



**भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली**  
शिक्षा मंत्रालय, भारत सरकार द्वारा स्थापित  
सैक्टर 81, नॉलेज सिटी, प. ओ. मनोली, एस. ए. एस. नगर, मोहाली, पंजाब 140306  
**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI**  
(Established by Ministry of Education, Govt. of India)  
Sector-81, Knowledge city, PO-Manauli, SAS Nagar Mohali-140306, Punjab  
PAN No. - AAAAII781K GSTIN – 03AAAAII781K2ZS

• Phone : +91-172- 2240121 • Fax : +91-172-2240124 • <http://www.iisermohali.ac.in> • Email: [stores@iisermohali.ac.in](mailto:stores@iisermohali.ac.in)

CPPP/Institute Website

IISERM(1640)23/24-Pur

Dated: 08<sup>th</sup> November 2023

## **E-EXPRESSION OF INTEREST (EOI)**

आईआईएसईआर मोहाली के लिए एचपीसी सुविधा चरण- II की आपूर्ति और कमीशनिंग के लिए रुचि की अभिव्यक्ति (ईओआई) के लिए दो बोली प्रणाली में निदेशक, आईआईएसईआर मोहाली की ओर से ई-ईओआई आमंत्रित की जाती हैं। आवश्यकता के अनुसार और नीचे दिए गए विवरण के अनुसार और सीपीपीपी पर मूल निर्माता/आपूर्तिकर्ता से बीओक्यू सूची अर्थात् <https://eprocure.gov.in/eprocure/app> ईओआई संबंधित से दस्तावेज ई-प्रोक्योरमेंट पोर्टल की वेबसाइट <https://eprocure.gov.in/eprocure/app> और संस्थान की वेबसाइट [www.iisermohali.ac.in](http://www.iisermohali.ac.in) से डाउनलोड किए जा सकते हैं।

E-EOI are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for the **Expression of Interest (EOI) for the supply and commissioning of HPC Facility Phase-II for IISER Mohali** as per requirement and details given below and BOQ list from the original manufacturer/supplier at CPPP i.e. <https://eprocure.gov.in/eprocure/app>. EOI related documents may please be downloaded from the E-procurement portal website <https://eprocure.gov.in/eprocure/app> & Institute website [www.iisermohali.ac.in](http://www.iisermohali.ac.in).

Sd/-

सहायक कुलसचिव (क्रय तथा भंडार)  
Assistant Registrar (Stores & Purchase)

**NOTE: This is a domestic Tender according to the DPIIT Order dated 15/07/2017, 04.06.2020 and subsequent amendments thereof for Public Procurement Preference & PROVISION FOR LOCAL SUPPLIERS TOWARDS PREFERENCE TO MAKE IN INDIA. The bidder required to declare on the letter head the percentage of Local content for the quoted instrument/supply/service and submit along with the Technical Bid. Bidder should also give details of the location(s) at which the local value addition is made.**



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## **E-EXPRESSION OF INTEREST (EOI)**

Tender Ref.- IISERM(1640)23/24-Pur

Dated : 08<sup>th</sup> November 2023

### **Critical Date Sections**

<b>Sr.</b>	<b>Description</b>	<b>Date</b>	<b>Time</b>
1.	EOI Publishing Date and time	08 <sup>th</sup> November 2023	6:00pm
2.	EOI Document download start Date & Time	08 <sup>th</sup> November 2023	6:00pm
3.	Consent to participate in EOI on or before Date & Time	22 <sup>nd</sup> November 2023	6:00pm
4.	EOI presentation-cum-Meeting (TENTATIVE) {Refer pt no. 16 & 4 on page no. 06 and 13 respectively of EOI	28 <sup>th</sup> November 2023	2:30pm
5.	Bid Submission Start Date/Uploading the updated BID Document	08 <sup>th</sup> December 2023	2:30pm
6.	EOI Bid Submission End Date and Time	28 <sup>th</sup> December 2023	Upto 2:30pm
7.	EOI Opening Date and Time	29 <sup>th</sup> December 2023	At 3:30pm

E-EOI are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for following item(s) from the original manufacturer/supplier at CPPP i.e. <https://eprocure.gov.in/eprocure/app>. EOI related documents may please be downloaded from the E-procurement portal website <https://eprocure.gov.in/eprocure/app> & Institute website [www.iisermohali.ac.in](http://www.iisermohali.ac.in). Online Tender fee of Rs 590/- (Non-refundable) should be submitted by bidder in favour of IISER Mohali through Online mode in Institute Account (Canara Bank Saving Account Number 4790101001912 and IFSC Code CNRB0004790). However, scanned copy of the Tender fee/UTR copy should be uploaded on website along with technical bid. **Micro & MSME/NSIC and Firms registered and the firms registered with concerned Ministries/ Departments, the bidders are exempted from payment of Tender Fee as per GOI notifications/GFR (2017) and Ministry of Finance OM No. F.9/4/2020-PPD dated 12 November 2020.**

**Bidders will also be required to execute bond/undertaking Bid Security Declaration Form attached as ANNEXURE-I, in lieu of EMD/Security Deposit.**

## **ITEM WISE DETAILS**

<b>S. No.</b>	<b>Description</b>	<b>Qty.</b>
<b>1.</b>	<b>Expression of Interest (EOI) for the commissioning of HPC Facility Phase-II for IISER Mohali.</b> <b>Technical Specifications : <u>As per ANNEXURE-III</u></b> <b>Note:</b> EOI is without financial bid/BOQ. Through this EOI the Institute will frame and finalize the technical specifications based on the bids received & products, applications and services available. Accordingly Institute will publish e-tender notification along with financial bid.	<b>As per ANNEXURE -III</b>

### **A) IMPORTANT NOTES:-**

- I. This is a domestic Tender according to the DPIIT Order dated 15/07/2017, 04.06.2020 and subsequent amendments thereof for Public Procurement Preference & PROVISION FOR LOCAL SUPPLIERS TOWARDS PREFERENCE TO MAKE IN INDIA. Bidders should also give details of Location(s); at which the local value addition is made. Bidders are requested to furnish the declaration regarding local content/locations in Annexure II through CPPP portal.**
- II. Restriction under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 under sub clause 3, in terms of DOE, MoF No. F.18/37/2020-PPD dated: 8<sup>th</sup> February, 2021:**
  - (i) A bidder is permitted to procure raw material, components, sub-assemblies etc. from the vendors from countries which shares a land border with India. Such vendors will not be required to be registered with the Competent Authority, as it is not regarded as "sub-contracting".**
  - (ii) However, in case a bidder has proposed to supply finished goods procured directly/indirectly from the vendors from the countries sharing land border with India, such vendor will be required to be registered with the Competent Authority.**
- III. The Online bids should be submitted directly by the original manufacturer/supplier/OEM, the OEM is required to furnish certificate to this effect. If quotation is submitted/filled by any representative/agent/dealer then they must upload a Authorization Authority certificate from the principal company/OEM.**
- IV. All MSME/NSIC/Startup Units shall be considered as per provisions/rules prescribed by Govt of India.**
- V. Auto-extension of last date for E-Tenders/EOI has been activated by CPP Portal which has participation 3 bids or less.**
- VI. Kindly do not quote end of life model. Spares should be available minimum period of 5 years for quoted models.**

### **B) SUBMISSION OF TENDER**

- I. All bid/tender documents are to be uploaded online at Central Public Procurement portal i.e. <https://eprocure.gov.in/eprocure/app> only and in the designated cover/part on the website against tender ID. EOI/bids shall be accepted only through online mode and no manual submission of the same shall be entertained except tender fee**

and Annexure I (Bid Securing Declaration Form). Late EOI/tenders will not be accepted.

II. The online bids shall be opened at the office of the Assistant Registrar (S&P), IISER Mohali, on above given date and time. If the tender opening date happens to be on a holiday or non-working day due to any other valid reason, the tender opening process will be attended on the next working day at same time and place. IISER Mohali will not be responsible for any error like missing of schedule data while downloading by the Bidder.

III. **The bidder shall upload the tender documents/NIT duly filled in and stamped by the authorized signatory on each and every page along with all necessary Annexures as per NIT. Tender not submitted/uploaded in the prescribed form and as per the tender terms and conditions shall be liable for rejection.**

**Check List of Documents (signed & stamped) to be provided and uploaded by the bidder:**

S.No.	Particulars of Documents	Yes/No	Page No. (As per technical bid)
1.	<b>Tender Notice Document Copy of NIT (signed and stamped on all pages)</b>		
2.	<b>The bidder is required to provide technical compliance sheet along with technical bid duly stamped and signed.</b>		
3.	<b>Authorization/MAF Certificate from OEM (principle)/Manufacturer certificate</b>		
4.	<b>Tender Fee, if applicable or Exemption Certificate (NSIC/MSME Certificate)</b>		
5.	<b>Undertaking Bid Security Declaration Form – Annexure-I (on letter head duly signed and stamped)</b>		
6.	<b>Annexure-II declaration of Local content/MII, with complete information</b>		
7.	<b>Pre Bid Integrity Pact: As per Annexure-IV (on letter head duly signed and stamped)</b>		
8.	<b>Attached Copy of PAN</b>		
9.	<b>Attached Copy of GST</b>		

*\* If checklist is not provided by the bidder along with ABOVE DOCUMENTS the bid shall be summarily rejected.*

IV. The bidders applying against “MSME/NSIC Certificate” issued by appropriate Authority should ensure that the certificate attached is relevant to the area of service/supply. For example, If the tender is for “supply & installation of Desktop” *the certificate should be issued for activity/area of “Computer supply and services activities etc” otherwise bid will be REJECTED without notice.*

V. E-procurement system ensures locking on the scheduled date and time. The system will not accept any bid after the scheduled date and time of submission of bid.

**C) INSTRUCTIONS**

1. The Online bids should be submitted directly by the original manufacturer/supplier, if quotation is submitted/filled by any representative/agent/dealer then they must upload an authority certificate from the principal company for quoting the price otherwise such quotation(s) will be rejected.

2. The quantity mentioned in this inquiry is and shall be deemed to be only approximate and will not in any manner be binding on the Institute. Before the deadline for submission of the online bid, IISER Mohali reserves the right to modify the tender document terms and conditions. Such amendment/modification will be notified on website against said tender ID.
3. The rates offered should be FOR Chandigarh/Mohali in case of firms situated outside Chandigarh/Mohali, and free delivery at the Institute premises in case of local firms. Conditional EOI/tenders will be summarily rejected.
4. In case of Ex-godown terms the amount of packaging forwarding freight etc. should clearly be indicated by percentage or lump sum amount. Institute has policy not to make any advance payments towards any purchase, Letter of credit can be opened if required.
5. **Custom Duty, applicable as per GOI Norms.**
6. **GST, applicable as per GOI Norms.**
7. Bidder/s quoting in currency other than **Indian Rupee (INR)** should explicitly mention the currency in which tender quoted wherever applicable in Technical Bid along the tender documents.
8. The delivery period should be specifically stated. Earlier delivery will be preferred.
9. **The firms are requested to provide/upload detailed description and specifications together with the detailed drawings, printed leaflets & literature of the article quoted** and also should enclose **Technical Compliance Sheet**. The name of the manufactures and country of manufacture should also invariably be stated. In the absence of these particulars and documents, the quotation is liable for rejection. EOI/Tenders not accompanied by detailed information as required are liable to be rejected.
10. If any information furnished by the bidder is, at any stage found to be incorrect, false or fabricated, the Institute/purchaser shall have the absolute right to forfeit the security deposits, in addition to cancellation of contract, forfeiting the performance Guarantees and other action in accordance with law, such as black-listing, risk & cost etc.
11. Validity of offer: 180 days.
12. The warranty (if applicable) period after satisfactory installation should be mentioned and firm should replace all manufacturing defect parts/ whole item under warranty without any extra cost including clearance, freight, taxes. Security deposit/Performance Bank Guarantee @ 3% to 10% of the value of supply order as per norms may be sought from the firms, in terms of Ministry of Education, GOI, OM No. F. No. 29-1/2019-IFD dated 06th April, 2023 for compliance of Ministry of Finance, DoE, GOI, OM No.F.1/2/2023-PPD dated 03.04.2023.
13. **Pre Bid Integrity Pact:** Buyer organization specific Integrity Pact shall have to be complied by all Bidders, if the cost of the equipment/machinery exceeds value of **One Crore** (as per format) **in Annexure-IV**. Bidders shall have to upload scanned copy of the signed Integrity Pact.
14. The right to reject all or any of the quotation and to split up the requirements for itemized L-1 or relaxes any or all the above conditions without assigning any reason are reserved by the IISER Mohali. For any corrigendum and addendum may be checked in the Institute/CPPP website <https://eprocure.gov.in/eprocure/app> and <http://www.iisermohali.ac.in>

15. Disputes, if any, shall be subject to jurisdiction in the court of Mohali only.
16. For attending EOI presentation-cum-meeting, **interested bidders are requested to inform by Mail to ID: stores@iisermohali.ac.in consent to participate in EoI on or before 22.11.2023 providing their details {Name of firm details/Contact Numbers and proposal (if any) etc.}**, giving reference to the tender ID. Accordingly, the slot/schedule for presentation will be worked out and intimated to the bidders through email.

Sd/-

**सहायक कुलसचिव (क्रय तथा भंडार)**  
Assistant Registrar (Stores & Purchase)

**ANNEXURE-I**

**Bid Securing Declaration Form**

Date: \_\_\_\_\_ E-Tender No. \_\_\_\_\_ E-Tender ID \_\_\_\_\_

To (insert complete name and address of the purchaser)  
I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am/We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders. I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)  
in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration)  
Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on \_\_\_\_\_ day of \_\_\_\_\_ (insert date of signing)  
Corporate Seal (where appropriate)

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

PS: *Furnish the above in original stationary/letter head with signed and sealed.*

**ANNEXURE-II**

SELF DECLARATION

[For Local Content of Products, Services or Works]

File No. .... Tender ID ..... Dated: .....

To,

**The Director**

**Indian Institute of Science Education and Research (IISER) Mohali**

**(Established by Ministry of Education, Govt. of India)**

**Sector-81, Knowledge city, PO-Manauli,**

**SAS Nagar Mohali-140306, Punjab**

1. With reference to Order no P.-45021/2/2017 PP (BE-II) dated 04.06.2020 and No. P-45021/2/2017-PP(BE-II) dated 16-09-2020 of DPIIT, Ministry of Commerce and Industry, Govt. of India, we fall under the following category of supplier (please tick the correct category) for the items for which this tender has been floated and being bided.

Class I local supplier – has local content equal to more than 50%. Local contents added at \_\_\_\_\_ (name of location).

Class II local supplier – has local content more than 20% but less than 50%. Local contents added at \_\_\_\_\_ (name of location).

Non-local supplier – has local content less than or equal to 20%. Local contents added at \_\_\_\_\_ (name of location).

2. We are solely responsible for the abovementioned declaration in respect of category of supplier. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which we may can be debarred for up to 2 years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Signature & seal of the company

Name and address of the organization

.....  
.....  
.....

Date: .....

**Note:** In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'/'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.



## ANNEXURE-III

### Expression of Interest (EoI) for the commissioning of HPC Facility Phase-II for IISER Mohali

**Background:** IISER Mohali has recently augmented its High-Performance Computing (HPC) resources, and Phase I of this commissioning has been completed. The HPC@ IISER Mohali is a heterogeneous facility that offers a boost to the modeling and simulation research efforts encompassing across departments and disciplines. Some of the ongoing activities include computational fluid dynamics (CFD), Astro-dynamics, bio-molecular simulations, computational chemistry and biology, environmental and weather modeling simulations, and several other areas of science and technology (software are ESPResSO, VASP, LAMMPS, SIESTA, CPMD, CP2K, ABNIT, NAMD, GROMACS, AMBER, Gaussian, Molpro, MATLAB, Mathematica, ANSYS etc.). IISER Mohali HPC System consists of 36 CPU nodes and 3-GPU nodes servers powered by Intel processors, using FDR Mellanox InfiniBand switches, and is managed by open source management tools. The cluster consists of over 1872 CPU cores, 12 GPUs, 20TB flash /home, and around 200 TB (JBOD) persistence data storage.

**Scope:** It is envisaged to add parallel data storage and additional computing power. A tentative addition of 32 or more CPUs with at least 8 physical cores per CPU in the computing cluster is suitable for high-performance computing. A dedicated 512 TB or more parallel storage based on the Lustre technology system is planned. IISER Mohali invites an expression of interest to propose a solution as per the following requirements. (1 KB = 1024 Byte, 1PB = 1024 x 1024 x 1024 KB)

#### **A. Storage and Computing Solutions:**

##### **a. A parallel file system based on Lustre Technology to be used in the HPC Facility (turnkey PFS storage solution)**

- i. The bidder/OEM must provide Lustre File System-based PFS with Lustre version 2.15.0 or Higher. The entire solution must be provided as a turnkey solution and should be independent of existing HPCs. Existing HPCs will be the consumers of the solution and the bidder must ensure to integrate it into the existing systems.
- ii. 512 TB of Usable storage and should be scalable to 1PB or more within the same namespace.
- iii. Should include SSD for caching or to enhance the performance. Hardware RAID 6 protection with 8 data and 2 parity disks and should support 0, 1, 5, 6, and 10 Hardware RAID levels.
- iv. At least 20 GB/s write and read throughput performance with 1MB block size
- v. Detailed network requirements, port requirements, and total U-space requirements must be calculated and provided.
- vi. The entire system must be manageable from a web-based single, secure Interface. Standard software (web-based) must be provided for features creating/managing volumes, storage & and file system monitoring. All the servers should have BMC providing for KVM over IP and remote management capabilities.
- vii. Connectivity from I/O servers to compute nodes must be on EDR/HDR InfiniBand.
- viii. This system must connect to two isolated HPCs over 100G in InfiniBand and 10G-BaseT connections.
- ix. Storage solution should employ not more than 6 InfiniBand ports (i.e. 6 x 100G connections via 3 x 200G ports) on the switch for storage delivery and metadata functions. And the data should also be delivered over 4 x 10G-BaseT connectivity.
- x. Client software for storage access should be for 64-bit Linux RHEL/Rockylinux/Almalinux/RHEL-based open-source Linux.

- xi. Entire Solution must be balanced with respect to no. of I/O servers, network ports, LUNs, disks, etc. There must be a minimum of one pair of highly available I/O servers for every storage array.
- xii. The storage controller should have a battery-backed cache with mirroring across controllers.
- xiii. The solution should be highly available. Storage subsystems should be configured with no single point of failure including I/O servers, Metadata servers, Storage array, HBA Cards, switches between I/O servers & and storage controllers, and power supply. Fan modules, the Power supply should be redundant and hot-pluggable/replaceable, etc.
- xiv. The solution should support user quota and group quota POSIX-compliant Fine-grained locking so that multiple clients can read/write from the same file simultaneously. Ability to read and write in parallel to the same file or different files. Data striping across multiple I/O nodes and RAID LUNs. Ability to transparently recover from client, server, and network failures without losing data
- xv. The parallel file system should have no single point of failure.
- xvi. The bidder must have successfully executed a minimum of one High-Performance Storage System in India having a usable capacity of a minimum of 200 TB capacity.
- xvii. The bidder must provide the following Benchmarking test:
  1. Open-source IOR benchmarks: Running on compute nodes with 1 MB transfer size and file size double the total storage cache and I/O node memory.
  2. Benchmark must deliver the throughput for Primary storage min. 20 GB/s.
  3. Bidders must submit the output of the below-mentioned MDTEST (<http://sourceforge.net/projects/mdtest/>) or similar benchmarking tool running on a minimum of 10 PFS clients. Benchmark output must show a minimum of 40,000 files created/sec and 50,000 stat/sec.
  4. Benchmarking report: hardcopy of results (affidavit) on letterhead, signed by an authorized representative of the bidder to be submitted which should also contain benchmarking parameters used. To also list tuning of kernel I/O scheduler, network, RAID, storage controller, and Lustre PFS at both OSS and client nodes. Throughput figures (no. of files equal to or greater than no. of OSTs) should also be provided as part of the acceptance criteria.
- xviii. Optionally, 200 TB cold storage archival solutions should also be provided.
- xix. The bidder must offer 5 years of support for the total solution including support for Lustre.

**b. LTO9 Technology Autoloader Library**

- i. The Enterprise Class Tape library should have a minimum of 24 Data slots and at least 02 Cleaning Tape slots. Should have two no. of LTO-9 Drive in a single frame.
- ii. Form Factor: 2U or more
- iii. Drive Type: LTO-9
- iv. Number of Cartridge slots: 24 x LTO9 or more
- v. Transfer Rate: 2 TB/hours or more
- vi. At least Tape 2 Drives
- vii. Host Interface: Both Fibre Channel and SAS interface.
- viii. PCIe interface: Should have both Fibre Channel and SAS interface for Host Server with cables.
- ix. Appropriate PCIe cards must be additionally provided to integrate into the existing servers
- x. The Tape Library should support barcode reading.

- c. Server type – 1: (Total CPU count should be greater than or equal to 32)**
  - i. At least 2 CPU Per Node
  - ii. Intel Xeon Ice Lake 8 or more physical cores per CPU
  - iii. 16 GB Per Core RAM
  - iv. 480 GB SSD for OS
  - v. 2 x 8 TB Local Disk
  - vi. 1 x 100G InfiniBand
  - vii. 2 x 10GBase-T
  
- d. Server type – 2: (Two)**
  - i. 1 node per 1U/2U Chassis
  - ii. Dual CPU per Node
  - iii. Minimum Intel Xeon Icelake 24 Cores or more per CPU
  - iv. At least 7 GB Per Core RAM
  - v. At least 980 GB SSD for OS
  - vi. 4 x 8 TB Local Disk
  - vii. 1 x 100G InifiniBand
  - viii. 2x10G-BaseT
  
- e. Server type – 3: (One)**
  - i. 1 node per 1U/2U Chassis
  - ii. Dual CPU per Node
  - iii. Minimum Intel Xeon Gold Skylake 26 Cores per CPU
  - iv. At least 7 GB Per Core RAM
  - v. 2 x T4 GPUs
  - vi. At least 980 GB SSD for OS
  - vii. 1 x 4 TB SSD
  - viii. 1 x 8 TB SATA
  - ix. 1 x 100G InfiniBand
  - x. 2x10G-BaseT
  
- f. Server type – 4: (Six)**
  - i. Single node per chassis, Rack Mountable
  - ii. Intel Xeon Skylake 16 or more cores per CPU
  - iii. 8 GB per core RAM
  - iv. 2 x 1G Base-T
  - v. 2 x 10G base-T
  - vi. 2 x 10 G SFP+
  - vii. Optionally 1x100G InfiniBand
  - viii. 512GB NVMe/SSD for OS
  - ix. 4 x 4TB SSD
  
- g. High-speed Network: (One)**
  - i. The InfiniBand switch must be compatible with the existing InfiniBand switch (Mellanox QM8790 Externally Managed HDR InfiniBand Switch).
  - ii. The bidder must not use more than 6 ports (6 x 100G ports via 3 x 200G physical ports) requirements to construct non-blocking networking within a single switch configuration.
  - iii. Optionally, the bidder must provide a primary communication network plan to achieve 100% non-blocking fat-tree topology or any other proprietary well-established proven topology connecting all nodes with 100G Connections, service nodes, and I/O nodes with a minimum bandwidth of 100G per port.

- iv. This should be the primary network for the above storage solution
- v. InfiniBand switch must be compatible with all the system components quoted in this tender having 100G Network Port
- vi. 40 x 200Gbps with 14Tb/s or higher switching capabilities
- vii. Required software to operate/manage the switch for HPC and filesystems with Licenses if any.
- viii. Appropriate cables & connectors as per the length & size of the placement of the server by considering the already existing switch.
- ix. Air-flow must match to cooling airflow

**h. 10G ethernet Switch: (One)**

- i. 48 x 10Gbps (RJ45) ports,
- ii. 4 x 40Gbps (QSFP or better) ports
- iii. 2 x 1Gbps (RJ45) ports
- iv. 1200 Gbps switching capacity or higher.
- v. The model should be chosen in such a way that the exhaust air direction should be the same as the flow of cool air (air-flow must match to cooling airflow).

**i. 1G ethernet Switch: (One)**

- i. 48 x 1Gbps (RJ45) ports,
- ii. 4 x 10Gbps (SFP or better) ports
- iii. 160 Gbps or better
- iv. Model should be chosen in such a way that the exhaust air direction should be the same as the flow of cool air (air-flow must match to cooling airflow).

**B. Cooling Rack:**

Any one of the solutions will be purchased, however the bidder must provide details of both solutions.

**a. Single Rack System**

- i. 1 x 42U Usable cooling rack solutions
- ii. At least 10 KW per rack redundant cooling capacity. Bidders may mention the availability of maximum cooling capacity with redundant mode.
- iii. Retrofitted liquid coolers or equivalent architecture should be enabled in the system for efficient cooling, as required in any standard cluster suitable for high-performance computing.
- iv. Rack should provide appropriate Dual 3-Phase PDUs to connect appliances.

**b. Double Rack System**

- i. 2 x 42U Usable cooling rack solutions
- ii. At least 20 KW per rack redundant cooling capacity
- iii. Retrofitted liquid coolers or equivalent architecture should be enabled in the system for efficient cooling, as required in any standard cluster suitable for high-performance computing.
- iv. Rack should provide appropriate Dual 3-Phase PDUs to connect appliances.

**C. General Criteria and Conditions:**

1. This is an expression of interest in understanding the available latest technologies. The bidder should not propose any EOL/EOS product. Bidders may bid for either (A), or (B), or both (A) and (B). In any case, the evaluation will be carried out by comparing the group (A) Storage and Computing Solutions, and (B) Cooling Rack separately.
2. The proposed solution should seamlessly integrate into the existing HPC.

3. IISER Mohali reserves the right to increase or decrease the proposed quantity of items by up to 25%.
4. The interested bidders/OEM must inform stores@iisermohali.ac.in with their consent to participate in EoI on or before 22/11/2023. (No request for participation will be entertained after 22/11/2023). Subsequently, IISER Mohali will inform interested bidders/OEM of the schedule of the meeting (time, date, and venue) and invite them to the EoI presentation.
5. Any query/queries must be sent through email to stores@iisermohali.ac.in before the date of the EoI presentation. No query will be entertained after the EoI meeting.
6. Bidders must ensure to the integration of the system with existing systems and hence should visit the site to get all required information such as space, cable routing & and lengths, type of cables, and compatibility of proposed solutions. The visit must be completed before the EoI presentation. The proof of visit must be provided during the EoI as well as in the bid.
7. After the completion of EoI, the detailed “specifications” and detailed “terms and conditions” will be provided for bidding as per the requirement of IISER Mohali.
8. The final bid will only be accepted from the bidder/OEM participating in EoI.
9. **The entire component solution including each firmware, and hardware component should have a 5-year warranty from the OEM/provider (with 24x7 service level unless specified otherwise). The warranty period is to be counted from the date when the installation is completed, and the acceptance certificate has been issued by IISER Mohali**
  - a. During the warranty period, Bidder will have to undertake comprehensive maintenance of the entire hardware components, equipment, firmware support, and accessories supplied by the bidder at the place of installation of the equipment.
  - b. The Bidder warrants that all the goods are new, unused, and of the most recent or current supported models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract.
  - c. The bidder has to ensure that the proposed solution delivers an uptime guarantee of 98% of the entire system on a yearly basis (i.e. annual node-hours of uptime). The downtime for 2% or more on a yearly basis will incur a penalty as an extension of the warranty period for a month per 5% downtime, which the bidder has to compensate by increasing the period of subsequent total months of warranty for the entire system.
  - d. The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. It should be completed within 2 working days for individual servers and the next working day for critical components like internal power supply, networking, and internal storage after the intimation of fault. Any delay in replacement more than 2 days will incur a penalty as extension of warranty period for a month per 10 days of delay, which the bidder has to compensate by increasing the period of subsequent total months of warranty for the entire system.
  - e. In the event of failure of any of the subsystems or components of the proposed solution, the Bidder has to ensure that the defects are rectified within two full working days. Any delay in node warranty servicing beyond 3 days will incur a penalty as an extension of the warranty period for a month per every 10 days (a

fraction would be rounded to the nearest multiple of 10 days), which the bidder has to compensate by increasing the period of subsequent total months of warranty for the entire system.

10. All bidders must provide separate OEM authorization certificates for the proposed solution components both at EoI and at the final bid.
11. A letter of commitment for five years from the date of installation, with respect to Hardware and Firmware support from the OEM should be enclosed in the cover for both EoI and bid.
12. Any item not specifically mentioned in the specification but is required for the successful implementation of the proposed solution must be brought to our notice **during the EoI presentation**. At the time of installation, if it is found that some additional hardware or software items are required to meet the operational requirement of the configuration, but not included in the Bidder's original list of deliverables, the Bidder shall supply such items to ensure the completeness of the configuration at no extra cost.
13. The entire products, solutions, integration, etc. as described in the Schedule of Requirements must be supplied, installed, commissioned & and supported at IISER Mohali.
14. Bidders must provide a complete and detailed Schematic Diagram, Networking, Rack layout, Power and cooling requirements, Electrical infrastructure requirements, and anything else required at the installation site in IISER Mohali.
15. The entire installation should be done at the proposed site only. Requests for remote access for installation/fine-tuning will not be entertained during the installation period. No remote access should be asked for rectification or service related issues during the warranty period.
16. An undertaking (self-certificate) is to be submitted by the bidder that the organization has not been blacklisted by any Central/State Government Department/Organization and educational institutes.
17. Canvassing in any form, including communication with institute officials other than what is provided here, would disqualify the OEM from further participation.

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## ANNEXURE-IV

### PRE BID INTEGRITY PACT

#### General

This pre-bid Agreement (hereinafter called the Integrity Pact) is made on \_\_\_\_\_ day of the month of \_\_\_\_\_ 2010, between, on one hand, the President of India acting through Shri \_\_\_\_\_, Designation of the officer, Ministry of Education /Department, Government of India (hereinafter called the "BUYER", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s \_\_\_\_\_ represented by Shri \_\_\_\_\_. Chief Executive Officer (hereinafter called the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes to procure (Name of the Stores/Equipment/Item) and the BIDDER/Seller is willing to offer/has offered the stores and

WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a Ministry of Education/Department of the Government of India /PSU performing its functions on behalf of the President of India.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this integrity Pact and agree as follows:

#### Commitments of the BUYER

- 1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the bid/contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organisation or third party related to the bid/contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2 The BUYER will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.

- 1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

### **Commitments of BIDDERS**

3. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-
  - 3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organisation or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
  - 3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.
  - 3.3\* BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
  - 3.4\* BIDDERS shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
  - 3.5\* The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacturer/integrator/authorised government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
  - 3.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
  - 3.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting



and implementation of the contract.

- 3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender.

The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

- 3.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

#### **4. Previous Transgression**

- 4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.
- 4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

#### **5. Earnest Money (Security Deposit)**

- 5.1 While submitting commercial bid, the BIDDER shall deposit an amount \_\_\_\_\_ (to be specified in RFP) as Earnest Money/Security Deposit, with the BUYER through any of the following instruments:
  - (i) Bank Draft or a Pay Order in favour of \_\_\_\_\_
  - (ii) A confirmed guarantee by an Indian Nationalised Bank, promising payment of the guaranteed sum to the BUYER on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the BUYER shall be treated as conclusive proof of payment.
  - (iii) Any other mode or through any other instrument (to be specified in the RFP).
- 5.2 The Earnest Money/Security Deposit shall be valid upto a period of five years or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the BUYER, including warranty period, whichever is later.
- 5.3 In case of the successful BIDDER a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that the provisions of

Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.4 No interest shall be payable by the BUYER to the BIDDER on Earnest Money/Security Deposit for the period of its currency.

## **6. Sanctions for Violations**

6.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions; wherever required:-

- (i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
- (ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.
- (iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
- (iv) To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilised to recover the aforesaid sum and interest.
- (v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- (vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- (vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the BUYER.
- (viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
- (ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 The BUYER will be entitled to take all or any of the actions mentioned at para 6.1(i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor(s) appointed for the purposes of this Pact.

## **7. Fall Clause**

7.1 The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry of Education/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the BIDDER to any other Ministry of Education/Department of the Government of India at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.

## **8. Independent Monitors**

- 8.1 The BUYER has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission (Names and Addresses of the Monitors to be given).
- 8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 8.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 8.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- 8.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the BUYER.
- 8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.
- 8.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 8.8 The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/ within 8 to 10 weeks from the date of reference or intimation to him by the BUYER / BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

## **9. Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

## **10. Law and Place of Jurisdiction**

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

**11. Other Legal Actions**

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

**12. Validity**

12.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

13. The parties hereby sign this Integrity Pact at \_\_\_\_\_ on \_\_\_\_\_

BUYER

Name of the Officer.

Designation

IISER, MOHALI

Deptt./MINISTRY of Education

Govt. of India

BIDDER

CHIEF EXECUTIVE OFFICER

Witness

1. \_\_\_\_\_

2. \_\_\_\_\_

Witness

1. \_\_\_\_\_

2. \_\_\_\_\_

\*Provisions of these clauses would need to be amended/deleted in line with the policy of the BUYER in regard to involvement of Indian agents of foreign suppliers.