

**SARDAR VALLABHBHAI NATIONAL  
INSTITUTE OF TECHNOLOGY (SVNIT)-  
SURAT**



**TENDER DOCUMENT**

FOR  
SUPPLY OF


**HIGH PERFORMANCE CLUSTER (HPC) SYSTEM**

APPLIED PHYSICS DEPARTMENT  
S. V. NATIONAL INSTITUTE OF TECHNOLOGY  
SURAT – 395 007, GUJARAT  
(YEAR 2017-18)

**APPLIED PHYSICS DEPARTMENT**  
**S. V. NATIONAL INSTITUTE OF TECHNOLOGY (SVNIT)**  
**ICHCHHANATH, SURAT 395 007, GUJARAT, INDIA**

**TENDER NOTICE**

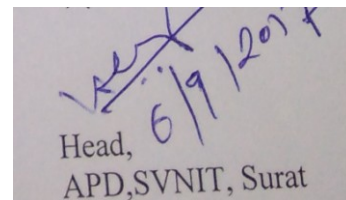
Sealed Tenders are invited for **HIGH PERFORMANCE CLUSTER (HPC) SYSTEM** under Science and Engineering Research Board (SERB) - Department of Science and Technology (DST) funded project at Advanced Materials Laboratory in Applied Physics Department. The details Tender documents, technical specifications of the HPC system, schedule of issue, receipts of Tender documents are available on Institute website [www.svnit.ac.in](http://www.svnit.ac.in).



Director,  
SVNIT, Surat

## TENDER FORM

1. **Tender Form Issued to**  
M/s. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Nature of Work: **Supply, Installation & High Performance Computing (HPC) system at Advanced Materials Laboratory of Applied Physics Department.**
3. Issue of the Blank Tender Form: 11 September 2017
4. Last date of Submitting the tender offer: 21 September 2017 (up to 16:00 hours)
5. Tender form fees: Rs.500/- paid by DD in favour of "Director, S. V. National Institute of Technology, Surat". Must be enclosed with tender document.  
By crossed Demand Draft No.  
Dated \_\_\_\_\_ drawn on payable at surat.
6. Tender reference no.: No.: Phy/Tender/YAS/SERB/ 398  
Dated: 6<sup>th</sup> September 2017
7. Earnest Money Deposit: Total estimated Cost of items quoted  
i.e. Rs. 30,000/- By Crossed DD/ No. \_\_\_\_\_  
dated \_\_\_\_\_ Drawn on \_\_\_\_\_ payable at Surat.
8. Time Limit: 90 Days (Providing, installing, Commissioning, testing & training)  
  
The Earnest money of above amount will have to be paid by Crossed Demand Draft in favour of "**Director, S. V. National Institute of Technology, SURAT**", and enclosed along with the Tender documents. EMD shall not bear any interest and without this amount, the Tender shall not be considered. No correspondence in this regard shall be entertained.
9. Name of the Authority : **The Director,  
S. V. National Institute of Technology  
Surat – 395007, (GUJARAT),India**

Head,  
APD,SVNIT, Surat

**TENDER DOCUMENTS**

**THIS TENDER DOCUMENT CONTAINS:**

- I. SCHEDULE OF TENDER**
- II. TERMS AND CONDITIONS**
- III. GENERAL TERMS AND CONDITIONS**
- IV. DECLARATION**

## **I. SCHEDULE OF TENDER**

Providing installing & Commissioning, testing & training for High performance Cluster (HPC) system is to be procured for the Advanced Materials Laboratory of Applied Physics Department.

### **1. Configurations for Master Node (One Unit)**

Processor(s)	2 x Intel® Xeon Skylake 4114 with at least 10-Core, 2.2GHz, 13.75M Cache or higher
RAM	64GB DDR4- 2666 ECC RDIMM (Max 2TB,at least 16 DIMMs)
RAID	SAS/SATA RAID Controller with RAID 0,1,5 & 10 levels supported
HDD(s)	3x 4000GB, Enterprise SATA/SAS hot-plug HDDs for Data 1 x 240 GB or higher Data centre grade SSD for OS At least 10 SATA/SAS Hard Drive bays , with at least 8 drives to be Hot Swap with minimum 2 or more dedicated NVMe drive bays (connected with on board NVMe)
NIC	2 x Gigabit(10/100/1000Mbps) Ethernet ports on-board or thru AOC
Interconnect	Provision to populate EDR (100Gbps) / Intel OPA Single Port Infiniband HCA
Graphics	On-board graphics using Server Grade graphics controller
Management	On-board IPMI 2.0 with dedicated LAN and KVM over LAN support with all required licenses
Exp Slot(s)	2x PCI-E 3.0 x16 , 1x PCI-E 3.0 x8 or more slots
Ports	1 Serial, 2 USB, 2 x Network, 1 x Management, 1 x Video ports
Chassis	1U/2U rack-mountable with sliding rails and other accessories
OS Cert	System Certified with Linux(RHEL)
P. Supply	At least 1000W(1+1) Redundant Power Supplies (80PLUS Platinum Certified)

### **2. Configurations for Compute Node (Three Unit)**

Processor(s)	2 x Intel® Xeon Skylake 4116 with at least 12-Core, 2.1GHz, 16.5M Cache or higher
RAM	64GB DDR4- 2666 ECC RDIMM (Max 2TB,at least 16 DIMMs)
RAID	SATA/SAS RAID Controller with RAID 0,1,5 & 10 levels supported
HDD(s)	1x 1000GB, Enterprise SATA hot-plug HDDs provision to add additional 4 drive bays in the same system (price to be quoted)
NIC	2 x Gigabit(10/100/1000Mbps) Ethernet ports on-board or thru AOC
Interconnect	Provision for Single Port Mellanox 40Gbps / Intel OPA Single Port HCA Card
Graphics	On-board graphics using Server Grade graphics controller
Management	On-board IPMI 2.0 with dedicated LAN and KVM over LAN support with all required licenses
Exp Slot(s)	2 PCI-E 3.0 x16, 2 PCI-E 3.0 x8 slots or more
Ports	1 Serial, 2 USB, 2 x Network,1 x Management, 1 x Video ports
Chassis	1U/2U/4U or lesser rack-mountable with sliding rails and other accessories
OS	System Certified with Linux (RHEL).
P. Supply	High Efficient Power Supply (80PLUS Platinum Certified) Minimum 1000W power supplies supporting highest scalable configuration

### **3. Communication Network Qty: 1 Unit**

Gigabit Ethernet 24 Port Switch with required Cables and accessories

#### 4. HPC Software & Installations

**OS: Linux**

**Job Schedulers:**

- ✓ GUI based Job monitoring and management
- ✓ GUI based reporting,
- ✓ Workload cum resource manager with policy-aware, resource-aware and topology-aware scheduling
- ✓ Advance reservation support
- ✓ Support of job submission through CLI, Web-services and APIs
- ✓ Heterogeneous cluster support
- ✓ Multi-cluster support
- ✓ Preemptive and backfill scheduling support
- ✓ Application integration support
- ✓ Live reconfiguration capability
- ✓ SLA/Equivalent
- ✓ GPU Aware scheduling
- ✓ Intuitive web interface to submit and monitor jobs

**MPI : OpenMPI, MVAPICH**

**Libraries : Open Source Libraries for C, C++ & FORTRAN, MPI, MKL, BLAS, ATLAS, FFT3, Lapack, Scalapack etc.**

**Software: VASP, Quantum Espresso, Siesta, Gaussian & Gromacs in serial & Parallel mode, USPEX, Matlab/Octave, Boltztrap, ShengBTE, phonopy etc.**

#### 5. Cluster Management S/W: The cluster management stack with a GUI based cluster monitoring for all the cluster nodes.

Cluster monitoring and management software with the following features

- ✓ Cluster manager with provisioning, monitoring and reporting capabilities
- ✓ Support Package and Image based provisioning
- ✓ Support Disk and diskless cluster deployment
- ✓ Intuitive web interface to manage and customize the cluster
- ✓ Customizing networks and compute node profiles through GUI
- ✓ Customizing compute nodes to max, upto changing kernel parameter
- ✓ Able to Push configuration changes and updates to the compute nodes without reinstalling and rebooting

#### 6. Training

Installation & Training by Certified Professionals

## II. TERMS AND CONDITIONS

Please fill up the Following Details

1. Mode of Delivery : F.O.R. Institute Basis
2. If delivery is Ex-godown/shop/show room the rate of packing, forwarding and freight charge etc. must be specified clearly.
3. Taxes : Exclusive / Inclusive
  - (a) If exclusive, rate of
    - (1) Sales Tax : \_\_\_\_\_%
    - (2) Surcharges on S.T. : \_\_\_\_\_%
    - (3) C.S.T. : \_\_\_\_\_%
    - (4) Service Tax if any : \_\_\_\_\_%
4. Excise duty : Exclusive / Inclusive  
Rate of Excise duty, if applicable : \_\_\_\_\_%
5. Octroi : As per directive of Surat Municipal Corporation (SMC) authority the Octroi exemption certificate will be issued to the outside parties only.
6. Delivery Period including instillation, Commissioning & testing of system : \_\_\_\_\_ Days
7. Payment : **After providing installing, Commissioning, testing & training of HPC system**
8. Validity : \_\_\_\_\_ Days
9. Discount : \_\_\_\_\_%
10. Warranty : **3 Years Minimum**
11. Telephone No :  
Fax No. :  
E-Mail Address :

**SIGNATURE OF THE PARTY WITH FULL ADDRESS & STAMP**

### III GENERAL TERMS AND CONDITIONS

1. OEM/Bidder should have an experience in deployment of HPC cluster for last 7 years in Research Institutes/Centre, Govt of India. Minimum 5 copies of Purchase Order for HPC (from the same OEM) in which one HPC Cluster should be of more than 10TFlops (CPU-CPU Cluster) should be submitted followed by successful Installation Reports/Certificates along-with technical offer.
2. Server's Motherboard & Chassis should adhere the same OEM, Assembled systems are not acceptable.
3. Bidder must submit an Authorization certificate from OEM for service & support. One bidder can represent only one OEM.
4. Bidder should be an ISO certified Company.
5. **Bidder/Vendor should have a prior experience in deploying scientific applications on provided HPC facility. A User certificate stating the same must be enclosed along-with technical bid.**
6. Quoted OEM should have minimum one (1) entry in each top500.org list during last 2 years.
7. Vendor should submit complete scope of supply not limited to Racking, OS installations, Packages & other scientific applications (Open Source).
8. Support required is on NBD Response basis for quick resolution.
9. List of Deliverable/Bill of Material must be submitted with technical offer.
10. The taxes charged should be at the concessional rates allowed to educational institutions as per the relevant notification of the Government.
11. The rates mentioned in the quotation must be **Inclusive of all Taxes.**
12. The rates mentioned in the quotation are **inclusive** of packing & forwarding charges.
13. In case of dispute, the matter will be subject to Surat Jurisdiction only.
14. The **validity** of the Tender shall be kept open for a minimum period of **90 days or more** from the date of offer. However, it is desirable to have a longer validity period.
15. The supplier shall provide **technical / service manual, operation/ installation manual along with calibration charts free of cost.**
16. Supplier should clearly mention the after sales service facility / capability and provide the same during guarantee / warrantee period.
17. The packing & forwarding Charges should be clearly indicated in the bid.
18. All concessions available to an educational institute should be specified
19. The Institute exempted from the payment of Custom Duty in terms of Govt. Notification No. 51/96- Custom Dtd. 23/07/1996 and Central Excise Duty in terms of Govt. Notification No. 10/97 Central Excise Dtd. 01/03/1997. The certificate to this effect can be issued by the Institute on demand in admissible cases.
20. The rate should be inclusive of all taxes with F.O.R. destination at Sardar Vallabhbai National Institute of Technology Surat.



21. In case of delay in satisfactory completion of work a penalty of 5% (five percent) of the total value will be levied for each week of delay or part thereof. The total penalty shall be debited from the amount to be paid to the successful bidder.
22. **The suppliers/Dealers who are submitting their Tenders are required to successfully demonstrate the performance to the satisfaction of the institute committee. Tenders of only those suppliers who have satisfied the committee by their instrumentation performance will be considered.** In the event of material supplied are not being in accordance to the specifications of items ordered or is found in damaged condition, the supplier will at his cost and risk, arrange to replace the same without any claims whatsoever for the same.
23. In case the quoted rates are as per the valid and prevailing contract with **DGS&D**, New Delhi, the supplier shall furnish a certified photocopy of the same to the purchaser. It may also be mentioned whether supplier can accept a direct order based on DGS&D rate contract.
24. The tender, as quoted once shall be considered final. Only first out of many options quoted will be considered. No change, alterations and modifications shall be permitted at a later stage. Incomplete tenders will be rejected without assigning any reason.
25. Selling exchange rate/equivalent to Indian currency will be as on the date of tender opening in the case of single bidding and the rate on the date of opening of the priced bids in the case of two-part bidding.
26. Price
  - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to various Departments/Centers/Institutions. The offer/bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of tax & duties should be clearly indicated.
  - The price should be quoted without custom duty and excise duty, since SVNIT is exempted from payment of excise duty, and the custom duty will be paid at concessional rate against duty exemption certificate.
  - In case of Foreign Currency bid: - Price criteria should be FOB nearest airport detail break up of Price, FCA cost, Agency Commission, Insurance, Freight up to Mumbai Airport is required.
27. **Payment:**
  - (i) This Institute is a Technical Education National Institute under MHRD, Govt. of India. The Government Auditors have objected for making payment in a Advance against delivery / documents through Bank and hence, the payment is normally made by cheque drawn on the SBI,
  - (ii) SVNIT Branch, Surat within a period of 30 days from the date of satisfactory installation, testing and training of unit / Supply of Item. In any case no advance payment will be made On Delivery and Final Acceptance: Full payment of contract price shall be paid to the supplier within 60 days on receipt of Goods, upon submission of the documents and after the satisfactory installation and

- commissioning of the goods and training of personnel for use and servicing of the equipment.
- (iii) Payments shall be made promptly by the Purchaser but in no case later than sixty (60) days after submission of the invoice or claim by the Supplier.
  - (iv) **SVNIT, Surat has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.**
28. The goods are required to be duly insured with any Nationalized Insurance Company and the insurance charges will be borne by the supplier against the relevant documents of the insurance company.
29. **The Director reserves the right to increase or decrease the quantity of the Tender items or split of the Item/Items of the Tender. Rights are also reserved with the Director to reject any or all the Tenders without assigning any reasons thereof.**
30. The Tender for equipment must be sent in sealed envelope with the superscription Tender for the supply of **High Performance Cluster (HPC) system in Advanced Materials Laboratory and addressed to The Head, Applied Physics Department, SVNIT, Surat, Ichchhanath, Surat-395 007, Gujarat, India.**

**NOTE:**

- ❖ The Tender may be accompanied with an undertaking from the party / supplier that the terms and conditions of the Tender are acceptable and binding on the party/supplier.
- ❖ Please return this copy of terms and conditions duly signed and stamped along with the Tender documents. Technical and financial bids are placed in separate envelopes.

**IV. DECLARATIONS**

I/We hereby declare that the terms and conditions of the Tender stated herein, and as may be modified / mutually agreed upon are acceptable and binding to me/us.

**Name and Address of  
Supplier/Manufacturer**

**Name and Signature of  
Tenderer with Office Stamp**

Place:

Telephone No:

Fax Number:

Email ID:

Mobile No :

Date: