in GUI space	
18	**Loads & boundary Conditions**	Ability to create point force, pressure loads, gravity load, Point mass.	
		Ability to create constraints.	
19	**Learn ability**	In-Program Experimental Video Tutorials for all software features	
		Mouse tip instruction for all features	
20	**Export**	Ability to export Nastran. Bdf file.	

		Ability to export Para solid geometry file.	

Technical specification for Forming Simulations

#	Software Specification	Description	Yes/No
1	**GUI**	• GUI should be user friendly & interactive with modular and drag & drop features required for metal forming analysis (pre- & post processing). • A common GUI to support and carry out all the operations required for pre-processing, solver submission & post-processing • shall support 2D and 3D multi-stage analysis in addition to axial, planar and cyclic symmetry in single GUI • The process setup specific to metal forming operation considered for the analysis should be user-friendly, dialogue driven to ease the setting up the tools & workpiece and their kinematics without any limitation in representing the actual process even in multi-stage forming operations. • No limits on the number of tools in the project setup with 'import and export options' of files with CAD software • GUI should offer ease of setting up the tools & workpiece with different orientations & positions • Should support assigning material properties defined by user as well as from material library	
2.	**Geometry creation using GUI**	• Compatible to CAD file formats such as IGES, STL, Parasolid, ACIS & STEP etc. in native formats such as Pro-E/Creo, CATIA, unigraphicx NX, Solidworks, Inventor • Preview: Option to import CAD with advanced options such as facets, CAD repair, disfeaturing & CAD preview • Ability to create simple tool geometries with in-built drawing features such as line, arc, fillet etc using pre-processor. • Compute simple quantities such as length, area and volume of geometrical features by usual selection process defined by FE related parameters (such as node, element etc.) and geometry related parameters (such as points, lines, surfaces etc.) • Should be able to import geometry files (eg. DXF format) with an ability to define offset, no. of facets, rotation angle, slices, contact angle • Ability to create various geometries including sheet geometry & define other relevant parameters such as feed parameters • Ability to import / export geometry from results and vice versa	
3.	**Meshing and Mesh Editing**	• Software should have the required feature to create both 2-D & 3-D finite element mesh for the complex geometries with ease & accuracy in single GUI • Software should have the ability to create hex mesh as well as Tet mesh • Unique meshing techniques to create hex mesh for 3-D geometries in sheet form • Unique meshing techniques for creating hex mesh for the geometries with axial symmetry • Ability to create refined mesh around selected regions of geometry during meshing • Software should have the ability to control the element edge length, vertex/edge angle & coarsening level for both Tet & Hex mesh • Software should have ability to build a volume mesh directly on STL input mesh	

		• Software should have adaptive remeshing algorithm based on criteria such as tool penetration, strain change, angle of distortion, minimum thickness & element distortion • Easy selection of regions for refinement with automatic removal of unused and duplicating nodes and elements • Software should have the capabilities to define the adaptive global element size as a function of stroke, distance to BDC or relative process time	
4	**Material data**	• Software should have material library of most commonly used materials with wide range of temperature & strain rate dependent material flow properties • Material library should have the material database of various grades of Aluminum, Copper, Titanium, Iron & their various alloys respectively as well as Super Alloys • Material data should be editable (ASCII format) • User defined material flow response (stress) as a function of strain, strain rate and temperature and also in the form of standard equations employed for various models such as work hardening, power law creep, temperature dependence etc. • Ability to incorporate material models through subroutines	
5	**Friction models & contact**	• Software should have the ability to define all types of friction conditions required for metal forming analysis • Software should have special friction laws where friction can vary with relative sliding & other parameters for the closed die hot & warm forging processes • Software should have the library of most commonly used application based library of friction parameters • Software should allow assigning variable friction coefficients specific to die - work-piece contact regions • Software should have the ability to define material wear related parameters to study die wear • Software should have both node to segment as well as segment to segment contact capabilities • Automatic contact detection	
6	**Press definitions**	• Software should support the process definition with individual wizard for every process type • Software should support all kinds of presses such as crank press, hydraulic press, screw press, hammer press, press with tabular motion, scotch Yoke drive mechanical press & radial press • Software should have the library of most commonly used press parameters based on the application type • Software should support all kind of press kinematics with scope for customization. • Support for local co-ordinate system for easy set-up of tool kinematics & to facilitate easy positioning of tools and workpiece • Software should enable free rotating dies (dragged rollers) • Software should consider machine elasticity for the rotating tools • Tool kinematics : Translation and rotation about the user defined axis (6 DoF) of one or more tools in the same analysis must be possible to enable analysis of processes such as rolling, swaging, pressing, flow forming etc. and should be able to input in tabular form as functions of time and stroke	

7	**Heat transfer aspects of work-piece & die**	• Software should account for all kinds of thermal aspects such as heat transfer through conduction, convection as well as radiation, along with geometrical changes due to thermal effect in a tightly coupled manner during analysis • Software should have the facility of maintaining the library of most commonly used heat transfer parameters for both work-piece & die	
8	**Die springs & inserts**	• Software should have an ability to define all kinds die springs & die inserts & incorporate them into analysis • Software should be able to define cushion-springs	
9	**2D & 3D analysis / Solver capabilities**	• Software should support (with one GUI) both non-linear 2D & 3D analysis taking into account of thermal effects in a tightly coupled manner for elastic, large plastic, elsto - plastic, visco- elasic/plastic, rigid plastic metal forming problems including incremental & sheet metal. • Software should have the ability to simulate the process with both 2D & 3D analysis in single set up in the same project with results of 2D analysis transferable to next 3D stage of analysis • Dual solver technology is desirable to handle implicit & explicit problems with Finite Element and Finite Volume techniques . • Software should have element technology which is robust, fast & accurate • Software should have full integration element technology to get accurate results with minimum no. of elements • Element should have the capability to support under large and elastic strains • Automatic insertion of symmetry planes when switching from 2D axi-symmetric to 3D process to avoid manual intervention while converting results from 2D to 3D. • Software should have process termination criterion based on maximum tool force, maximum press force & contact	
		Restart feature with renewed mesh data, tool kinematics, etc., • Support for export of 3D finite element meshes (volume meshes) and selected outcome variables • Support for export of work-piece and tool results **HPC capabilities** • Software should have high performance solver which can do faster calculations • Software should have good HPC capabilities such as DDM and SMP • Software should have different types of proven, robust solvers such as multi-frontal, CASI & Paradiso which reduces the computation time	
12	**Die stress analysis**	• Software should be able to do the die stress analysis with as well as without accounting the effect of change of die shape onto the final workpiece geometry.	
15	**Spring-back prediction**	• Spring-back results should be in good correlation with reality (compared with text book problem) • Should consider the effect of gravity • Coupled elasto-plastic material law for accurate spring-back and incremental process simulation	
17	**Fold detection**	• Software should detect fold for all result steps • It should have capability of fold detection in 2D as well as in 3D • Software should have the capability to define post-particles in folds to track the origin of the fold	

20	**Applications**	• Software should be able to simulate cold forging process with good convergence behavior as well as with the accuracy of results matching with shop-floor process • In case of hot forging process, software should be able to predict the final shape accurately with faster performance. It should be able to handle self-contact & excessive flash. • For the complex process such as rolling, ring rolling, & flow forming/ spin forming software should have an ability to produce the results accurately & consistently matching with shop-floor results. This should have been proved in numerous bench-markings carried out in the past. • Software should have the wizard to set up complex process such as rolling & flow forming • Thermal (heat treatment) processes between forming stages should also be considered in the analysis involving multiple processing scheme	
		• Ability to insert & study the grain flow simulation • For the sheet metal forming application software should have an ability predict the thinning characteristics & final formed shape accurately. Software should accurately predict the spring-back as well as the defects like wrinkling.	
21	**Additional Requirements**	• Open library of data base for material, press definition & friction • The software vendor should have development / technical support center in India for any future customization needs & for accounting any customer needs into product road-map • Software should have an ability to incorporate user defined subroutines and functions seamlessly	
22	**Post-processor**	• Software should have generalized post-processing ability such as visualization of relevant results by contour plotting, animation creation of forming process & creation of various kind of plots used in metal forming analysis • All geometric, Finite element and text features appear in the 'screen view' should be editable with the respective parameters associated with them • Software should have an ability to create text based reports (sorted/unsorted) • It should have ability to add the images to report	

DOCUMENTATION, TRAINING & SUPPORT

#	Specification	Description	Yes/No
1.	**Online Help**	• Complete online documentation • Online access to the user service center	
2.	**Offline Help**	• Should be able to provide context sensitive help • User guide, including underlying theories, applications and technical references • Tutorial guide, with model-specific examples • Text user interface manual • Five hard copies of each training/tutorial manual	

3.	**Training**	• Training to focus on use of software practical applications and tutorials
		• Training licenses to be provided during the course of training
		• 5 days training
		  ○ 2 Days basic training (Local technical team)
		  ○ 3 Days advanced training(along with global technical team)	

#	Specification	Description	Yes/No
		• Additional training based on request.	
4.	**Support**	• Upon completion of training, OEM support engineer should give stand by support	

Declaration: I have also enclosed all relevant documents in support of my claims, (as above) in the following pages.

Signature of the Authorized Official with Seal

.....

ANNEXURE III

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

ANNEXURE IV

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 softwares have been supplied (in last three 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

ANNEXURE V

ORIGINAL EQUIPMENT MANUFACTURER (OEM)

Manufacturing Authorization Form (MAF)

(On Letter Head of Manufacturer)

Tender No.: .....

To,
Prof. Santosh Kumar
Precision Engineering Hub
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.

ANNEXURE VI

DECLARATION

(To be submitted on the letterhead of Company)

To,
Prof. Santosh Kumar
Precision Engineering Hub
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)

ANNEXURE VII

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,
Prof. Santosh Kumar
Precision Engineering Hub
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.

ANNEXURE VIII

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)

ANNEXURE IX

(to be submitted on the letterhead of Company)

UNDERTAKING FOR LIVE ONLINE DEMONSTRATION

To,
Prof. Santosh Kumar
Precision Engineering Hub
Indian Institute of Technology (BHU) Varanasi
Varanasi-221005, Uttar Pradesh, India

We, M/s ..... do hereby confirms that the LIVE ONLINE demonstration for the quoted product .... will be given by our company as and when asked by the purchase committee, IIT (BHU) during the technical evaluation process.

Yours faithfully,

(Signature of the Bidder, with Official Seal)

----END----