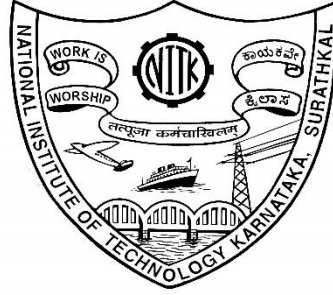


# NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

CENTRAL RESEARCH FACILITY  
POST SRINIVASNAGAR, MANGALURU – 575 025 (D K)

Phone: (0824) 2474000.  
E- mail: [info@nitk.ac.in](mailto:info@nitk.ac.in)

Fax: (0824) 2474033  
Website: <http://www.nitk.ac.in>



## TENDER DOCUMENT

Tender Notification No: NITK/CRF/M3D/04

Date: 09/07/2019

<b>Name of Goods</b>	: Metal 3D Printer
Estimated amount put to Tender	: Rs. 4,90,00,000/- (Rs. 490 Lakhs)
EMD Amount (2% of estimated amount)	: Rs. 9,80,000/- (Rs. Nine lakh eighty thousand)
Time for Supply of item	: Four months after release of Purchase order
<b>Date &amp; Venue of Pre-Bid Conference</b>	: On 31/07/2019 at 3.00pm Board Room, NITK
<b>Last Date and Time for submission of tender</b>	: 08/08/2019, before 3.00PM
Address for Submission of Tender	: Dr. Srikanth Bontha, Associate Professor, Department of Mechanical Engineering, NITK Surathkal, Srinivasnagar PO, Mangalore-575025. Contact No: 9492606482 Email: <a href="mailto:srikanth.bontha@nitk.edu.in">srikanth.bontha@nitk.edu.in</a>
Purchase officer Name and Contact (Related to purchase inquiry)	: Pritam Bansod Ramesh, Assistant Registrar (Purchase) Phone: +91-824-2473993, Email: <a href="mailto:pritambansod@nitk.ac.in">pritambansod@nitk.ac.in</a>
<b>Date of opening of technical bid</b>	: 16/08/2019, 3.30PM Board Room, Main Building, NITK Surathkal



**NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL**  
**Central Research Facility**

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Tender Notification No: NITK/CRF/M3D/04

Date: 09/07/2019

**NOTICE INVITING TENDER (NIT)**

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an autonomous institute under Ministry of HRD Govt of India imparting Technical Education and engaged in Research Activities. It is proposed to procure equipment for Central Research Facility.

Sealed Tenders are invited for the following items in **two cover system** (i.e., Technical bid and financial bid) subject to the following terms and conditions, from the reputed manufacturers or it's authorized dealers so as to reach this office on or before scheduled date and time. The tender (Technical bid) will be opened on the same day if possible in the presence of bidders or their authorized agents who may choose to be present. The financial bid of only such bidders whose technical bid is accepted shall be opened on the same day or later pre-informed date.

- 1. Name of Goods** : **Metal 3D Printer**
- 2. Estimated Cost** : **Rs. 4,90,00,000/- (Rs. 490 Lakhs)**
- 3. E M D (2% of estimated amount)** : **Rs. 9,80,000/- (Rs. Nine lakh eighty thousand)**
- 4. Time for completion of Supply after Placing Purchase Order** : **4 months**
- 6. Date & Venue of Pre-Bid Conference** : **On 31/07/2019 at 3.00pm Board Room, NITK**
- 5. Last date and time for submission of Tender** : **08/08/2019, before 3.00PM**
- 7. Tender to be submitted at the following address** : **Dr. Srikanth Bontha, Associate Professor,  
Department of Mechanical Engineering,  
NITK Surathkal, Srinivasnagar PO,  
Mangalore-575025.  
Contact No.: 9492606482  
Email: [srikanth.bontha@nitk.edu.in](mailto:srikanth.bontha@nitk.edu.in)**
- 8. Place, Date and Time of opening technical bid** : **16/08/2019, 3.30PM,  
Board Room, Main Building, NITK Surathkal**

Note: Institute shall not be responsible for any postal delay about non-receipt /non-delivery of the bids or due to the the wrongaddressee.

**Sd/-  
Chairman, CRF**

### SECTION 1: INSTRUCTION TO BIDDER (ITB)

1. **The bid should be submitted in two cover system (sealed)-Technical Bid and Financial Bid**
  
2. **Technical Bid: Documents related to the Technical Bid** should be submitted in sealed envelope and duly superscribed as “**Envelope No. 1 – Technical Bid**”. Full name and address of the bidder should be mentioned on the envelope and should be addressed to The Director, NITK, Surathkal
  
3. **The Technical Bid should contain the following documents:**
  - a) Compliance statement of specifications as per **Annexure - ‘A’**.
  - b) License certificate for manufacture /supply of the item & Factory license
  - c) Agreements/Purchase Orders/Completion certificates if any, for similar items to other Universities, Institutes, and Government Department/Undertakings/Public sectors the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid with contact details of persons as per **Annexure –‘B’**.
  - d) List of Owner/partners of the firm and their contact numbers (Bidder Information)
  - e) Declaration of abandoned or suspended any awarded service & Blacklist Certificate. **Annexure ‘C’**
  - f) Integrity Pact (for procurements above Rs1.0 Crore (Rs10.0 Million). **Annexure ‘D’**
  - g) Copy of GST certificate & PAN No.
  - h) Catalog of the Product with detailed product specifications.
  - i) Undertaking that the successful BIDDER agrees to give a Performance Security amounting to 10%of the purchase order value in favor of “The Director, NITK Surathkal”.
  - j) The copy of the Balance sheet, Profit & Loss A/c., Trade or Manufacturing A/c for the last 3 years should be enclosed and the turnover must be 30% of the estimated cost.
  - k) Duly filled in checklist should be submitted along with the Technical Bid.
  - l) Contract form given in Section 5 need to be submitted.
  - m) **EMD must be** in the form of Bank Guarantee (**ANNEXURE –G**)/Fixed Deposit Receipt/ Demand Draft. It will be valid for **180 days** from the date of opening of the tender. The firm registered with MSME/NSIC as per MSME procurement policy order 2012 will be exempted from submission of EMD. Intended parties will have to give proof of registration along with their tender. EMD of the unsuccessful bidders shall be refunded without any interest at the earliest after finalization of the purchase of the concerned item.
    - i) The EMD will be returned to the BIDDERS(s) whose offer is not accepted by NITK within one

month from the date of the placing of the purchase order(s) on the selected BIDDER(s). In case of the BIDDER(s) whose offer is accepted the EMD will be returned on submission of Performance Security in the form of Bank Guarantee (BG). However, if the return of EMD is delayed for any reason, no interest/penalty shall be payable to the BIDDERS.

- ii) The successful BIDDER, on the award of contract/order, must send the contract/order acceptance in writing, within 15 days of award of contract/order failing which the EMD will be forfeited.
- iii) The EMD shall be forfeited in case a successful BIDDER fails to furnish the Performance Security.

**4. Financial bid :** The bidders should submit their financial bid as per the format given in Section 4 of the Notice Inviting Tender in the sealed envelope. This envelope should be duly superscribed as “**Envelope No. 2 – Financial bid**”. Full name and address of the bidder should also be mentioned on the envelope and should be addressed to The Director, NITK, Surathkal

After evaluation of technical bid, the technically successful bidders shall be intimated to witness the opening of their financial bid along with date, time and venue through e-mail. Financial bid of only those bidders' will be opened who are declared “Technically Successful or Technically Responsive”.

**Note that both the sealed envelopes, No. 1 and 2, should be submitted in a single sealed envelope duly superscribed with the following details.**

**(i) Tender Notification Number (ii) “Tender for the supply of.....” (iii) Not to Open before (Date and Time)**

**Mention “Kind Attention: Contact Person’s Name and Phone Number”, and submit at the address given in the Notice Inviting Tender.**

**5. Bid Evaluation:**

On the due date, the Technical bids will be opened and referred to the Purchase Committee which is duly constituted by the Director, NITK. The committee will go through the technical aspects of the tender and recommend shortlisted firms. The recommendation of the committee is final and binding on all the parties. The committee may visit the manufacturing site to assess the capabilities to manufacture the tendered items as per the specifications. In case of any remarks/default noted, the EMD will be forfeited even if pre-qualified.

**6. Quoting of Price(s):**

- a. Indian bidder should quote firm prices in Indian rupee only unless otherwise specified elsewhere in this tender. Prices quoted in any other currency shall not be considered.

- b. In case of Global Tender, Price quoted should be in Indian Rupees/US Dollar/Euro/Pound Sterling/Yen or in a currency under Reserve Bank of India's notified basket of currencies and must include delivery at NITK, Surathkal including loading/unloading.
  - c. For the purpose of price evaluation, if the bid is submitted in Foreign Currency, then the bid price shall be converted to Indian Rupees as per the RBI Exchange Rate prevailing on the day of opening of the price bid.
7. The Bid will be accepted only from the manufacturers (OEM) or its authorized supplier.
  8. The incomplete or conditional tender will be rejected.
  9. The Institute reserves the right to cancel at any time after acceptance of the tender with a notice. The Supplier shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which might have derived from the execution of the supply.
- 10. Performance Security** The successful bidder shall deposit a performance security of 10% of the quoted price in the form of Bank Guarantee (**ANNEXURE -G**)/Demand Draft/Fixed Deposit Receipt of any scheduled bank drawn in favour of **The Director, NITK Surathkal, Mangaluru** payable at Mangaluru. In case the bidder fails to deposit the said performance Security within the stipulated period, including the extended period if any, the Earnest Money Deposited by the bidder shall be forfeited automatically without any notice. Please note the following points:
- a) Successful bidder should submit performance Security as prescribed above to the purchase Section, NITK Surathkal, on or before 30 days from the date of issue of order acknowledgment.
  - b) Performance Security shall be for the due and faithful performance of the contract and shall remain binding, notwithstanding such variations, alterations for extensions of time as may be made, given, conceded or agreed to between the successful bidder and the purchaser under the terms and conditions of acceptance to tender.
  - c) The successful bidder is entirely responsible for the due performance of the contract in all respects according to the terms and conditions of the tender.
  - d) The validity of the Performance Security must cover the warranty period plus two months.
  - e) In case of imported goods, the Indian agent has to furnish Performance Bank Guarantee in Indian Rupees only from Scheduled Bank.
- 11. The validity of bids:** The rate quoted should be valid for a minimum of 180 days. No claim for escalation of the rate will be considered after opening the Tender.
- 12. Warranty/Guarantee & On-site skill support:** On-site comprehensive warranty will be effective from the date of successful installation and commissioning. The OEMs/Authorized Distributors and Dealers must attach a certificate of sales and service facilities, escalation support for on-call service or station engineer etc.

**13. Imports:** In case, equipment is to be imported, the Indian agent should furnish authorization certificate by the principles abroad for submission of the bid in response to this Notice Inviting Tender.

**14. Clarification of Tender Document:** Through pre-bid conference (Under Section 1, Point No. 35).

**15. Amendment of Tender document:** At any time prior to the last date for receipt of bids, Institute may for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Tender document by an amendment. Further, Institute may at its own discretion extend the last date for the receipt of bids.

**16.** The bids shall be written in English language and any information printed in another language shall be accompanied by an English translation, in which case for the purpose of interpretation of the bid, the English translation shall govern.

**17.** The Institute reserves the right of accepting any bid other than the lowest or even rejecting all the bids. The decision of the Purchase Committee is final in all matters of tender and purchase.

**18. Cancellation of Tender:** Notwithstanding anything specified in this tender document, NITK Surathkal in its sole discretion, unconditionally and without having to assign any reasons, reserves the rights:

- a) To accept OR reject lowest tender or any other tender or all the tenders.
- b) To accept any tender in full or in part.
- c) To reject the tender offer not conforming to the terms of the tender.
- d) To give purchase preference to Public Sector undertakings when applicable as per Govt. Policy/ Guidelines.

**19. Delivery Period:** The Delivery Period/Time shall be deemed to be the essence of the Contract and delivery must be completed not later than such date(s). If the Supplier does not perform its obligations within the Delivery Period/Date mentioned in the Contract, the same would constitute the breach of the Contract and the Institute shall have the right to cancel or withdraw the Contract for the unsupplied portion after the expiry of the original or extended delivery date or period stipulated in the Contract. Such cancellation of contract on account of non-performance by the Supplier would entitle the Buyer to forfeit the EMD / Performance Security besides other actions such as debarment from the Institute as per GFR 2017.

**20. Liquidated Damages:** Timely delivery is the essence of contract and hence if the Supplier fails to deliver Goods within the original/extended delivery period(s) specified in the contract, the Institute will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, **@ 1% per week or part of the week of delayed period** as pre-estimated damages not exceeding 5% of the contract value without any controversy/dispute of any sort whatsoever.

**21. Terms of Payment:**

- a. Payment within 30 days from the date of delivery and Acceptance Certificate of concerned Department/Section/Purchase Section.

- b. Payment shall be made by Cheque or such other mode/electronic fund transfer offered by the Bank. NITK, Surathkal will not pay advance payment to party. Any request for Advance payment will be rejected summarily. In case if it is necessary, the advance payment will be paid strictly against Bank Guarantee only.
  - c. Payment will be made by Standard Payment terms and conditions of NITK, Surathkal as per tender document only. Any request for a change in payment terms and conditions will not be accepted.
  - d. If the above conditions are not acceptable then tender will be rejected.
22. Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bid as to the nature of the installation site, the means of access to the site and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the installation to be done and local conditions and other factors having a bearing on the execution of the bid.
23. If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the bidder.
24. The rate quoted by the bidder **shall be firm throughout the contract** period and there shall be no revision of the rates for any reasons whatsoever. It should be clearly understood that any claim for changes will not be entertained in any case once the bids are opened.
25. **One bid per bidder:** Each bidder shall submit only one bid either by himself or by representing a firm.
26. **Cost of bid:** The bidder shall bear all costs associated with the preparation and submission of his bid. The Institute in no case shall be responsible or liable for those costs.
27. The bidder shall not make or cause for any alteration, erasure or obliteration to the text of the tender document.
28. The Institute will declare a bidder ineligible, either indefinitely or for a specified period of time, at the sole discretion of the Institute, for the award of contract/ participating in any other tender, if at any time the Institute determines that he has furnished false information/ engaged in corrupt or fraudulent practices.
29. If any overpayment is detected as a result of the post-payment audit, it shall be recovered by the Institute from the Supplier out of his Performance Security.
30. **Determination of successful bidder:** The technically qualified bidder whose offer is evaluated as the **lowest total bid** shall be the successful bidder subject to its meeting the statutory requirements.
31. **Price variation:** The rate quoted by the bidder shall be firm throughout the contract period. No price variation clause is applicable to this contract.

### 32. CANVASSING:

- a) Canvassing in connection with tenders is strictly prohibited and the Tenders submitted by the Tenderers who resort to canvassing shall be liable to rejection.
- b) Subject to the provisions concerning clarification of Bids, no Bidder shall contact the purchase committee on any matter relating to its bid from the time of the bid opening up to the time that the contract is awarded.
- c) Any effort by the Bidder or Bidder's representative however described to influence the purchase committee in any way concerning scrutiny, consideration, evaluation of the Bid(s) or decision concerning award of contract shall entail rejection of Bid and action against the bidder as deemed fit.
- d) The purchase committee will deal with the Bidder on a Principal basis, without involvement in any manner in India or abroad of any agent or consultant or associate or other person howsoever described.

### 33. LATE BIDS:

- a) Any bid received on or before specified time and date (including any extension(s) thereof) will be accepted and late submission of the bids will be declared as "Late" and shall be rejected.
- b) Unopened "Late Bid" shall be returned to the bidder in due course.

**34. Legal Matter:** All Domestic and International disputes are subject to Mangaluru Jurisdiction only.

### 35. Pre-Bid Conference:

- a) All prospective bidders are requested to kindly submit their queries through E-mail to [srikanth.bontha@nitk.edu.in](mailto:srikanth.bontha@nitk.edu.in) and cc to [office.crf@nitk.edu.in](mailto:office.crf@nitk.edu.in) , so as to reach the buyer, **on or before 22/07/2019 before 4.00pm.**
- b) A Pre-bid Conference shall be held as indicated in Invitation to Bid. All prospective bidders are requested to kindly attend the Pre-bid Conference. In order to facilitate NITK for the proper conduct of the Pre-bid Conference, all prospective bidders are requested to kindly submit their queries through E-mail to the indicated mail address (with Tender No. and Date) so as to reach the Buyer as indicated in Invitation to Bid.
- c) NITK shall answer the queries during the pre-bid conference, which would become a part of the proceedings of the Pre-bid Conference. These proceedings will, in turn, become a part of clarifications/amendments to the bidding documents and would become binding on all the prospective bidders. These proceedings would also be hosted on NITK website [www.nitk.ac.in](http://www.nitk.ac.in) for the benefit of all prospective bidders. Before formulating and submitting their bids, all prospective bidders are advised to surf through the NITK website after the Pre-bid Conference, in order to enable them to take cognizance of the changes made in the bidding document.
- d) Any Statement made at the pre-bid conference shall not modify the terms of the bidding documents unless such statement is made part of clarification in the proceeding of Pre-Bid Conference



## **SECTION 2: CONDITIONS OF CONTRACT.**

1. The rate quoted should be FOR NITK, Surathkal for Indian supplier.
2. In case of import CIF rates should be quoted. All components of expenditure to arrive by air at Bangalore need to be explicitly specified. If shipped by sea, nearest sea port is Mangaluru/Chennai. In both cases, the item should be landed at NITK Surathkal and this responsibility is with the bidder.
3. The institute is eligible for customs duty/GST exemption.
4. The rate quoted should be on per unit basis. Taxes and other charges should be quoted separately, considering exemptions, if any.
5. Rate quoted should be inclusive of Testing, Commissioning and Installation of Equipment and Training.
6. **Payment:** No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security by supplier.

**In case of Imports, the payment will be made through LC. Performance security needs to be submitted at the time of LC commitment.**

7. Guarantee and Warranty period should be specified for the complete period conforming to the Section 3 of this tender document.
8. Period requirement for the supply and installation of Equipment should be specified conforming to the Section 3 of this tender document.

### SECTION 3: SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS

[To be filled up by the Department / Center of NITK, Surathkal]

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Item(s) Name to be Procured	: <b>Metal 3D Printer</b>
Type (Equipment/Software/Furniture/Others)	: Equipment
Brief Specifications of the Item(s) (Attach Additional Sheet if necessary)	: Please find in Annexure-H
Quantity	: 01
Any other details/requirement	: Please refer to Annexure-H
Warranty Period (in months)	: 36 months
Delivery Schedule expected after release of Purchase order (in Weeks)	: 16 weeks (4 months)
EMD (2% of the estimated amount)	: Rs. 9,80,000/-
Performance Security to be given by Successful Bidder after release of Purchase Order (in Rupees)	: 10% of Purchase Order



# NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

## SECTION 4 - PRICE BID (for indigenous Supplies)

[ To be used by the bidder for submission of the bid]

Reference Number:

Date:

Sl. No.	Description of the Item and Specification	Qty. in Units	Unit Price (Rs.)	Discount %	Excise/Customs Duty %	GST (%)	Other charges if any (please specify details)	Total Price (Rs.)

1. Delivery Mode: Delivery at NITK Surathkal, at the site only.

Total Bid Price in the above column should be inclusive of all taxes and levies transport, loading, unloading etc.

Delivery Period:..... days.

Validity Date: Minimum 180 days from the date of submission of quotation/ tender.

2. Payment Term: Payment within 30 days from the date submission of bill Acceptance Certificate to concerned Dept./ Sect.

3. a) AMC Charges after warranty period :

b) Comprehensive AMC charges after warranty period :

Price Bids will be compared considering 3 a) or b). NITK reserves the right to consider 3 a) or 3 b) for price comparison.

PAN No. : .....

GST Registration No. : .....

Seal and Signature:.....

Name & Business Address:.....

**Note: Price Bid should be submitted in given format only.** For additional information/extra items above format may be typed and used.

Place:

Date:



# NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

## SECTION 4 - PRICE BID (for Imported Supplies)

[ To be used by the bidder for submission of the bid]

Reference Number:

Date:

Sl. No.	Description of Items & Specifications	HSN/SAC Code	Quantity in Units	IGST %	Price basis(CIF)	Total Bid Price
	<b>Installation and Commissioning Charges</b> (if any, quote in INR)					
	<b>Agency Commission</b> (if any quote in %)					
	<b>Other Charges</b> (please specify details)					
<b>Grand Total</b>						

# HSN Code: Harmonised System of Nomenclature Code no. and # SAC Code: Service Accounting Code no.

1. Delivery Period: ..... days.
2. Validity Date: Minimum 180 days from the date of submission of quotation/ tender.
3. a) AMC Charges after warranty period :  
b) Comprehensive AMC charges after warranty period:  
Price Bids will be compared considering 3 a) or b). NITK reserves the right to consider 3 a) or 3 b) for price comparison.

1. Validity of the bid: 180 days from the date of submission of the quotation or tender.
2. Mode of Shipment: \_\_\_\_\_
3. Port of Shipment: \_\_\_\_\_

Place:

Date:

**Signature and Seal of the Bidder**

**SECTION 5: CONTRACT FORM**

[To be provided by the bidder in the business letter head]

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1. (Name of the Supplier's Firm) hereby abide to deliver by the delivery schedule mentioned in section 3 tender document for supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in the tender document without any defect and deviations.
3. Warranty will be given for the period mentioned in the tender document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

Signature of the Bidder: \_\_\_\_\_

Name and Designation: \_\_\_\_\_

Business Address : \_\_\_\_\_  
\_\_\_\_\_

Place:  
Date:

Seal of the Bidder's Firm

**Compliance Statement of Specifications**

<b>Sl. No.</b>	<b>Name of specification/Part/Accessories of tender enquiry</b>	<b>Specifications of the quoted Model / Item</b>	<b>Compliance Whether YES or NO</b>	<b>Deviations if any to be indicated in unambiguous terms</b>

**Signature and Seal of the Bidder**

**Previous Supply Orders Executed**

**Name of the firm:** \_\_\_\_\_

<b>Order placed by [Full address of the purchaser]</b>	<b>Order No. and Date</b>	<b>Order Value</b>	<b>Specified Delivery Date</b>	<b>Actual Delivery Date</b>	<b>Remarks indicating reasons for late delivery, if any and justification for the price difference of their supply order and those quoted to us</b>	<b>Has the equipment been installed satisfactorily?</b>	<b>Contact person along with telephone, mobile number, fax, and E-mail address</b>

**Signature and Seal of the Bidder**

**FORMAT OF DECLARATION**  
**(To be submitted on Letterhead)**

I/We Mr./Ms. \_\_\_\_\_, S/o/ of Mr. \_\_\_\_\_ aged about \_\_\_\_\_ years, resident of \_\_\_\_\_  
, working as -----(designation) for ----- (name and address of the bidding agency).

I solemnly affirm and state as under:

1. That I am working as ----- /proprietor of the ----- (name of the firm) and authorized to sign this declaration.
2. That the firm M/s---- (complete address of the firm) has not abandoned or suspended any contract work of any organization/ department so far/ during the previous five financial years.
3. That the firm M/s---- (complete address of the firm) has not been blacklisted/ debarred for competing in tenders by any organization/ department so far/ during the previous five financial years.
4. I solemnly confirm that the facts stated above are true and nothing has been concealed.

**Seal and Signature of Bidder**



**INTEGRITY PACT AGREEMENT**

***(To be signed by the bidder/same signatory authorized to sign the relevant contact)***

This Integrity Agreement is made at Surathkal on this ..... day of .....20 .....

**BETWEEN**

National Institute of Technology Karnataka, Surathkal, an Institute of National Importance (under NIT Act -2007) represented through The Registrar, NITK, Surathkal (hereinafter referred as the ‘**Buyer**’, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

**AND**

.....  
(Name and Address of the Individual/firm/Company)

Through ..... (Hereinafter referred to as the “Bidder/Contractor” and which expression shall unless repugnant to the meaning or context hereof include its succession and permitted assigns)

**Preamble**

WHEREAS **NITK Surathkal** has floated the Tender (Tender No: NITK/CRF/M3D/04 dated 09/07/2019) (Hereinafter referred to as “Tender/Bid”) and intends to award, under laid down organizational procedure, contract for “**Metal 3D Printer**”

[Hereinafter referred to as the “**Contract**”).

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as “**Integrity Pact**” or “**Pact**”), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this witness as under:

Seal and Signature of the bidder

Registrar, for NITK Surathkal

## **Article 1: Commitment of NITK Surathkal**

- i. **NITK Surathkal** commits to take all measures necessary to prevent corruption and to observe the following principles:
  - (a) No employee of NITK Surathkal, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - (b) NITK Surathkal will, during the Tender process, treat all Bidder(s) with equity and reason. NITK Surathkal will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
  - (c) NITK Surathkal shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- ii. If NITK Surathkal obtains information on the conduct of any of its employee which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, NITK Surathkal will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

## **Article 2: Commitment of the Bidder(s)/ Contractor(s)**

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adheres to the highest ethical standers, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and through the negotiation or award of a contract.
- 2) The Bidder(s)/Contractor(s) commit himself to take measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contact execution:
  - a. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contractor.

Seal and Signature of the bidder

Registrar, for NITK Surathkal

- b. The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into an undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
  - c. The Bidder(s)/Contractor(s) will not commit any offense under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as
    - d. part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - e. The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and address of agents/representatives in India if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and address of foreign agents/representatives if any. Either the Indian agent on behalf of the foreign principals or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
  - f. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- iii. The Bidder(s)/Contractor(s) will not instigate third persons to commit offenses outlined above or be an accessory to such offenses.
  - iv. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
  - v. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, there or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

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Registrar, for NITK Surathkal

### **Article 3: Consequences of Breach**

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

- 1) If the Bidder(s)/Contractor(s), either before awarded or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 day notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determinate the Contract - if already executed, or exclude the Bidders/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by NITK Surathkal.**
- 2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If NITK Surathkal has disqualified the Bidder(s) from the tender process prior to the award of the Contract or terminate/determinate the Contract or has accrued the right to terminate/determinate the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to NITK Surathkal, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Security of the Bidders/Contractor.
- 3) **Criminal Liability:** If NITK Surathkal obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, NITK Surathkal will inform the same to law enforcing agencies for further investigation.

### **Article 4: Previous Transgression**

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country conforming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes an incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.
- 3) If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

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### **Article: 5 Equal Treatment of all Bidder/Contractors/Subcontractors**

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidders/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-contractors/sub-vendors.
- 2) The Principal/Owner will enter into pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

### **Article 6: Duration of the Pact**

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contractor or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this pacts as specified above, under it is discharged/determined by the Competent Authority of NITK, Surathkal.

### **Article 7: Other Provisions**

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is **Mangaluru**, the Headquarters of NITK Surathkal, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- 4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 5) It is agreed on term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action was taken by the Owner/Principal in accordance with this **Integrity Agreement/Pact or interpretation thereof shall not be subject to arbitration.**

Seal and Signature of the bidder

Registrar, for NITK Surathkal

**Article 8: LEGAL AND PRIOR RIGHTS**

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

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

.....  
(For and on behalf of NITK Surathkal)

.....  
( For and on behalf of bidder/ contractor)

**WITNESSES:**

1. ....  
(Signature, name, and address)
  
2. ....  
(Signature, name, and address)

Place: Surathkal.

Dated:

**Format for Bank Account details of the bidder**

Name of the account holder (bidder)	
Complete address	
Contact number	
Email address	

Bank Account details:

Bank name	
Branch name	
MICR number	
Account type	
Account Number	
Please re-type Account number again	
IFSC code of the Bank	

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the Institute responsible for this.

I have read the option invitation letter and agree to discharge responsibility expected of me as a participant under the scheme.

Seal and signature of the bidder.

**Certification from the banker:**

Certified that the particulars furnished above are correct as per our records.

Seal and signature of the authorized officer of the bank.

**FORMAT FOR PERFORMANCE GUARANTEE BOND**

**(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred)** (TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT MANGALURU OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT MANGALURU OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT MANGALURU. BONDS ISSUED BY CO-OPERATIVE BANKS ARE NOT ACCEPTED.)

To,  
Registrar,  
National Institute of Technology Karnataka,  
Srinivasnagar P.O., Surathkal  
Mangaluru – 575025

**LETTER OF GUARANTEE**

WHEREAS National Institute of Technology Karnataka (Buyer) have invited Tenders vide Tender No..... Dt. .... for purchase of ..... AND WHEREAS the said tender document requires that any eligible successful tenderer (seller) wishing to supply the equipment / machinery, etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favour of **“The Registrar, National Institute of Technology Karnataka, Surathkal”** in the form of Bank Guarantee for Rs ..... (**10% (ten percent) of the purchase value**) and valid till **one year or upto warranty period whichever is later** from the date of issue of Performance Guarantee Bond may be submitted within 30 (Thirty) days from the date of Order Acknowledgement as a successful bidder.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said tenderer (seller) failing to abide by any of the conditions referred in tender document/purchase order/performance of the equipment/machinery, etc. this Bank shall pay to National Institute of Technology Karnataka, Surathkal on demand and without protest or demur Rs ..... (Rupees.....). This Bank further agrees that the decision of National Institute of Technology Karnataka, Surathkal (Buyer) as to whether the said Tenderer (Seller) has committed a breach of any of the conditions referred in tender document/purchase order 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 Tenderer (Seller) and/ or National Institute of Technology Karnataka, Surathkal (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 National Institute of Technology Karnataka (NITK) Surathkal 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:

**Instruction to Bank:** Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period.



**FORMAT FOR EARNEST MONEY DEPOSIT / BID BOND**

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

(TO BE ESTABLISHED THROUGH ANY OF THE NATIONALBANKS (WHETHER SITUATED AT MANGALURU OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT MANGALURU OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT MANGALURU. BONDS ISSUED BY CO-OPERATIVE BANKS ARE NOT ACCEPTED)

**LETTER OF GUARANTEE**

To

Registrar,  
National Institute of Technology Karnataka,  
Srinivasnagar P.O., Surathkal  
Mangaluru – 575025

IN ACCORDANCE WITH YOUR TENDER for supply of ....., M/s.....  
(hereinafter called the "Bidder") having its Registered Office at ....., wish to participate in the said bid for the supply ..... as an irrevocable Bank Guarantee against Earnest Money Deposit for an amount of Rs. .... (Rupees.....) valid upto **(180 days from the date of**

**issue of Bank Guarantee)**, is required to be submitted by the bidder as a condition precedent for participating in the said bid, which amount is liable to be forfeited by the Purchaser on (1) the withdrawal or revision of the offer by the bidder within the validity period, (2) Non acceptance of the Letter of Indent/Purchase order by the Bidder when issued within the validity period, (3) failure to execute the contract as per contractual terms and condition with in the contractual delivery period and (4) on the happening of any contingencies mentioned in the bid documents.

**During the validity of this Bank Guarantee:**

We, .....(Bank name) having the registered Office at.....guarantee and undertake to pay immediately on first demand by NITK Surathkal, an amount of Rs..... (Rupees. ) without any reservation, protest, demur and recourse. Any such demand made by the NITK Surathkal shall be conclusive and recourse. Any such demand made by the purchaser shall be binding on the Bank irrespective of any dispute or difference raised by the Bidder.

The Guarantee shall be irrevocable and shall remain valid upto.....(180 days from the date of issue of Bank Guarantee) If any further extension is required, the same shall be extended to such required period on receiving instruction from the Bidder, on whose behalf the is Guarantee is issued.

**Notwithstanding anything contained herein:**

- \* Our liability under this Bank Guarantee shall not exceed Rs..... (Rupees.....).
- \* This Bank Guarantee shall be valid upto ..... (date).
- \* We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee Only and only if you serve upon us a written claim 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:

**Instruction to Bank:** Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period

## Detailed Technical Specifications

### Machine Specifications for Metal 3D printer based on Directed Energy Deposition (Powder-Fed Additive Manufacturing) Technology

Sl. No.	Description	Specification	Comments
1.	<b>General Features</b>	<ul style="list-style-type: none"> <li>• The proposed Metal 3D printer based on Direct Energy Deposition (DED) Technology will be used for R&amp;D activities pertaining to various metallic engineering components</li> <li>• The machine should contain full 5-Axis motion DED based Laser Additive Manufacturing capability</li> <li>• Machine should have capability to build 3D metallic parts with or without controlled atmosphere</li> <li>• The machine should have the capability to fabricate: metallic parts with complex external and internal features layer-by-layer, metallic parts with multiple layers of different metals (Functionally Graded Materials (FGM's)).</li> <li>• The machine must also be capable of repairing worn out/damaged metal parts.</li> </ul>	<ul style="list-style-type: none"> <li>• Laser powder fed system</li> </ul>
2	<b>Bidder Qualification Criteria</b>	<ul style="list-style-type: none"> <li>• The offers are only invited from reputed original equipment manufacturers and their authorized vendors. In later case, a certificate of authorization from the original vendor must be provided along with the offer. Offers not complying with this condition are liable to be rejected.</li> </ul>	<ul style="list-style-type: none"> <li>• The supplier should submit a point-wise confirmation to the below specifications with authorized signatory/company's letterhead in tabular format and any deviation has to be specified clearly in the offer</li> </ul>
3.	<b>Laser System</b>	<p>The Laser should be from a reputed manufacturer with global presence for more than 10 years</p> <ul style="list-style-type: none"> <li>• Laser Type: Solid state fiber laser</li> <li>• Laser Power at workstation: 1 KW or more</li> <li>• Laser mode: Multimode</li> <li>• Operating Mode: Continuous (CW)</li> <li>• Power tunability: 10 - 100% of Laser Power</li> <li>• Laser power stability: &lt; 2.5% over 2 hours</li> <li>• Wall plug efficiency: &gt; 25%</li> <li>• Optical fibre core diameter &amp; minimum length: 100 microns &amp; 10 meters</li> <li>• Type of end connector for optical fibre: Quartz Block Holder (QBH)</li> <li>• Safety Standard Compliance: The laser and its components should conform to relevant EN/ CE/ UL/ BIS regulatory standards for Safety and Emission</li> <li>• Should have capability to use the Laser without powder flow (For Laser Surface Melting applications)</li> <li>• A laser power measuring meter should be provided</li> </ul>	<ul style="list-style-type: none"> <li>• Laser power should be adequate to melt all materials indicated below</li> <li>• Beam profile information at source end must be provided</li> <li>• Indicate if pulse modulation is possible or not. If yes, provide details</li> <li>• Must be demonstrated in acceptance test with mutually agreed methodology</li> <li>• Indicate information on scan speed</li> </ul>
4.	<b>Deposition Head and Powder feeder system</b>	<ul style="list-style-type: none"> <li>• Coaxial Powder feeder in laser spot</li> <li>• At least 2 powder feeders (hoppers) with capability to control the flow by means of programming for Functionally Graded Materials (FGM's)</li> </ul>	<ul style="list-style-type: none"> <li>• Indicate mechanism of powder flow from hopper to head</li> </ul>

		<ul style="list-style-type: none"> <li>System should have provision for upgrading with additional powder feeders in future</li> </ul>	<ul style="list-style-type: none"> <li>Each powder feeder unit programmable for custom blending of materials</li> <li>Indicate method of flow rate control, with range and variability</li> <li>Indicate hopper volume and hopper shape</li> <li>Indicate information on powder feed rate</li> </ul>
5.	<b>Chiller and Interconnecting Tubes</b>	<ul style="list-style-type: none"> <li>Chiller unit suitable for the offered 1 kW fibre laser capable of providing sufficient cooling for the whole laser system, beam delivery, processing heads etc., in a closed loop control method with tropical version for Indian weather conditions</li> <li>Chiller should be OEM certified</li> <li>It should include sufficient length of interconnecting tubes for the installation at site</li> </ul>	<ul style="list-style-type: none"> <li>Specify the make and model of chiller unit</li> </ul>
6.	<b>Powder Specifications</b>	<ul style="list-style-type: none"> <li>The machine should work with any available commercial powder in market, including one made indigenously</li> <li>Powder Size: 45 to 150 micron diameter</li> </ul>	<ul style="list-style-type: none"> <li>Indicate size distribution, shape factors and flowability</li> </ul>
7.	<b>Build Size</b>	<ul style="list-style-type: none"> <li>Build size should be at least X= 200 mm, Y = 200 mm, Z = 200 mm</li> </ul>	<ul style="list-style-type: none"> <li>Indicate information on layer thickness</li> </ul>
8.	<b>Motion System</b>	<ul style="list-style-type: none"> <li>Machine should have 5-Axis capability (X, Y, Z, Rotary and Tilt)</li> <li>The machine should have high positional accuracy and repeatability</li> </ul>	<ul style="list-style-type: none"> <li>Specify the repeatability and accuracy for each degree of freedom</li> <li>Must be demonstrated in acceptance test with mutually agreed methodology</li> </ul>
9.	<b>Controlled Atmosphere Glove Box system</b>	<ul style="list-style-type: none"> <li>Inert environment for the specified build volume essential</li> <li>The machine setup should have a provision of sealed doors with glove ports and safety interlocks</li> <li>Closed loop atmospheric control</li> <li>The machine should have capability to be used with or without controlled atmosphere.</li> <li>Inert gas recirculation system to be provided</li> <li>Argon gas cylinders for purging the machine at the start of operation (Immediately after installation) should be provided.</li> </ul>	<ul style="list-style-type: none"> <li>Indicate oxygen level during process</li> <li>Must indicate the consumption of Inert gas</li> <li>Indicate Inert gas pressure needed during deposition</li> <li>Comment on relation between powder density and inert gas flow rate</li> <li>Indicate if fume extractor will be provided for open atmosphere processing</li> <li>Must be demonstrated in acceptance tests with part built out of Titanium</li> </ul>
10.	<b>Materials</b>	<ul style="list-style-type: none"> <li>Materials that can be processed should include Aluminium alloys, Titanium alloys, Nickel base Superalloys, Steels, Copper, etc.,</li> <li>10 Kilograms of the following metal powders (gas-atomized) need to be supplied as starter materials <ol style="list-style-type: none"> <li>IN625 (Inconel 625)</li> <li>IN718 (Inconel 718)</li> <li>TiAl (Titanium Aluminide)</li> <li>SS304 (Stainless Steel 304)</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Bidder shall demonstrate builds with Copper and Titanium with mutually agreed methodology in each case</li> <li>A sample bench mark part file will be given during the installation to to determine the quality and output of the</li> </ul>

			Metal 3D printer with 500 micron accuracy
11.	<b>Workstation Controller</b>	<ul style="list-style-type: none"> <li>The controller should preferably be Siemens Sinumerik 840D solution line or similar</li> </ul>	
12.	<b>CAM Software</b>	<ul style="list-style-type: none"> <li>The machine should include a Computer Aided Manufacturing (CAM) or a Slicing software package.</li> <li>The software package should have capability to generate deposition path for each layer</li> <li>The software should be able to generate optimized tool paths for repair</li> <li>Software should have the capability to generate tool paths for all deposition strategies (Forward, reverse, circular, chess board, zig-zag, user-defined, etc.,)</li> <li>Slicing software for Functionally Graded Materials (FGM's) must be included</li> <li>Laser, workstation, controller and CAM software should be compatible to each other with seamless information, data and signal transfer</li> <li>The software license should be perpetual in nature with maintenance and upgradation for at least 5 years</li> </ul>	<ul style="list-style-type: none"> <li>Provide detailed description with all features of software</li> <li>Indicate compatibility with other CAD systems</li> <li>Indicate whether the software permits to stop during deposition and edit the program</li> <li>All features of software must be demonstrated in acceptance tests with mutually agreed methodology</li> </ul>
13.	<b>Process Monitoring</b>	<ul style="list-style-type: none"> <li>Optical camera for process monitoring</li> </ul>	
14.	<b>Essential Spare Parts and Tool Kit</b>	<ul style="list-style-type: none"> <li>Essential spare parts (Nozzles tips (5 numbers), filters ( 1 set), O-ring ( 1 set), pipe fittings ( 1 set), valves (1 set), gaskets for hopper ( 1 set) and focusing lens ( 2 numbers) etc.,) must be provided additionally along with the full machine</li> <li>Tool kit should be provided with the supplied system</li> </ul>	<ul style="list-style-type: none"> <li>Cost for the same should be indicated separately and will be used for cost comparison</li> </ul>
15.	<b>Warranty and AMC</b>	<p>Comprehensive warranty for three years from the date of installation. Subsequent two years must be covered by Annual Full-Service Agreement which includes</p> <ul style="list-style-type: none"> <li>System Online &amp; Telephone Support</li> <li>Limited Application Online &amp; Telephone Support</li> <li>Software Updates &amp; System Field Change Orders</li> <li>One Preventative Maintenance Visit by the manufacturer and four visits by Indian Agent, per annum</li> <li>In case of a breakdown for more than 72 Hours after lodging a formal complaint, the warranty period will be proportionally extended</li> <li>A certificate from OEM for extending warranty and AMC should be submitted</li> </ul>	
16.	<b>Service and Maintenance</b>	<ul style="list-style-type: none"> <li>On-site service support with OEM trained engineers must be available in India</li> <li>The bidder shall confirm his capability to support the spares, maintenance, and calibration and after sales service of the complete system after commissioning, during and after the warranty period, either directly or through authorized service representative positioned in India</li> <li>The details of the on-site service support agency including the service personnel details /training and infrastructure details must be provided along with bid</li> </ul>	<ul style="list-style-type: none"> <li>The bidder must submit documents in support of each of the mentioned criterion</li> </ul>

17.	<b>Customer Base</b>	<ul style="list-style-type: none"> <li>• Should have supplied to reputed Industry/Universities/Research Laboratories in India or Abroad (at least two) during the last three years</li> <li>• The vendor should submit the list of earlier supplies indicating the full name &amp; full address of the purchaser, model no. &amp; date of installation and contact details (phone no., email id etc.) of the system in-charge</li> <li>• The purchaser reserves the right to contact the earlier purchasers for the performance feedback</li> </ul>	
18.	<b>Pre-dispatch Test Reports</b>	<ul style="list-style-type: none"> <li>• The following measurements/tests will be carried out by the original equipment manufacturer at his works and test certificate/reports clearly indicating the equipment model number and serial number will be submitted to NITK for review and acceptance. The system should be dispatched only after written acceptance of the test reports by the purchaser:</li> <li>• Testing of all the parameters specified in the tender specification clause no's: 3,4,7,8,9</li> <li>• Full functionality of the system with continuous operation at full power for a minimum period of two hours without degrading system performance as per the tender specification</li> </ul>	
19.	<b>Installation and Acceptance</b>	<p>The system will be finally accepted only after the conformance of the following criteria:</p> <ul style="list-style-type: none"> <li>• Pre-dispatch report: Successful performance demonstration as per clause no.18.</li> <li>• Site Acceptance Tests: Successful installation, commissioning and full-functionality demonstration of the machine as per tender specification after commissioning of the system at the user's site at NITK.</li> <li>• For acceptance, vendor should demonstrate repair of components</li> <li>• For acceptance, vendor should demonstrate building of components</li> <li>• For acceptance, vendor should demonstrate building of simple FGM shapes</li> </ul>	
20.	<b>Training</b>	<ul style="list-style-type: none"> <li>• On-site training covering all aspects of equipment operation within two weeks of installation and acceptance</li> <li>• Periodic training for additional man-power (twice in a year) as per NITK guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Training covering all aspects of equipment operation to be given to NITK Surathkal for at least 5 days.</li> </ul>
21.	<b>Accessories</b>	<ul style="list-style-type: none"> <li>• Integrated computer with the software's pre-installed to run the Laser Powder Fed Additive Manufacturing System</li> <li>• Operational manuals and maintenance manuals.</li> <li>• The system should be supplied with all accessories including sieving system, feeding system, industrial grade vacuum cleaner, fixtures for holding non-symmetrical parts, storage for powder, Hall's cup</li> <li>• All safety equipment (safety goggles (10 numbers) and Gloves and Masks (10 numbers) for powder handling must be provided</li> </ul>	<ul style="list-style-type: none"> <li>• Indicate provisions required for exhaust arising from the operation of the machine</li> <li>• Indicate if immersion vacuum system is needed</li> </ul>

		<ul style="list-style-type: none"> <li>Do's and Don't's table for the machine should be provided</li> </ul>	
22.	<b>Electrical Power and Ambient Conditions</b>	<ul style="list-style-type: none"> <li>Operation Voltage: 3-phase, 415 V <math>\pm</math> 10%</li> <li>Frequency : 50 Hz <math>\pm</math> 3%</li> <li>Operating Temperature Range : +15 to 40 °C</li> <li>Humidity (Ambient Temperature range &lt; 40 °C) : 10 to 90%</li> </ul>	<ul style="list-style-type: none"> <li>If any special precautions are to be taken bidder is to comply with that</li> </ul>

Desirable options

1.	<b>Preheating</b>	<ul style="list-style-type: none"> <li>Substrate preheating to at least 200°C</li> </ul>
2.	<b>IR Sensor</b>	<ul style="list-style-type: none"> <li>The vendor must quote separately for IR sensor for melt pool monitoring</li> </ul>
3.	<b>Infrastructure Requirements</b>	<p>Vendor should provide the following details</p> <ul style="list-style-type: none"> <li>Machine footprint for operation</li> <li>Power requirements</li> <li>Air conditioning</li> <li>Cooling, Chiller units, gas and compressed air</li> <li>Special installation tooling</li> <li>Any other infrastructure requirement</li> <li>Layout</li> </ul>

**Checklist for BIDDERS**

BIDDERS to indicate whether the following are enclosed/mentioned by striking out the non- relevant option and the relevant technical bid documents should be in order.

Sl. No.	Documents	Content	Document Attached
1	<b>Technical Bid</b>	Self-Attested copy of GST & PAN Number	(Yes /No) Pg. No.
2		Licence certificate for manufacture /supply of the item & Factory license. Registration with EPF and ESI	(Yes /No) Pg. No.
3		Undertaking that the successful BIDDER agrees to give a 10% Performance Security.	(Yes /No) Pg. No.
4		Catalogue of the Product with detailed product specifications.	(Yes /No) Pg. No.
5		Copy of Balance Sheet	(Yes /No) Pg. No.
6		List of Owner/partners of the firm and their contact numbers (Bidder Information)	(Yes /No) Pg. No.
7		Contract form given in section 5	(Yes /No) Pg. No.
8		Format of compliance statement of specification as per <b>Annexure-‘A’</b>	(Yes /No) Pg. No.
9		Previous Supply Order as per <b>Annexure-‘B’</b>	(Yes /No) Pg. No.
10		Declaration of abandoned or suspended any awarded service & Blacklist Certificate. <b>Annexure ‘C’</b>	(Yes /No) Pg. No.
11		Integrity Pact. <b>Annexure ‘D’</b>	(Yes /No) Pg. No.
12		Bank details of the bidder. <b>Annexure ‘E’</b>	(Yes /No) Pg. No.
13		EARNEST MONEY DEPOSIT <b>Annexure –G</b> <b>In case of exemption from submission of EMD, proof of registration with NSIC/MSME</b>	(Yes /No) Pg. No.
1	<b>Financial-Bid</b>	Price bid	( Yes /No )

Seal and Signature of the bidder