

## Domestic Tender

This is a Request for Quote (RFQ) from the Indian Institute of Science (IISc), Bangalore, for the supply and installation of an Intel-based High Performance Computing Cluster.

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## Section 1 – Bid Schedule

1	Tender Number	MET/SD/I-HPC/24
2	Tender Date	21 <sup>st</sup> November 2024
3	Item Description	Intel CPU based High Performance Cluster
4	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of Tender Submission	Chairperson Office Department of Materials Engineering Indian Institute of Science, Bangalore 560012
6	Last Date & Time for submission of tender	5 pm on 13 <sup>th</sup> December 2024
7	For further clarification	Dr. Suchandrima Das Room No. C312 Department of Materials Engineering Indian Institute of Science, Bangalore 560012 Email: <a href="mailto:suchandrima@iisc.ac.in">suchandrima@iisc.ac.in</a> Phone: +918022933237

## Section 2 – Eligibility Criteria

### Prequalification criteria:

1. The Bidder's firm should have existence for a minimum of 5 years (Enclose Company Registration Certificate).
2. The Bidder should belong to either class 1 or class 2 supplier distinguished by their "local content" as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter.
  - a. **Class 1 supplier:** Goods and services should have local content of equal to or more than 50%.
  - b. **Class 2 supplier:** Goods and services should have local content of equal to or more than 20% and less than 50%.
3. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to Class-1 supplier.
4. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
5. The quotations should be on FOR-IISc Bangalore basis in INR only.
6. MSME can seek exemption to some qualification criteria. IISc follows GFR2017 for such details.
7. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4.
8. The Bidder must not be blacklisted/banned/suspended or have a record of any service- related dispute with any organization in India or elsewhere. A declaration to this effect must be given as per Annexure 3.
9. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as class-1 local suppliers/ class-2 local suppliers by claiming services such as transportation, insurance, installation, commissioning, training and other sales service support like AMC/CMC, etc., as local value addition.

### Cluster Specific Criteria:

1. The supply should cover necessary interface cables between systems, Network cables and power cables as required.
2. The supply should cover a 5-year comprehensive warranty on the hardware.
3. The tenderer should have installed at least 3 clusters in IISc in the past three years.
4. The cluster supply should be installed in the server rack located in SERC Datacenter.
5. The cluster should be installed with Centos or any new version of Linux and should be made functional and demonstrated for a cluster function.
6. In addition to listed libraries and packages the tenderer is also required assist the buyer with installation of Abaqus® Software (assistance from the supplier of Abaqus software will be provided).
7. In case installation of client software solution is chargeable the same should be indicated separately in the commercial bid.
8. Technical and commercial bids are to be submitted in separate envelopes.
9. The list of modules, drivers and packages to be installed is stated in Section 4.

## Section 3 – Terms and Conditions

### Submission of Tender

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
  - a. Technical Bid (Part-A) – Technical bid consisting of all technical details and check list for conformance to technical specifications. The technical proposal should contain a technical compliance table with 5 columns.
    - i. The first column must list the technical requirements, in the order that they are given in the technical requirement below.
    - ii. The second column should provide specifications of the part against the requirement. Please provide quantitative responses wherever possible.
    - iii. The third column should describe your compliance with a “Yes” or “No” only. Ensure that the entries in column 2 and column 3 are consistent.
    - iv. The fourth column should state the reasons/explanations/context for deviations, if any.
    - v. The fifth column can contain additional remarks from the OEM. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details, compare your solution with that of your competitors or provide details as requested in the technical requirements table below.
  - b. Commercial Bid (Part-B) – Indicating item wise price for the items mentioned in the technical bid, **as per the format of quotation provided in tender**, and other commercial terms and conditions.
3. The technical bid and price bid should each be placed in separate sealed covers, superscripting on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No, Tender Description & Due Date.
4. The SEALED COVER superscripting tender number / due date & should reach on or before due date mentioned in the tender notice. In case due date happens to be holiday the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
5. All queries are to be addressed to the person identified in “Section 1 – Bid Schedule” of the tender notice.
6. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document (Indian Bidders only).
7. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.

8. The Institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract, without there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
9. Incomplete bids will be summarily rejected.

### Cancellation of Tender

Notwithstanding anything specified in this tender document, the purchase committee, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, 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 confirming to the tender terms.

### Validity of Offer

The offer shall be valid 90 Days from the date of opening of the commercial bid.

### Evaluation of Offer

1. The technical bid (Part A) will be opened first and evaluated.
2. Bidders meeting the required eligibility criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.
3. Pre- qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and / or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and decision in this regard shall be binding on the bidders.
4. The award of contract will be subject to acceptance of the terms and conditions stated in this tender.
5. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
  - a. Non-submission of complete offers.

- b. Receipt of bids after due date and time and or by email / fax (unless specified otherwise).
  - c. Receipt of bids in open conditions.
6. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall construe that the BIDDER had accepted the clauses as of the tender and no further claim will be entertained.
7. No revision in the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
8. Lowest bid will be calculated based on the total price of all items tendered for Basic equipment along with accessories selected for installation, operation, preprocessing and post processing, optional items, recommended spares, warranty, annual maintenance contract. Also see section G.

### Pre-requisites

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

### Warranty

The complete system is to be under warranty period of minimum 5 years (year wise breakup value should be shown in the commercial bid) including free supply of consumables, spare parts and data analysis software from the date of functional installation. If any part/parts is found to be defective, it has to be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

### Annual Maintenance Contract

An annual maintenance contract for a period of atleast 2 years post warranty should be provided on completion of warranty period. If the equipment cost is A, AMC is B, the lowest bid will be calculated as  $L1=A+5*B$ .

### Purchase Order

1. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.

2. The quantity of the items in tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.
3. If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

## Delivery, Installation and Training

The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The system should be delivered, installed and made functional within 90 days from the date of receipt of purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period. No partial installation is allowed.

The bidder should also arrange for technical training to the local facility technologists and users.

## Payment Terms

The payments to non domestic vendors will be through a Letter of Credit and milestone of the payment will be determined after the mutual discussions with the successful bidder. As per GFR no advance payment can be made to domestic vendors, unless an equal amount of bank guarantee is provided.

## Statutory Variation

Any statutory increase in the taxes and duties subsequent to bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will have to be passed on to IISc, Bangalore.

## Disputes and Jurisdiction

Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.



## General

1. All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension in the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.
2. The bidder may furnish any additional information, which is necessary to establish capabilities to successfully complete the envisaged work. It is however, advised not to furnish superfluous information.
3. The bidder may visit the installation site before submission of tender, with prior intimation.
4. All imported equipment should be quoted in the currency of the country of origin, and all locally sourced items should be quoted in Indian Rupees.
5. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from tendering/taking up of work in IISc, Bangalore.

## Section 4 – Technical Specifications

<b>Detailed technical specifications of 3<sup>rd</sup> Gen Intel Compute node QTY=3 (192Cores)</b>	
<b>Item</b>	<b>Description</b>
<b>Brand Name and Model</b>	To be specified by supplier
<b>ISO Certification</b>	Manufacturing facility/brand should be ISO 9001:2015 certified.
<b>Processor</b>	2 nos. of Intel Xeon Gen3 8358 (32C64T, 2.60GHz, 3.40GHz, 48MB, 250W)
<b>Chipset</b>	Intel C621A Chipset or higher having minimum of: <ol style="list-style-type: none"> <li>1. 2 x LGA4189 Socket P+</li> <li>2. 16 x DDR4 ECC RDIMM memory running at 3200MHz</li> <li>3. 2 x M.2 storage slots</li> <li>4. 5 x PCIe x16 Gen4.0 Slots and 1 x PCIe x8 Gen4.0 Slot</li> <li>5. 8 x Variable speed fan headers</li> <li>6. 1 x VGA Video output in D-15 analogue connector</li> <li>7. 6 x SATA-3 6Gbps drive support</li> <li>8. 1 x RAID level support 0, 1, 1+0 ,On board</li> <li>9. 2 x 1GbE 1GBase-T</li> <li>10. USB - Rear 2 x 3.2 and 3 x 3.2</li> <li>11. 1x Dedicated server management port supporting IPMI v2 and Redfish</li> </ol>
<b>Memory</b>	256GB (16 x 16GB) DDR4 ECC Registered 3200 MHz or higher in a fully homogenous and balanced population
<b>High Speed connect</b>	Mellanox 100Gbps EDR adapter with 3Mts cable
<b>Operating System</b>	Recent version of Centos or Rocky Linux
<b>Storage</b>	Storage subsystem as follows: 960GB m.2 NVMe and a 2TB Enterprise SATA HDD
<b>Storage Controller</b>	NIL
<b>Graphic Card</b>	Should support Double width GPU card in future.

<b>Gigabit Network Port</b>	2 x 1GbE 1000Base-T
<b>Management Port</b>	1 x 1GbE 1000Base-T dedicated port management port with perpetual license with media redirection features
<b>External Ports/Connector</b>	Front ports : Minimum 2 x USB 2.0/3.0
	Rear ports : Minimum 2 x USB 3.2
<b>Internal Ports/Connector</b>	6 nos. – SATA 6Gbps drive support
<b>PCI Expansion Slots</b>	Minimum 5 x PCIe x16 Gen 4.0 Slots and at least 1 x PCIe x8 Gen 4.0 Slot

<b>Detailed technical specifications of 3<sup>rd</sup> Gen Intel</b>	
<b>Master node QTY=1</b>	
<b>Item</b>	<b>Description</b>
<b>Brand Name and Model</b>	To be specified by supplier
<b>ISO Certification</b>	Manufacturing facility/brand should be ISO 9001:2015 certified.
<b>Processor</b>	2 nos. of Intel Xeon Gen3 5318Y (24C48T, 2.10GHz, 3.40GHz, 36MB, 165W)
<b>Chipset</b>	Intel C621A Chipset or higher having minimum of: <ol style="list-style-type: none"> <li>1. 2 x LGA4189 Socket P+</li> <li>2. 16 x DDR4 ECC RDIMM memory running at 3200MHz</li> <li>3. 2 x M.2 storage slots</li> <li>4. 5 x PCIe x16 Gen4.0 Slots and 1 x PCIe x8 Gen4.0 Slot</li> <li>5. 8 x Variable speed fan headers</li> <li>6. 1 x VGA Video output in D-15 analogue connector</li> <li>7. 6 x SATA-3 6Gbps drive support</li> <li>8. 1 x RAID level support 0, 1, 1+0 ,On board</li> <li>9. 2 x 1GbE 1GBase-T</li> <li>10. USB - Rear 2 x 3.2 and 3 x 3.2</li> <li>11. 1x Dedicated server management port supporting IPMI v2 and Redfish</li> </ol>

<b>Memory</b>	128GB (8 x 16GB) DDR4 ECC Registered 3200 MHz or higher
<b>High Speed connect</b>	Mellanox 100Gbps dual port EDR adapter with 3Mts cable
<b>Operating System</b>	Recent version of Centos or Rocky Linux
<b>Storage</b>	Storage subsystem as follows: 2 TB m.2 NVMe 6 x 12TB Enterprise SATA @7200RPM (In RAID -5)
<b>Storage Controller</b>	12Gbps RAID controller with 1GB CACHE and battery backup
<b>Gigabit Network Port</b>	2 x 1GbE 1000Base-T
<b>Management Port</b>	1 x 1GbE 1000Base-T dedicated port management port with perpetual license with media redirection features
<b>External Ports/Connector</b>	Front ports : Minimum 2 x USB 2.0/3.0
	Rear ports : Minimum 2 x USB 3.2
<b>Internal Ports/Connector</b>	6 nos. – SATA 6Gbps drive support
<b>PCI Expansion Slots</b>	Minimum 5 x PCIe x16 Gen 4.0 Slots and at least 1 x PCIe x8 Gen 4.0 Slot

<b>Detailed technical specifications of 36port 100Gbps EDR InfiniBand Switch QTY=1</b>	
<b>Item</b>	<b>Description</b>
<b>Brand Name and Model</b>	Mellanox
<b>Model number</b>	Mellanox 36 ports, 7800 or higher with Rack mounting KIT
<b>Warranty</b>	Equivalent to the cluster warranty

**Detailed technical specifications of 24port/ 48port 1GbE  
Ethernet Switch QTY=1**

<b>Item</b>	<b>Description</b>
<b>Brand Name and Model</b>	Any standard Brand with Rack mount kit
<b>Warranty</b>	Equivalent to the cluster warranty

## List of Modules and Libraries to be installed

gcc/12.3.0 jasper/3.0.3 gnuplot/6.0.0 cmake/3.27.9 apptainer/1.1.9 libffi/3.4.6 libpng/1.6.39 boost/1.85.0 mysql/8.0.35 aria2/1.37.0 libblas/1.8.1 libspatialindex/1.9.3 libtool/2.4.7 nasm/2.15.05 netlib-lapack/3.11.0 nextflow/23.10.1 openblas/0.3.26 openmpi/5.0.3 opencv/4.8.0 cudnn/8.9.7.29-12 doxygen/1.9.8 eigen/3.4.0 openssh/9.7p1 p7zip/17.05 ffmpeg/6.1.1 pmix/4.2.4 pugixml/1.13 rclone/1.65.1 slurm/23.11.6 git/2.42.0 slurm/23.11.10 gmake/4.4.1 gsl/2.7.1 tk/8.6.11 jags/4.3.2-openblas kokkos/4.3.01 zlib/1.3.1	apps/abaqus/2023 apps/crystal/23 apps/ls-dyna/r11.2-356-mpp-intel apps/ls-dyna/r11.2-356-smp-intel apps/ls-dyna/r11.2-356 apps/matlab/r2023b apps/vasp/6.3.2	languages/Intel-OneAPI/2022.2.0 languages/Intel-OneAPI/2024.0.2 languages/java-sdk/22.0.1 languages/python/tensorflow-2.16.1 languages/python/3.12.3 languages/R/4.4.1
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## Section 5 – Technical Bid

The technical bid should furnish all requirements of the tender along with all annexures in this section and submitted to

The Chairperson,  
Attn: Dr. Suchandrima Das  
Department of Materials Engineering  
Indian Institute of Science  
Bangalore – 560012, India

## Annexure 1

### Details of the Bidder

The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

<b>SI No.</b>	<b>Items</b>	<b>Details</b>
<b>1</b>	Name of the Bidder	
<b>2</b>	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
<b>3</b>	Registration No/ Trade License, (attach attested copy)	
<b>4</b>	Registered Office Address	
<b>5</b>	Address for communication	
<b>6</b>	Contact person- Name and Designation	
<b>7</b>	Telephone No	
<b>8</b>	Email ID	
<b>9</b>	Website	
<b>10</b>	PAN No. (attach copy)	
<b>11</b>	GST No. (attach copy)	

Signature of the Bidder

Name

Designation, Seal

Date:



## Annexure 2

Declaration regarding experience

To,  
The Chairperson,  
Department of Materials Engineering,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Intel CPU based High Performance Computing Cluster at SERC Datacentre, IISc Bangalore.

Sir/Madam,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ---- years of experience in supplying and installing Confocal systems.

(Signature of the Bidder)

Printed Name

Designation, Seal Date:

### Annexure 3

Declaration regarding track record

To,  
The Chairperson,  
Department of Materials Engineering,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Intel CPU based High Performance Computing Cluster at  
SERC Datacentre, IISc Bangalore.

Sir/Madam,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company/ firm is not currently debarred / blacklisted by any Government / Semi Government organizations / institutions in India or abroad. I further certify that I'm competent officer in my company / firm to make this declaration.

OR

I declare the following

Sl No.	Country in which the company is Debarred /blacklisted / case is Pending	Blacklisted / debarred by Government / Semi Government/Organizations /Institutions	Reason	Since when and for how long
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(NOTE: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

Yours faithfully

(Signature of the Bidder)

Name

Designation, Seal

Date:

## Annexure 4

### Declaration for acceptance of Terms and Conditions

To,  
The Chairperson,  
Department of Materials Engineering,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Intel CPU based High Performance Computing Cluster at  
SERC Datacentre, IISc Bangalore.

Sir/Madam,

I've carefully gone through the Terms & Conditions as mentioned in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Name

Designation, Seal

Date

## Annexure 5

Details of items quoted:

- a. Company Name
- b. Product Name
- c. Part / Catalogue number
- d. Product description / main features
- e. Detailed technical specifications
- f. Remarks

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

## Section 6 – Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

<b>SI No.</b>	<b>Description</b>	<b>Cat. Number</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Sub Total</b>
<b>1</b>	Essential items noted in the technical specification				
<b>1a</b>	... (details of essential items)				
<b>1b</b>					
<b>2</b>	Accessories for operation and installation				
<b>3</b>	Modules and Packages to be supplied				
<b>4</b>	Warranty (5 years)				
<b>5</b>	AMC 2 years beyond warranty				

Any additional items

<b>SI No.</b>	<b>Description</b>	<b>Cat. Number</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Sub Total</b>

Addressed to

The Chairperson,  
Attn: Dr. Suchandrima Das  
Department of Materials Science and Engineering  
Indian Institute of Science  
Bangalore – 560012, India

## Section 7 – Checklist

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

### Sealed Envelope A: Technical Bid

1. Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:
  - a. Annexure 1: Bidders details
  - b. Annexure 2: Declaration regarding experience
  - c. Annexure 3: Declaration regarding clean track record
  - d. Annexure 4: Declaration for acceptance of terms and conditions
  - e. Annexure 5: Details of items quoted
2. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

### Sealed Envelope B: Commercial Bid

Section 6: Commercial Bid

Your quotation must be submitted in two envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date and both of these in sealed covers and put in a bigger cover which should also be sealed and duly super scribed with Tender No., Tender description & Due Date.