

# INTERDISCIPLINARY CENTRE FOR ENERGY RESEARCH

**Indian Institute of Science (IISc), Bangalore, INDIA**

## **Global Tender Notification for Phased Array Ultrasonic Testing (PAUT)**

**GTE Approval No.: IISc-GTE-2024-369**

**GTE/ICER/01/2024-25**

**Dated: 16.10.2024**

This is a **Request for Quote (RFQ)** for the **Phased array ultrasonic testing (PAUT)- 1 No** for the Interdisciplinary Centre for Energy Research at the Indian Institute of Science (IISc), Bangalore. The tender should be submitted in two separate sealed envelopes: one containing the **technical bid** and the other containing the **commercial bid**, both of which should reach us, duly signed on or before **6<sup>th</sup> November 2024 on or before 1700 hrs.** The bids should be addressed to:

The Chair,  
Interdisciplinary Center for Energy Research (ICER)  
Indian Institute of Science  
Bangalore 560012, India.  
GSTN: 29AAATI1501J2ZV  
Kind attention: Prof. Pramod Kumar  
Email: [pramod@iisc.ac.in](mailto:pramod@iisc.ac.in)

Direct all questions concerning the acquisition to **Prof. Pramod Kumar** at:  
[pramod@iisc.ac.in](mailto:pramod@iisc.ac.in)

### **General Terms and Conditions:**

1. The bid should be submitted in a two-cover system, i.e., technical bid and commercial bid separately in sealed covers. The technical bid should contain all commercial terms and conditions, except the price.
2. The technical bid must contain a point-by-point technical compliance document. The technical proposal should contain a compliance table that should describe your compliance with a "√" in comply or non-comply column as response against each of the items in the table listed in this RFQ. If "√" in the "No-Comply" column should state, the extent of deviation in the column mentioned "Deviation". The last column should state the reason for the deviation, if any. The last column can be used to compare your product with that of your competitors or provide details as requested in the technical requirement table below.
3. In the commercial bid, the price should be inclusive of all discounts.
4. The lead time for the delivery of the items should not be more than 16 weeks from the date of receipt of our purchase order. It should be clearly mentioned in the technical and commercial bids.
5. All the quotations must be valid for at least 120 days at the time of submission.
6. List of customers and references: It is preferable for the Bidder should have supplied similar equipment in centrally Funded Technical Institutes (IITs, IISc, IISER, NIT). Please provide the details and contact information.
7. The Bidder must not be blacklisted/banned/suspended or have a record of any service-

related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.

8. Items in addition to those listed in the technical table that you would like to bring to the attention of the committee, such as data sheets, technical plots etc. can be listed at the end of the compliance table.
9. Vendors are encouraged to highlight the advantage of their product over comparable products from the competitors.
10. If needed, a meeting for any technical clarifications can be scheduled with the undersigned by sending an email.
11. **The Institute reserves the right to accept or reject any bid, or to annul the bidding process and reject all bids, at any time prior to the award of contract without thereby incurring any liability of the affected bidder or bidders.**
12. Warranty terms and additional warranty options is a must for all the components. Please specify the service plan like whether the local distributor will address the issue or the parent company.
13. Terms and conditions for the annual maintenance contract beyond the warranty period should be mentioned.
14. After the award of purchase order, the vendor must provide an Order Acknowledgement within 30 days from the receipt of the Purchase Order.
15. Please quote the price of each line item, separately. The institute may at its sole discretion decide to order only some items or all the items provided by the bidder.

## 1) Technical Requirements:

Please note that the requirements listed below are only guidelines. It does not disbar bids that do not meet the criteria listed. Vendors are requested to quote for equipment that meet the criteria to the best extent possible and list deviations. Deviations are NOT an automatic reason for disqualification. They will be discussed by the technical committee prior to making an informed decision.

**Quantity: 1 No.**

Sr. No.	Parameter	Required Specified Values
1	Equipment Configuration	32:128 or better. Should support linear, dual-linear and matrix array probes Size shall not be more than 350mm(W) x250mm(H) x160mm(D) for each dimension Shall not be more than 6.0 kg (With 1 battery) 1 TB internal SSD storage, External USB drive capacity of 128 GB to be provided SDHC and SDXC cards, USB Lithium Ion of minimum 90W capacity. Having two batteries operation mode.
2	Inspection Modes	Phased Array, Pulse echo, Dual, UT-Pitch-Catch, PAUT-Pitch-Catch TOFD, TFM, PCI, PWI
3	No of conventional UT Channel	2 for pulse echo mode and 2 for Pitch-Catch mode
4	Pulser specifications:	<ul style="list-style-type: none"> <li>● Pulser voltage range: 10-160 Vpp or better for PA channel 400- 85 V or better for UT channel</li> <li>● Pulse Width: Adjustable from 30 ns to 1000 ns; resolution of 3 ns or better</li> <li>● Pulse Shape: Spike/Bipolar square pulse or Negative square pulse</li> <li>● Pulse Repetition Frequency: 20KHz or higher Pulser should be able to fire transducer in the frequency range of 0.25 to 25 MHz or higher</li> </ul>
5	Receiver specifications:	<ul style="list-style-type: none"> <li>● Bandwidth Width: 0.2 MHz to 20 MHz or better for PAUT and 0.2 MHz to 15 MHz or better for conventional UT</li> <li>● Gain: Max. 80 dB in 1 dB step for PAUT and max. 100 dB or better for conventional UT</li> <li>● Rectification: HW, FW, RF</li> <li>● RF waveform (un-rectified should be available)</li> <li>● Maximum no. of A-scan data points: min. 8,000 or better</li> <li>● Real-time Averaging: &gt;4 for Phased array and upto 64 for conventional UT</li> </ul>
6	Digitizer	Effective Digitizing Frequency should be Up to 100 MHz
7	Scan type	Single, linear, sectorial, compound, and TFM, PWI, PCI
8	Scan Plan	On board scan plan for UT, PAUT and TFM/FMC
9	Number of Focal Laws	up to 1024 or higher
10	Delay Range Transmission	0 $\mu$ s to 10 $\mu$ s in 3 ns increments or better
11	Delay Range Reception	0 $\mu$ s to 7 $\mu$ s in 3 ns increments or better

12	TFM/ FMC specifications:	<ul style="list-style-type: none"> <li>● Supported Modes: Pulse-echo: L-L, T-T, and TT-TT and Self-tandem: LL-L, TT-T, TT-L, TL-T, LT-T, TTT-TT, and TL-L</li> <li>● Number of Groups: Up to 4 simultaneous TFM groups</li> <li>● Live TFM Envelope</li> </ul>
13	TFM Image Resolution	Up to 1024 × 1024 (1 MM points) (for each TFM wave set)
14	Display refresh rate	A-scan: 60 Hz; S-scan: 20 Hz to 30 Hz or better
15	A-Scan Height	Up to 800% or better
16	Encoder Interface	<ul style="list-style-type: none"> <li>● 2-axis encoder line (quadrature or clock/direction), 3rd encoder ready</li> <li>● Encoder type to be selected in the system</li> </ul>
17	Programmable Time Corrected Gain (TCG)	Yes
18	No. of points for TCG	Min. 16 pts or higher- One TCG (time-corrected gain) curve per focal law, 80 dB range
19	Hard Drive Capacity	min. Internal 1TB SSD, extendable using an external USB drive
20	Storage Devices:	SDHC and SDXC cards or most standard USB storage devices
21	Onboard File Size	Min 25 GB
22	No. of Alarms	min. 3
23	Wireless Connection	Yes, along with GPS & Equipment to be taken in remote control option
24	Display type	TFT LCD with resistive touch screen
25	Display Resolution	1280 × 768 pixels or better
26	I/O ports	<ul style="list-style-type: none"> <li>● USB 2.0: 2 ports min.</li> <li>● USB 3.0: 1 port min.</li> <li>● Video Output: Video out (HDMI)</li> <li>● Memory Card: SDHC port</li> <li>● Communication: Ethernet</li> </ul>
27	Battery	<ul style="list-style-type: none"> <li>● Type: Lithium-ion battery</li> <li>● Capacity: 90 Wh or better</li> <li>● 2no's of battery required along with equipment</li> </ul>
28	Other specifications	<ul style="list-style-type: none"> <li>● Dust and water resistance: IP65 or better rated enclosure</li> <li>● Power supply: AC main 220-240V at 50Hz</li> <li>● Backup power suitable rechargeable Li Ion battery pack with charger</li> <li>● Battery life minimum 3 hrs</li> <li>● Probe connectors Phased array- Industry standard</li> <li>● Conventional -00 Lemo/BNC adaptors</li> </ul>
29	Interpretation software	<ul style="list-style-type: none"> <li>● Interpretation software installation &amp; upgrades applicable to the phased array system shall be provided at no extra cost for lifetime.</li> <li>● A-scan b-scan, c-scan, D-scan and merge B-scan view option required.</li> </ul>
30	Accessories	<ul style="list-style-type: none"> <li>● Mini encoder, 5 m cable, waterproof with suitable connector to the Equipment-1nos required</li> </ul>
<b>31</b>	<b>Probes and Wedges</b>	
31a	<b><u>Dual linear probe</u></b>	
		Phased Array Probe, 5 MHz, Dual 32 Element Arrays, Integrated Rexolite Delay Line, PVC Sheathing, 5 m Cable Length, Equipment Connector. To Include Irrigation, Scanner Holes,

	<p>Carbide Wear Face Adjustable Ring, Removable Wedge, and Wired for use on instruments with pulser/receiver modules. Qty - 1 no</p> <p>Suitable 0-degree wedge to be supplied - Qty -1no</p>
31b	<p><b><u>linear probe</u></b></p> <p>Standard Phased Array Probe, 5 MHz Linear Array, 16 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no</p> <p>Suitable 0-degree wedge to be supplied - Qty -1no. Suitable angle wedge to be supplied- Qty -1no.</p>
31c	<p><b><u>linear probe</u></b></p> <p>Standard Phased Array Probe, 5 MHz Linear Array, 64 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no</p> <p>Suitable 0-degree wedge to be supplied - Qty -1no. Suitable angle wedge to be supplied- Qty -1no.</p>
31d	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 5 MHz Linear Array, 128 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty-1no</p> <p>Suitable 0-degree wedge to be supplied - Qty -1no. Suitable angle wedge to be supplied- Qty -1no.</p>
31e	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 2.25 MHz Linear Array, 64 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no</p> <p>Suitable 0-degree wedge with min 25 mm delay line to be supplied - Qty -1no. Suitable 0-degree wedge with min 60 mm delay line to be supplied - Qty -1no.</p>
31f	<p><b><u>Contact Transducer</u></b></p> <p>Contact Transducer, 10 MHz, <math>\leq 0.25</math> in. Element Diameter, Suitable equipment Connector. Qty - 1no</p>
31g	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 2.25 MHz Linear Array, 16 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no</p> <p>Suitable 0-degree wedge with min. 25 mm delay line to be supplied - Qty -1no. Suitable 0-degree wedge with min. 60 mm delay line to be supplied - Qty -1no.</p>

31h	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 1 MHz Linear Array, 24 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty -1no</p> <p>Suitable 0-degree wedge to be supplied - Qty -1no. Suitable angle wedge to be supplied- Qty -1no.</p>
31i	<p><b><u>Wheel probe</u></b></p> <p>Wheel probe, 5MHz, 64 flat elements. Must have indexer button, a Start acquisition button as well as a laser guide. The cable to be 5m long with Lemo connector compatible with equipment. Kit to include a filling pump and packaged in a carrying case. Qty -1no</p>
31j	<p><b><u>Pipe/Tube scanner</u></b></p> <p>Manual scanner for circumferential weld inspections on small-diameter pipes of 0.84 into 4.5 in OD pipes. Kit must include one probe of 7.5 MHz, 16 elements probe; <u>all wedges needed to cover entire rage of pipes with suitable angular sheer/Longitudinal waves with irrigation holes must be provided.</u> The encoder cable is 5 m with Lemo connector compatible with equipment. With Removable IHC (irrigation, holes and cabides) ring for the wedges Qty-1no</p>

## 2) Eligibility Criteria

Prequalification criteria:

1. Only the Original Equipment Manufacturer or their authorized representatives shall participate in the bid.
2. The order will be placed only on the bidder who participated in the bid.
3. The Bidder should have qualified technical service personnel for the instrument(s) based in India.
4. The Bidder's firm should have existence for a minimum of 5 years. The bidder should enclose company registration certificate.
5. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per Annexure VI.
6. The Bidder must not be blacklisted/banned/suspended or have a record of any service related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure V.

### **3) Pre-Bid requirement**

- a) All interested suppliers who meet the technical specifications are mandated to provide a satisfactory demonstration of the product along with necessary accessories at ICER, IISc, Bangalore, to understand the suitability of the product for specific application.
- b) Depending on demonstration for the intended application, bidders must include the required accessories, probes and software as needed.

### **4) Vendors scope of supply for the above Phased array ultrasonic testing (PAUT):**

- c) Pre-dispatch inspection and testing report.
- d) Installing commissioning and demonstration of the complete system must be done at IISc, Bengaluru before supply
- e) Training on operation and troubleshooting of the product must be provided at IISc, Bengaluru

### **5) Mandatory non-technical requirements:**

- a. The bidders must enclose a client list, contact details, relevant brochures and a compliance certificate (Annexure I) with the tender.
- b. The bidders should be well-established firm preferably leaders in the application stated above and must have a proven track record.
- c. Authorization from the OEM/ Principals as in Annexure II
- d. The order should be completed within 12-16 weeks from the date of release of the Purchase Order.

### **6) Optional requirements**

- a. Extended Warranty: 2 years additional Warranty (Standard: 1 year, Additional: 2 years, Total- 3 years) to be provided from the date of delivery at IISc, Bangalore.
- b. AMC for 5 Years

### **7) Cancellation of Tender**

Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:

- a. To accept OR reject lowest tender or any other tender or all the tenders.
- b. To accept any tender in full or in part.
- c. To reject the tender, offer not confirming to the tender terms.

### **8) Validity of the offer**

The offer shall be **valid 90 Days** from the date of opening of the commercial bid

## 9) Payment Terms

For Local Vendors

- i. **IISc does not provide any advance payment. All payments shall be made 2 to 3 weeks after delivery.**
- ii. The price of the goods quoted Ex-works including taxes already paid.
- iii. GST and other taxes like excise duty, entry tax and other applicable taxes which will be payable on the goods if the contract is awarded.
- iv. The charges for inland transportation, insurance and other local services required for delivering the goods to IISc, Bangalore.
- v. The installation, commissioning and training charges including any incidental services, if any with applicable service taxes.

For Foreign vendors

- i. The price of the goods should be quoted on CIF/DAP Bangalore, India basis.
- ii. Advance Payment can be done only through Letter of Credit (LC) or Bank Guarantee. All charges related to LC incurred by the vendor has to be borne by the vendor only.
- iii. The charges for insurance and transportation of the goods by Air/Sea up to Bangalore India to be included in the quote.
- iv. The agency commission charges, if any to be included.
- v. The installation, commissioning and training charges including any incidental services, if any to be included.
- vi. The milestone of the payment will be determined after mutual discussions with the successful bidder

## 10) Statutory Variation

Any statutory increase in the taxes and duties subsequent to bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will have to be passed on to IISc, Bangalore.

## 11) Dispute and Jurisdiction

Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.



## Annexure-I

**Note: Compliance Certificate to be enclosed with the Technical Bid**

Sr. No.	Parameter	Required Specified Values	Comply	Non-Comply	Deviation	Remarks
1	Equipment Configuration	32:128 or better. Should support linear, dual-linear and matrix array probes Size shall not be more than 350mm(W) x250mm(H) x160mm(D) for each dimension Shall not be more than 6.0 kg (With 1 battery) 1 TB internal SSD storage, External USB drive capacity of 128 GB to be provided SDHC and SDXC cards, USB Lithium Ion of minimum 90W capacity. Having two batteries operation mode.				
2	Inspection Modes	Phased Array, Pulse echo, Dual, UT-Pitch-Catch, PAUT- Pitch-Catch TOFD, TFM, PCI, PWI				
3	No of conventional UT Channel	2 for pulse echo mode and 2 for Pitch-Catch mode				
4	Pulser specifications:	<ul style="list-style-type: none"> <li>● Pulser voltage range: 10-160 Vpp or better for PA channel 400- 85 V or better for UT channel</li> <li>● Pulse Width: Adjustable from 30 ns to 1000 ns; resolution of 3 ns or better</li> <li>● Pulse Shape: Spike/Bipolar square pulse or Negative square pulse</li> <li>● Pulse Repetition Frequency: 20KHz or higher</li> </ul> Pulser should be able to fire transducer in the frequency range of 0.25 to 25 MHz or higher				

5	Receiver specifications:	<ul style="list-style-type: none"> <li>● Bandwidth Width: 0.2 MHz to 20 MHz or better for PAUT and 0.2 MHz to 15 MHz or better for conventional UT</li> <li>● Gain: Max. 80 dB in 1 dB step for PAUT and max. 100 dB or better for conventional UT</li> <li>● Rectification: HW, FW, RF</li> <li>● RF waveform (un-rectified should be available)</li> <li>● Maximum no. of A-scan data points: min. 8,000 or better</li> <li>● Real-time Averaging: &gt;4 for Phased array and upto 64 for conventional UT</li> </ul>				
6	Digitizer	Effective Digitizing Frequency should be Up to 100 MHz				
7	Scan type	Single, linear, sectorial, compound, and TFM, PWI, PCI				
8	Scan Plan	On board scan plan for UT, PAUT and TFM/FMC				
9	Number of Focal Laws	up to 1024 or higher				
10	Delay Range Transmission	0 $\mu$ s to 10 $\mu$ s in 3 ns increments or better				
11	Delay Range Reception	0 $\mu$ s to 7 $\mu$ s in 3 ns increments or better				
12	TFM/ FMC specifications:	<ul style="list-style-type: none"> <li>● Supported Modes: Pulse-echo: L-L, T-T, and TT-TT and Self-tandem: LL-L, TT-T, TT-L, TL-T, LT-T, TTT-TT, and TL-L</li> <li>● Number of Groups: Up to 4 simultaneous TFM groups</li> <li>● Live TFM Envelope</li> </ul>				
13	TFM Image Resolution	Up to 1024 $\times$ 1024 (1 MM points) (for each TFM wave set)				
14	Display refresh rate	A-scan: 60 Hz; S-scan: 20 Hz to 30 Hz or better				

15	A-Scan Height	Up to 800% or better				
16	Encoder Interface	<ul style="list-style-type: none"> <li>● 2-axis encoder line (quadrature or clock/direction), 3rd encoder ready</li> <li>● Encoder type to be selected in the system</li> </ul>				
17	Programmable Time Corrected Gain (TCG)	Yes				
18	No. of points for TCG	Min. 16 pts or higher- One TCG (time-corrected gain) curve per focal law, 80 dB range				
19	Hard Drive Capacity	min. Internal 1TB SSD, extendable using an external USB drive				
20	Storage Devices:	SDHC and SDXC cards or most standard USB storage devices				
21	Onboard File Size	Min 25 GB				
22	No. of Alarms	min. 3				
23	Wireless Connection	Yes, along with GPS & Equipment to be taken in remote control option				
24	Display type	TFT LCD with resistive touch screen				
25	Display Resolution	1280 × 768 pixels or better				
26	I/O ports	<ul style="list-style-type: none"> <li>● USB 2.0: 2 ports min.</li> <li>● USB 3.0: 1 port min.</li> <li>● Video Output: Video out (HDMI)</li> <li>● Memory Card: SDHC port</li> <li>● Communication: Ethernet</li> </ul>				
27	Battery	<ul style="list-style-type: none"> <li>● Type: Lithium-ion battery</li> <li>● Capacity: 90 Wh or better</li> <li>● 2no's of battery required along with equipment</li> </ul>				
28	Other specifications	<ul style="list-style-type: none"> <li>● Dust and water resistance: IP65 or better rated enclosure</li> <li>● Power supply: AC main 220-240V at 50Hz</li> <li>● Backup power suitable rechargeable Li Ion</li> </ul>				

		battery pack with charger <ul style="list-style-type: none"> <li>● Battery life minimum 3 hrs</li> <li>● Probe connectors Phased array- Industry standard</li> <li>● Conventional -00 Lemo/BNC adaptors</li> </ul>				
29	Interpretation software	<ul style="list-style-type: none"> <li>● Interpretation software installation &amp; upgrades applicable to the phased array system shall be provided at no extra cost for lifetime.</li> <li>● A-scan b-scan, c-scan, D-scan and merge B-scan view option required.</li> </ul>				
30	Accessories	<ul style="list-style-type: none"> <li>● Mini encoder, 5 m cable, waterproof with suitable connector to the Equipment-1nos required</li> </ul>				
<b>31</b>	<b>Probes and Wedges</b>					
31a	<u><b>Dual linear probe</b></u>  Phased Array Probe, 5 MHz, Dual 32 Element Arrays, Integrated Rexolite Delay Line, PVC Sheathing, 5 m Cable Length, Equipment Connector. To Include Irrigation, Scanner Holes, Carbide Wear Face Adjustable Ring, Removable Wedge, and Wired for use on instruments with pulser/receiver modules. Qty - 1 no  Suitable 0-degree wedge to be supplied - Qty - 1no					
31b	<u><b>linear probe</b></u>  Standard Phased Array Probe, 5 MHz Linear Array, 16 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no  Suitable 0-degree wedge to be supplied - Qty - 1no. Suitable angle wedge to be supplied- Qty -1no.					

<p>31c</p>	<p><b><u>linear probe</u></b></p> <p>Standard Phased Array Probe, 5 MHz Linear Array, 64 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no</p> <p>Suitable 0-degree wedge to be supplied - Qty - 1no. Suitable angle wedge to be supplied- Qty -1no.</p>				
<p>31d</p>	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 5 MHz Linear Array, 128 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty-1no</p> <p>Suitable 0-degree wedge to be supplied - Qty - 1no. Suitable angle wedge to be supplied- Qty -1no.</p>				
<p>31e</p>	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 2.25 MHz Linear Array, 64 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no</p> <p>Suitable 0-degree wedge with min 25 mm delay line to be supplied - Qty -1no. Suitable 0-degree wedge with min 60 mm delay line to be supplied - Qty -1no.</p>				
<p>31f</p>	<p><b><u>Contact Transducer</u></b></p> <p>Contact Transducer, 10 MHz, ≤0.25 in. Element Diameter, Suitable equipment Connector. Qty - 1no</p>				
<p>31g</p>	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 2.25 MHz Linear Array, 16 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector Qty - 1 no</p>				

	<p>Suitable 0-degree wedge with min. 25 mm delay line to be supplied - Qty -1no.</p> <p>Suitable 0-degree wedge with min. 60 mm delay line to be supplied - Qty -1no.</p>				
31h	<p><b><u>Linear probe</u></b></p> <p>Standard Phased Array Probe, 1 MHz Linear Array, 24 Elements, Impedance Matching to Rexolite, PVC Sheathing, 5 m Cable Length, Equipment Connector</p> <p>Qty -1no</p> <p>Suitable 0-degree wedge to be supplied - Qty -1no.</p> <p>Suitable angle wedge to be supplied- Qty -1no.</p>				
31i	<p><b><u>Wheel probe</u></b></p> <p>Wheel probe, 5MHz, 64 flat elements. Must have indexer button, a Start acquisition button as well as a laser guide. The cable to be 5m long with Lemo connector compatible with equipment. Kit to include a filling pump and packaged in a carrying case.</p> <p>Qty -1no</p>				
31j	<p><b><u>Pipe/Tube scanner</u></b></p> <p>Manual scanner for circumferential weld inspections on small-diameter pipes of 0.84 in to 4.5 in OD pipes. Kit must include one probe of 7.5 MHz, 16 elements probe; <u>all wedges needed to cover entire rage of pipes with suitable angle sheer/Longitudinal waves with irrigation holes must be provided.</u> The encoder cable is 5 m with Lemo connector compatible with equipment. With Removable IHC (irrigation, holes and cabides) ring for the wedges</p> <p>Qty-1no</p>				

## **Annexure-II**

### **MANUFACTURERS' AUTHORIZATION FORM**

*[The bidder shall require the manufacturer to fill in this form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by the person with the proper authority to sign documents that are binding on the Manufacturer.]*

Date: [insert date (as day, month and year) of Bid Submission]

Tender No.: [insert number from Invitation for Bids]

To: **The Chair, Interdisciplinary Centre for Energy Research, IISc, Bangalore-560012.**

WHEREAS

We [insert complete name of Manufacturer], who are official manufacturers of [insert full address of Manufacture's factories], do hereby authorize [insert complete name of Bidder] to submit a bid the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this authorization on behalf of: [insert complete name of Bidder]

Pramod Kumar  
Professor  
Interdisciplinary  
Centre for Energy  
Research (ICER)  
Indian Institute of Science  
Bangalore, Karnataka 560012  
[pramod@iisc.ac.in](mailto:pramod@iisc.ac.in)  
Phone: +91-80-2293-3526

## **Annexure-III**

### **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 attested copy of 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- IV

### Declaration regarding experience

To,  
The Chairperson,  
Centre for Nanoscience and Engineering,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: GTE/ICER/01/2024-25 Dated: 16.10.2024

Supply of Phased Array Ultrasonic Testing, IISc Bangalore.

Sir/Madam,  
I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ----- years of experience in supplying and installing -----

(Signature of the Bidder)

Printed Name

Designation, Seal

Date:

## Annexure- V

### Declaration regarding track record

To,  
The Chair,  
Interdisciplinary Centre for Energy Research  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXX  
Dated: XXXXX

Supply of Phased Array Ultrasonic Testing, IISc Bangalore.

Sir/Madam,  
I've carefully gone through the Terms & Conditions contained in the above-mentioned 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'm 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 details regarding 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- VI

### Declaration for acceptance of terms and conditions

To,  
The Chair,  
Interdisciplinary Centre for Energy Research  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXX  
Dated: XXXX

Supply of Phased Array Ultrasonic Testing, IISc Bangalore.

Sir/Madam,  
I've carefully gone through the Terms & Conditions as mentioned in the above-mentioned tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I'm 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- VII**

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