Tender Document

LUMS

TENDER NO. LUMS/305/2026 DATED: 30.10.2026 for "Reference Grade Continuous Ambient Air Quality Monitoring System"

Last Date for submission of bids	**24/11/2026 till 03:00 Pm**
Opening of bids	**24/11/2026 at 03:30 Pm**

Lahore University of Management Sciences (hereinafter called LUMS) invites sealed bids for the supplies as per attached BOQ on Single stage two envelope basis.

If you have doubt as to the meaning of any portion of the specification or other terms and conditions, you may seek clarification of the same in writing from us.

You are required to submit your bid, which will bear words "CONFIDENTIAL" and

TENDER NO. LUMS/305/2026 DATED: 30.10.2026 for "Reference Grade Continuous Ambient Air Quality Monitoring System"

Description

Name of Equipment: Reference Grade Continuous Ambient Air Quality Monitoring System

Quantity: 01 Complete System

1. General Requirements

This Tender covers one (1) complete continuous ambient air quality monitoring system, supplied as one mutually compatible and fully functional package, comprising:

a. Optical aerosol sensor / fine-dust monitor with integrated touchscreen, data logger and gravimetric filter holder.
b. Weatherproof outdoor housing for installation of the complete system outdoors.
c. Sampling head, sampling tube and active aerosol drying system with humidity compensation.
d. Weather sensor for ambient temperature, pressure and relative humidity.
e. Air-conditioned outdoor cabinet.
f. Extended and height-adjustable drying/sampling line to suit the installation site
g. Calibration-check test dust and accessories for on-site verification of calibration.
h. Instrument firmware and PC data-analysis software.

i. Installation and commissioning at LUMS, operator training, documentation and warranty.

2. Functional Specifications And Requirements

The offered system shall meet or exceed every requirement below.

Functional Requirement	Minimum Requirement
Continuous multi-fraction PM	Continuous, real-time and simultaneous measurement of PM1, PM2.5, PM4, PM10 and TSP from a single measurement, without separate size-selective inlets or cyclones for each fraction.
Particle number and size	Particle number concentration and particle size distribution reported in addition to mass, for sensor validation, source attribution and research.
Certified performance	Type-approved and certified for continuous ambient monitoring of PM2.5 and PM10 according to EN 16450 and EN 15267, suitable for regulatory monitoring networks.
Outdoor installation	Explicitly approved by the manufacturer for outdoor installation; the outdoor configuration shall itself be covered by the type approval and certification.
No consumables or radioactive source	No filter tape or other routine consumables, and no radioactive source (no radiation licensing or source disposal).
Low maintenance	Low-maintenance design with long service life and low energy consumption.
Humidity handling	Active aerosol drying with humidity compensation, suitable for Lahore's high humidity, fog and smog seasons.
Calibration and status monitoring	Continuous online monitoring of calibration and instrument status; external on-site calibration check using reference test dust.
Data availability	Greater than 95% data availability.
Gravimetric validation	Integrated holder for a 47 mm or 50 mm absolute filter, allowing gravimetric validation and subsequent analysis of aerosol composition.
Data integration	Open interfaces and protocols for automatic transfer of data to external databases and public-facing data platforms; remote access to data and status.

3. Technical Specifications

Parameter	Minimum Requirement
Measuring principle	Optical light scattering at single particles (90° sideways scattering) with a long-life polychromatic (white-light) LED source.
Reported data	PM1, PM2.5, PM4, PM10, TSP, particle number concentration, particle size distribution, ambient temperature, pressure and relative humidity.
Size range and resolution	Approximately 0.18–18 µm, with high-resolution size classification.
Concentration ranges	Mass 0–10,000 µg/m³; number up to 20,000 particles/cm³; mass resolution 0.1 µg/m³.
Measurement uncertainty	Expanded uncertainty meeting the EN 16450 equivalence requirements for PM2.5 and PM10, as stated in the type-approval report; repeatability 3% or better.
Certification	EN 16450 and EN 15267-1/-2 type approval (TÜV); compliance with EN 12341, EN 14907, VDI 4202-1 and VDI 4203-3; current MCERTS certificate for PM10 and PM2.5 valid for urban background, suburban, rural and traffic sites. Copies of all certificates shall be submitted with the bid.
Sample flow	Constant, mass-flow-controlled sample flow.
Sampling inlet	Passive, non-size-selective (TSP) sampling head, so that all PM fractions are measured together without cyclones or impactors.
Aerosol drying	Intelligent dynamic aerosol drying with humidity compensation.

Parameter	Minimum Requirement
Time resolution	1 s to 24 h, user-adjustable, with real-time display and automatic data storage.
Data logger	Storage for at least two years of continuous operation at a 60 s interval.
Interfaces and protocols	USB, Ethernet (LAN), RS-232 and Wi-Fi; Modbus, ASCII, UDP and Bayern-Hessen protocols.
User interface	Integrated touchscreen display.
Outdoor housing	IP65 steel or stainless-steel weatherproof cabinet (heated and ventilated) protecting the system against water and dust; certified operating range −20 °C to +50 °C and 0–100% RH (non-condensing). A larger air-conditioned cabinet shall be available from the manufacturer/supplier.
Power	90–264 VAC, 50/60 Hz; approximately 60 W in normal operation and not more than 200 W maximum.
Software	PC data-analysis software for evaluating measurement data, with export to Excel/CSV.

4. Installation, Training, Warranty And Support

Requirement	Minimum Requirement
Installation and commissioning	Installation of the system at the site designated by LUMS, start-up, in-situ calibration check and operational verification, with a commissioning report.
Training	Hands-on training for LUMS technical staff on operation, calibration checks, routine maintenance, troubleshooting, data retrieval and data analysis.
Warranty	Minimum one (1) year from commissioning, covering the instrument and outdoor housing, including for manufacturer-refurbished equipment.
Technical support	Remote technical support from the manufacturer and local support from the Bidder, with response within one business day.
Documentation	User manual, technical documentation, calibration certificate and type-approval certificates, in English.

5. Special Conditions

1. The Bidder MUST quote one complete, fully functional system meeting all mandatory requirements of this Attachment, and shall submit a clause-by-clause compliance statement (Comply / Deviate) supported by the manufacturer's datasheets. Offers that do not meet a mandatory requirement will be considered technically non-responsive.
2. The Bidder shall state whether the equipment is new or manufacturer-refurbished. Refurbished equipment is acceptable only if refurbished and recalibrated by the original manufacturer and covered by the warranty.
3. The system will be subject to inspection, functional testing and acceptance by LUMS or its designated technical representative.
4. The Bidder shall be responsible for import, customs clearance and delivery to LUMS.

TERMS AND CONDITIONS

1. Instruction to Bidders:

a) **General:** Bids are invited through Sealed Envelope for the purchase of supplies and other related items from the authorized distributors and manufacturers on delivery Ex-LUMS.

b) **Bill of quantities:** The bidder may quote for one or more items showing description and specification of offered items.

c) **The vendor is required to quote in PKR currency and delivery is on Ex-LUMS(DDP) basis.**

2. Date &Time of Submission of Tenders:

The interested bidders may submit their bids on the prescribed form, available on written request on the firm / company letter pad from the Procurement office located, Lahore University of Management Sciences, at Opposite Sector U, DHA Lahore along with a postal order/pay order/bank draft / amounting to Rs. 2,000/- (Non-refundable) drawn in favor of Lahore University Of Management Sciences.

All bids must be delivered in procurement office on or before the prescribed deadline of 03:00 pm on the date already mentioned above.

Any Bid received by LUMS after the prescribed deadline for submission of bids will be returned unopened to the Bidder.

3. Sealing and Marking of Bids:

The bids shall comprise in a Single package containing two separate envelopes each envelope shall contain separately, duly sealed, the "Financial Proposals" and "Technical Proposals". The envelopes shall be marked as "Financial Proposals" and "Technical Proposals" in bold and legible letters to avoid any confusion.

The envelop will be addressed to;
Manager Procurement
Lahore University of Management Sciences,
Opposite Sector U, DHA,
Lahore
TEL: (042)35608246

The envelopes shall also bear the word "CONFIDENTIAL" and following identifications: -
If the envelope is not marked, as instructed above, LUMS will assume no responsibility for the misplacement or premature opening of the bid.

4. Bid Opening:

LUMS will open the bids, in the presence of Bidder's representatives who choose to attend at 03:00 pm on the date already mentioned above, in the Procurement office.

5. Evaluation:

a) After opening of bids, LUMS will examine the bids for technical evaluation and completeness of the bids as per tender document.

b) The bids shall be evaluated on the basis of "Technical proposals" and "Financial Proposals" as under:

   (i) The envelope for "Technical Proposals" will be opened initially in the presence of the bidders.

   (ii) The envelope for "Financial Proposals" will be retained unopened.

   (iii) The "Financial Proposals" envelope of technical responsive bidders will be opened in front of technically qualified bidders after the technical evaluation. The "Financial Proposals" envelope of technically non-qualified bidders will be returned unopened to the bidder.

c) Bidder(s) who do (es) not qualify cannot challenge the findings of the evaluation or ask for reasons of disqualification.

6. Earnest Money:

The bidder must enclose 2% of the total quoted amount as earnest money in shape of pay order/bank draft in favor of Lahore University of Management Sciences. The tenders without earnest money or containing less earnest money will not be accepted. Earnest money of the successful bidder will be refunded after the delivery of the goods.

7. Change in Quantities:

LUMS reserves the right to increase/decrease quantities and it will be the responsibility of the supplier/contractor to deliver the item on time and change defective items.

8. Mode of Payment:

a) Payment terms will be credit basis.

b) In case of advance payment first class bank guarantee or mutually accepted collateral will be provided by the bidder.

9. NTN/GST Certificate:

Bidder must mention their National Tax Number (NTN) and General Sales Tax (GST) number (if sales tax registered) and furnish a copy of NTN and GST certificate along with tender.

10. Tax Deduction:

Income Tax as per government tax rules will be deducted from the total amount unless an exemption certificate is provided from the income tax department.

11. Specification Criteria:

All bids must be submitted according to specification given in the BOQ.

12. Delivery Time:

a) Validity period of the tender will be mutually decided from the date of placement of order. During this period successful bidders will be bound to supply the items on the rates they quoted.

b) In case the supplier fails to supply the agreed material in time, LUMS reserves the right to reject its offer and confiscate the earnest money deposited.

c) Delivery will be on Ex-LUMS

d) Pre-shipment inspection will be done by LUMS if required.

13. Inspection and Testing

a) LUMS representative shall have the right to inspect and / or test the Goods to confirm their conformity to the Purchase order(s) Specifications.

b) Should any inspected or tested goods fail to conform to the specifications, LUMS may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet specification of LUMS. All costs incurred on such replacements / alterations shall be entirely borne by the supplier, failing to do so, the purchase order(s) will be cancelled and all retained values will be forfeited in favor of LUMS.

14. Quality of items:

All item(s) supplied by successful bidder should be wholesome and include all the basic accessories. The additional accessories may be included separately. The offered items(s) should not be of substandard nature.

15. Warranty:

As mentioned against each item or for the given period starting from the date of supply.

16. Penalty:

<u>For failure to comply with delivery schedule of Purchase Order(s) penalty will be imposed on defaulting bidder as under:</u>

a) 1% of the cost of entire order or of such items/job as remains un-supplied/not-completed for every day up to maximum of 5% for 10 days exceeding the delivery period unless mutually agreed in writing.

b) If the material is not supplied even after payment of penalty for 10 consecutive days LUMS reserves the right to cancel the purchase order and to obtain the required

items/get the job done from elsewhere at risk and cost of the defaulting contractor. In this scenario the Earnest money will be confiscated.

17. Grievance Committee

Supplier can contact the grievance committee of LUMS if required.

18. Rejection of Bids:

LUMS reserves the right to reject any or all bids or proposals without assigning any reason.

19. Other Instructions:

a) Bid Prices shall be quoted on Annexure-"A" and also on letter Head duly filled in, stamped and signed by the authorized representative of Bidder.
b) Bidding Form Annexure-"B" must also be duly filled in, stamped and signed by authorized representative of Bidder.
c) Quoted price shall be valid for three months from the opening date of the Tender, for placing order however, any subsequent change in taxes and duties as notified by government will be given due consideration

I/We hereby agree to abide by and fulfill all the terms and conditions of the contract.

The sum of Rs._____ is herewith forwarded in the shape of _____as 2% earnest money.

Name and Address of the Firm **Company's Stamp**

_____

_____

_____

Name and Signature of company's Representative

_____

_____

CNIC: _____

ANNEXURE "A"
FINANCIAL PROPOSALS

S. No.*	**Name of Item**	**Qty**	Ex-LUMS(DDP)	**Total Price**	**Remarks**

* S.NO as mentioned on BOQ

Authorized Signature of Bidder with seal stamp_____

Full name of firm _____

N.I.C. No. _____

Phone no. _____ Mobile No._____

ANNEXURE-"B"

TECHNICAL PROPOSALS

S. No.*	Name of Item(s)	Specifications / Brand	Qty

* S.NO as mentioned on BOQ

Authorized Signature of bidder with seal stamp

_____

Full name of firm _____

N.I.C. No. _____

Phone no. _____ Mobile No._____

Note: Attach technical brochure producing detailed specifications for all the offered items(s).

BIDDING FORM

Date: _____

Lahore University of Management Sciences.
Lahore

Gentleman

1. Having examined the conditions to Tender and Specifications of Tender No LUMS/305/2026 DATED: 30.10.2026, the receipt of which is hereby acknowledged. We the undersigned, offer to supply and deliver in conformity with specifications mentioned in BOQ and conditions of Tender for the sum of Rs._____ (Rupees _____) or such other sums as may be ascertained in accordance with the said Conditions.

2. If our Bid is accepted, we shall deliver the required supplies mentioned in the tender documents within _____ days from the date of receipt of your firm Purchase Order.

3. We agree to abide by the terms and conditions of the Tender for the period of _____ from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

4. Until a formal Purchase order(s) is placed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

5. We understand that you are not bound to accept the lowest or any proposal you may receive or to inform us of the rejection of our bid or to give any reasons thereof.

Dated this _____ day of _____ 2026.

Signature _____ in the capacity of _____ duly authorized to sign Tender for and on behalf of

_____
(NAME OF FIRM IN BLOCK CAPITALS)

Complete Address: _____

Fax No._____ Telephone No._____

(SIGNATURE)
Witness :-1. _____ 2_____