

University of Kerala
Kariavattom, Thiruvananthapuram, Kerala, India – 695 581

Tender No.: PM-USHA/ 3076/PLANNING D/2026/UOK

Date:11/02/2026

NOTICE INVITING TENDER

University of Kerala, Kariavattom invites open tenders through e-Procurement (in two bid system), from reputed manufacturers/authorized distributors/ Indian Agents for the purchase of the equipment “**Supply, Installation, Testing and Commissioning of High Resolution 3D imaging platform**” sanctioned under PM-USHA Scheme.

Tender documents may be downloaded from Kerala E-Tender Website <https://etenders.kerala.gov.in/> as per the schedule given below.

1	Name of Work	“Supply, Installation, Testing and Commissioning of High Resolution 3D imaging platform (Quantity-1 Nos) ”
2	Tender Fee	Rs. 90,000/- + GST GST payment shall be made by the firm and the receipt shall be attached.
3	EMD Amount	Rs. 4,50,000/-
Critical Date Sheet		
4	Date of Tender Publishing	11/02/2026
5	Bid Document Download/ Start Date	11/02/2026
6	Clarification Start Date	11/02/2026
7	Clarification End Date	07/03/2026
8	Bid Submission Start Date	11/02/2026
9	Bid Submission End Date	07/03/2026 at 5.00 PM
10	Bid Opening Date	11/03/2026 at 11.00AM

Bids shall be submitted online only at Kerala E-Tender Website <https://etenders.kerala.gov.in/> using valid Digital Signature Certificate. Tenderer are advised to follow the instructions “Instructions to Bidderfor Online Bid Submission” provided in the Annexure for online submission of bids available at Kerala E- Tender website: <https://etenders.kerala.gov.in/>

INSTRUCTIONS TO TENDERERS

1. BROAD SCOPE OF WORK

The scope of work, in general shall include “**Supply, Installation, Testing and Commissioning of High Resolution 3D imaging platform**” along with accessories and consumables complete as required at CLIF, University of Kerala, Kariavattom Campus .

2. COST OF TENDERING

The Tenderer shall bear all costs associated with the preparation and submission of its bid, and University of Kerala hereinafter referred to as “the Purchaser”, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the E-Tender process.

3. CONTENT OF TENDER DOCUMENTS

- 3.1 The goods/services required, e-tender procedures and contract terms are prescribed in the e-tender Documents. In addition to the e-tender Notice, General Conditions of Contract, Special Conditions of Contract, Technical Specifications, and different Forms to be filled up.
- 3.2 The Tenderer is expected to examine all instructions, forms, terms and specifications in the e-tender Documents. Failure to furnish all information required by the e-tender Documents or submission of bid not substantially responsive to the e-tender Documents in every respect will be at the Tenderer's risk and may result in the rejection of their bid.

4. CLARIFICATION ON TENDER DOCUMENTS

- 4.1 Queries related to submission of tender should be intimated through email (Email ID: directorclifpmusha@keralauniversity.ac.in) within the dates specified in the tender notice.
- 4.2 The Tenderers are advised to obtain all necessary information before submitting their bid.

5. AMENDMENT OF TENDER DOCUMENTS

- 5.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Tenderer, modify the Tender Documents by amendment.
- 5.2 The amendment will be notified in the e-tender portal as corrigendum.
- 5.3 In order to offer prospective Tenderers reasonable time to take the amendment into account in preparing their bids, the Purchaser may, at their discretion, extend the deadline for the submission of bids.

6. LANGUAGE OF BID

The bid prepared by the Tenderer and all correspondence and documents relating to the bid exchanged by the Tenderer and the Purchaser shall be written in the English language only.

7. DOCUMENTS COMPRISING THE BID

The bid prepared and uploaded by the Tenderer shall comprise the following components:

- a. Signed Compliance Matrix.
- b. Detailed Technical Brochure
- c. Performance Certificate
- d. DOCUMENTS ESTABLISHING TENDERER'S ELIGIBILITY
- e. GST payment receipt.
- f. BOQ
- g. Detailed Financial Bid in pdf format

8. TECHNICAL BID

The Tenderer shall submit his technical bid based on the technical specifications along with all attachments (except price bid) specified as per the Tender documents.

9. PRICE BID

9.1 The Tenderer shall also complete the Form for Price bid furnished in the Tender Documents, indicating the goods/services to be supplied/rendered, a brief description of the goods/services, quantity and prices. Tenderers should prepare their bid strictly accordingly.

9.2 The Tenderer shall indicate on the Price Schedule the unit prices and total Bid Prices of the goods/services they propose to supply under the Contract. Tenderers must submit the bid for the full quantity specified, failing which such bids are liable for rejection.

9.3 The Tenderer's separation of price components in accordance with the enclosed format will be solely for the purpose of facilitating the comparison of bids and will not in any way limit the Purchaser's right to contract on any of the terms offered.

9.4 Prices quoted by the Tenderer shall be fixed and firm during the Tenderer's performance of the Contract and shall not be subject to any escalation or variation on any account including that of the foreign exchange variation. A bid submitted with an adjustable price quotation is liable for rejection.

10. DOCUMENTS ESTABLISHING TENDERER'S ELIGIBILITY

The tenderer shall furnish documentary evidence of the Tenderer's technical & financial capability to perform the contract as specified in the Tender document.

10.1 Average annual financial turnover of the tenderer should be at least 50% of the estimated cost put to tender during the immediate last three consecutive financial years. (Audited balance sheet, profit and loss account of the last 3 financial years shall be submitted). The bidder should have valid PAN and GST.

10.2 Profit/loss: The bidder should not have incurred any loss (profit after tax should be positive) in more than two years during available last five consecutive balance sheet, duly audited and certified by the Chartered Accountant.

10.3 Solvency Certificate: Solvency of the amount equal to 40% of the Estimated Cost put to tender (ECPT). Banker's certificate on credit worthiness of the Tenderer and capacity of the tenderer to take up the work.

10.4 Similar Work:

(Similar Work means **Supply, Installation, Testing and Commissioning of High Resolution 3D imaging platform** in any Government/Private Institutions like IITs, NITs, Government colleges or institutions accredited by UGC in India)

Original Equipment Manufacturer (OEM) Certificate/ Undertaking: If the bidder is not an OEM, Certificate of authorized dealership/ distributorship from the OEM for technical support to the bidder and supply of spares shall be furnished. The bidder must not sub contract the work to other providers.

The Vendor(s) who do not qualify in the technical bid will not be considered for commercial bid

10.5 Certificate of ISO/ISI, CE or equivalent in terms of quality of product and Manufacturer with proof of document attached

10.6 Copies of original documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership, etc. Copy of PAN and GST Registration No. and Income tax return certificate of the last five years should be attached

10.7 Copy of the power of attorney authorizing the signatory to sign the tender.

11. PERIOD OF VALIDITY OF BIDS

11.1 Bids shall remain valid for 180 days after the prescribed date of price bid opening. A bid valid for a shorter period may be rejected by the Purchaser as non-responsive.

11.2 In exceptional circumstances, the Purchaser may solicit the Tenderer's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing or e-mail but followed by a signed confirmation copy. The EMD provided shall also be suitably extended. A tenderer may refuse the request without forfeiting their EMD. A Tenderer granting the extension will not be required nor permitted to modify their bid.

12. FORMAT AND SIGNING OF BID

The Tenderer shall submit the bid in the manner prescribed in the website www.etenders.kerala.gov.in. The tenderer who submits their bids for this tender after digitally signing, using their Digital Signature

Certificate (DSC), accepts that they have clearly understood and agreed the terms and conditions in the website including the terms and conditions of this tender.

13. DEADLINE FOR SUBMISSION OF BIDS

13.1 Bids must be submitted online through the portal specified not later than the time specified for receipt of the bids as indicated in the E-Tender Notice.

13.2 The Purchaser may, at their discretion, extend this deadline for the submission of bids by amending the Tender Documents in which case all rights and obligations of the Purchaser and Tenderers previously subject to the deadline will thereafter be subject to the deadline as extended.

14. MODIFICATION AND WITHDRAWAL OF BIDS

14.1 The Tenderer may modify or withdraw their bid prior to the deadline prescribed for submission of bids.

14.2 No bid shall be modified subsequent to the deadline for submission of bids.

14.3 No bid shall be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity. Withdrawal of a bid during this interval shall result in the forfeiture of the EMD, submitted by the Tenderer.

15. CLARIFICATION OF BIDS

To assist in the examination, evaluation and comparison of bids, the Purchaser may, at their discretion, ask the Tenderers for a clarification of their bid. The request for clarification and the response shall be in writing/e-mail.

16. PRELIMINARY EXAMINATION

16.1 The purchaser will examine the bids to determine whether they are complete, the required sureties have been furnished, the documents submitted are complete in all respects, and that the bids are generally in order

17. TECHNICAL EVALUATION

17.1 The Purchaser will determine to their satisfaction whether the Tenderers who have submitted otherwise substantially responsive bids, are qualified to satisfactorily perform the Contract.

17.2 The determination will take into account the Tenderer's technical and financial, capabilities. It will be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, as well as such other information as the Purchaser deem necessary and appropriate including details of experience, records of past performance available with the Purchaser and details collected from other sources. The decision of the Purchaser in this regard shall be final and binding on all tenderers.

17.3 An affirmative determination will be a pre-requisite for considering the Priced Bid of the Tenderers.

17.4 If the Tenderer does not have installations in India in which similar equipment of similar or higher capacity is used, they shall take 4 representatives of University of Kerala at their cost for evaluation of the machinery overseas. The tenderer shall make necessary arrangements for such visits. Such expenses shall include to and fro travel charges from India to the destination country including accommodation, within the destination country.

18. OPENING OF PRICED BIDS

Priced bids of only those Tenderers whose unpriced technical bids are acceptable will be opened at a later date, and the date of opening will be intimated to the qualified Tenderers.

19. EVALUATION AND COMPARISON OF PRICED BIDS

The Purchaser will evaluate and compare the priced bids after examining whether the tenders are complete, any computational errors have been made and the bids are generally in order.

20. CONTACTING THE PURCHASER

20.1 No Tenderer shall contact the Purchaser on any matter relating to their bid, from the time of the bid opening to the time the Contract is awarded.

20.2 Any effort by a Tenderer to influence the Purchaser in the bid evaluation, bid comparison or Contract

award decisions may result in the rejection of their bid.

21. CRITERIA FOR AWARDING CONTRACT

The Purchaser will consider award of Contract for the work to the successful Tenderer whose bid has been determined as the lowest evaluated bid for the work.

22. PURCHASER'S RIGHT TO VARY QUANTITIES

The Purchaser reserves the right to increase or decrease the quantity of goods and services specified in the Technical Specifications and for which unit rates have been quoted, at the same terms and condition.

23. PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Purchaser reserves the right to accept or reject any bid, in full or part, and to annul the Tendering process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform them of the grounds for the action. The Purchaser's decision shall be final and binding on the tenderers.

24. NOTIFICATION OF AWARD/LETTER OF INTENT (LOI)

- 24.1 Prior to expiration of the period of bid validity, the Purchaser will notify the successful Tenderer through a Letter of Intent by e-mail or fax, to be confirmed in writing, that their bid has been accepted.
- 24.2 The acceptance of the notification of award/LOI will constitute the formation of the Contract.

25. SECURITY DEPOSIT/PERFORMANCE GUARANTEE BOND

- 25.1 Within 21 days of issue of letter of acceptance, the successful Tenderer shall furnish the Security Deposit in accordance with the Conditions of Contract, in the Performance guarantee Form provided in the Tender Documents or another form acceptable to the Purchaser.
- 25.2 Failure of the successful Bidder to comply with the above requirement shall constitute sufficient

grounds for the annulment of the award and forfeiture of the EMD, in which event the Purchaser may make the award to the next eligible and graded Tenderer or call for new bids. The decision of the Purchaser in this regard shall be final and binding on the Tenderers.

26. SIGNING OF CONTRACT

Within 21 days of issue of letter of acceptance and subject to furnishing the Security deposit as prescribed above, the successful Tenderer shall sign and date the Contract and return it to the Purchaser. Notwithstanding anything contained hereunder, the LOA shall stand as the contract till the agreement is signed.

27. PROPRIETARY ITEM

27.1 In case, if a particular instrument is a proprietary item of a particular manufacturer, a valid Proprietary Article Certificate shall be provided along with the Technical Bid.

NOTE: The word proprietary is defined as an item which is manufactured by one and only one manufacturer and/or which is a patent or speciality to which tender system cannot be applied with advantage.

SECTION – II
GENERAL CONDITIONS OF CONTRACT

1. **DELIVERY AND DOCUMENTS**

Delivery of the goods shall be made by the Supplier as specified by the Purchaser in the Special Conditions of Contract. Proposed delivery schedule should be mentioned clearly. **Delivery and installation should be made at the Central Laboratory for Instrumentation and Facilitation (CLIF), University of Kerala, Kariavattom Campus Trivandrum - 695581, without any extra cost. Complete installation, testing and demonstration of the system and day to-day maintenance are to be provided at the site** (inclusive of documentation, demurrage, customs duty, clearance and transportation charges). University of Kerala will provide customs duty exemption certificates if required.

The prices quoted must be on “**all-inclusive till destination**” basis. The prices quoted should be inclusive of all Taxes, Insurance, Freight, Packing & Forwarding Charges, Handling, Delivery Charges, installation charges etc

The Supply and installation of items must be made within **three months (90 days)** from the date of issue of supply order. Delay in supply will lead to penalty @1% of the value of tender for every week of delay or part thereof. (i.e. exceeding three days will be calculated as one week). If it is found that the items so supplied are not as per supply order specifications, the supply made will be rejected and Earnest Money Deposit will be forfeited. For those bidders submitting tenders for more than one instrument, separate applications for each instrument must be placed. Only one model can be quoted in a tender. If the tenderer wants to quote for more than one model separate tenders should be submitted. If more than one model is quoted in a single tender it will be summarily rejected

2. **INSURANCE**

2.1 The goods supplied under the contract, shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the contract. The insurance may be done for coverage on “all risks” basis including war risks and strike clauses. The amount to be covered under insurance should be sufficient to take care

of the overall expenditure to be incurred by the purchaser for receiving the Stores at the destination.

2.2 In case of any such loss or damage, the Supplier shall:

- a. Initiate and pursue any claim till its settlement, and
- b. Promptly make arrangements for repair and/or replacement of any damaged item/s irrespective of settlement of claim by the underwriters within a reasonable time.

2.3 The supplier shall submit, to the Purchaser documentary evidence that such policy is in effect.

3. INCIDENTAL SERVICES

3.1 As specified in the Special Conditions of Contract, the Supplier is required to provide any or all of the following services:

- a. Furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- b. Furnishing of copies of detailed Operation and Maintenance manual for each appropriate unit of the supplied Goods
- c. Conduct of training of the Purchaser's personnel, at purchaser's site, during installation and start-up operation.
- d. Any other service not specifically mentioned but is required for satisfactory performance of the contract.

3.2 All charges for the preceding incidental services shall be included in the Contract price.

4. WARRANTY/GUARANTEE

The Supplier shall warrant that the Goods supplied under the Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier shall further warrant that the Goods and services supplied provided under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions obtaining in the country of final destination. The Supplier shall also guarantee that the Goods supplied shall perform satisfactorily as per the designed/rated/installed

capacity as provided for in the Contract.

This warranty/guarantee shall remain valid for **36 months** from the date of commissioning the equipment as given in Special Conditions of Contract. Any defect arising out of faulty installation or use of substandard material or workmanship shall be rectified by the Supplier at his own risk and cost and within the time specified by the Purchaser.

The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.

Upon receipt of such notice, the Supplier shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Purchaser.

If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

This warranty/guarantee shall not cover any damage/s resulting from normal wear and tear or improper handling by the Purchaser.

All the spares/consumables related to equipment & exclusively supplied by manufacturer/supplier of the equipment shall be covered under the warranty. Nothing shall be payable on account of these items during warranty period by the purchaser. It shall also be mandatory to perform Quality check after every major repair/breakdown.

5. ALL INCLUSIVE COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (AICMC)

In addition to quoting for the equipment, the tenderers are also requested to quote separately, the charges of All Inclusive Annual Maintenance Contract for **Twelve (12)** years after standard warranty. Annual calibration/Instrument Performance Verification (IPV) of the equipment with traceable standards, Preventive Maintenance (PM) kit, standards and calibration kit etc., shall be a part of this. It shall also be mandatory to perform Quality check after every major repair/breakdown.

All the spares related to equipment & exclusively supplied by manufacturer/supplier of the equipment shall be covered under Comprehensive AMC. Nothing shall be payable on account of these items during Comprehensive AMC period by the purchaser. It shall also be mandatory to perform Quality check after every major repair/breakdown.

6. PAYMENT

The method and conditions of payment to be made to the Supplier under the Contract shall be as specified in the **Special Conditions of Contract**.

7. CHANGE ORDERS

7.1 The Purchaser may, at any time, by a written order given to the Supplier make changes within the general scope of the Contract in any one or more of the following:

- a. Drawings, designs or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- b. The method of shipment or packing;
- c. The place of delivery; or
- d. The Services to be provided by the Supplier.

7.2 If any such change causes an increase or decrease in the cost of, or the time required for the Supplier's performance of any part of the work under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of Supplier's receipt of the Purchaser's change order.

8. CONTRACT AMENDMENTS

No variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

9. LIQUIDATED DAMAGES

If the Supplier fails to deliver any or all of the Goods within the time period(s) specified in the Contract, the Purchaser shall, without prejudice to their other remedies under the Contract, deduct from the Contract Price, as Liquidated Damages and not as penalty, a sum equivalent to:

- a. 1% (one percent) of the full Contract price for delay per week or part thereof.
- b. The total amount so deducted shall not exceed 10% of the Contract price. Once the maximum is reached, the Purchaser reserves the right to take necessary steps for the completion of the Goods & Services. The decision of the Purchaser shall be final and binding on the Supplier.

10. TERMINATION FOR DEFAULT

10.1 The Purchaser may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, terminate the Contract in whole or in part:

- a. If the Supplier fails to deliver all the Goods/Services and commission the items, under his contract obligations, within the time period(s) specified in the Contract.
- b. If the Supplier fails to perform any other obligation(s) under the Contract.

10.2 In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure and perform, upon such terms and in such manner as it deems appropriate, Goods and Services similar

to those undelivered, and the Supplier shall be liable to pay the Purchaser for any excess costs for such similar Goods and Services. However, the Supplier shall continue performance of the Contract to the extent not terminated. The decision of the Purchaser shall be final and binding on the Supplier.

10.3 Consequent to such termination of Contract, the Purchaser shall recover all payments including the advance paid, if any, to the Supplier along with interest @12% per annum, compounded quarterly on the last day of March, June, September and December, for the entire period for which the amounts were retained by the Supplier.

11. FORCE MAJEURE

The Supplier shall not be liable for forfeiture of their Security Deposit, Liquidated damages or Termination for default, if and to the extent that, their delay in performance or other failure to perform their obligations under the Contract is the result of an event of Force Majeure.

For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Purchaser either in their sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform their obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

12. TERMINATION FOR INSOLVENCY

12.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, without compensation to the Supplier, if:

a. The Supplier becomes bankrupt or otherwise insolvent,

The Supplier being a Company is wound up voluntarily by the order of a Court, Receiver, Liquidator or Manager appointed on behalf of the debenture holders, or circumstances shall have arisen which entitle the Court or debenture holders to appoint a Receiver, Liquidator or a Manager, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

13. RESOLUTION OF DISPUTES

13.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

13.2 If, after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in the Special Conditions of Contract.

14. GOVERNING LANGUAGE

14.1 The Contract shall be written in English language. The language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the contract which are exchanged by the parties shall be written in English.

15. APPLICABLE LAW

The Contract shall be interpreted in accordance with the laws on the Union of India.

16. NOTICES

13.1 Any notice given by one party to the other pursuant to the Contract shall be sent in writing or by telegram or telex/cable/fax and confirmed in writing to the address specified for that purpose in the Special Conditions of Contract.

13.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

17. RIGHT TO USE DEFECTIVE EQUIPMENT/WORKS

If after delivery, installation and acceptance and within the guarantee and warranty period, the operation or use of any equipment/works proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such equipment/works until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

18. JURISDICTION

The contract shall be governed by and constructed according to the laws in force in India. For the settlement of any dispute arising out of this Contract, the courts at Thiruvananthapuram, Kerala shall have jurisdiction.

19. SPARE PARTS

As specified in the technical specification, the Supplier may be required to provide any or all of the following materials and notifications pertaining to spare parts manufactured or distributed by the supplier:

- a. Such spare parts as the Purchaser may elect to purchase from the supplier provided that this selection shall not relieve the Supplier of any warranty obligation and
- b. In the event of termination of production of spare parts:
 - i) advance notification to the Purchaser of the pending termination in sufficient time to permit the Purchaser to procure its needed requirements and
 - ii) following such termination, furnishing at no cost to the Purchaser, the blue prints, drawings and specifications of the spare parts, if and when require

SECTION – III
SPECIAL CONDITIONS OF CONTRACT

SECTION - III

SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provision herein shall prevail over those in the General Conditions of Contract.

1. SUFFICIENCY OF TENDER

The intending tenderers shall be deemed to have studied the tender papers and have taken into account all aspects of the requirements of the Client before submitting the tender.

2. PERFORMANCE OF WORK

The work shall be performed at the place or places specified in the tender or at such other place or places as may be approved by the purchaser.

3. SPECIFICATION

If the contractor shall have any doubt as to the meaning of any portion of the conditions of the specifications, he shall (before submitting the tender) set forth the particulars thereof and submit them to the purchaser in writing in order that such doubts may be cleared.

4. VARIATIONS

4.1 No alterations, amendments, omissions, additions, suspension, or variations of the work (hereinafter referred to as “variations”) under the contract as shown by the specifications shall be made by the Contractor except as directed in writing by the Purchaser, but the Purchaser shall have full power, subject to the provision hereinafter contained from time to time, during the execution of the contract

by notice in writing to instruct the Contractor to make such variation without prejudice to the contract, and the Contractor shall carry out such variations and be bound by the same conditions so far as applicable as though the said variation occurred in the specifications. If any suggested variation, would, in the opinion of the Contractor, if carried out, prevent him from fulfilling any of his obligations or guarantees under the contract, he shall notify the Purchaser thereof in writing and the Purchaser shall decide forthwith, whether or not they shall be carried out. If the Purchaser confirms his instruction, the Contractor's obligations and guarantees shall be modified to such an extent as may in the opinion of the Purchaser, be justified. The difference of cost, if any, occasioned by any such variations shall be added to or deducted from the contract price as the case may require.

4.2 The amount of such difference, if any, shall be ascertained as determined in accordance with the rates specified in the schedule of prices, so far as the same may be applicable and where the rates are not contained in the said schedule or not applicable, they shall be settled by the Purchaser and Contractor jointly. But the Purchaser shall not become liable for the payment of any such variations, unless the instructions for the performance of the same have been given in writing by the Inspector.

4.3 In the event of the Purchaser requiring any variations, such reasonable and proper notice shall be given to the Contractor, as will enable him to make his arrangements accordingly, and in cases where goods or materials are already prepared or any designs, drawings, or patterns made or work done is required to be altered a reasonable sum in respect thereof shall be allowed by the Purchaser, provided that no such variations shall, except with the consent in writing of the Contractor, be such as will involve an increase or decrease in the total price payable under the contract by more than 10 percent thereof.

4.4 In any case, in which the Contractor has received instructions from the Purchaser for carrying out the work which either then or later, will, in the opinion of Contractor involve a claim for additional payment, the Contractor shall as soon as reasonably possible after receipt of the instructions aforesaid, advise the Inspector to that effect.

5. INSPECTION AND TESTS

5.1 The inspection of the Goods shall be carried out by the Supplier to check whether the Goods are in conformity with the Technical specifications. The inspection shall be in line with the inspection/test procedures laid down in the Contract conditions.

5.2 Reliability of all equipment shall be demonstrated to the satisfaction of the inspecting Authority.

5.3 The Purchaser shall have the right at all reasonable times to inspect at the Supplier's premises all Supplier's drawings or any part of the work.

5.4 Before the items are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals together with as-built drawings. These shall have all such details as will enable the Purchaser to operate, maintain, adjust and repair all parts of the work as stated in the specifications.

5.5 The manuals and drawings shall be in the ruling language (English) and in such form and numbers as stated in the Contract.

5.6 Unless and otherwise agreed, the system shall not be considered to be completed for the purpose of taking over until such manuals and drawings have been supplied to the Purchaser.

6. INSPECTION OF SITE ETC. BEFORE SUBMISSION OF TENDER

The Supplier shall inspect and examine the site and its surroundings, and shall satisfy himself before submitting his tender, form and nature of the site, the quantities and nature of work and materials and its availability required for the completion of the works, the means of access to the site, the local labour conditions, the accommodation he may require and in general shall obtain all necessary information as to the risks, contingencies and other circumstances which may influence or affect his tender.

The delivery document shall include:

- a. The Suppliers invoice showing the purchase order no, Goods description, quantity and total amount.
- b. Shipment booking form / Delivery note.
- c. Packing list.
- d. Air waybill /Bill of lading.
- e. Bill of Entry (destination port).
- f. Certificate of the country of origin of the Stores to be given by the seller or a recognized Chamber of Commerce or other agency designated by the local Government for this purpose.
- g. Certificate of pre-dispatch inspection by purchaser's representative.
- h. Manufacturer's test certificate/Calibration certificate/Material test certificate.
- i. Suppliers / Manufacturers guarantee certificate.
- j. Certificate of Insurance (warehouse to warehouse (F.O.R destination)).
Note: Insurance may be done for coverage on "all risks" basis including ware risks and strike clauses.
- k. Any other document evidencing payment of statutory levies.
- l. Delivery challan (F.O.R destination).
Note: The nomenclature used for the item description in the invoice/s, packing list/s and deliverynote/s etc., should be identical

7. RESPONSIBILITY FOR COMPLETENESS

- 7.1 Any fittings or accessories which may not be specifically mentioned in the specifications but which are usual or necessary are to be provided by the Contractor without extra charge and the equipment must be complete in all details.
- 7.2 In all cases where the contract provides for tests on site, the Purchaser, except where otherwise specified shall provide free of charge such labour, materials, fuels, stores, apparatus and instruments as may be requisite from time to time and as may reasonably be demanded, efficiently to carry out such test of the materials or workmanship etc. in accordance with the contract.
- 7.3 All items as per the specification should be supplied by the contractor. However, at the time of installation, if it is found that some additional items are required to meet operational requirements of the configuration but not included in the bidder's original list of deliverables, the bidder shall supply items to ensure completeness of the configuration at no extra cost.
- 7.4 The reagents required for the installation and application training (machine consumables, Calibration beads/calibration plate/calibration tools/ QC beads for the equipment performance check) should be provided by the contractor.

8. PAYMENT

Unless agreed otherwise to by the Purchaser, the terms of payment for this contract shall be as follows:

8.1 For Indigenous purchase/supplies

No advance payment shall be made under any circumstances. Payment shall be released only after the complete and satisfactory execution of the contract, including supply/delivery, installation, testing and commissioning of the item(s)/equipment, on submission of duly verified bills and vouchers, and subject to the contractor furnishing a Performance Bank Guarantee (PBG) from a Nationalized/Scheduled Banks equivalent to five percent (5%) of the contract value, in the prescribed form and valid for the entire warranty period.

No request for change in banking details will be entertained afterwards. However, request for change in banking details will be accepted only if the Original Equipment Manufacturer (OEM)/vendor/supplier provides an Indemnity Bond certified by the bank for the same.

8.2 For All Inclusive Comprehensive Annual Maintenance Contract

The Contractor/Agency shall submit the bills at the end of every year after the date of completion of standard warranty and the payment will be made on receipt of the bill and upon submission of the documentary evidence for Preventive, Predictive and annual maintenance remittance of PF/ESI/Workmen Compensation and other statutory payments. All the applicable taxes, duties and penalties, if any, will be deducted from the bills.

9. RESOLUTION OF DISPUTES

- 9.1 Subject to the provisions of the relevant clause in General Conditions of Contract, any dispute or differences that could not be resolved be referred to the adjudication of sole Arbitrator. Within thirty days of receipt of notice from the Supplier of his intention to refer the dispute to arbitration, the Purchaser shall finalize University of Kerala a panel of three Arbitrators and intimate the same to the Supplier. The Supplier shall within fifteen days of receipt of this list, select and confirm his acceptance to the appointment of one from the panel as Arbitrators. If the Supplier fails to communicate his selection of name within the stipulated period, the Purchaser shall, without delay, select one from the panel and appoint him as the sole Arbitrator. If the Purchaser fails to send such a panel within thirty days as stipulated, the Supplier shall send a similar panel to the Purchaser within fifteen days. The Purchaser shall then select one from the panel and appoint him as the sole Arbitrator within fifteen days. If the Purchaser fails to do so, the Supplier shall communicate to the Purchaser the name of one from the panel who shall then be the sole Arbitrator. The appointment of sole Arbitrator so made shall be final and conclusive. The Arbitration shall be conducted in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 and rules there under or any statutory modifications thereof for the time being in force. The Arbitration proceedings shall be held in Thiruvananthapuram DISTRICT, KERALA ONLY at a time as the sole Arbitrator may decide. The Arbitrator shall give a speaking award and the decision of the sole Arbitrator shall be final and binding upon the parties and the expenses of the Arbitrator shall be paid as may be determined by the Arbitrator.
- 9.2 Performance under the Contract shall, if reasonably possible, continue during the Arbitration proceedings and payments due to the Supplier by the Purchaser shall not be withheld, unless they are the subject of the Arbitration proceedings.
- 9.3 Neither party is entitled to bring a claim to Arbitration if the Arbitrator has not been appointed within thirty days after expiration of the warranty/guarantee period.

10. EXTENSION OF TIME FOR COMPLETION

Should the amount of extra or additional work of any kind, or any cause of delay referred to in these conditions, or exceptional adverse climatic conditions, or other special circumstances of any kind whatsoever which may occur, other than through a default of the Supplier, be such as fairly to entitle the Supplier to an extension of time for the completion of the works, the Purchaser shall determine the amount of such extension and shall notify the Supplier accordingly. Provided that the Purchaser is not bound to take into account any extra or additional work or other special circumstances unless the Supplier has within twenty eight days after such work has been commenced, or such circumstances have arisen, or as soon thereafter as is practicable, submitted to the Purchaser full and detailed particulars of any extension of time to which he may consider himself entitled, in order that such submission may be investigated at the time. The Supplier shall not be entitled to claim any enhancement in the contract price on account of extension of time granted and the Supplier shall complete the work strictly in terms of the Contract.

11. FINAL TAKING OVER AND GURANTEE PERIOD

- a. After Commissioning, the guarantee period shall commence from the date of commissioning of equipment and shall be valid for a period of Thirty Six (36) calendar months.
- b. The Supplier would be required to give performance guarantee for each individual item of equipment supplied, and tested, as is applicable in each case (for due performance, quality of material used, design, throughput, erection, etc.).
- c. In respect of equipment/component renewed under the terms of guarantee, the period of guarantee for such items shall be for six months from the date of renewal or till the end of guarantee period, whichever is later.
- d. The guarantee period shall be extended in case of extension of the guarantee run period for reasons attributable to the Supplier and this will be communicated by the Purchaser to the Supplier in writing. The duration of extension of guarantee period will be mentioned in the above letter.

- e. Should the Supplier fail to rectify any defects which shall have been notified to him in writing during the period of guarantee, it shall be deemed as a breach of contract and the Purchaser will be entitled to rectify such defects at the Supplier's cost, and charge any further penalty as deemed fit.

12.TAX PAID IDENTIFICATION NO.

Tenderers must quote their tax paid identification No. (TIN) in their quotation otherwise their quotation will not be entertained. TIN must also be quoted on the bills by the suppliers, failing which their payment may not be released:

13.TRAINING OF PERSONNEL

Suppliers need to provide adequate training at University of Kerala to the nominated person(s) of the University at their cost. University of Kerala will not bear any training or living expenditure in this regard. The Supplier should arrange for regular visit to the campus by its technical team and assist in maintenance of the item/equipment within warranty period.

SECTION IV : TECHNICAL SPECIFICATION

Item	Specifications of High Resolution 3D imaging platform
1.	<p>Multispectral Optoacoustic Tomography device (MSOT) to simultaneously deliver functional, anatomical, a molecular imaging in real-time within the scope of a whole-body small animal imaging system.</p>
2.	<p>Illumination and detection system: Should produce homogenous light field for even distribution of light through tissue at the full depth of a small animal for whole body imaging.</p> <p>Laser should allow generation of light from 660-1300 nm wavelengths for continuous imaging from 660-1300 nm allowing optimal imaging of red absorbers (e.g. iRFP) and lipids (at 1064nm).</p> <p>Should have at least 256 individual optoacoustic ultrasound transducer elements positioned in an arc spanning atleast 310° around the animal for tomographic detection of an ultrasound signal that is induced by photon absorption.</p> <p>Should allow combining of these signals and reconstruction to produce quantifiable tomographic cross-sectional images in real time.</p> <p>The transducer elements used should have a detection frequency (4-6 MHz) that is optimal for deep-tissue optoacoustic imaging.</p> <p>The acquisition electronics should provide photoacoustic detection and possess low noise levels to optimize detection sensitivity from μV piezoelectric signals.</p> <p>Fast-tunable, high-energy laser system for fast multispectral imaging with high Signal to Noise (SNR)</p> <p>Should contain a Nd:YAG-pumped OPO tunable laser.</p> <p>Laser should uniquely allow tuning between wavelengths in <50 milliseconds.</p> <p>Multispectral acquisitions (typically using 5- 7 wavelengths) should be obtained in < 1 second for display in real time for capturing fast dynamic processes such as probe clearance kinetics and oxygenation and minimize stress to animals by reducing imaging times.</p> <p>Maximum pulse energy should be upto 100 mJ for a particular wavelength between 660-1300 nm for optimal signal to Noise Ration (SNR).</p>
3.	<p>Real time data acquisition and processing: Data acquisition system should simultaneously acquire up to at least 256 channels simultaneously at a sampling rate of at least 40 mega samples per second (MSps).</p> <p>Acquired data should be reconstructed and visualized in real time.</p> <p>Should have additional data analysis methods to allow normalised quantitation of oxygenation</p>

	measurements.
4.	<p>Image acquisition: Image rate (acquisition and live display) of 20 fps (frames per second). Acquisition time, cross-sectional image of < 10 ms (single wavelength) and < 1 s (multispectral, 10 wavelengths)</p> <p>Acquisition time, whole-body scan (120 mm) of < 6 min (multispectral, 0.5 mm step size)</p> <p>Spatial resolution of at least 150 μm.</p>
5.	<p>Field of view (FOV) : In-plane FOV (cross-section, x-y axis) of at least 40 x 40 mm</p> <p>Axial FOV (via translation, standard, z axis) of at least 120 mm.</p>
6.	<p>Object positioning / translation: Axial (z axis) - Motorized stage (min. step size: 0.1 mm)</p> <p>In-plane (x/y axes) – Motorized stages x/y axes</p>
7.	<p>Animal Management: Live animal monitoring - Should have CCD camera in chamber anesthesia system – Should be isoflurane-based.</p> <p>The system should come with at least three oxygen cylinders and one regulator to control the gas flow.</p>
8.	<p>Laser illumination system:</p> <p>Wavelength spectrum covered - 660-1300 nm</p> <p>Pulse repetition rate - 10 Hz</p> <p>Maximum pulse energy - 100 mJ</p> <p>Pulse duration of <7 ns</p>
9.	<p>Wavelength tuning: Tuning speed (between any two wavelengths) - <50 ms Minimum step size - 1 nm</p> <p>Tuning accuracy - 0.5 nm</p> <p>Light delivery - Homogeneous ring illumination</p> <p>Laser-integrated pulse energy meter- yes</p> <p>Laser-integrated spectrometer-yes</p>
10.	<p>Detection system: Curvature of detector array of $\geq 270^\circ$</p> <p>Center frequency / bandwidth of 4-6 MHz / > 60%</p> <p>Number of detector elements (min.) of ≥ 256</p>
11.	<p>Data acquisition electronics: Number of channels for simultaneous acquisition of ≥ 256</p> <p>Sampling rate of ≥ 40 MSps</p>
12.	<p>Software for system:</p> <p>Image acquisition, image reconstruction, spectral unmixing, signal quantification, tomographic data/image export</p> <p>Process Analysis and Export - Dynamic processes, multi-spectral data acquisition, video creation & export</p> <p>Advanced data analysis - Component analysis, extraction of measurement report, quantitation of oxygenation measurements</p>

	Advanced laser control - Adjustment of pulse energy, repetition rate Reference anatomy - Anatomy cryo-slice images, male & female anatomy, synchronization with imaging session
13.	General technical specifications: Scanner console – hardware - Intel Core i7 CPU, 5 TByte HDD, RAID, 24 GByte RAM, 1 GBit Ethernet, 24’’ TFT screen Scanner console - operating system - 64-bit Windows 10 Power supply - 16 A / 230 V Safety certification - CE certified (system should be compliant with ISO 61010-1, 60825-1, 61326-1) Laser classification - Class 1 (contains class 4 laser, secured through interlocks), Class IV as open unit.
14.	Heated Injection Pad: Should include temperature-controlled heating pad (operational surface 220 x 140 mm; heated surface 140 x 70 mm) Should have precise temperature control (30-40°C +/-1°C), fast heating (<5 minutes) Should have detachable aluminum body, easy cleaning and disinfection
15.	Animal Holder: Mouse - up to 120 mm Rat holder should be provided External animal bed for imaging larger animals or volumes in real – time should be provided.
16.	Anesthesia System: Should include stand, vaporizer, flow meter, gas exhaust unit, induction chamber, valves, tubing.
17.	Should include materials required for vivo imaging experiments including: electrical shaver, depilatory cream, eye protection cream, Ultra sound gel, saline, catheters. syringes, needle holder, tissue adhesive.
18.	Power supply: Should meet Indian power supply standards preferably without use of external converters Should provide suitable phase I/O for the system.
19.	Power backup: A suitable online UPS of reputed brand with minimum power backup for 30 minutes should be provided with the system. Service for online ups should be provided by the vendor at a later stage. Inverter of reputed brand to support the machine from any power fluctuations should also be provided.
20.	Data Analysis Software: System should be supplied with Analysis software with unlimited user license. Database based software to run backups of all data, restore back up data (in case of hardware failure of original computer). Single –Click data export option to open Microsoft Excel. Should have different file formats during data export which includes .xlsx, .pdf, xml, and .txt Software should have option for area selection. i. e different protocols at different area of the same plate. Spectral scanning of all 96 samples or 384 samples should be able to view in single graph plot. System should able to read 96 different wavelength in one 96 well plate in one protocol Single software program should allow any number of measurement steps within the program. A data handling system should be provided with Core I5 processor & 8GB RAM

	Should provide a separate PC or lap top to perform analysis separately. The system should have 128 GB+ RAM and storage capacity of 1 TB SSB+ 2TB HDD for archive.
21.	electrical shaver, depilatory cream, eye protection cream, Ultra sound gel, saline, catheters. syringes, needle holder, tissue adhesive should be provided with the equipment.
22.	Warranty period: 3 years
23.	To include brochures having complete technical details of the product and original data sheets must be attached with the technical bid
24.	The equipment should be delivered and installed at the University of Kerala and onsite training should be given.
25.	All items should be delivered and installed within 3 months of receiving the purchase order.
26.	The complete details of earlier installations in India should be enclosed.
27.	Vendor should provide proof of publications in reputed journals.
28.	Should provide evidence of service centres in Kerala or near by states.

ANNEXURES

Annexure: 1

1. PARTICULARS TO BE FILLED BY THE BIDDER

1. Name of the Bidder:

2. Complete Address of the Bidder

3. Availability for demonstration of instruments at UNIVERSITY OF KERALA: Yes / No [Please √]

4. Communication details of the concerned contact person to whom all references shall be made regarding this tender enquiry. [NOTE: Any changes after submission of Tender documents kindly update UNIVERSITY OF KERALA]

a.) Full Name :

b.) Complete Postal Address

c.) Telephone No.:

d.) Fax No.:

e.) Mobile No.:

f.) E-mail:

5. Name and full address of the manufacturer:

a) Full Name:

b) Complete postal address

c) Telephone NO:

d) Fax No:

e) Mobile No:

f.) E-mail:

g.) Website Address:

f.) E-mail:

g.) Website Address:

6. Manufacturing Type [Please √]

a.) Import

b.) Indigenous

c.) Both

7. Country of Origin:

8. Any other relevant information

Authorized Signature and Stamp of Bidder

2. DATA SHEET

Data sheet to be submitted by the bidder.

The data sheet to be submitted in the following format:

- I. Name of Equipment
- II. Duty/ Function
- III. Indented purpose
- IV. Brief description on the operation of the equipment
- V. Over all dimension of the equipment
- VI. Utility Requirement
 - a. Electrical : Watts, Voltage
 - b. Pneumatic: Compressed Air : FAD
 - c. Steam : Kg/hr
 - d. Water : Ltr/min
- VII. Safety Features if any
- VIII. Other technical features
- IX. Other relevant information if any

3. PROFORMA FOR PERFORMANCE GUARANTEE BOND

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of Two Hundred)
(TO BE ESTABLISHED THROUGH ANY OF THE NATIONALISED BANKS (WHETHER
SITUATED AT THIRUVANANTHAPURAM OR OUTSTATION) WITH A CLAUSE TO
ENFORCE THE SAME ON THEIR LOCAL BRANCH AT THIRUVANANTHAPURAM.
BONDS ISSUED BY CO-OPERATIVE BANKS ARE NOT ACCEPTED.)

To,

Registrar

University of Kerala

Senate House Campus

Palayam

Thiruvananthapuram – 695034

Kerala, India

LETTER OF GUARANTEE

WHEREAS University of Kerala (Buyer) have invited Tenders vide Tender

No.....Dt.....for purchase

of.....

AND WHEREAS the said tender document requires the supplier/firm (seller) whose tender is accepted for the supply of item/equipment, etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favor of "University of Kerala" in the form of Bank Guarantee for Rs. [Amount as per clause

no.6 of Section II GCC] which will be valid for entire warranty period (up to date)

from the date of issue of work order, the said Performance Guarantee Bond is to be submitted within 15 (Fifteen) days of issue of letter of acceptance. On receiving the clear Performance Guarantee Bond, payment will be processed.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said supplier/firm (seller) failing to abide by any of the conditions referred to in tender document / purchase order / performance of the item/equipment etc. this Bank shall pay to University of Kerala on demand and without protest or demur Rs..... (Rupees... ..).

This Bank further agrees that the decision of University of Kerala (Buyer) as to whether the said supplier/firm (Seller) has committed a breach of any of the conditions referred in tender document / purchase order shall be final and binding.

We,... ..(name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the supplier/firm (Seller) and/ or University of Kerala (Buyer).

Notwithstanding anything contained herein:

- a. Our liability under this Bank Guarantee shall not exceed Rs.....
(Indian Rupees..... only).
- b. This Bank Guarantee shall be valid up to... .. (date) and
- c. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if University of Kerala serve upon us a written claim or demand on or before
..... (date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at ourbranch office at situated at.....

.....

.....

.....(Address of local branch).

Yours truly,

Signature and seal of the guarantor:

Name of the Bank:

Complete Postal Address”

Date:

3. FORMAT FOR BANK GUARANTEE

(ON NON-JUDICIAL STAMP PAPER OF Rs.200/-)

To:.....(Name and address of Owner)

.....

WHEREAS (*Name and Address of Contractor*) (hereinafter called “the Contractor”) has undertaken, in pursuance of Contract No. dated 20... to the work (*Description of Work*) (hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as (Retention amount / Security deposit as applicable) for compliance with the Contractor’s contractual obligations in accordance with the Contract.

AND WHEREAS we (*Name of Banker*) have agreed to give the Contractor a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Contractor, up to a total of (*Amount of the Guarantee in Words and Figures*) such

sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand declaring the Contractor to be in default under the Contract and without cavil or argument, any sum or sums within the limit of

(*Amount of Guarantee*) as aforesaid, without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

This guarantee is valid until the day of 20...

Signature and Seal of Guarantors

.....

.....Date: 20...

Name of Bank :

Address:

.....

5. TECHNICAL COMPLIANCE SHEET

High Resolution 3D imaging platform- 1 Nos (Quantity Required)

Item	Specifications of High Resolution 3D imaging platform	Compliance (Yes/No)	Deviation (if any)
1.	Multispectral Optoaco I Technical Tomography device (MSOT) to simultaneously deliver functional, anatomical, a molecular imaging in real-time within the scope of a whole-body small animal imaging system.		
2.	<p>Illumination and detection system:</p> <p>Should produce homogenous light field for even distribution of light through tissue at the full depth of a small animal for whole body imaging.</p> <p>Laser should allow generation of light from 660-1300 nm wavelengths for continuous imaging from 660-1300 nm allowing optimal imaging of red absorbers (e.g. iRFP) and lipids (at 1064nm).</p> <p>Should have at least 256 individual optoacoustic ultrasound transducer elements positioned in an arc spanning atleast 310°around the animal for tomographic detection of an ultrasound signal that is induced by photon absorption.</p> <p>Should allow combining of these signals and reconstruction to produce quantifiable tomographic cross-sectional images in real time.</p> <p>The transducer elements used should have a detection frequency (4-6 MHz) that is optimal for deep-tissue optoacoustic imaging.</p> <p>The acquisition electronics should provide photoacoustic detection and possess low noise levels to optimize detection sensitivity from μV piezoelectric signals.</p> <p>Fast-tunable, high-energy laser system for fast multispectral imaging with high Signal to Noise (SNR)</p>		

	<p>Should contain a Nd:YAG-pumped OPO tunable laser.</p> <p>Laser should uniquely allow tuning between wavelengths in <50 milliseconds.</p> <p>Multispectral acquisitions (typically using 5- 7 wavelengths) should be obtained in < 1 second for display in real time for capturing fast dynamic processes such as probe clearance kinetics and oxygenation and minimize stress to animals by reducing imaging times.</p> <p>Maximum pulse energy should be upto 100 mJ for a particular wavelength between 660-1300 nm for optimal signal to Noise Ratio (SNR).</p>		
3.	<p>Real time data acquisition and processing: Data acquisition system should simultaneously acquire up to at least 256 channels simultaneously at a sampling rate of at least 40 mega samples per second (MSps).</p> <p>Acquired data should be reconstructed and visualized in real time.</p> <p>Should have additional data analysis methods to allow normalised quantitation of oxygenation measurements.</p>		
4.	<p>Image acquisition: Image rate (acquisition and live display) of 20 fps (frames per second). Acquisition time, cross-sectional image of < 10 ms (single wavelength) and < 1 s (multispectral, 10 wavelengths)</p> <p>Acquisition time, whole-body scan (120 mm) of < 6 min (multispectral, 0.5 mm step size)</p> <p>Spatial resolution of at least 150 μm.</p>		
5.	<p>Field of view (FOV) : In-plane FOV (cross-section, x-y axis) of at least 40 x 40 mm</p> <p>Axial FOV (via translation, standard, z axis) of at least 120 mm.</p>		
6.	<p>Object positioning / translation: Axial (z axis) - Motorized stage (min. step size: 0.1 mm)</p> <p>In-plane (x/y axes) – Motorized stages x/y axes</p>		

7.	<p>Animal Management: Live animal monitoring - Should have CCD camera in chamber anesthesia system – Should be isoflurane-based.</p> <p>The system should come with at least three oxygen cylinders and one regulator to control the gas flow.</p>		
8.	<p>Laser illumination system:</p> <p>Wavelength spectrum covered - 660-1300 nm</p> <p>Pulse repetition rate - 10 Hz</p> <p>Maximum pulse energy - 100 mJ</p> <p>Pulse duration of <7 ns</p>		
9.	<p>Wavelength tuning: Tuning speed (between any two wavelengths) - <50 ms Minimum step size - 1 nm</p> <p>Tuning accuracy - 0.5 nm</p> <p>Light delivery - Homogeneous ring illumination</p> <p>Laser-integrated pulse energy meter- yes</p> <p>Laser-integrated spectrometer-yes</p>		
10.	<p>Detection system: Curvature of detector array of $\geq 270^\circ$</p> <p>Center frequency / bandwidth of 4-6 MHz / > 60%</p> <p>Number of detector elements (min.) of ≥ 256</p>		
11.	<p>Data acquisition electronics: Number of channels for simultaneous acquisition of ≥ 256</p> <p>Sampling rate of ≥ 40 MSps</p>		
12.	<p>Software for system:</p> <p>Image acquisition, image reconstruction, spectral unmixing, signal quantification, tomographic data/image export</p> <p>Process Analysis and Export - Dynamic processes, multi-spectral data acquisition, video creation & export</p> <p>Advanced data analysis - Component analysis, extraction of measurement report, quantitation of oxygenation measurements</p> <p>Advanced laser control - Adjustment of pulse energy, repetition rate</p> <p>Reference anatomy - Anatomy cryo-slice images, male & female anatomy, synchronization with imaging session</p>		

13.	<p>General technical specifications:</p> <p>Scanner console – hardware - Intel Core i7 CPU, 5 TByte HDD, RAID, 24 GByte RAM, 1 GBit Ethernet, 24’’ TFT screen</p> <p>Scanner console - operating system - 64-bit Windows 10</p> <p>Power supply - 16 A / 230 V</p> <p>Safety certification - CE certified (system should be compliant with ISO 61010-1, 60825-1, 61326-1)</p> <p>Laser classification - Class 1 (contains class 4 laser, secured through interlocks), Class IV as open unit.</p>		
14.	<p>Heated Injection Pad: Should include temperature-controlled heating pad (operational surface 220 x 140 mm; heated surface 140 x 70 mm)</p> <p>Should have precise temperature control (30-40°C +/- 1°C), fast heating (<5 minutes) Should have detachable aluminum body, easy cleaning and disinfection</p>		
15.	<p>Animal Holder: Mouse - up to 120 mm</p> <p>Rat holder should be provided</p> <p>External animal bed for imaging larger animals or volumes in real – time should be provided.</p>		
16.	<p>Anesthesia System: Should include stand, vaporizer, flow meter, gas exhaust unit, induction chamber, valves, tubing.</p>		
17.	<p>Should include materials required for vivo imaging experiments including: electrical shaver, depilatory cream, eye protection cream, Ultra sound gel, saline, catheters. syringes, needle holder, tissue adhesive.</p>		
18.	<p>Power supply: Should meet Indian power supply standards preferably without use of external converters</p> <p>Should provide suitable phase I/O for the system.</p>		
19.	<p>Power backup: A suitable online UPS of reputed brand with minimum power backup for 30 minutes should be provided with the system.</p> <p>Service for online ups should be provided by the vendor at a later stage.</p> <p>Inverter of reputed brand to support the machine from any power fluctuations should also be provided.</p>		
20.	<p>Data Analysis Software: System should be supplied with Analysis software with unlimited user license.</p> <p>Database based software to run backups of all data, restore back up data (in case of hardware failure of original computer.</p> <p>Single –Click data export option to open Microsoft Excel.</p> <p>Should have different file formats during data export</p>		

	<p>which includes .xlsx, .pdf, xml, and .txt</p> <p>Software should have option for area selection. i. e different protocols at different area of the same plate.</p> <p>Spectral scanning of all 96 samples or 384 samples should be able to view</p> <p>in single graph plot.</p> <p>System should able to read 96 different wavelength in one 96 well</p> <p>plate in one protocol</p> <p>Single software program should allow any number of measurement steps within the program.</p> <p>A data handling system should be provided with Core I5 processor & 8GB RAM</p> <p>Should provide a separate PC or lap top to perform analysis separately. The system should have 128 GB+ RAM and storage capacity of 1 TB SSB+ 2TB HDD for archive.</p>		
21.	electrical shaver, depilatory cream, eye protection cream, Ultra sound gel, saline, catheters. syringes, needle holder, tissue adhesive should be provided with the equipment.		
22.	Warranty period: 3 years		
23.	Make of the equipment offered		
24.	Model of the equipment offered		
25.	To include brochures having complete technical details of the product and original data sheets must be attached with the technical bid		
26.	The equipment should be delivered and installed at the University of Kerala and onsite training should be given.		
27.	All items should be delivered and installed within 3 months of receiving the purchase order.		
28.	The complete details of earlier installations in India should be enclosed.		
29.	Vendor should provide proof of publications in reputed journals.		
30.	Should provide evidence of service centres in Kerala or near by states.		

NOTE:

1. Compliance statement should be supported with the printed catalogue mentioning page number and clearly highlighting the required tender specifications in the catalogue.

2. Where there is no deviation, the statement should be returned duly signed with an endorsement indicating “No Deviations”

Furnishing of wrong statement may lead to debar from the future purchases of University of Kerala.

6. TERMS AND CONDITIONS OF THE SERVICE CONTRACT

- i. During the service contract period, the firm shall provide at least 3 preventive maintenance visits per year and attended to all emergent and break-down calls.
- ii. In each block of 365 days during the entire service contract period the firm will be responsible to maintain the equipment in good working condition for a period 328 days (i.e 90% uptime). All the complaints will be attended by the firm within 2 days of the dispatch of the complaint to their office. In case there is delay of more than 2 days in attending to a complaint then the number of days in excess of the permissible response time shall be counted in the downtime. In case total downtime exceeds the permissible downtime a fine equivalent to double the service contract charges shall be recovered from the firm on per day basis.
- iii. The right to accept the reason(s) for delay and consider reduction or waive off the penalty for the same shall be at the sole discretion of **UNIVERSITY OF KERALA, Thiruvananthapuram**.
- iv. We undertake to carry out annual calibration of the equipment.
- v. We undertake to perform Quality check after every major repair/breakdown/taking the equipment for repair out of **UNIVERSITY OF KERALA, Thiruvananthapuram** premises.
- vi. The replaced parts shall remain the property of the **UNIVERSITY OF KERALA, Thiruvananthapuram**.
- vii. The firm shall try to repair the equipment at **UNIVERSITY OF KERALA, Thiruvananthapuram** itself. However, the equipment may be taken to their site, on their own expenses if in case it is not possible to repair the same at **UNIVERSITY OF KERALA, Thiruvananthapuram**. The firm shall take the entire responsibility for the safe custody and transportation of the equipment taken out for repairs till this is handed over the purchaser after repair. Any loss of equipment or its accessories on account of theft, fire or any such reasons shall be the sole risk and responsibility of the firm who will compensate the **UNIVERSITY OF KERALA, Thiruvananthapuram**, for such losses at order value of the damaged/lost equipment/part including accessories.

- viii. During the service contract period the parts/components that may be needing replacement shall be made available by the **bidder** at their own expenses
- ix. We undertake to provide PM kit and calibration kit as per requirement to meet uptime condition of the tender.
- x. We undertake that equipment/accessories of Third party supplied along with the main equipment shall be covered under comprehensive AMC of the main equipment

**Authorized Signature and
Stamp of Bidder**

7. PROFORMA FOR USER LIST OF QUOTED MODEL

No. of similar item/equipment supply, installed, tested and commissioned by the bidder in any Government/Private Institutions like IITs, NITs, Government colleges or institutions accredited by UGC in India during the last seven years ending previous day of last date of submission of tender.

Sl. No.	Name & full address of purchaser	Purchase Order No.& Date	No. of Units (Qty.)	Purchase Order Value (Rs.)	Date of Installation	Contact person name, phone No. and email id of Purchaser

(Copies of Purchase orders, satisfactory completion certificate for the work done, certificate from clientshowing that the installation is satisfactorily working for past year shall be submitted in English language. Details of current contracts in hand and other commitments as supportive evidence).

Place:

Date:

Signature & Seal of the bidder

5. FORMAT FOR MANUFACTURER'S AUTHORISATION FORM

(To be given on Manufacturer Letter Head)

[**NOTE:** 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 a person with the proper authority to sign documents that are binding on the Manufacturer. It should be included by the Bidder in its bid]

No. Dated

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

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

To

The Registrar

University of Kerala

Senate House Campus

Palayam

Thiruvananthapuram - 695034

WHEREAS

We **[insert complete name of Manufacturer]**, who are official manufacturers of **[insert type of goods manufactured]**, having factories at **[insert full address of Manufacturers 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 in accordance with the General Conditions of Contract, 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/Designation:** [insert title]

Duly authorized to sign this Authorization on behalf of: [insert complete name of Bidder] Dated on _____ day of ____, __ [insert date of signing]

Yours faithfully

(Name of manufacturer)

OR

SELF DECLARATION OF MANUFACTURING UNIT

CERTIFICATE OF GUARANTEE/WARRANTY

(To be given on Manufacturer Letter Head)

- a. I/We certify that the standard guarantee/warranty shall be for a period of **36 months** starting from the date of satisfactory installation, commissioning and handing over of the equipment and of the works conducted therewith covered under the Supply order in working order. During the guarantee/warranty period. I/we shall provide free “after sale service” and the replacement of any part(s) of the equipment or rectification of defects of work of the equipment will be free of cost. The replacement of the parts shall be arranged by us, at our own cost and responsibility. We undertake that the above guarantee/warranty shall begin only from the date of satisfactory and faultless functioning of the equipment at UNIVERSITY OF KERALA, Thiruvananthapuram premises. The benefit of change in dates of the guarantee/warranty period shall be in the interest of the user/your organization.
- b. During the warranty period, we shall provide at least 3 preventive maintenance visits per year.
- c. Uptime Guarantee: During the guarantee/warranty period, we will be responsible to maintain the equipment in good working conditions for a period 328 days (i.e. 90% uptime) in a block of 365 days.
- d. All the complaints will be attended by us within 2 working days of receipt of the complaint in our office.
- e. In case there is delay of more than 2 days in attending to a complaint from our side then you can count the number of days in excess of the permissible response time in the downtime. The above said response time of 2 days for attending to a complaint by us will not be counted in the downtime.
- f. Penalty: We shall pay a penalty equivalent to 0.5 % of the order value of the equipment for every week or part thereof delay in rectifying the defect.
- g. Note: The right to accept the reason (s) for delay and consider reduction or waive off the penalty for the UNIVERSITY OF KERALA, Thiruvananthapuram
- h. We undertake that all the spares / calibration tools (including kits/plates/beads) related to equipment & exclusively supplied by manufacturer/supplier of the equipment shall be

covered under warranty/extended warranty. Nothing shall be payable on account of these items during warranty/extended warranty by UNIVERSITY OF KERALA, Thiruvananthapuram.

- i. We certify that the equipment being/quoted is the latest model and that spares for the equipment will be available for a period of at least 10 years and we also guarantee that we will keep the organization informed of any update of the equipment over a period of seven (07) years.
- j. We guarantee that in case we fail to carry out the maintenance within the stipulated period, UNIVERSITY OF KERALA, Thiruvananthapuram reserves the right to get the maintenance work carried out at our risk, cost and responsibility. All the expenses including excess payment for repairs/maintenance shall be adjusted against the Performance Bank Guarantee. In case the expenses exceed the amount of Performance Bank Guarantee, the same shall be recoverable from us with/without interest in accordance with the circumstances.
- k. We shall try to repair the equipment at UNIVERSITY OF KERALA, Thiruvananthapuram premises itself. However, the equipment will be taken to our site on our own expenses in case it is not possible to repair the same at UNIVERSITY OF KERALA, Thiruvananthapuram. We shall take the entire responsibility for the safe custody and transportation of the equipment taken out for repairs till the equipment is rehabilitated to the UNIVERSITY OF KERALA, Thiruvananthapuram after repairs. Any loss of equipment or its accessories under its charge on account of theft, fire or any other reasons shall be at our sole risk and responsibility which will be compensated to UNIVERSITY OF KERALA, Thiruvananthapuram for such losses at the order value for the damaged/lost equipment/part, including accessories.
- l. We undertake to perform Quality check after every major repair/breakdown/taking the equipment for repair out of UNIVERSITY OF KERALA, Thiruvananthapuram premises.
- m. In case of extended guarantee/warranty, we undertake to carry out annual calibration/IPV of the equipment.
- n. We guarantee that we will supply spare parts if and when required on agreed basis for an agreed price. The agreed basis could be an agreed discount on the published catalogue price.
- o. We guarantee to the effect that before going out of production of spare parts, we will give

adequate advance notice to you so that you may undertake to procure the balance of the life time requirements of spare parts.

- p. We guarantee the entire unit against defects of manufacture, workmanship and poor quality of components.
- q. We undertake to provide Preventive Maintenance kit as per requirement to meet uptime guaranteecondition.

Place:

Date:

1. Authorized signatory
(with seal)

2. Authorized signatory

10. TENDER ACCEPTANCE LETTER

{ Submitted on Letterhead of bidder/supplier)

To,

Date:

Registrar

University of Kerala

Senate House Campus

Thiruvananthapuram

Kerala, India - 695034

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No:

Name of Tender / Work: -

Dear Sir,

1. I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

as per your advertisement, given in the above mentioned website(s).

2. I/ We hereby certify that I/ we have read the entire terms and conditions of the tender documents (including all documents like annexure(s), schedule(s), etc.), which form part of the contract

agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organizations too have also been taken into consideration, while submitting this acceptance letter.
4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.
5. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking/Govt. Autonomous organisations.
6. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore can summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours faithfully,

(Signature of the Bidder, with Official Seal)

11. FORMAT FOR QUOTING THE RATES (Local Component/Indigenous)

(To be submitted on the letterhead of the company/firm. This Annexure need not be submitted along with the Technical bid. If any bidder submitted the same along with Technical bid the bid may not be considered for evaluation. If required, the University will demand it from the bidders.)

PRICE BID

Name of the Equipment
Name of the Manufacturer
Make of the Equipment
Model Number

A.

Sr. No.	Item	Rate Per Unit
1.	Basic Cost of equipment with accessories defined in Technical Specifications Statement of the Tender Document (In case of Local Accessories)	
2.	Packing & Forwarding Charges, If any	
3.	Installation & Commissioning Charges, If any	
4.	Inland charges for insurance, transportation, loading & unloading to CLIF, UNIVERSITY OF KERALA, Kariavattom, Thiruvananthapuram	
5.	Installation, commissioning and training Charges, if any	
6.	Other charges if any (please specify details)	
7.	GST	
	Total Price (F.O.R CLIF, University of Kerala, Kariavattom) charges	
Total Amount in Words.....		

B. For Local Supplies

Sr. No.	Details	Total Amount (INR)
1.	Cost of Local Supplies defined in Technical Specifications of the Tender Document (Please mention the items)	
2.	Packing & Forwarding Charges, if any	
3.	Installation & Commissioning Charges, If any	
4.	Transportation Charges up to CLIF, UNIVERSITY OF KERALA, Kariavattom, Trivandrum , If any	
5.	If any other charges (Please Specify)	
6.	GST	
	Total Price (F.O.R CLIF, University of Kerala, Kariavattom) charges	
Total Amount in Words.....		

A) Total Bid price in Indian Currency (Equipment Cost with accessories) : _____

In words: _____

B) Total Bid price in Indian currency (Local Supplies): _____

In words: _____

Grand Total:- A+ B =

This is certified that the rates quoted above are not more than the rates charged from any other Institution/Department/Organization.

Note:

- * Only net rates (after discount) should be quoted.
- * The bidder may add rows as per requirement to include the prices of all components/ parts, warranties, installation etc. Whichever applicable.
- * Individual Prices for misc. items should be quoted.
- * Taxes and other levies, if any, are to be clearly specified in the bid.

* Where the equipment is composed of several sub-unit/component, the rate should be quoted for each subunit/component otherwise quotation is liable to be rejected.

- Delivery Mode : Delivery at CLIF, UNIVERSITY OF KERALA, Kariavattom at site only
- Delivery Period:.....days/weeks.
- Installation Period:days/weeks.
- **Validity of the bid : - 180 Days from the date of opening of the tender.**

All Inclusive Comprehensive Annual Maintenance Contract (AICMC) Charges: (after the expiry of Standard warranty)

The Bidder should quote the charges for All Inclusive Comprehensive AMC for a period of **Twelve (12)** years in Indian Rupees. The charges to be quoted per annum. The university reserves the right to award the AICMC depending upon the funds available.

Rate for 1 st year	Rs.
Rate for 2 nd year	Rs.
Rate for 3 rd year	Rs.
Rate for 4 th year	Rs.
Rate for 5 th year	Rs.
Rate for 6 th year	Rs.
Rate for 7 th year	Rs.

***** The above annexure is only for reference purpose. Any discrepancy in the quoted rate between the BOQ in excel format and Annexure 11, the rate quoted in the excel format will prevail for finalising the contract.**

Sign of bidder:_____

Date:_____

Name of the bidder:-_____

Firm's Name:-_____

12. FORMAT FOR QUOTING THE RATES (Imported)

(To be submitted on the letterhead of the company/firm. This Annexure need not be submitted along with the Technical bid. If any bidder submitted the same along with Technical bid the bid may not be considered for evaluation. If required, the University will demand it from the bidders.)

PRICE BID

Name of the Equipment	
Name of the Manufacturer	
Model Number	
Country of Origin	

A.

Sr. No.	Item	Rate Per Unit
1.	Cost of the equipment/accessories (FOB Price- In case of Imported Equipment including Indian Agency Commission	
2.	Price at Indian Airport/ Port (CIP, Thiruvananthapuram)	
3.	Custom Duty against DSIR Certificate (please mention % also)	
4.	Custom clearance and other charges, if any	
5.	Other charges in DDP mode like insurance, transportation, loading & unloading etc..upto UNIVERSITY OF KERALA, Trivandrum	
6.	Installation, commissioning and training Charges, if any	
	Total Price (F.O.R University of Kerala, Trivandrum charges	
Total Amount in Words.....		

The equipment should be supplied on INCOTERMS Delivered Duty Paid (DDP) basis; that should cover customs clearance/duty charge, clearing agent charge, demurrage charge if any, documentation charge, labour charge and transportation charge. F.O.R Destination is UNIVERSITY OF KERALA, Thiruvananthapuram, Kerala, India.

B. For Local Supplies

Sr. No.	Details	Total Amount (INR)
1.	Cost of Local Supplies defined in Technical Specifications of the Tender Document (Please mention the items)	
2.	Packing & Forwarding Charges, if any	
3.	Installation & Commissioning Charges, If any	
4.	Transportation Charges upto UNIVERSITY OF KERALA, Thiruvananthapuram, If any	
5.	If any other charges (Please Specify)	
6.	GST	
	Total Price (F.O.R University of Kerala charges	
Total Amount in Words.....		

A) Total Bid price in foreign currency: _____ In words: _____

B) Total Bid price in Indian currency: _____ In words: _____ Grand Total:-

A+ B =

This is certified that the rates quoted above are not more than the rates charged from any other Institution/Department/Organization.

(To be in Letter Head of the Institution)

**Performance Certificate (For Scientific Equipment Supplied to IIT / IISER /CSIR
Labs/State Universities/ Tier–I Govt. Research Institutions)**

Date: ____ / ____ / ____

Subject: Performance Certificate

This is to certify that M/s _____ has successfully
supplied the following scientific equipment:

Equipment Name / Description: _____

Date of Supply: _____

Contract / Purchase Order No.: _____

Quantity: _____

Contract Value in Rupees: _____

The above equipment was supplied to (Name of Institution: IIT / IISER /CSIR Labs/State
Universities/ Tier–I Govt. Research Institution):
_____.

The equipment was duly installed and commissioned and has satisfactorily completed _____
months of continuous operation at our institution.

Based on usage and performance evaluation, the functionality, performance accuracy, precision,
build quality, and durability of the equipment have been found to be satisfactory and suitable for
scientific/research applications.

This certificate is being issued upon request, for submission in bids/tenders for the procurement of
scientific and laboratory equipment.

I hereby declare that the undersigned is the competent authority to issue this certificate for this
instrument.

