Vendor Technical Pre-Qualification

Sr No.	Description
1	Minimum 5 years of experience in the manufacturing / supplying of acoustic scanner industry.
2	Should have installed at least 5 machines at different educational / private / public institutions and organizations
3	Authorized dealer/distributor certification from original equipment manufacturers.
4	Specify the list of spare parts to be supplied with the Acoustic Scanner.
5	Bidder/authorized dealers' OEM must be capable of providing supply, servicing, spare parts, technical assistance, and training, along with periodic technical updates, for a minimum of 3 years after the machine's supply
6	The warranty period should be clearly mentioned. The comprehensive warranty will commence from the date of the satisfactory installation/commissioning of the equipment against the defect of any manufacturing, workmanship and poor quality of the components. Annual maintenance charge (AMC) post-warranty period should be specified.

Technical Specifications

AURIS Requisition Number: 2626

Machine Type: Acoustic Scanner

Quantity: One (01)

Technical Criteria: The technical evaluation of all the proposals will be done in the following parameters:

Serial Number	Parameter	Required Specific Values
1	**Equipment Configuration**	12 channel AE Emission System with chassis
2	**Chassis Size & Weight**	**Size:** 27cm x17cm x39cm (width x height x depth) or less **Weight:** Less than equal to 5.5 Kg
3	**No of AE Emission Channel**	Maximum 12 channels and Present requirement is Four channel

4	**Power Supply and input**	**Input Voltage:** (85 — 264) VAC with (47- 63) Hz **Input Power:** (24 ± 2) VDC **Output Voltage:** 24 VDC **Output Current:** 11.67A or better **Power Connector:** 4Pole XLR Connector **Ground Socket:** 4mm Banana Jack **Power Consumption:** AE Singal Processing Board 8W, **Transient Recorder Module**: 3.5W and **Total Power consumption:** 94W
5	**Environmental Condition**	**Temperature Range:** +5 °C — +40 °C **Relative Humidity:** Maximum relative humidity of 80 % at 31 °C Linear decrease of relative humidity to 50 % with increasing temperature up to 40 °C **Maximum altitude**: 2000 m **Pollution degree:** 2
6	**AE & TR Switches**	Require AE & TR Enable/Disable Switch
7	**Parametric Input**	**Channel:** 4 or better **Input Range:** Software selectable: ±1 V or ±10 V **Input impedance:** 100 kΩ **Parametric clock:** N x 50 µs; N = 2, 3, ..., 200 **Averaging:** N samples, N as defined for parametric clock **Resolution:** 16 bits **Overvoltage protection:** ±48 V inner wire against ground
8	**On equipment LED status**	LED Status require for on/off, Alarm, Warning, SPO, SP 1, SP2L, SP3L, Master, No Poll, USB, Full, Long, Pulsing, Run, AE Enable/Disable, TR Enable/Disable, EXT Disable, Power Error
9	**Chassis Connectors:**	External, Alarm, USB, Audio Jack, Next Port, Pulse out and address selection
10	**Singal Processing board**	**Dimension:** 100 mm x 280 mm with 320gm weight **AE Channel Connector:** 2x BNC, input impedance: 50 Ω or 100 kΩ **Flip switch:** Toggles audio on/off (one position per channel) **Front panel LEDs:** Threshold crossing, Preamplifier Saturation, Preamplifier connection, DC Output Overload, AC/DC Input mode, Pulsing mode and Audio selection. **Transient Recorder Memory:** Each ASIP-2 can house one transient recorder storage module of type TR-2/2GB (see section 3.2) to store waveforms in parallel to the classical AE features per channel.

		System noise: 1.5 µVRMS, 6 µVP; (95 — 300 kHz filter, referred to ±100 mVPK range at preamplifier input; preamplifier not connected **Preamplifier power supply:** Software selectable at 28 VDC@ 50 Ω (see also input devices), 4 — 28 VDC (programmable voltage) @ 50 Ω, 4 — 28 VDC (programmable voltage) @ 200 S2 **Input devices:** Software selectable at 28 VDC@ 50Ω, AC@ 100 KΩ, 4 — 28 VDC @ 50 Ω, 4 — 28 VDC @ 200Ω **Application specific digital filters:** 500 filters or better. **Digital filter order:** 8th order Butterworth at up to 20 MSPS (each high- and low pass) 4th order Butterworth at 40 MSPS (each high- and low pass) **Transient recording (TR):** Up to 40 MSPS (requires TR-2) Input ranges: Three software selectable input ranges (10 VPP, 5 VPP, 2.5 VPP) for better resolution for applications with low amplitude. **Notch filter stage:** Notch filter rejects user-selectable frequencies. **Max. notch filter frequency:** 250 kHz (8th order) or 500 kHz (4th order) Notch filter rejects: • at 10 MHz sampling rate: 4 frequencies each 2nd order. • at 20 MHz sampling rate: 2 frequencies each 2nd order. • at 40 MHz sampling rate: 1 frequency of 2nd order. **Arrival time resolution:** 100 ns, 50 ns or 25 ns (software selectable) **Arrival time bit width:** 63 bit **Transient recording memory:** 2 GB TR module for ASIP-2 **(**1 GByte per channel) or better **ADC resolution:** >=16 bit **Sampling Rate:** Software selectable from 10 kHz — 10MHz **Time of hit:** Range: 0-400 µs, Resolution: =< 1 µs

		Amplitude: Range: 10- 100 dB with Resolution of =< 1dB **Threshold:** Range:15-99dB with Resolution of Resolution: =< 1 dB and Software selectable for each AE- channel individually. Fixed or floating threshold. **Rise time:** Range 0-200 msec with Resolution of =< 1 µs **Duration Time: Range:** 0-1000 msec with Resolution of =< 1 µs **Signal Strength: Range:** 0-1.3x108 picovolt AE timing parameters like Hit Definition Time (HDT) or Duration Descrimination Time (DDT), Hit Lockout Time (HLT) or Rearm Time (RT) and Peak Definition Time (PDT) or Peak definition window (PDW) AE timing parameter-Maximum Duration Time: Range: 10µs — 100µs with Resolution of =< 1 is with Configurable with software
11	**AE Sensor Specification**	**Operating Frequency:** 100-400 kHz or better **Resonant frequency:** 150 kHz **Power Supply [vDC]:** 28 ± 2 Vdc **Typ. Power [W]:** 0.8 / 2.5 @ Signal 0% / 100% **Integrated Preamplifier**: Yes **Preamplifier Gain [dB]:** 34 dB **Pulse Through:** Yes **Operating Temperature [°C]:** 40 to +85 °C **Vibration —** Sinus Sweep: 2 Oct/Min, 5 to 50 Hz, 20 g **Ingress Protection Rating:** IP40 **Size (D x H):** 28.6mm x 31.5mm **Weight:** 81gms **Case Material:** Stainless Steel (1.4571/ 1.4404) **Wear Plate:** Ceramics **Connector:** BNC **Shield Crosstalk [dB]:** < -80 dB **Typ.** Noise **(max. 1/s) [dBAE Peak]: 25.2 @ 95 - 300 kHz** **Typ. Noise [µVRMS] : 5.0 @ 95 - 300 kHz** **Mounting Holder: Yes**
12	Software Requirements	Software package for the analysis of AE-data and AE waveforms, inclusive extensive and context-sensitive online-help with software for analysis of AE + TR-data, Extension module, expands with filter processor

		such as filter, user and its extension, Polygon and file convertor dta to pri+tra files. Location software package adds location functionality to Linear, Planner/Cylindrical, Spherical and 3D location module with multigroup extension. Include cluster process and amplitude correction. Software package for the efficient analysis and management of transient recorder data and Extension of programmer functionality.
13	Laptop	Minimum I5 eight generation processor, RAM 16 GB, SSD: 512 GB, Graphics Card: 4GB, Display: 14 inches with latest windows.

The quantity required for each item of AE is as follows:

Sr No.	Description	Quantity
1	12 channel AE Equipment with Chassis	1
2	Power Supply for AE Equipment	1
3	Strong Transportation Bag for AE Equipment	1
4	USB Communication cable between AE Equipment	1
5	AE Signal Processing Board	3
6	Transient recorder module for AE Processing Board	3
7	AE Sensor, 150-600 kHz, resonance at 150 kHz, Ceramic face, SMC-connector	2
8	AE Sensor, 100-450 kHz, resonance at 150 kHz, Metal face, SMC-connector	4
9	Sensor cable to preamplifier	6
10	Software bundle for the analysis of AE data and AE waveforms	1
11	Location software bundle	1
12	Spherical location module software	1
13	3D Location Module	1
14	ECP Software Programmer Functionality	1
15	Software package for the efficient analysis and management of transient recorder data (waveforms)	1

Terms & Conditions

1. **General Overview**
   This document outlines the terms and conditions (T&Cs) that apply to the procurement of Acoustic Scanner, which will be provided as part of this tender. All prospective suppliers must adhere to these T&Cs to participate in the tender process.

2. Submission Guidelines
   i) Submission Deadline: Bids must be submitted no later than the 21 days from publication on Ahmedabad University Portal. Late submissions will not be accepted.
   ii) Submission Format: All tender submissions must be made through a sealed copy to the Procurement Office, Ahmedabad University, Gate No. 2, Commerce Six Roads, Navrangpura, Ahmedabad – 380009**.**
   iii) Tender Validity: The tender must remain valid for a minimum of 60 days from the submission deadline.

3. Technical Specifications
   i) Product Requirements: Tenderers must provide an Acoustic Scanner that meets the specified technical and performance criteria outlined in Technical Specifications Sheet (attached technical specification).
   ii) The Supplier is responsible for ensuring that all equipment and material are delivered in full working order and meet the specified technical requirements.
   iii) The Supplier shall also provide any necessary training, documentation, or additional services as stipulated in the tender.

4. Pricing and Payment Terms
   i) Price Structure: The tender price must be inclusive of all costs, including but not limited to delivery, installation, training, and any other charges.
   ii) The bidder should submit an additional one-year AMC cost along with their proposal.
   iii) The pricing is inclusive of delivery and installation upto Ahmedabad University.
   iv) Payment Schedule: Payment terms will be against the 100% delivery and satisfactory installation.
   v) Taxes: The price should be exclusive of any applicable taxes, which must be indicated separately.

5. Delivery and Installation
   i) Delivery Timeline: The Acoustic Scanner must be delivered within 8 weeks from the date of order confirmation.
   ii) Installation: The Contractor must be responsible for installation and calibration of the Acoustic Scanner at the Composites Laboratory.

6. Inspection and Testing

i) Pre-Delivery Inspection: The Contractor must provide pre-delivery inspection and acceptance testing for the Acoustic Scanner.
ii) Post-Delivery Testing: Upon installation, the Acoustic Scanner must undergo functional testing to ensure it meets the specified technical requirements.
iii) Defects and Non-Conformance: If any defects or non-conformance to specifications are identified during testing, the Contractor shall correct them at their own cost.

7. Training and Documentation
   i) Operator Training: The Contractor must provide on-site training on the operation and maintenance of the Acoustic Scanner as per the University requirements within the warranty period.
   ii) Documentation: The Contractor shall provide detailed user manuals, technical documentation, and maintenance guidelines in both hard copy and electronic format.

8. Warranty and Support
   i) Warranty Period: The Acoustic Scanner shall have a warranty period of 3 years from the date of acceptance.
   ii) Warranty Coverage: The warranty should cover repairs, parts replacement, and labor for any defects in materials or workmanship.
   iii) Service Level Agreement (SLA): The Contractor must provide an SLA for post-installation support, including response times for maintenance and repairs.

9. Confidentiality
   i) Confidential Information: Both parties shall treat all information shared during the tender process and contract execution as confidential.

10. Termination Clause
   i) The University reserves the right to terminate the Agreement without cause by providing 30 days written notice to the Supplier. In such cases, the Buyer shall pay for any Goods delivered and accepted by the Buyer up to the date of termination.

11. Dispute Resolution
   i) Any disputes arising out of or in connection with this Agreement shall be resolved through amicable negotiations between the parties.
   ii) If the dispute cannot be resolved through negotiations, the parties agree to submit the dispute to Arbitration in accordance with the rules of Arbitration and Conciliation Act 1996.

12. Force Majeure
   i) Impact on Obligations: Neither party shall be held liable for failure to perform obligations under this contract due to force majeure events.

13. Compliance with Laws and Regulations
   i) Legal Compliance: The Contractor must comply with all applicable laws, regulations, and standards governing the manufacture, delivery, and installation of the Acoustic Scanner.

ii) Environmental Compliance: The Acoustic Scanner must meet environmental standards and regulations related to energy consumption, material disposal, and recycling.

14. Governing Law

i) Jurisdiction: This contract is governed by the laws of India, and any disputes will be resolved within the courts of Ahmedabad.