

Domestic Tender Notification for the Procurement of a 4-Node / 416-Core HPC Cluster to the Department of Chemical Engineering, Indian Institute of Science, Bangalore.

Date of publishing of bids: Friday, 5th September 2025, by 5:00 pm

Last date/time for submission of bids: Friday, 26th September 2025, by 5:00 pm

This is an open domestic tender for the purchase of a computing cluster using multiple cores distributed over several compute nodes, apart from a master node, thereby allowing for multi-scale simulations. This HPC Cluster with a minimum of 416 cores (a minimum of 32-core master node, 256-core compute node, 128-core GPU node, 2:1 ratio of compute node to GPU node or higher) is required for the research groups of Prof. Nirmalya Bachhar in the Department of Chemical Engineering at the Indian Institute of Science (IISc).

With respect to this tender, the rules laid out by the Government of India in order No. P-45021/2/2017-PP (BE-II) issued by the Public Procurement Section, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 04th June 2020, will be followed. Per this order, the government has defined a 'Class-I local supplier' as "a supplier or service provider, whose goods, services, or works offered for procurement, have local content equal to or more than 50%". A 'Class-II local supplier' is "a supplier or service provider, whose goods, services or works offered for procurement, have local content more than 20% but less than 50%". Only 'Class-I' and 'Class-II' local suppliers are eligible to participate in this open domestic tender. Any 'Non-local supplier', i.e., "a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%" is ineligible to participate in this tender.

Below, we list the minimum specifications that we require for the HPC cluster.

I. Master Node - 2U1S / 32C / 64GB RAM / 90TB Storage:

Item	Description	Qty.
Processor	32-Core Intel® Xeon®6 - 6732P (32C / 64T / 3.8GHz /144MB / 350W) or higher OR 32-Core AMD EPYC™ 9354 (32C / 64T / 3.25GHz / 265MB / 280W) or higher	1
Motherboard	Single Socket Server board supporting Single Processor and supporting DDR5 4800MT/s or above	1
Memory	Regd. ECC DDR5 4800MHz or higher – (Total 64GB RAM)	1
NVMe	960GB Enterprise SSD / SATA / 2.5" or higher – on RAID1	2
HDD - DATA	18TB SATA / 3.5" / 7.2K RPM / 12Gbps / Enterprise RAW=90TB & on RAID5 = 72TB	4
RAID Card	8-Port RAID Controller Card with Cables (12G)	1
NIC	Dual 10G Ethernet	1
Form Factor	2U Rackmount with Hot-Swappable 8xHDD Bays & 800W RPS or higher form factor (80+ Platinum Certified or above)	1
OS	Linux OS and HPC Cluster Suite	1
Power supply	<ul style="list-style-type: none">Redundant power supply of 80 Plus Platinum level or betterThe minimum power supply unit (PSU) wattages should be suitable for the provided solutionA supporting calculation of the power utilization must be provided	1

Warranty & Support	3 Years Hardware Warranty & Pro Support	1
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II. Compute Nodes – 2 × 2U2S / 128C / 512GB RAM:

Item	Description	Qty.
Processor	64-Core Intel® Xeon®6 - 6767P (64C / 128T / 2.4GHz / 336MB / 350W) or higher OR 64-Core AMD EPYC™ 9554 (64C / 128T / 3.1GHz / 265MB / 360W) or higher	2
Motherboard	Dual Socket Server board supporting Dual Processors and supporting DDR5 4800MT/s or higher	1
Memory	Regd. ECC DDR5 4800MHz or higher (Total 512GB RAM)	8
NVMe	960GB Enterprise SSD / SATA / 2.5" or higher	1
NIC	Dual 10G Ethernet	1
Form Factor	2U Rackmount with Hot-Swappable 8xHDD Bays & 1200W RPS (80+ Platinum Certified or higher)	1
OS	Linux OS & HPC Cluster Suite	1
Power supply	<ul style="list-style-type: none"> Redundant power supply of 80 Plus Platinum level or better The minimum power supply unit (PSU) wattages should be suitable for the provided solution A supporting calculation of the power utilization must be provided 	1
Warranty & Support	3 Years Hardware Warranty & Pro Support	1

III. GPU Nodes - 4U2S / 128C / 512GB RAM / 48GB 6000 Ada GPU:

Item	Description	Qty.
Processor	64-Core Intel® Xeon®6 - 6767P (64C / 128T / 2.4GHz / 336MB / 350W) or higher OR 64-Core AMD EPYC™ 9554 (64C / 128T / 3.1GHz / 265MB / 360W) or higher	2
Motherboard	Dual Socket Server board supporting Dual Processors and with 12 DIMMs supporting DDR5 4800 or higher	1
Memory	Regd. ECC DDR5 4800MHz or higher – (Total 512GB RAM)	8
NVMe	960GB Enterprise SSD / SATA / 2.5" or higher	1
NIC	Dual 10G Ethernet	1
Form Factor	4U Rackmount with Hot-Swappable 8xHDD Bays & 1200W PSU (80+ Platinum Certified or higher)	1
GPU	Nvidia RTX 5000 Ada (32GB / 12,800 CUDA Cores / 250W) GPU or higher	1
OS	Linux OS & HPC Cluster Suite	1
Power supply	<ul style="list-style-type: none"> Redundant power supply of 80 Plus Platinum level or better The minimum power supply unit (PSU) wattages should be suitable for the provided solution A supporting calculation of the power utilization must be provided 	1
Warranty & Support	3 Years Hardware Warranty & Pro Support	1

IV. Interconnect:

Item	Description	Qty.
Primary/ management interconnect switch	<ul style="list-style-type: none"> 10 GigE BaseT - Managed Switch (rack mountable) having an appropriate number of ports with low latency and an SFP uplink port all nodes (master and compute) should have dual ports supporting 10 GigE Base-T transfer speed An appropriate number of cables must be provided 	1

V. Software installation

#	Item heading	Item specifications
1	Operating system	Open-source, stable, enterprise-grade Linux distribution
2	Cluster management software	Rocks with Ganglia or equivalent
3	Job scheduling software	SLURM
4	Compilers	C/C++/Fortran and any others required by the simulation packages outlined in point 6
5	Software	BLAS, SCALAPACK, LAPACK, MPI, debugger, MPI tuning and analysis, Python, Pip, NumPy, SciPy, Scikit learn, Pytorch, TensorFlow, VMD, PyMoL, UCSF ChimeraX, BIOVIA Discovery Studio, Gnuplot, Xmgrace, and any others required by the simulation packages outlined in point 6
6	Simulation packages	<p>Latest versions of open-source packages: GROMACS, LAMMPS, Quantum Espresso, ORCA, AutoDock Vina, ANACONDA, gmx_MMPBSA.</p> <p>Latest versions of commercial packages (licenses will be provided): MATLAB</p>

Other requirements

1. Annual maintenance contract (AMC) and warranty on all components, and complete software support, all for a minimum of 3 years, should be included in the quoted cost.
2. Detailed instructions on installing additional nodes, replacing failed nodes, operating the system, and powering up/down the system should be provided during installation.

Scope of the work

1. Delivery of all physical equipment to the designated data center in the Indian Institute of Science.
2. Installation and startup of the master and compute nodes at the desired place.
3. Software installation as mentioned in the table above, including testing to ensure that all installed software works as intended.

Handling of price conflicts

In case of a price conflict, the vendor with the options quoted below will be preferred in the following order of priority:

1. Higher computational speed measured in terms of teraflops.
2. Higher RAM at a minimum speed of 4800 MHz

Terms and conditions

1. A two-bid system will be followed, requiring separate technical and financial bids in two sealed envelopes. The technical bid envelope should state on the cover, "Technical Bid," and the financial bid envelope should state on the cover, "Financial Bid". The sealed technical and financial bids should be placed and sealed inside a third, larger envelope circumscribed "Chemical Engineering Cluster Bid".
2. The vendors' quoting should be registered with IISc. The quote should carry the vendor registration number in the technical bid.
3. The technical bid must clearly mention all the prescribed specifications without including the prices; vendors who include price information in the technical bids will be automatically disqualified.
4. The covering letter in the technical bid should clearly mention whether the vendor is a 'Class I' local supplier or a 'Class II' local supplier, failing which the vendor will be automatically disqualified.
5. The vendor should indicate the percentage of the local content and provide self-certification in the financial bid that the items offered meet the minimum local content requirement. They should also give details of the location(s) at which the local value addition is made.
6. Vendors must supply at least **3 independent reference letters from** completed cluster installations in India with a minimum of 400 cores in the last two years. IISc may contact other users to obtain independent references. The committee will have the right to reject a bid based on unsatisfactory reference letters.
7. Vendors must **supply proof** of:
 - i. one completed cluster installation in India with a minimum of 4 nodes either in the last two financial years or in the current financial year, **OR**
 - ii. three active annual maintenance contracts (AMCs) of HPC systems with a minimum of 4 nodes."
8. Technical bids will be opened first. IISc may seek clarifications after the opening of technical bids and may ask vendors to provide performance benchmarks for LAMMPS/GROMACS and other package codes that will be provided. Vendors may be required to give presentations detailing technical specifications and demonstrating requisite performance. IISc reserves the right to ask for a product demonstration / technical presentation/documents verification, etc.
9. Financial bids from vendors will be considered only if they qualify for the technical evaluation. The final order will be placed with a technically qualified and financially competitive vendor(s) as determined by the rules mentioned in order P-45021/2/2017-PP (BE-II).
10. The successful bidder must submit **Performance Security @ 3%** of the total contract value within one week of the issue of the Purchase Order.

11. Additional nodes may be procured from the winning bidder at the same cost per node mentioned in the original financial bid.
12. The vendors should provide a per-piece cost for each item in the financial bid.
13. **Delivery and installation** of the cluster shall be the complete responsibility of the vendor. Any damaged items will be returned without payment, with the vendor having to replace them at no extra cost. Payment will only be made after the replacement and reinstallation of damaged items.
14. The price shall be quoted in INR only. The cost should be inclusive of delivery to the IISc campus. Price offer must be on a FOR-IISc Bangalore basis.
15. Since this will be a domestic PO, hence import will not be involved.
16. The HPC system, as per the agreed bill of materials, must be supplied within 6-8 weeks after receiving a purchase order from IISc. The hardware/software installation must be complete within two weeks after the supply of the equipment. The vendors should indicate the tentative delivery and installation date in the technical bid.
17. The **payment** will be processed only after successful installation of the machine (both hardware and software). Any payment will be released only after complete supply and satisfactory installation.
18. **Cancellation of Tender:** Notwithstanding anything specified in this tender document, the IISc purchase committee, in its sole discretion, unconditionally and without having to assign any reason, reserves the right:
 - a) To accept OR reject the lowest tender, any other tender, or all the tenders.
 - b) To accept any tender in whole or in part.
 - c) To reject the tender, offer not confirming the tender terms.
19. If any information is found to be false or misleading, then the bidder may be debarred.
20. **Statutory Variation:** Any statutory increase in the taxes and duties after the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore, subject to the claim supported by documentary evidence. However, if any decrease occurs, the advantage will have to be passed on to IISc, Bangalore.
21. **Disputes and Jurisdiction:** Any legal disputes arising from any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction in Bangalore, India.
22. Tender documents that do not satisfy the "Terms and Conditions" listed herein will be disqualified.
23. The tender documents must be sent to the following address before the **deadline (26th September 2025, by 5:00 pm)**:

The Chair, Department of Chemical Engineering
Indian Institute of Science
CV Raman Avenue, Bengaluru
Karnataka 560012, India
Attn: Prof. Nirmalya Bachhar

Annexures

Annexure 1: Details of the Bidder

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

Details of the Bidder

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

Signature of the Bidder

Name

Designation, Seal Date:

Annexure 2: Declaration regarding experience

To,
The Chairperson,
Attn: Prof. Nirmalya Bachhar
Chemical Engineering,
Indian Institute of Science,
CV Raman Ave. Bangalore – 560012, India.
Ref: Tender No: XXXXXXXXXX Dated: XXXXX

Dear Sir/Madam

I have carefully reviewed the Terms & Conditions in the above-referred tender. I hereby declare that my company/firm has years of experience in supplying and installing the proposed equipment.

(Signature of the Bidder)

Printed Name:

Designation:

Seal:

Date:

Annexure 3: Declaration regarding track record

To,
The Chairperson,
Attn: Prof. Nirmalya Bachhar
Chemical Engineering,
Indian Institute of Science,
CV Raman Ave. Bangalore – 560012, India.
Ref: Tender No: XXXXXXXX
Dated: XXXXX

Dear Sir/Madam,

I have carefully reviewed the Terms & Conditions 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 am a 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

(NOTE: In case the company/firm was blacklisted previously, please provide the details regarding the 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,
Attn: Prof. Nirmalya Bachhar
Chemical Engineering,
Indian Institute of Science,
CV Raman Ave. Bangalore – 560012, India.
Ref: Tender No: XXXXXX
Dated: XXXX

Dear Sir/Madam,

I have carefully reviewed the Terms & Conditions 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 am 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

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