

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
VIKRAM SARABHAI SPACE CENTRE (VSSC)  
THIRUVANANTHAPURAM**

**Tender for Phased Array Ultrasonic System with Probe and accessories**

**Bids to be submitted online**

**Tender No.: VSSC/PURCHASE UNIT VI (CMSE Purchase)/VS202100639601 dated  
23-05-2022**

## A. Tender Details

Tender No : **VSSC/PURCHASE UNIT VI (CMSE Purchase)/VS202100639601**

Tender Date : **23-05-2022**

Tender Classification: **GOODS**

Purchase Entity : **PURCHASE UNIT VI (CMSE Purchase)**

Centre : **VIKRAM SARABHAI SPACE CENTRE (VSSC)**

## Procurement of Phased Array Ultrasonic System with Probe and accessories

Quantity : 1 set

E-Procurement No. VSSC/PURCHASE UNIT VI (CMSE PURCHASE/CMSE/ 2021P0 6396 01 E-Tenders are invited for the procurement of Phased Array Ultrasonic System with Probe and accessories through our E-procurement site <https://eproc.vssc.gov.in>.

BIDS CAN BE SUBMITTED UPTO 28/06/2022 [14:00 Hrs.] , TECHNICAL BID OPENING DATE : 28/06/2022 [14:30 Hrs.].

Only online tenders will be accepted. No manual / Postal / e-mail / fax offers will be entertained. No manual tender document will be issued. Parties interested to participate in this e-Tender are required to register themselves as vendors, if not already registered, in our e-procurement portal <https://eproc.vssc.gov.in> by downloading plugins and help demos listed on the home page of the e-procurement link mentioned above to complete the vendor registration process. They can seek help from help desk 0471-2565454 also as provided in the home page of e-procurement portal in case of any problem for registration and subsequent process. Vendors may please note that without registering in our e-procurement portal, they will not be able to quote for this e-tender.

Important Notice : Tender will be automatically closed on the due date [i.e. 28/06/2022 14:00 hrs.], if at least one offer is received. If the tender could not be opened on the first day due to any technical snag, it will be opened on the subsequent day as per the schedule.

This is a two part tender, Technical & Commercial Part (Part-I) and Price Part (Part-II) shall be submitted separately. The tenderers should not attach any documents containing Pricing information along with Technical & Commercial Bid (Part-I). We do not open PART-II (Price Bid), if PART-I (Technical & commercial Offer) does not meet with our technical specification requirements. Cost split up, other price details etc. shall be uploaded as a separate document under COMMERCIAL DOCUMENTS FROM VENDOR tab.

THE TECHNICAL DOCUMENTS NEED TO BE ATTACHED ONLINE AS A SINGLE PDF FILE WITHOUT ANY PRICE INFORMATION, TECHNICAL BID CONTAINING PRICE DETAILS WILL BE TREATED AS REJECTED.

Price bid opening date indicated in the schedule is tentative only. Actual date will be determined after evaluation of techno commercial bid. Quotations shall be uploaded as a separate documents

## **A.1 Tender Schedule**

Bid Submission Start Date : **23-05-2022 14:17**

Bid Clarification Due Date : **14-06-2022 17:15**

Bid Submission Due Date : **28-06-2022 14:00**

Bid Opening Date : **28-06-2022 14:30**

Price Bid Opening Date : **18-07-2022 10:30**

## B. Tender Attachments

NA

### Instructions To Vendors

#### 1. Form No 20

##### 1. INSTRUCTIONS TO TENDERERS

1. Quotation/Open Authorization shall be submitted online [only] complying specified schedule.
2. Late tenders and delayed tenders will not be considered.
3. Quotation should be valid for at least 90 days from the date of opening of the tender. [Mandatory]
4. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.
5. a) Your quotation should be valid for 90 days (Single Part Tender) / 180 days (Two Part Tender) from the date of opening of the tender. [Mandatory]  
b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
6. Preference will be given to those tenders offering supplies from ready stocks and on the basis of FOR destination/delivery at site.
7. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be attached along with the offer.  
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non acceptance of tender, the tenderer will have to remove the samples at his own expense.  
(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.  
(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.
8. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.
9. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income - Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle

concerned under the seal of his office, if required by the Purchaser.

10. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

11. The authority of the person signing the tender, if called for, should be produced.

## TERMS & CONDITIONS OF TENDER

### 1. DEFINITIONS :

(a) The term Purchaser shall mean the President of India or his successors or assigns.

(b) The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

(c) The term Stores shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

(d) The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an Officer duly authorized intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

### 2. PRICES:

Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

### 3. SECURITY DEPOSIT:

On acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding three percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, SECURITY and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause 10(b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

### 4. GUARANTEE & REPLACEMENT :

(a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.

(b) For a period of twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty.

(c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores

such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.

(d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

(e) The decision of the purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the purchaser, as to whether or not the stores supplied by the Contractor are defective or any defect has developed within the said period of 12 months or as to whether the nature of the defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) To fulfill guarantee conditions outlined in clause 4 (a) to (e) above, the Contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser) from a Bank approved by the purchaser for an amount equivalent to 3% of the value of the Contract along with first shipment documents. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.

(g) All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of the stores at purchaser's site.

(h) Even while the 12 months guarantee applies to all stores, in case where a greater period is called for by our specifications then such a specification shall apply in such cases the period of 14 months referred to in Para 4 (b) & (c) shall be the asked for guarantee period plus two months.

#### 5. PACKING FORWARDING & INSURANCE :

The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

#### 6. DESPATCH :

The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

#### 7. TEST CERTIFICATE :

Wherever required, test certificates should be sent along with the despatch documents.

#### 8. ACCEPTANCE OF STORES:

(a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.

(b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.

(c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor.

(d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. 8 (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

#### 9. REJECTED STORES:

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

#### 10. DELIVERY:

(a) The time for and the date of delivery of the stores stipulated in the Purchase Order shall be deemed to be the essence of the Contract and delivery must be completed on or before the specified dates.

(b) Should the Contractor fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, the purchaser shall be entitled at his option either.

(i) to recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 0.5% per week of the price of any stores which the Contractor has failed to deliver as aforesaid or during which the delivery of such store may be in arrears subject to a minimum of 10%, or

(ii) to purchase from elsewhere, without notice to the Contractor on the account and at the risk of the Contractor, the stores not delivered or others of a similar description (where others exactly complying with the particulars, are not, in the opinion of the purchaser, readily procurable, such opinion being final) without cancelling the Contract in respect of the consignment (s) not yet due for delivery, or

(iii) to cancel the Contract or a portion thereof and if so desired to purchase or authorise the purchase of stores not so delivered or others of a similar description (where others exactly if complying with the particulars are not, in the opinion of the purchaser, readily procurable, such opinion final) at the risk and cost of the Contractor.

In the event of action being taken under sub-clause (ii) & (iii) of clause 10 (b) above, the Contractor shall be liable for any loss which the purchaser may sustain on that account, provided that the re-purchase or if there is an agreement to repurchase then such agreement is made within six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. The manner and method of such re-purchase shall be at the discretion of the purchaser, whose decision shall be final. It shall not be necessary for the purchaser to serve a notice of such re-purchase on the defaulting Contractor. This right shall be without prejudice to the right of the purchaser to recover damages for breach of Contract by the Contractor.

#### 11. EXTENSION OF TIME :

As soon as it is apparent that the Contract dates cannot be adhered to, an application shall be sent by the Contractor to the purchaser. If failure, on the part of the Contractor, to deliver the stores in proper time shall have arisen from any cause which the purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final) he may allow such additional time as he considers it to be justified by circumstances, of the case without prejudice to the purchaser's right to recover liquidated damages under clause 10 thereof.

#### 12. ERECTION OF PLANT & MACHINERY :

Wherever erection of a plant or machinery is the responsibility of the Contractor as per the terms of the Contract and in case the Contractor fails to carry out the erection as and when called upon to do so within the period specified by the purchaser, the purchaser shall have the right to get the erection done through any source of his choice. In such an event, the Contractor shall be liable to bear any additional expenditure that the purchaser is liable to incur towards erection. The Contractor shall, however, not be entitled to any gain due to such an action by the purchaser.

#### 13. PAYMENT :

Contractor's bill will be passed for payment only after the stores have been received, inspected and accepted by the Purchaser.

#### 14. MODE OF PAYMENT :

Normally payment will be made for the accepted stores within 30 days from the date of receipt of the materials.

#### 15. RECOVERY OF SUM DUE:

Whenever any claim for the payment of, whether liquidated or not, money arising out of or under this Contract against the Contractor, the purchaser shall be entitled to recover such sum by appropriating in part or whole, the security deposited by the Contractor, if a security is taken against the Contract. In the event of the security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the Contractor under this or any other Contract with the purchaser. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the purchaser on demand the remaining balance due. Similarly, if the purchaser has or makes any claim, whether liquidated or not, against the Contractor under any other Contract with the purchaser, the payment of all moneys payable under the Contract to the Contractor including the security deposit shall be withheld till such claims of the purchaser are finally adjudicated upon and paid by the Contractor.

#### 16. INDEMNITY :

The Contractor shall warrant and be deemed to have warranted that all stores supplied against this Contract are free and clean of infringement of any Patent, Copyright or Trademark, and shall at all times indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade mark and shall take all risk of accidents or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfillment of the contract.

#### 17. ARBITRATION :



In the event of any question, dispute or difference arising under these conditions or any conditions contained in the Purchase Order or in connection with this Contract (except as to any matter the decision of which is specially provided for by these conditions), the same shall be referred to the sole arbitration of the Head of the Purchase office or some other person appointed by him. It will be no objection that the arbitrator is a Government servant, that he had to deal with matter to which the Contract relates or that in the course of his duties as Government servant he has expressed views on all or any other matters in dispute or difference. The award of the arbitrator shall be final and binding on the parties of this Contract.

If the arbitrator be the Head of the Centre/Unit

(i) In the event of his being transferred or vacating his office by resignation or otherwise, it shall be lawful for his successor-in-office either to proceed with reference himself, or to appoint another person as arbitrator, or

(ii) In the event of his being unwilling or unable to act for any reason, it shall be lawful for the Head of the Centre/Unit to appoint another person as arbitrator.

If the arbitrator be a person appointed by the Head of the Purchase Office

In the event of his dying, neglecting or refusing to act or resigning or being unable to act, for any reason, it shall be lawful for the Head of the Centre/Unit either to proceed with the reference himself or appoint another person as arbitrator in place of the outgoing arbitrator.

Subject as aforesaid the Arbitration & Conciliation Act 1996 and the rules there under and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this Clause. The Arbitrator shall have the power to extend with the consent of the purchaser and the Contractor the time for making and publishing the award. The venue of arbitration shall be the place as purchaser in his absolute discretion may determine. Work under the Contract shall, if reasonably possible, continue during arbitration proceedings.

In the event of any dispute or difference relating to the interpretation and application for the provisions of the Contracts, such dispute or difference shall be referred by either party to Arbitration of one of the Arbitrations in the Department of Public Enterprises. The Arbitration Act 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute provided however any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs. Ministry of Law & Justice, Govt. of India. The parties to the dispute will share equally, the cost of arbitration as intimated by Arbitrator.

#### 18. COUNTER TERMS AND CONDITION OF SUPPLIERS :

Where counter terms and conditions printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the Purchaser, unless specific written acceptance thereof is obtained.

#### 19. SECURITY FOR PURCHASE OF MATERIALS :

Successful tenderer will have to furnish in the form of a bank guarantee or any other form as called for by the purchaser towards adequate security for the materials and properties provided by the Purchaser for the due execution of the Contract.

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## 2. GENERAL TERMS & CONDITONS (WITH WARRANTY)

1. 10.Security deposit : You should submit Bank Guarantee (Rs.200/- stamp paper) for 3% order value (DOS:PM:09 format enclosed) from a Nationalised/Scheduled bank valid for 2 months beyond the date of completion of order along with order acknowledgement. This security deposit without any interest thereon shall be returned to the Contractor on successful completion of the contract or shall be adjusted/forfeited against non-fulfillment of any of the contractual obligations.

2. 11.Warranty: Warranty should be indicated in the quotation if applicable

3. 12.Performance Bank Guarantee: You shall furnish performance Bank Guarantee in Rs.200/-non judicial stamp paper from a Nationalized/Scheduled Bank Equivalent to 3% of the order value which shall be valid beyond 2 months from the expiry of warranty/guarantee period.

4. 13.We would like to have more than one source of supply and the final orders will be given accordingly to the qualified bidders.

5. 16. VSSC-CMSE has a right to cancel the tender without assigning any reason etc.

6. 17. If you are unable to submit offer, the same may be communicated to us before the due date.

7. 18. "If any of the bidders submit any forged or false documents along with the tender, such tenders will be summarily rejected and such bidders will be blacklisted for all future tenders."

8. 19. All Tax invoices issued by suppliers/Service providers on or after July 01,2017 shall invariably bear their GST Registration No.(GSTIN) applicable GST rates and HSN Code. In the absence of which, the invoices shall not be processed for payment.

9. 20. (a) Any bidder from a country which shares a land border with India will be eligible to bid in this tender, only if the bidder is registered with the Competent Authority. Competent Authority for the purpose of registration shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

10. 2.Please keep & confirm the offer validity minimum 90 days from the date of opening of tender.

11. 3.We are eligible for partial exemption of IGST vide Ministry of Finance, Dept. of Revenue,

Notification No. 47/2017 Central Tax (Rate) dated 14.11.2017 and Government of Kerala, Taxes(B) Department Notification No.169/2017/TAXES dated 15.11.2017.

Please submit your quotations accordingly.

12. 4. We are eligible for partial exemption of CGST and SGST vide Notification No: 45/2017 dtd 14/11/2017 and No: 169/2017/TAXES dtd 15/11/2017 respectively. Necessary Exemption Certificates will be issued on demand.

13. 6. Delivery term: Our standard delivery term is FOR : CMSE-VSSC. In case of Ex- Works, please indicate packing, forwarding & freight charges up to VSSC, separately. (For more details please see Form No. 19/20/21/22/ 23 attached)

14. 8. In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / UdyogAdhar/ NSIC Registration Certification along with your offer.

15. 9. Liquidated damages: The delivery period quoted by you and stipulated in the Purchase Order shall be deemed to be the essence of the order and delivery must be completed not later than the dates specified therein as otherwise VSSC shall have the right to recover a sum @ 0.5% of the order value per week/part of a week or 0.5% of the value of the stores for which the delivery is delayed for each week of delay, as the case may be, subject to a maximum of 10% of the order value.

16. (b) Validity of Registration: Registration should be valid at the time of submission of bids and should be valid at the time of placement of order.

17. (c) Any false declaration and non-compliance of the above would be a ground for immediate rejection of offer or termination of the contract and further legal action in accordance with the laws

18. General Conditions:

1. Payment: Our standard payment term is 100% within 30 days on receipt and acceptance of the item at our site in the case of indigenous order and SIGHT DRAFT in the case of foreign orders. Bank Charges to respective accounts.

3. This is a 2 PART TENDER. Please attach your quotation in pdf document separately. (part I - without price information & part 2 - with price information)

## C. Bid Templates

### C.1 Technical Bid - Phased Array Ultrasonic System with Probe and accessories

#### 1. Phased Array Ultrasonic System with Probes and Accessories

##### Item specifications for Phased Array Ultrasonic System with Probes and Accessories

| SI No | Specification   | Value  | Compliance         | Offered Specification | Remark |
|-------|-----------------|--|--------------------|-----------------------|--------|
| 1     | A. Introduction | Composites Entity, VSSC, Trivandrum is looking for a portable Phased Array Ultrasonic Testing (PAUT) solution to test large composite panels. Photograph of a typical curved panel is shown in Figure 1 whose thickness varies from 0.6 mm to 3 mm. The panel is a 90 degree sector of a 4000 mm diameter cylinder with a height of 1200 mm. The solution shall be capable of providing ultrasonic results in the form of C-scan image(s) using appropriate combination of PAUT unit, probe with cable with the help of a scanner. | Yes / No / Explain |                       |        |

|   |                      |   |                    |  |  |
|---|----------------------|---|--------------------|--|--|
| 2 | B. Scope of supply   | <p>Major components of supply include:</p> <ol style="list-style-type: none"> <li>1. Phased Array unit. This unit shall be compatible with Phased Array Probes of M/s Olympus Make.</li> <li>2. PC Analysis Software and NDT setup design software</li> <li>3. Suitable Phased Array Probe</li> <li>4. Provision for integrating software &amp; hardware of appropriate 2-D Scanner at a later point of time.</li> </ol> <p>However, demonstration on the specimen and panel shall be done along with the scanner.</p> <p>The nominal specifications of the components are given below:</p> | Yes / No / Explain |  |  |
| 3 | I. Phased Array Unit |   | -                  |  |  |

|   |         |   |                    |  |  |
|---|---------|---|--------------------|--|--|
| 4 | General | <p>a. The system shall be capable of providing maximum resolution for thin composite laminate structure.</p> <p>b. The system shall be compatible with Phased Array Probes of M/s Olympus Make.</p> <p>c. The system offered shall be Compact, Portable and light weight for field use.</p> <p>d. The system shall be capable of operating in Phased array and conventional ultrasonic testing modes.</p> <p>e. Capable of using 1D Transmit-Receive linear array probe in Phased array testing modes.</p> <p>f. The offered system shall contain the hardware, Software, short circuit protected power cable, Ethernet cable, USB drive, operating instruction manual in English, Certificates of conformity to international standard, Foam fitted carrying case, AC adaptor, battery pack, other related accessories and essential spares.</p> <p>g. It shall have multiple display layout capability with split screen.</p> <p>h. The software offered shall be user friendly and simple for Velocity, Wedge Delay, Sensitivity, TCG calibrations.</p> <p>i. There shall be facilities for auto probe detection &amp; raw data storage.</p> <p>j. The system shall have provision for</p> | Yes / No / Explain |  |  |
|---|---------|---|--------------------|--|--|

|    |                          |  |                    |  |  |
|----|--------------------------|--|--------------------|--|--|
|    |                          | <p>inserting separate removable and scalable memory device for data storage which preferably could be engaged or disengaged without rebooting of the unit.</p> <p>k. The system shall have display options for simultaneous group viewing of A-scan, B-scan and C-scan images during phased array mode operation.</p> <p>l. The system shall have provisions for zooming the selected area of any of the views to full screen size during acquisition and analysis.</p> <p>m. The system shall have the capability to draw and store digital DAC.</p> <p>n. It is preferable to have additional X and Y cursor options with minimum two or more cursers to enable defect size measurement.</p> |                    |  |  |
| 5  | Pulser/Receiver Aperture | 16 elements or more  | Yes / No / Explain |  |  |
| 6  | No of elements           | 128 elements or more   | Yes / No / Explain |  |  |
| 7  | PRF                      | 10 Hz to 12 KHz or better  | Yes / No / Explain |  |  |
| 8  | Digitizing frequency     | 60 MHz (12 bits) or better   | Yes / No / Explain |  |  |
| 9  | Band width               | Selectable   | Yes / No / Explain |  |  |
| 10 | Gain                     | 0-75 dB or more, Selectable in steps of 0.5 dB or better   | Yes / No / Explain |  |  |
| 11 | Frequency selection      | 1-15MHz or better  | Yes / No / Explain |  |  |
| 12 | No. of gates             | 3 min.   | Yes / No / Explain |  |  |

|    |                       |   |                    |  |  |
|----|-----------------------|---|--------------------|--|--|
| 13 | Gate threshold        | 5-95%   | Yes / No / Explain |  |  |
| 14 | No. of alarms.        | Min.2   | Yes / No / Explain |  |  |
| 15 | TCG                   | Min. 15 points.   | Yes / No / Explain |  |  |
| 16 | Views                 | A, B, C-scan  | Yes / No / Explain |  |  |
| 17 | External Power supply | 230V-50Hz   | Yes / No / Explain |  |  |
| 18 | Backup power          | Suitable rechargeable Li Ion battery pack with charger  | Yes / No / Explain |  |  |
| 19 | Battery life          | Minimum 5hrs.   | Yes / No / Explain |  |  |
| 20 | Weight                | Less than 10Kg including batteries  | Yes / No / Explain |  |  |
| 21 | Display               | Touch screen  | Yes / No / Explain |  |  |
| 22 | Display size          | 250 mm (Diagonal) min.  | Yes / No / Explain |  |  |
| 23 | Display resolution    | 1024 pixels X 600 pixels min.   | Yes / No / Explain |  |  |
| 24 | Operating temp.       | 10 C to 45C or better.  | Yes / No / Explain |  |  |
| 25 | Storage temperature   | 0C to 50C or better   | Yes / No / Explain |  |  |
| 26 | Memory (SSD)          | 256 GB or More  | Yes / No / Explain |  |  |
| 27 | Output ports          | <ul style="list-style-type: none"> <li>• 2 USB ports</li> <li>Minimum</li> <li>• Video out</li> </ul> | Yes / No / Explain |  |  |
| 28 | Probe connectors      | Phased array – 1 x IPEX Connector<br>Conventional – 00 Lemo / BNC adaptors.                           | Yes / No / Explain |  |  |
| 29 | Number of axis        | 2-axis  | Yes / No / Explain |  |  |



|    |  |   |                    |  |  |
|----|--|---|--------------------|--|--|
| 30 | II. PC analysis software and NDT Setup design software | <p>a. Software for NDT set-up design and offline analysis of the test data on a computer.<br/>Compatible with Windows 8 or latest version.</p> <p>b. Ability to create set-up files for M/s Olympus make PAUT probes and wedges.</p> <p>c. It is preferable to have advanced signal and image processing tools like</p> <p>i. Geometric Echo Removal, Logarithmic/Linear data conversions, etc.</p> <p>ii. Provision to combine several C-scans that have been recorded into a single compound/tiled scan.</p> <p>iii. Tools for complete analysis, evaluation and reporting.</p> <p>d. It shall allow stitching and overlapping of C-scan data.</p> <p>e. Re-gating capability and gain adjustment.</p> <p>f. Analysis tool such as defect measurement and conditional depth and amplitude criteria.</p> <p>g. Automatic PDF report generation.</p> <p>h. Industry standard and custom colour palettes.</p> <p>i. Perpetual license shall be provided for all Software's.</p> <p>j. All backup software's shall be provided in DVD / USB Hard Drives</p> | Yes / No / Explain |  |  |
|----|--|---|--------------------|--|--|

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|----|-----------------------------|---|--------------------|--|--|
| 31 | III. Probes and accessories | a. Appropriate Phased Array probe.<br>b. Compatible with the Phased Array System being supplied with Automatic Probe recognition.<br>c. It shall have<br>i. Proper interface finish for placing them in direct contact with product.<br>ii. Minimum of 2.5m Cable Length.<br>iii. Along with Probes, necessary accessories to be provided to carry out reliable phased array Ultrasonic inspection and C-scan imaging of component. | Yes / No / Explain |  |  |
|----|-----------------------------|---|--------------------|--|--|

**Document : Annexure-II**

**Document : Annexure-I**

**Common Specifications (Applicable for all items)**

| SI No | Specification | Value | Compliance | Offered Specification | Remark |
|-------|---------------|-------|------------|-----------------------|--------|
|-------|---------------|-------|------------|-----------------------|--------|

|   |                              |   |                    |  |  |
|---|------------------------------|---|--------------------|--|--|
| 1 | C. Vendor selection Criteria | <p>a) Offer shall be from Original Equipment Manufacturer (OEM) or Authorized dealer of OEM only</p> <p>b) Detailed compliance statements with supporting documents shall be provided in this bid format (mere yes or no will not be considered).</p> <p>c) Offer which is not prepared in line with the specifications is liable to be rejected.</p> <p>d) Qualified parties only will be invited for the technical evaluation using proposed or similar system at CMSE, Vattiyoor kavu.</p> <p>e) Party shall bring proposed PAUT system &amp; Probe and suitable portable 2-D scanner and demonstrate the ability at CMSE/VSSC.</p> <ul style="list-style-type: none"> <li>• to test the Hat-stiffened CFRP Panel as shown in Figure 1 and display the results in the form of C-scan image. Scanning can be done in small sectors provided C-scan images can be stitched so as to provide full panel visualisation.</li> <li>• to detect flat bottom holes of diameter 3mm at depths from 0.4mm to 1mm on a specimen supplied by CMSE/VSSC.</li> </ul> <p>f) Evaluation will be based on ease of operation, detectability, data presentation and portability of the entire system.</p> | Yes / No / Explain |  |  |
|---|------------------------------|---|--------------------|--|--|

|   |   |   |                    |  |  |
|---|---|---|--------------------|--|--|
| 2 | D. Installation, Training and commissioning | <p>a) The party shall demonstrate once again the working of the system at CMSE/VSSC, Vattiyoorkavu:</p> <ul style="list-style-type: none"> <li>• to test the Hat-stiffened CFRP Panel as shown in Figure 1 and display the results in the form of C-scan image.</li> <li>• to detect flat bottom holes of diameter 3mm at depths from 0.4mm to 1mm on a specimen supplied by CMSE/VSSC.</li> <li>• Creation of set-up files for M/s Olympus make probes and wedges.</li> </ul> <p>b) Suitable training shall be provided by the party for all the available features in the system, for at least two days on specified jobs at CMSE/VSSC.</p> | Yes / No / Explain |  |  |
|---|---|---|--------------------|--|--|

|   |                     |   |                    |  |  |
|---|---------------------|---|--------------------|--|--|
| 3 | E. Commercial Terms | <p>a) The parties participating in the tender have to submit their offers in two-parts i.e., Technical Bid (including price bid with prices masked) and Price Bid separately in sealed covers.</p> <p>i. During part 1 technical bid, the party has to fill the compliance matrix for all the specification in the format given. Descriptive statements to be provided, as applicable, in the compliance check list. Relevant proof/supplementary document for the compliances are to be furnished and shall be referenced to the technical bid.</p> <p>ii. Technical leaflet/ brochure (in English) and write-up (in English) of the proposed model of the system must be furnished by the party along with the quotation.</p> <p>iii. Detailed system cost break-up should be given in Part 2 which is the Price Bid. The rate shall be quoted separately for basic equipment, probes and accessories.</p> <p>iv. Separate price details for AMC, Essential Spares, etc. are also to be provided.</p> <p>b) Party shall quote essential spares for trouble free operation of the system for at least 3 years.</p> <p>c) 2 Years of warranty shall be provided on the total system. Warranty shall be from OEM (Original Equipment Manufacturer)</p> | Yes / No / Explain |  |  |
|---|---------------------|---|--------------------|--|--|

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  | d) Software up gradation for the next 5 years shall be free of cost.<br>e) Post warranty AMC for 3 years to be quoted along with the offer by the party.<br>f) All other commercial terms as per VSSC norms. |  |  |  |
|--|--|--|--|--|--|

## Supporting Documents required from Vendor

### 1. Technical data sheet

### 2. Commercial Part should not containing pricing information.[Part -1]

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

| Sl. No. | Description  | Compliance         | Vendor Terms |
|---------|--|--------------------|--------------|
| 1       | Installation and commissioning to be done at CMSE/VSSC, Trivandrum   | Yes / No / Explain |              |
| 2       | Item shall be supplied without any defect.   | Yes / No / Explain |              |
| 3       | Delivery Period  | Yes / No / Explain |              |
| 4       | Delivery Terms   | Yes / No / Explain |              |
| 5       | In case of Ex-Works, please indicate packing, forwarding & freight charges up to VSSC, separately  | Yes / No / Explain |              |
| 6       | Liquidated Damage - As detailed in Annexure  | Yes / No / Explain |              |
| 7       | Taxes and Duties if any (Concessional rate applicable for GST )  | Yes / No / Explain |              |
| 8       | Payment Terms [ within 30 days after receipt and acceptance of item for indigenous]  | Yes / No / Explain |              |
| 9       | Warranty - 2years  | Yes / No / Explain |              |
| 10      | Performance Bank Guarantee - 3% of order value   | Yes / No / Explain |              |
| 11      | Security Deposit (Where ever the offer value is Rs 5.00 )-You should submit Security Deposit @3% of order value in the form of insurance Security Bonds, Account Payee Demand Drafts, Fixed Deposit Receipt, Bank Guarantee (Rs.200/- stamp paper) in the prescribed format (DOS:PM:07) from a commercial Bank valid for 2 Months beyond the date of completion of order obligation along with order acknowledgement. Documentary proof of Online payment also acceptable as Security Deposit. This security deposit without any interest thereon shall be returned to the Supplier on successful completion of the Purchase Order or shall be adjusted/forfeited against non-fulfillment of any of the contractual obligations. | Yes / No / Explain |              |

|    |   |                    |  |
|----|---|--------------------|--|
| 12 | In case of SD and PBG, either 2 separate BG or combined BG (format enclosed) to be submitted.- 3% of order value. | Yes / No / Explain |  |
| 13 | Port of Despatch & Mode of despatch   | Yes / No / Explain |  |
| 14 | Quote Validity : Minimum 90 days [ for Single Part Tender]  | Yes / No / Explain |  |
| 15 | Name and Address to Which order to be placed. Please include contact details like mobile no. and email id         | Yes / No / Explain |  |
| 16 | Please confirm whether you can comply with all the technical specification as states in Annexure of our Tender.   | Yes / No / Explain |  |
| 17 | AMC charges, List of spares should be quoted separately.-Refer Annexure   | Yes / No / Explain |  |
| 18 | Any other conditions  | Yes / No / Explain |  |

### C.3 Price Bid

| Sl. No. | Item   | Quantity  | Unit Price | Currency | Total Price | Remark |
|---------|--|-----------|------------|----------|-------------|--------|
| 1       | Phased Array Ultrasonic System with Probes and Accessories | 1.00 Sets |            | -        |             |        |

### Common charges (Applicable for all items)

|                                    |  |
|------------------------------------|--|
| <b>P&amp;F (Amount)</b>            |  |
| <b>Freight (Amount)</b>            |  |
| <b>Discount (Amount)</b>           |  |
| <b>Any Other Charges ( Amount)</b> |  |