

**Department of Materials Engineering
Indian Institute of Science (IISc), Bangalore, INDIA**

Local Tender Notice

Tender Notification Ref No.: MT/ENQ-TNDR/VJ/23-24/02

Date: 12th September 2024

The Department of Materials Engineering, Indian Institute of Science, Bangalore, invites tenders for supply of **“Acoustic sensor and its accessories to detect crack nucleation event with details as listed below.”**

This Invitation for Bids is open to all domestic (India based) manufacturers, Indian OEM or its authorized Indian distributors only.

1. Specification Compliant statement to confirm meeting of specifications should be provided along with the offer
2. The vendor shall take up the installation and commissioning of the system at site.
3. The Vendor must provide detailed operation training at site for 2-days.
4. The vendor must have supplied MULTI-CHANNEL ACOUSTIC EMISSION system in INDIA to Indian Government owned:
 - Companies
 - CSIR labs
 - INDIAN INSTITUTE OF TECHNOLOGIES (IITs)
 - NATIONAL INSTITUTE OF TECHNOLOGIES (NITs).

Vendor to submit the Purchase Order Copies and verifiable user contact details

TECHNICAL SPECIFICATIONS		
ITEM NAME	ITEM DESCRIPTION	QTY
Signal Processing Unit	<ul style="list-style-type: none">• Eight channel acquisition unit• Interface: Through PCI Express Bus• AE Input: 8 Channel per Unit• ADC TYPE: 16-bit with sample rate of 10 MSPS or better• Frequency Response: 1 KHz-1MHz or better• Analog parametric A/D resolution: 16-bit or better• No of parametric inputs, such as temperature, voltage, etc., (in addition to	01

	<p>AE sensor): 04</p> <ul style="list-style-type: none"> Waveform Module – Built-in 	
<p>Real Time Data Acquisition & Analysis Software</p>	<ul style="list-style-type: none"> The software must be the same as that of the Original Equipment Manufacturer (OEM) and should have provision for real-time display of selected AE parameters. Also, the software should be compatible with the Windows Operating System. Software must perform simultaneous AE hits/events & waveform capture. Software should include linear & zonal location capabilities, Wavelet analysis, Dispersion curves, Spectrogram & short time FFT Provision to replay and analyze your previously collected AE files and framework for easily adding graphs and additional graph screens and user controllable tool bars <p>Software must have the following</p> <p>AE HIT Driven Time domain features:</p> <ul style="list-style-type: none"> Time, Amplitude, Rise-time, Energy, ASL, Initiation frequency, Sampling hits, Counts, Threshold, Signal Strength, Events, Duration, Counts to Peak, Absolute [True] Energy, Average Frequency, Reverberation Frequency, RMS <p>Frequency domain features:</p> <ul style="list-style-type: none"> Waveform & Power Spectral Density [PSD] 	01
<p>AE Sensors</p>	<p>Miniature sensor</p> <ul style="list-style-type: none"> Dimension: OD \leq 5mm and H \leq 5mm Operational frequency: Wide Band (200 kHz to 750 kHz or better) Peak Sensitivity Ref V/(m/s): 45 dB or better Temp Range: -50°C to +150°C or better Connector: BNC on integral cable Calibration: NIST Calibration certification 	02
<p>AE Pre-Amplifier</p>	<ul style="list-style-type: none"> Input impedance: 10 kΩ / 15PF Gain: 0, 20, 40 AND 60 Db Frequency range: 3.0 kHz to 1.2 MHz High pass filters: 3 kHz, 5 kHz, 20 kHz, 100 kHz Low pass filters: 100 kHz, 300 kHz, 600 kHz, 1.2 MHz 	02

Sensor Mounting	Mounting system <ul style="list-style-type: none"> • A removable adhesive based system to mount the sample on a metallic surface • No loss in signal due to usage of adhesive Optional <ul style="list-style-type: none"> • Magnetic based system • Waveguide based system (for samples with cross-sectional area of smaller than $3 \times 3 \text{ mm}^3$) 	
Data Monitoring System	Portable Industrial Computer PC BUS: PCI Express, Processor: Intel Core i7 processor RAM: 16 GB minimum, HD: 1TB SSD OS: WIN-10/11, Keyboard, Mouse, 24" LED Monitor	01
Warranty	Comprehensive on-site warranty (12 months) Optional: 3 years comprehensive on-site warranty Optional: AMC for 2 years following the end of 12 months warranty	01

List of customers to whom a similar system has been supplied (at least one must be specified)

1. Performance and payment schedules: The Vendor must provide detailed operation training at site for 2-days. Final payment will be made after meeting the above acceptance standards after installation at site in IISc.

2. Charges must be inclusive of delivery, insurance (including shipment damage), installation on site, taxes, spares for 3 years operation and training for 2-3 operators.

3. Additional:

Delivery time

List of utility requirements needed from customer on site

Tender Summary

1.	Tender Number	MT/ENQ-TNDR/VJ/23-24/02
2.	Tender Date	12th September 2024
3.	Item Description	Acoustic sensor and its accessories to detect crack nucleation event
4.	Tender Type	Two bid system: (a) Technical Bid (Part A) (b) Commercial Bid (Part B)
5	Tender should be addressed to	The Chief Executive Officer Society for Innovation and Development Innovation Centre, IISc Campus Bangalore 560012 GSTIN : 29AAATS5333E1ZJ
5.	Tender Submission Address / Delivery address	The Chair Department of Materials Engineering, Indian Institute of Science, Bengaluru 560012 Kind Attn: Prof. Praveen Kumar
6.	Last Date & Time for submission of tender	3rd October 2024, on or before 1700 hrs

Terms and conditions

1. Two-bid system (separate technical and financial bids) in sealed tenders.
2. The technical bid must clearly specify the prescribed technical specifications without including the prices. Please provide in detail the specifications under each subhead and bullet point. Unique characteristics may be highlighted.
3. Vendors who include price information in the technical bids will be automatically disqualified.
4. Technical bids will be opened first. IISc may seek clarifications after opening of technical bids and may ask vendors to perform some example experiments on the samples given by IISc to demonstrate the promised technical specifications. Vendors may be required to give presentations.
5. There are several items that require detailed information to be provided by the supplier. If information is not provided against any of these items, this will disqualify the supplier.
6. After technical evaluation by a committee, vendors may be asked to re-quote in a specific format to facilitate comparison of prices.
7. Price bids of only technically qualified vendors will be considered.
8. **The price must be quoted in INR (Indian Rupee). Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. The**

quotations should be on FOR-IISc Bangalore basis in INR only.

9. The price should be on FOR-IISc Bangalore basis in INR only.

10. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.

11. Indicate delivery period.

12. Order will be placed on lowest bid from technically qualified vendor.

13. The tender documents can be sent at the following address:

The Chair
Department of Materials Engineering
Indian Institute of Science, Bangalore 560012
Karnataka (INDIA)
Attn: Prof. Praveen Kumar

Annexure 2: Eligibility Criteria

Prequalification criteria:

- 1. The Bidder should belong to either class 1 or class 2 supplier distinguished by their “local content” as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter.**
 - a) Class 1 supplier: Goods and services should have local content of equal to or more than 50%.**
 - b) Class 2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.**
- 2. Purchase preference as defined by the recent edits to GFR (within the “margin of purchase preference”) will be given to Class-1 supplier.**
- 3. MSME can seek exemption to some qualification criteria. IISc follows GFR2017 for such details.**
- 4. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere.**
- 5. Original Invoice, Original Warranty Certificate, Original Test Reports should be produced for all imported items from OEM (Original Equipment Manufacturer) at the time of supply of the equipments.**
- 6. Details of experienced service engineer including contact detail should be provided in tender document.**
- 7. Bidder shall have to submit audited accounts (Balance sheet profit and loss account) of financial year 2015-16, 2016-17 and 2017-18. Audited statement must be signed and stamped by qualified chartered accounted.**
- 8. Bidder must submit Income Tax return for assessment year – 2016-17, 2017-18 and 2018-19.**
- 9. Bidder must submit up to date sales tax or GST clearance certificate.**