

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
LIQUID PROPULSION SYSTEMS CENTRE, VALIAMALA (LPSC)
THIRUVANANTHAPURAM**

Tender for PORTABLE ACOUSTIC EMISSION SYSTEM 48 CHANNELS

Bids to be submitted online

Tender No.: LPSC/LVF/LP202600035801 dated 05-05-2026

A. Tender Details

Tender No : **LPSC/LVF/LP202600035801**

Tender Date : **05-05-2026**

Tender Classification: **GOODS**

Purchase Entity : **LVF**

Centre : **LIQUID PROPULSION SYSTEMS CENTRE, VALIAMALA (LPSC)**

PORTABLE ACOUSTIC EMISSION SYSTEM 48 CHANNELS

For and on behalf of the President of India, the Head, Purchase & Stores, Liquid Propulsion Systems Centre (LPSC), Valiamala, Thiruvananthapuram invites tenders through e-procurement mode; <https://eproc.isro.gov.in>

Prospective vendors interested in participating in the tendering process need to get registered in the portal by using Digital Signature Certificate. Offers submitted through our online portal only will be considered and no other means will be considered.

Detailed instruction, pre-requisites and illustrative tutorials for bid enrollment, preparation etc is available in the portal at <https://eproc.isro.gov.in>. A help desk is also functioning to assist the vendors whose contact details are available in the portal.

THIS IS A TWO PART TENDER. OFFER SHALL BE SUBMITTED IN TWO PARTS; TECHNO-COMMERCIAL BID [PART-I] AND PRICE BID [PART-II]. IF PRICE DETAILS OF ANY NATURE IS INDICATED IN TECHNO-COMMERCIAL BID, YOUR OFFER WILL BE REJECTED SUMMARILY.

Class-I/Class-II Local Suppliers only are permitted to participate in the tender.

Declaration of Local Content, in the following format shall be furnished along with offer, without which, your offer will not be considered for evaluation.

DECLARATION OF LOCAL CONTENT

(To be given on company letter head-For tender value below Rs.10crores)

(To be given by Statutory Auditor / Cost Auditor / Cost Accountant / CA for tender value above Rs.10 crores)

Date:

To,

Sub: Declaration of Local content

Tender Ref No:

Name of Tender:-

1.Country of Origin of Goods being offered:

2.We hereby declare that items offered has -----% local content:

3.Details of Local Value additions:

4.Address At which Local value addition is being made:

Local Content means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

It is certified that the above mentioned Local content is excluding the following (a) (b) & (c):-

a. Imported items sourced locally from resellers/distributors are excluded from calculation of the above local content.

b. The license fees/royalties paid/ technical charges paid out of India shall be excluded from local content calculation.

c. Procurement/Supply of repackaged/refurbished/rebranded imported products as understood commonly shall be treated as reselling of imported products and shall be excluded from calculation of local content. The definition of repackaged/refurbished/rebranded imported products is as follows; Refurbishing means repair or reconditioning of an imported product does not amount to manufacture because no new goods come into existence. Repackaging means repacking of imported goods from bulk pack to smaller packs would not ordinarily amount to manufacture of a new item. Rebranding means relabeling or renaming or change in symbol or logo/makes or corporate image of a company/organization/ firm for an imported product would amount to rebranding

It is certified that as per DPIITs OM Ref P-45021/102/2019-BE-II-Paart(1)(E-50310) Dtd. 04/03/2021 the local content mentioned above, by which we are Class-I local suppliers/Class-II local suppliers, does not contain services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/ value addition.

False declaration will be in breach of Code of Integrity under Rule175(1)(i)(h)of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Yours faithfully,

(Signature of the Bidder/OEM with Official seal)

A.1 Tender Schedule

Bid Submission Start Date : **05-05-2026 15:00**

Bid Clarification Due Date : **12-05-2026 12:00**

Bid Submission Due Date : **22-05-2026 12:00**

Bid Opening Date : **22-05-2026 12:05**

Price Bid Opening Date : **25-05-2026 12:00**

B. Tender Attachments

NA

Instructions To Vendors

1. INSTRUCTIONS TO INDIGENOUS TENDERERS

1. a) As far as implementation of provision for Public Procurement (Preference to Make in India) Order, 2017 is concerned, the Office orders vide No. P-4502/2/2017-B.E-II dt 15.06.2017, which is partially modified by Order No.P-45021/2/2017-PP (BE-II) dt 28.05.2018, Order P- 45021/2/2017-PP (BE-II) dt 29.05.2019, Order No. P-45021/2/2017-PP (BE-II) dt 04.06.2020 and Order No. P-45021/2/2017-PP (BE-II) 16.09.2020 and subsequent Amendments issued by the Department of Promotion of Industries and Internal Trade, Ministry of Commerce and Industry regarding Class-I/Class-II local suppliers, Purchase preference, verification of local contents etc shall be applicable to this tender. Therefore, bidders are requested to ensure compliance of the same while submitting tenders. b) Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs. Such MSE s shall produce documentary proof of registration as per provisions of the Policy ie: registration with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Industries Board (KVIB) or Coir Board or National Small Industries Commission (NSIC) or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum or any other body specified by Ministry of MSME.

2. Applicable Law: - The Contractor shall be interpreted, construed and governed by the Law of India.

3. Bank Details :- The offer should contain Bank details viz., Bankers Name, Address, Phone No. & Mail id, Bank Account No., IFSC code, PAN No., GST No., etc.

4. Contractors Default Liability :- The purchaser may upon written notice of default to the Contractor terminate the Contract in whole or in part in circumstances detailed hereunder: a) If in the judgement of the Purchaser the Contractor fails to make delivery of Stores within the time specified in the Contract/agreement or within the period for which extension has been granted by the Purchaser to the Contractor. b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this Contract.

5. Counter Terms and Conditions of suppliers: - Where counter terms and conditions / printed or cyclostyled conditions has 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.

6. DELIVERY AND LIQUIDATED DAMAGES (LD) :-

(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 maximum of 5% of the order value for the delayed period. However in case of inordinate delay i.e, delays of more than one-fourth (25%) of the total completion period, LD shall be applicable subject to a maximum 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 15 (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 re-purchase 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.

7. Delivery Period :- The time for and the date / period of delivery of the stores stipulated in the Tender / Purchase Order shall be deemed to be the essence of the contract and delivery must be completed on or before the specified dates.

8. Delivery Term :- Ex-Works / FOR LPSC

9. Extension of Time: - If the completion of supply of Stores is delayed due to reason of FORCE MAJEURE such as acts of God, acts of public enemy, acts of Government, fires, floods, epidemics, quarantine restrictions, strikes, and freight embargoes etc., the Contractor shall give notice within 15 days to the Purchaser in writing of his claim for an extension of time. The Purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to the other terms and conditions of the Contract.

10. 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 or for a period as specified in the tender document 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) 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.

11. 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, Copy right or Trade mark and shall at all times indemnify the Purchaser against all claims which may be made in respect of stores for infringement of any right protected by patent, registration of design or trade mark, and shall take all risk of accident or damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfilment of the Contract.

12. Language and Measures :- All documents pertaining to the Contract including specification, schedule, notice, correspondence, operating and maintenance instructions, drawings or any other writings shall be written in English Language. The metric system of measurement shall be used exclusively in the Contract.

13. Mode of Despatch :- For supplies BY ROAD / BY RAIL:- 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. The Contractor will be held responsible for any demurrage / wharfage paid due to non-receipt of documents in time.

14. Offer Validity :- a) For Single Part Tender - Quotation should be valid for 90 days from the date of opening of the tender or any other period as specified in the tender. b) For Two Part Tender -

Quotation should be valid for 120 days from the date of opening of the tender or any other period as specified in the tender. Note :- Offer with validity lesser than that specified is liable for exclusion from the procurement process

15. Packing Forwarding & Insurance:- The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by Rail / Road 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. b) Insurance : 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.

16. Payment :- 100% payment shall be made through RTGS within 30 days of receipt and acceptance of the item at our site against submission of PBG.

17. Performance Bank Guarantee (PBG) :- To fulfil guarantee conditions outlined in clause 2(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.

18. Price : a) Price should be firm and fixed and should be on the basis of FOR, LPSC / delivery at site. The Purchaser will not pay separately for transit insurance, and the risk and cost during transit shall be exclusively the responsibility of the Contractor and the purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract. b) Tenders 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 variations. c) Prices are required to be quoted according to the units indicated in the tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two systems of unit must be furnished.

19. Quantity (QTY) and Unit of Measure (UOM) Quote should be as per the quantity and unit of measure mentioned the tender. If dimensional details are available, the same should also be indicated in your offer.

20. Resolution of Disputes:- Any dispute, disagreement or question arising out of or relating to or in consequence of the contract or to its fulfillment, or the validity of enforcement thereof which cannot be settled mutually, or the settlement of which is not herein specifically provided for, shall within 30 (thirty) days from the date either party informs the other in writing that such dispute or disagreement exists be referred to arbitration by the sole arbitrator. The Arbitrator shall be appointed As per the Indian Arbitration and Conciliation Act 1996 and proceedings will be conducted in Trivandrum. The Arbitration

proceedings shall be conducted in accordance with and subject to the Arbitration and Conciliation Act 1996 (Act 26 of 1996) as amended from time to time and the decision of the Arbitrator shall be final and binding on the parties thereto. Each party shall bear its own cost of preparing and presenting its case. The cost of Arbitration including the fees and expenses of the Arbitrator shall be shared equally by the parties unless the award provides otherwise. Subject to provisions of this clause, the courts at Kerala shall have exclusive jurisdiction. Performance under this Contract shall, however continue during Arbitration proceeding and no payment due or payable by the parties hereto shall be withheld unless any such payment is/ or forms a part of the subject matter of the Arbitration proceedings.

21. Security Deposit (SD) :- Applicable for order value above INR 50 L.

On acceptance of the order, 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 15(b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

22. Specifications:- a) Stores offered should strictly conform to Purchasers 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. Wherever options are called for in our specifications, the tenderer should address all such options. 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.

23. Taxes :- The applicable GST / IGST shall be clearly mentioned in your offer along with HSN code of the offered items. We are eligible for IGST @ 5% as per the Department of Revenue Notification No. 25/2018 Integrated Tax (Rate) Schedule-I; Sl.No.243B dated 31.12.2018 (Amendment to Notification No. 7/2018 - Integrated Tax (Rate) dated 25.01.2018 and Notification No. 1/2017 - Integrated Tax (Rate) dated 28.06.2017

24. Training:- The Contractor shall, if required by the Purchaser, provide facilities for the practical training of Purchasers engineering / technical personnel from India and for the active association on the manufacturing processes throughout the manufacturing period of the Contract / Stores, number of such personnel to be mutually agreed upon.

25. LPSC shall have the right to place part order among the parties for the items for which they are the

lowest.

26. Option Clause : The Purchase reserves the right to increase/decrease the Ordered Quantity by up to 25% at any time, till final delivery date (or the extended delivery date of the Contract), by giving reasonable notice even though the quantity ordered initially has been supplied in full before the last date of delivery period (or the extended delivery period). It may please be noted that, this clause is not applicable for Development Orders.

C. Bid Templates

C.1 Technical Bid - PORTABLE ACOUSTIC EMISSION SYSTEM 48 CHANNELS

1. Advanced NDT Systems 48 CHANNEL PORTABLE ACOUSTIC EMISSION SYSTEM

Item specifications for Advanced NDT Systems 48 CHANNEL PORTABLE ACOUSTIC EMISSION SYSTEM

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Supply, installation, commissioning, and training of Portable Acoustic Emission system with 48 channels with all associated hardware and software required for acquisition, processing, and analysis	To be supplied	Yes / No / Explain		
2	A. GENERAL SPECIFICATIONS	To be complied	Yes / No / Explain		
3	a)Acoustic Emission system, as a Non-destructive technique to find defects during structural proof tests, for applications with sensors bandwidth (20 kHz – 1MHz or better) and multiple channels.	To be complied	Yes / No / Explain		
4	b)Digital filter selection through software for each channel individually.	To be complied	Yes / No / Explain		
5	c)AE data transfer rate of over 20 Mega Bytes/second to PC.	To be complied	Yes / No / Explain		
6	d)Built-in AE feature extraction for high speed transient data analysis at high hit rates.	To be complied	Yes / No / Explain		

7	e)Built-in waveform and hit processing feature in the AE card for high speed transfer of waveforms on all AE channels	To be complied	Yes / No / Explain		
8	f)AE system shall be able to hold the configuration settings for the similar type of hardware under test.	To be complied	Yes / No / Explain		
9	g)AE chassis with appropriate industrial ruggedness, flow through card cooling, AE Hit LEDs and optional AE audio output compatibility for AE monitoring.	To be complied	Yes / No / Explain		
10	h)One digital output shall be provided for enabling alarm warning when the user defined set values are exceeding.	To be complied	Yes / No / Explain		
11	i)Synchronization between multiple chassis and systems, if applicable, as per specifications defined. The digital data transfer bus (from input modules to controller) shall be selected to have specifications as defined.	To be complied	Yes / No / Explain		
12	j)Acquired parameters are to be transmitted from controller to display nodes using suitable protocol for displaying parameters in the display nodes through Ethernet.	To be complied	Yes / No / Explain		
13	k)Online monitoring of parameters.	To be complied	Yes / No / Explain		
14	l) Offline processing of acquired data for further data analysis	To be complied	Yes / No / Explain		

15	m)Software package for AE data acquisition, waveform processing, online display, analysis and archival.	To be complied	Yes / No / Explain		
16	n)AE system shall provide the necessary hardware and software to satisfy the following major requirements: •Data acquisition at the selected sampling rate. •Data display in real time with random channel selection •Waveform and hit processing •Data storage	To be complied	Yes / No / Explain		
17	o)The party shall provide spares support for a period of minimum 10 years.	To be complied	Yes / No / Explain		
18	p)The chassis, controller, network and software compatibilities shall be expandable to accommodate future requirements.	To be complied	Yes / No / Explain		
19	B. 48 CHANNEL AE DATA ACQUISITION SYSTEM	To be complied	Yes / No / Explain		
20	Signal processing board requirements	To be complied	Yes / No / Explain		
21	AE Input	48 channels	Yes / No / Explain		
22	Input Voltage	20VP-P/10VP-P	Yes / No / Explain		
23	Input impedance	50 Ω	Yes / No / Explain		
24	Pre-amplifier power supply	28 VDC	Yes / No / Explain		
25	Frequency response	1 kHz – 1MHz or better	Yes / No / Explain		
26	Analog input (parametric)	4 channels or more	Yes / No / Explain		

27	Input range	0-10 V or better	Yes / No / Explain		
28	Signal Processing requirements	To be complied	Yes / No / Explain		
29	Filter type	Configurable Low pass/ High pass/ Band pass filter. Programmable through software	Yes / No / Explain		
30	ADC resolution	≥16 bit	Yes / No / Explain		
31	Sampling rate	Software selectable from 10 kHz – 10MHz or better	Yes / No / Explain		
32	AE card Processing Features	To be complied	Yes / No / Explain		
33	Amplitude	Range: 10- 100 dB or better Resolution: 1 dB or better	Yes / No / Explain		
34	Threshold	Resolution: 1 dB Software selectable for each AE-channel individually. Fixed or floating threshold.	Yes / No / Explain		
35	Duration	Range: 0-1000 msec Resolution: ≤ 1 μs	Yes / No / Explain		
36	AE hit defining timing parameters like Hit Definition Time (HDT) or Duration Discrimination Time (DDT), Hit Lockout Time (HLT) or Rearm Time (RT) and Peak Definition Time (PDT) or Peak definition window (PDW)	Range: 40μs – 65 ms Resolution: ≤ 1μs Configurable through software	Yes / No / Explain		
37	Automated sensor test feature	Computer controlled pulsing of each active AE channel for determining of sensor coupling efficiency and system verification to be provided.	Yes / No / Explain		
38	Digital Bus Specifications	To be complied	Yes / No / Explain		
39	Digital bus	PCI/PCI Express/PXI Express/ LXI/Proprietary bus	Yes / No / Explain		

40	Digital bus latency time	≤1microsecond	Yes / No / Explain		
41	Bus throughput rate	>20 MegaBytes/sec	Yes / No / Explain		
42	Instrument Controller/ All in one PC	To be complied	Yes / No / Explain		
43	CPU shall be high performance latest version with necessary parallel processors having standard control unit and arithmetic logic unit (certified for Industrial Control applications)	To be complied	Yes / No / Explain		
44	Chassis	Suitable chassis to accommodate minimum 48 AE channels, 4 Parametric Channels and other control functions	Yes / No / Explain		
45	Time synchronization to get uniform time stamp	1.The party shall mention about the synchronization scheme between multiple chassis and input modules if applicable 2.Chassis to chassis synchronization time error≤ 1microsecond (if applicable)	Yes / No / Explain		
46	Monitor	24 inch or higher LED backlit monitor with resolution 1920x1080 or better.	Yes / No / Explain		
47	Processor	i7 or better, RAM: 16GB or better	Yes / No / Explain		
48	Hard Disk	1 TB SSD or higher, DVD-Burner	Yes / No / Explain		
49	Operating System	Windows 10 professional or latest with life time license	Yes / No / Explain		
50	Operating voltage	230 V AC ±10%, 50 Hz Indian plug top / 24V DC	Yes / No / Explain		
51	Cooling	Fan cooling	Yes / No / Explain		

52	Peripherals	Mouse, Wired Keyboard, 4 X USB min, 2 X 100/1000 Base T LAN or latest	Yes / No / Explain		
53	Operating temperature	20 degree C to 40degree C	Yes / No / Explain		
54	C. AE SENSOR SPECIFICATIONS (50 Nos)	To be complied	Yes / No / Explain		
55	Operating frequency	100 kHz-400 kHz or better	Yes / No / Explain		
56	Resonant frequency	150KHz	Yes / No / Explain		
57	Shock limit	500g	Yes / No / Explain		
58	Case material	Stainless Steel	Yes / No / Explain		
59	Face material	Ceramic	Yes / No / Explain		
60	Sensor connector	SMA/SMC/BNC/Microdot	Yes / No / Explain		
61	Sensor cable	1meter min	Yes / No / Explain		
62	Temperature range	20°C to 50°C	Yes / No / Explain		
63	D. AE PRE-AMPLIFIER SPECIFICATIONS (50Nos)	To be complied	Yes / No / Explain		
64	Preamplifier gain	34dB or 40dB based on AE channel input range	Yes / No / Explain		
65	Filter Bandwidth	32 KHz -1100 KHz or better	Yes / No / Explain		
66	Pre-amplifier Input Impedance	>=10KΩ	Yes / No / Explain		
67	Power requirement	28 VDC	Yes / No / Explain		
68	Output connector	BNC	Yes / No / Explain		
69	Sensor coupling test through software	To be provided	Yes / No / Explain		
70	Weight in grams	<=210	Yes / No / Explain		

71	Pre-amplifier Temperature Range	20°C to 50°C or better	Yes / No / Explain		
72	E. COAXIAL CABLES		-		
73	Type	Coaxial RF cable (RG58)	Yes / No / Explain		
74	Make and part number	Belden & Part No - 8259	Yes / No / Explain		
75	Characteristic impedance	50 ohm	Yes / No / Explain		
76	Type of conductor	20AWG Stranded Conductor	Yes / No / Explain		
77	Standard	MIL-C17	Yes / No / Explain		
78	Length of cable	50 meter	Yes / No / Explain		
79	Connector	BNC connector in both ends. Straight Crimp Male Plug Connector (50 Ohm) Make : Amphenol, Part No.: 031-320-RFX	Yes / No / Explain		
80	F. SOFTWARE REQUIREMENTS	To be complied	Yes / No / Explain		
81	AE specific software requirement	To be complied	Yes / No / Explain		
82	a)Able to extract standard AE features viz. peak amplitude, duration, rise time, counts, counts to peak, RMS value, absolute or true energy, frequency, etc. in real time/ offline analysis	To be complied	Yes / No / Explain		
83	b)Modules for location analysis for linear, planar, spherical and cylindrical modes	To be complied	Yes / No / Explain		
84	c)Module for waveform analysis	To be complied	Yes / No / Explain		
85	d)Advanced Graphical Filters	To be complied	Yes / No / Explain		

86	e)User Friendly Graphical Interface with 2D & 3D Plots, provision for modifying page layouts, Exporting Graphs and Pages etc	To be complied	Yes / No / Explain		
87	f)Gapless file switch without data loss and streaming operation	To be complied	Yes / No / Explain		
88	g)Software should be in English language and shall be compatible with latest Windows 10 Professional OS or higher version	To be complied	Yes / No / Explain		
89	h)1 user license key for Data acquisition & Visualization (Online) Module and 2 user licenses for Data Visualization (Offline) module	To be supplied	Yes / No / Explain		
90	Configuration settings	To be complied	Yes / No / Explain		
91	a)The acquisition software shall be capable of scanning the selected user required channels at user required sampling rate	To be complied	Yes / No / Explain		
92	b)Channel legend, description, gain and filter settings, type of voltage Input ranges and other programmable features shall be user selectable	To be complied	Yes / No / Explain		
93	c) The system shall be operated in remote MODE also. All configuration setting shall be done through remote operation.	To be complied	Yes / No / Explain		
94	d)Configuration updation shall be done during start-up	To be complied	Yes / No / Explain		
95	e)The AE system configuration setup shall be saved and can be loaded for AE acquisition	To be complied	Yes / No / Explain		

96	f)Up on power failure or system restart, the last set configuration shall be retained	To be complied	Yes / No / Explain		
97	Acquisition Software	As per the specification	Yes / No / Explain		
98	a)Acquisition software for AE monitoring should continuously acquire and store the AE parameters in a reproducible format.	To be complied	Yes / No / Explain		
99	b)Acquired data to be transmitted to display nodes	To be complied	Yes / No / Explain		
100	c)Data shall be stored in controller hard disk/PC	To be complied	Yes / No / Explain		
101	d)Windows operating system environment	To be complied	Yes / No / Explain		
102	Online Display	As per specification	Yes / No / Explain		
103	a)The online display shall be provided to the display node	To be complied	Yes / No / Explain		
104	b)The online display shall be of graphical form. Various graphing options shall be available and shall be selectable per AE channel.	To be complied	Yes / No / Explain		
105	c)Each parameter to be displayed individually or in group on the display node. The graphical display shall start manually (keyboard control).	To be complied	Yes / No / Explain		
106	d)The graphical display shall have different scales for each parameter and shall have multiple parameters per screen	To be complied	Yes / No / Explain		
107	e)Time line display for the AE hits occurred per selected channels shall be available	To be complied	Yes / No / Explain		
108	Offline Processing	As per specification	Yes / No / Explain		

109	a)Offline processing of selected channels with selectable filters shall be possible	To be complied	Yes / No / Explain		
110	b)Offline processing shall be possible in graphical format	To be complied	Yes / No / Explain		
111	c)There shall be provision of having data segmenting setup; the required functional ranges of acquired AE data can be filtered for effective noise removal	To be complied	Yes / No / Explain		
112	G. LIST OF ITEMS REQUIRED (BILL OF MATERIALS)	To be supplied	Yes / No / Explain		
113	48 channel portable AE data acquisition system with computer & Software.	1 Set	Yes / No / Explain		
114	Acoustic emission sensors	50 Nos	Yes / No / Explain		
115	Acoustic emission preamplifiers	50 Nos	Yes / No / Explain		
116	Acoustic emission sensor preamplifier connecting cable, 1 meter long	50 Nos	Yes / No / Explain		
117	Real Time Data Acquisition, Analysis & Visualization (Online) software module	1 user license	Yes / No / Explain		
118	Offline Data analysis & Visualization software) module	2 user licenses	Yes / No / Explain		
119	Hardware and Software operational manual along with specification	One set	Yes / No / Explain		
120	Belden make Power/Signal Cable (RG58 Coaxial cable) Amphenol make BNC to BNC interface – 50 meter long	50Nos	Yes / No / Explain		
121	H. Pre-Qualification Criteria	To be complied	Yes / No / Explain		

122	Technical Criteria	Technical Specification Compliant statement to confirm meeting of specifications shall be submitted along with the offer with Technical brochures of the product	Yes / No / Explain		
123	Past Experience Criteria 1	The vendor must have supplied minimum ONE 48-CHANNEL OR HIGHER CHANNELS Acoustic Emission systems in past 4-years in INDIA to any ISRO units or Indian Government owned Companies or to CSIR labs or to INDIAN INSTITUTE OF TECHNOLOGIES (IITs). Vendor shall submit the Purchase Order Copies and user contact details.	Yes / No / Explain		
124	Past Experience Criteria 2	The vendor shall arrange for a free demonstration of the capabilities of the offered system to the technical committee for assessing the performance, if necessary.	Yes / No / Explain		
125	Installation & Training	The vendor shall take up the installation, commissioning & Training of the system at site for 2-days.	Yes / No / Explain		
126	I. General Requirements: Technical	To be complied	Yes / No / Explain		

127	1.Warranty for Hardware & Software of the system shall be provided for min. 3 years from the date of commissioning. During the warranty period, full Hardware & Software related supports are to be provided and all software updates (or upgrades) are also needed to be provided at free of cost	To be complied	Yes / No / Explain		
128	2.Warranty for sensor and preamplifier shall be provided for minimum one year	To be complied	Yes / No / Explain		
129	3.Product brochures with specifications, model nos. and part nos. are essential. Offers without Product brochures will not be considered. system configuration shall be submitted	To be complied	Yes / No / Explain		
130	4.Detailed compliance statement of specifications shall be provided along with the offer.	To be complied	Yes / No / Explain		
131	5.Bill of materials with product model nos. & quantities satisfying the system configuration shall be submitted.	To be complied	Yes / No / Explain		
132	6.A copy of software, driver software, operating system, Installation & Operation manuals shall be provided. Similarly for the Hardware of the AE system, Installation & Service manuals shall be provided.	To be complied	Yes / No / Explain		

133	7. Software shall be supplied in DVDs/USB along with operational manual, Driver Software and Life Time License for Data Acquisition & Visualization (Online) and Data Visualization (Offline).	To be complied	Yes / No / Explain		
134	8. Calibration certificates for sensors shall be provided.	To be complied	Yes / No / Explain		
135	9. The vendor shall take up the installation and commissioning of the system at site.	To be complied	Yes / No / Explain		
136	10. The party shall demonstrate the entire system performance and functioning at Department site.	To be complied	Yes / No / Explain		
137	12. Supplier has to give operational training at LPSC site for minimum 2 days	To be complied	Yes / No / Explain		
138	11. The system shall be accepted by Department, only after satisfying system performance and functional tests as per specifications.	To be complied	Yes / No / Explain		
139	12. Supplier has to give operational training at LPSC site for minimum 2 days.	To be complied	Yes / No / Explain		
140	13. All service related calls during warranty period shall be attended within a period of 3 days.	To be complied	Yes / No / Explain		
141	J. Documentation:	To be complied	Yes / No / Explain		

142	1.Part-1: Technical bid: Brochures / catalogues / Technical data sheets(in English), compliance sheet of the specification, certificate from OEM (in case of dealer/Indian agent), list of existing customers in India with original performance evaluation certificate from any two customers, price masked price bid containing the standard supply, concomitant and optional accessories with break up.	To be complied	Yes / No / Explain		
143	2.Part-2: Price bid (with the price of all items filled).	To be complied	Yes / No / Explain		
144	3.Documents to be supplied along supply: Operating instruction manual (Hardcopy/softcopy in English), certificate of warranty, certificate of operational compliance, certificate of I&C (at the time of I&C).	To be complied	Yes / No / Explain		

Common Specifications (Applicable for all items)

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	General Requirements: Commercial	To be complied	Yes / No / Explain		

2	1.Mode of Tender: The requirement shall be floated as two-part Public Tender (PT). The supplier shall submit their offer in two parts viz: Part I: Technical bid Part II: Price bid	To be complied	Yes / No / Explain		
3	Other requirements	To be complied	Yes / No / Explain		
4	1.Cost break-up: It is mandatory to provide cost break-up of each systems i.e. AE system, computer/work station, sensor, pre amplifier, cables etc.	To be complied	Yes / No / Explain		
5	2. Local content: The supplier shall quote a system which has local content of 20% (minimum) of the total cost of the system	To be complied	Yes / No / Explain		
6	3.Lowest offer considered based on the total cost including AE system, sensors and pre-amplifiers, software and other essential accessories from same vendor.	To be complied	Yes / No / Explain		
7	4.Documentation language: All documentation must be provided in English.	To be complied	Yes / No / Explain		

8	5.The delivery period shall not exceed 16 to 20 weeks.	To be complied	Yes / No / Explain		
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Supporting Documents required from Vendor

1. Price bid related additional documents (Price Bid Related)

2. Price masked Price bid containing the standard supply, concomitant and optional accessories with break up

3. List of existing customers in India with original performance evaluation certificate from any two customers

4. Certificate from OEM (in case of Dealer/Indian agent)

5. Compliance sheet of the specification

6. Brochures / catalogues / Technical data sheets(in English)

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	SUITABLY PACKED	Yes / No / Explain	
2	<p>As per the Rule 144(xi) of General Financial Rule ,2017, any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy service and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the competent authority ie., Department for Promotion of Industry and Internal Trade (DPIIT). Hence, Vendors or Agents of a Vendor (Indian or others) from a country sharing border with India shall submit copy of valid registration made with Department for Promotion of Industry and Internal Trade (DPIIT), Government of India along with the tender mandatorily, without which the offer will be treated as invalid.</p>	Yes / No / Explain	
3	<p>Whether applicable GST percentage mentioned in your offer.(We are eligible for IGST @ 5% as per the Department of Revenue Notification No. 25/2018 Integrated Tax (Rate) Schedule-I; Sl.No.243B dated 31.12.2018 (Amendment to Notification No. 7/2018 - Integrated Tax (Rate) dated 25.01.2018 and Notification No. 1/2017 - Integrated Tax (Rate) dated 28.06.2017) (If mentioned as EXTRA OR INCLUDED in your quote, please mention the percentage in Remarks Column).</p>	Yes / No / Explain	

4	<p>Liquid Propulsion Systems Centre (LPSC), Valiamala is eligible for "Nil" Customs Duty vide Notification No.50/17-Customs dated 30.06.2017 and as amended by Notification No. 5/2018-Customs dated 25.01.2018, Sl. No. 539A, further amended by Notification No. 05/2025-Customs I (38) dated 01.02.2025.</p> <p>[We will provide Customs Duty Exemption Certificate for bought out items being imported for manufacturing the ordered items (List of items to be imported with quantities to be enclosed along with offer) OR for Orders placed on Foreign Vendors OR for High Sea Sale orders.]</p>	Yes / No / Explain	
5	<p>Installation Charges, if any, (If mentioned as EXTRA OR INCLUDED in your quote, please mention the percentage in Remarks Column).</p>	Yes / No / Explain	
6	<p>Delivery Term :- FOR : LPSC, VALIAMALA</p>	Yes / No / Explain	
7	<p>Delivery Period (If any specific delivery period is mentioned in the tender, please comply the same. If not agreed, please mention your delivery period in remarks column OR if already mentioned in your quote please mention as already furnished in the quote)</p>	Yes / No / Explain	
8	<p>Payment Term :- (a)100% payment shall be made through RTGS within 30 days of receipt and acceptance of the item at our site.</p>	Yes / No / Explain	
9	<p>Liquidated Damages (LD) :- If the ordered items are not supplied within the delivery schedule, LD shall be levied from your bill @ 0.5% per week for the undelivered items subject to a maximum of 5% of the order value for the delayed period. However in case of inordinate delay i.e, delays of more than one-fourth (25%) of the total completion period, LD shall be applicable subject to a maximum of 10%.</p>	Yes / No / Explain	

10	Warranty :- Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of THREE YEARS or as specified in the tender document.	Yes / No / Explain	
11	Security Deposit (SD) :- (only for order value above Rs.50 Lakh) You have to furnish a Bank Guarantee for 3% of the order value (from a bank of international repute in case of foreign vendors) within 10 days of receipt of Order towards the faithful execution of the order valid till the completion of the scope of work as per order plus sixty days. (This will be returned to you immediately on execution of the order satisfactorily as per order terms. In case of non-performance / poor performance, the amount will be forfeited).	Yes / No / Explain	
12	Performance Bank Guarantee (PBG) :- You have to submit a PBG from a Nationalised / Scheduled Bank (from a bank of international repute incase of foreign vendors) for 3% of the order value towards the performance of the system at the time of supply valid till the completion of warranty period plus 60 days as per the format provided by the Department. OR 3% OF THE ORDER VALUE SHALL BE WITH HELD TILL THE COMPLETION OF WARRANTY PERIOD PLUS 60 DAYS.	Yes / No / Explain	
13	In case, if parties are unable to provide two separate BGs, i.e., one for SD and one for PBG, they can submit a combined BG for SD & PBG within 10 days of receipt of order for 3% of order value valid till the completion of total contractual obligation (i.e., supply period plus warranty period plus 60 days) as per the format provided by the Department.	Yes / No / Explain	
14	Insurance :- Being a Govt. Of India Dept., Insurance is not required at our cost. Please ensure the safe delivery of the ordered item with proper AIR / SEA / ROAD worthy packing.	Yes / No / Explain	

15	<p>Validity of Offer :-</p> <p>(a)The validity of the offers should be 90 days (in case of single part tender) from the date of opening of the tenders.</p> <p>(b)The validity of the offers should be 120 days (in case two part tender) from the date of opening of the tenders.</p> <p>Note :- Tenders shorter than offer validity mentioned above will not be considered for evaluation.</p>	Yes / No / Explain	
16	Bank Details, viz., Bank Name, Branch, Address, Account No., IFSC (Details to be given in Vendor Terms Column)	Yes / No / Explain	
17	PAN No. (Details to be furnished in Vendor Terms Column)	Yes / No / Explain	
18	GST No. (Details to be given in Vendor Terms Column)	Yes / No / Explain	
19	Purchase Order to be placed on whom (Please mention the Address, Phone No. & E-mail id)	Yes / No / Explain	
20	HSN Code of offered items	Yes / No / Explain	
21	Local content involved in the quoted item shall be declared/ certified in percentage.	Yes / No / Explain	
22	Furnish the details of place(s) where the value addition for the quoted item takes place.	Yes / No / Explain	
23	State whether MSE or not. If yes, please provide the necessary documentary proof	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Other Costs, if any	Remark
1	Advanced NDT Systems 48 CHANNEL PORTABLE ACOUSTIC EMISSION SYSTEM	1.00 Sets		-			

Common charges (Applicable for all items)

Additional Costs, if any	
Additional Costs, if any (Value)	