



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली

शिक्षा मंत्रालय, भारत सरकार द्वारा स्थापित
सैक्टर 81, नॉलेज सिटी, प. ओ. मनोली, एस. ए. एस. नगर, मोहाली, पंजाब 140306
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI
(Established by Ministry of Education, Govt. of India)
Sector-81, Knowledge city, PO-Manauli, SAS Nagar Mohali-140306, Punjab
PAN No. - AAAAI1781K GSTIN – 03AAAAI1781K2ZS

• Phone : +91-172- 2240121 • Fax : +91-172-2240124 • <http://www.iisermohali.ac.in> • Email: stores@iisermohali.ac.in

CPPP/Institute Website

IISERM (1490-2)21/22-Pur-GTE

Dated: 5th October 2021

NOTICE INVITING E-TENDER

Online tenders are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for the **Supply & Installation and Service Plan For An Integrated Online Chemical Ionization Mass Spectrometer Based On Proton Transfer Reaction Mass Time Of Flight Technology For Rapid Real-Time Measurements Of Compounds Present As Gases And In Aerosol In Ambient Air** as per technical specification and details given below and BOQ list from the original manufacturer/supplier at CPPP i.e. <https://eprocure.gov.in/eprocure/app>. Tender documents may please be downloaded from the E-procurement portal website <https://eprocure.gov.in/eprocure/app> & Institute website www.iisermohali.ac.in.

-Sd-
Assistant Registrar (P&S)



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E-TENDER NOTICE

Tender Ref.- IISERM(1490-2)21/22-Pur-GTE	Dated : 5 th October 2021
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Critical Date Sections

Sr.	Description	Date	Time
1.	Tender Publishing Date and time	5 th October 2021	6:00pm
2.	Tender Document download start Date & Time	5 th October 2021	6:00pm
3.	Bid Submission start Date & Time	5 th October 2021	6:00pm
4.	Bid Submission End date and Time	05 th November 2021	Upto 11:00am
5.	Tender opening Date and Time	06 th November 2021	At 11:30am

Online tenders are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for following item(s) from the original manufacturer/supplier at CPPP i.e. <https://eprocure.gov.in/eprocure/app>. Tender documents may please be downloaded from the E-procurement portal website <https://eprocure.gov.in/eprocure/app> & Institute website www.iisermohali.ac.in. Tender fee in shape of Demand Draft of Rs 590/- (Non-refundable) should be submitted by bidder in favour of the Registrar, IISER Mohali payable at Mohali or through Online mode in Institute Account (Canara Bank Saving Account Number 4790101001912 and IFSC Code CNRB0004790) However, scanned copy of the Tender fee should be uploaded on website along with technical bid. The hard copy of the same in original to be sent to the address mentioned below duly superscribing the supply/work name and reference/tender ID on the envelope and same must reach before opening of the bid and if not received before due date the bid will be summarily rejected. **Micro & MSME/NSIC and Firms registered and the firms registered with concerned Ministries/ Departments, the bidders are exempted from payment of Tender Fee/EMD as per GOI notifications/GFR (2017) and Ministry of Finance OM No. F.9/4/2020-PPD dated 12 November 2020.**

Bidders will also be required to execute bond/undertaking Bid Security Declaration Form attached as ANNEXURE-I for availing exemption to submit EMD/Tender Fee.

The Original Tender Fee should be sent to:

Assistant Registrar (P&S)
Indian Institute of Science Education and Research Mohali
Sector-81, Knowledge City, SAS Nagar, Mohali, Punjab,
India, Pin: 140306

Non-receipt of original Tender Fee will lead to rejection of tender.

ITEM WISE DETAILS

Sr. No.	Description	Qty. (in units)
1.	SUPPLY & INSTALLATION AND SERVICE PLAN FOR AN INTEGRATED ONLINE CHEMICAL IONIZATION MASS SPECTROMETER BASED ON PROTON TRANSFER REACTION MASS TIME OF FLIGHT TECHNOLOGY FOR RAPID REAL-TIME MEASUREMENTS OF COMPOUNDS PRESENT AS GASES AND IN AEROSOL IN AMBIENT AIR. <u>INSTRUMENT PARAMETER – AS PER ANNEXURE II</u>	01

A) IMPORTANT NOTES:-

- I. The online updated Price BOQ is in INR format. If bidder want to quote other than INR please specify the quoted currency in the technical bid/part and fill the amount in same updated BOQ.
- II. Please bifurcate the price on shipping terms i.e. Ex-works -> FCA/FOB -> CIP/CIF in price BOQ and specify the same in technical bid without price.
- III. If quoted in foreign currency, kindly clearly specify the terms of delivery/country of origin/bank details with swift code/weight/size/dimension of shipment.
- IV. The Online bids should be submitted directly by the original manufacturer/supplier, If quotation is submitted/filled by any representative/agent/dealer then they must upload a authority certificate from the principal company.
- V. All MSME/NSIC/Startup Units shall be considered as per provisions/rules prescribed by Govt of India.
- VI. Auto-extension of last date for E-Tenders has been activated by CPP Portal which has participation 2 bids or less.

B) SUBMISSION OF TENDER

- I. All bid/ tender documents are to be uploaded online at Central Public Procurement portal i.e. <https://eprocure.gov.in/eprocure/app> only and in the designated cover/ part on the website against tender ID. Tenders/ bids shall be accepted only through online mode and no manual submission of the same shall be entertained except tender fee and EMD. Late tenders will not be accepted.
- II. The online bids shall be opened at the office of the Assistant Registrar (P&S), IISER Mohali, on above given date and time. If the tender opening date happens to be on a holiday or non-working day due to any other valid reason, the tender opening process will be attended on the next working day at same time and place. IISER Mohali will not be responsible for any error like missing of schedule data while downloading by the Bidder.
- III. The bidder shall upload the tender documents duly filled in and stamped by the authorized signatory on each and every page. Tender not submitted/uploaded in the prescribed form and as per the tender terms and conditions shall be liable for rejection.

- IV. The bidder shall upload scanned copy of the PAN Card, GST number duly signed and stamped. **Also bidders applying against ‘MSME/NSIC Certificate’ issued by appropriate Authority, should ensure that the certificate attached is relevant to the area of service/supply. For example, If the tender is for “supply & installation of Desktop” the certificate should be issued for activity/area of “Computer supply and services activities etc” otherwise bid will be REJECTED without notice.**
- V. E-procurement system ensures locking on the scheduled date and time. The system will not accept any bid after the scheduled date and time of submission of bid.

C) INSTRUCTIONS

1. The Online bids should be submitted directly by the original manufacturer/supplier, If quotation is submitted/filled by any representative/agent/dealer then they must upload a authority certificate from the principal company for quoting the price otherwise such quotation will be rejected.
2. The quantity mentioned in this inquiry is and shall be deemed to be only approximate and will not in any manner be binding on the Institute. Before the deadline for submission of the online bid, IISER Mohali reserves the right to modify the tender document terms and conditions. Such amendment/modification will be notified on website against said tender ID.
3. The rates offered should be FOR Delhi/Mohali in case of firms situated outside Chandigarh/Mohali, and free delivery at the Institute premises in case of local firms. Conditional tenders will be summarily rejected.
4. In case of Ex-godown terms the amount of packaging forwarding freight etc. should clearly be indicated by percentage or lump sum amount. Institute has policy not to make any advance payments towards any purchase, Letter of credit can be opened if required.
5. THE INSTITUTE IS EXEMPTED FROM CUSTOM DUTY under notification no-TU/V/RG-CDE(1062)/2016 CUSTOM DT. 12.10.2018.
6. Tax: This Institute is not exempted from the payment of GST. The current rate (i.e. percentage of GST should be clearly indicated included or excluded) wherever chargeable. Please also provide/upload the copy of PAN card, GST number duly self-attested.
7. Concessional GST is applicable for all the items purchased for Research labs vide Ministry of Finance, notification no. 45/22017 dated 14.11.2017 and 47/2017 dated 14.11.2017.
8. Bidder/s quoting in currency other than **Indian Rupee (INR)** should explicitly mention the currency in which tender quoted wherever applicable in Technical/Commercial Bid along the tender documents.
9. The delivery period should be specifically stated. Earlier delivery will be preferred.
10. The firms are requested to provide/upload detailed description and specifications together with the detailed drawings, printed leaflets & literature of the article quoted and also should enclosed **Technical Compliance Sheet**. The name of the manufactures and country of manufacture should also invariably be stated. In the absence of these particulars, the quotation is liable for rejection. Tenders not accompanied by detailed information as required, are liable to be rejected.
11. If any information furnished by the bidder is, at any stage found to be incorrect, false or fabricated, the Institute/purchaser shall have the absolute right to forfeit E.M.D. and security deposits, in addition to cancellation of contract, forfeiting the warranty/performance Guarantees and other action in accordance with law, such as black-listing, risk & cost etc.

- 12. Validity of offer: Period for which the offer will remain open: Bidders should keep their offers valid for acceptance for a period of 9 months.**
13. The warranty period after satisfactory installation should be mentioned and firm should replace all manufacturing defect parts/ whole item under warranty without any extra cost including clearance, freight, taxes. Security deposit/ Bank Performance Guarantee @ 3% of the value of supply order, in terms of *Ministry of Finance, DoE, GOI, OM. No. F.9/42020-PPD dated 12-11-2020* and as per norms may be sought from the firms.
14. Integrity pact: The technically qualified and L-1 bidder required to submit the integrity pact, immediately after acknowledgement of the Purchase order.
15. The Director, IISER Mohali reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the bidders shall be required to supply the same at the rate quoted. Director, IISER Mohali also reserves the right to accept or reject any or all the tenders without assigning any reason thereof.
16. The right to reject all or any of the quotation and to split up the requirements for itemized L-1 or relax any or all the above conditions without assigning any reason is reserved by the IISER Mohali. For any corrigendum and addendum please be checked the website <https://eprocure.gov.in/eprocure/app> and <http://www.iisermohali.ac.in>
17. Disputes, if any, shall be subject to jurisdiction in the court of Mohali only.

–Sd–
Assistant Registrar (P&S)

ANNEXURE-I

Bid Securing Declaration Form

Date: _____ E-Tender No. _____ E-Tender ID _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders. I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)
in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing he Bid Securing Declaration)
Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)
Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

PS: *Furnish the above in original stationary/letter head with signed and sealed.*

ANNEXURE – II

SUPPLY AND INSTALLATION OF AN INTEGRATED ONLINE CHEMICAL IONIZATION MASS SPECTROMETER BASED ON PROTON TRANSFER REACTION MASS TIME OF FLIGHT TECHNOLOGY FOR RAPID REAL-TIME MEASUREMENTS OF COMPOUNDS PRESENT AS GASES AND IN AEROSOL IN AMBIENT AIR

Sr. No.	Instrument parameter	Technical specifications
1.	System design	1. The system should have a cold-spot free design as sticky compounds need to be measured under conditions with high PM _{2.5} mass loadings (> 500 ug/m ³) and gas phase polluted air (>100 ppb of individual trace gas) in ambient pollution plumes 2. All parts in contact with sample should be made of inert materials to keep surface effects minimal.
2.	Sensitivity	Sensitivity for m/z 42 (acetonitrile): > 250 cps/ppbv with greater than 8000 m/dm (FWHM) at m/z 42 and Sensitivity for xylene > 400 cps/ppbv with greater than 8000 m/dm (FWHM) at m/z 107
3.	Temporal resolution	1 minute or better for both gas phase and aerosol phase chemical speciation modes with switching time between modes of the order of few minutes or less
4.	Mass resolving power	> 7000 m/dm (FWHM) at all m/z ≥ 33
5.	Mass range for analyte quantification	19 -1000 amu
6.	Adjustable Inlet system	Should be able to regulate at set temperatures between 40-150 degree Celsius; Should be able to regulate inlet pressure at 500mbar and above ambient pressures; Inlet should be made of Teflon or PEEK suitable for VOC analyses with inlet flow as low as 100 ml/minute also possible
7.	Ion source heating range	40-120 degree Celsius
8.	Detection limit gas phase	20 ppt or better for all compounds in mass range of m/z 31-m/z 400 with 1 minute temporal resolution data
9.	Detection limit aerosol phase	Better than 5 ng/m ³ for PAHs, levoglucosan and oleic acid
10.	Reaction chamber temperature and E/N control range	40 -120 degree Celsius; 40-200 Td
11.	Reagent ions included with automated switching options	Hydronium ions (H ₃ O ⁺), Ammonium (NH ₄ ⁺) and Nitrosonium ion (NO ⁺)
12.	H₃O⁺ reagent ion purity	High purity > 98%
13.	Ammonium (NH₄⁺) ion purity	Purity > 95%
14.	Nitrosonium ion (NO⁺) ion purity	Purity > 95%

15.	Mass analyzer	Time of Flight
16.	Detector	Microchannel-plate (MCP); Robust, Low electronic noise; With Time-to-Digital Converter (TDC) or Analogue to Digital (ADQ)
17.	AEROSOL INLET PERFORMANCE SPECS	<ol style="list-style-type: none"> 1) VOC adsorption of gas phase denuder in front of aerosol inlet should be better than 99.99% in polluted ambient air. Also should be possible to regenerate by heating in clean air flow within few hours 2) Particle transmission of gas phase denuder in front of aerosol inlet should be better 90% for aerosol particles in the size bin of 80 nm > Particle diameter $D_p < 1000$ nm 3) Minimum aerosol size range with stable particle response for D_p with 120 nm to 800 nm 4) Aerosol volatilization: complete evaporation of Intermediate Volatile Organic Compounds, Semi-Volatile Organic Compounds, Low Volatility Organic Compounds with reduced response for Extremely Low Volatility Organic Compounds (List of compounds tested by vendor for their system in each class to be supplied with proper documentation)
18.	Response time of gas and aerosol phase compounds	For gas phase compounds < 100ms; For aerosol phase compounds response time (1/e) such as levoglucosan, vanillic acid and tartaric acid < 60 seconds
19.	Data acquisition, processor and storage computer	With atleast 1 TB SSD storage and 8 GB RAM; Windows; Full HD Display
20.	Power and Safety Certification	Full system power load < 1500 W; 220-240 V; 50 Hz AC input power supply with surge protectors; Electrical safety compliance per Bureau of Indian Standards (BIS) or equivalent for equipment operated in India
21.	Weight	< 180 kg; Max dimensions of mass spectrometer 70 cm x 100 cm x 100 cm Width x Height x Depth
22.	Integrated Calibration Unit with provision for automatic zeroes and calibrations supplied with suitable VOC gas standard cylinder and pressure reducer.	VOC gas standard mixture should contain compounds spanning oxygenates, isoprene and aromatics spanning mass range m/z 31 to m/z 200 at suitable mixing ratios for performing calibration from 500 ppt to 20 ppb range with the supplied unit. Accuracy of gas mixture should be better than 10 percent for all compounds and analysis certificate of exact values for each compound should be provided as well.
23.	Automation	<p>Automated calibration measurements</p> <ul style="list-style-type: none"> • Automated background measurement • Instrument parameters (reagent ion, source voltages, flows, drift-tube Pressure, temperature, etc) should be recorded in datafiles. • Automated switching of

		<p>- reagent ions between H₃O⁺, NO⁺ and NH₄⁺ reagent ions should be enabled Should be possible to run pre-set automated sequences for reaction conditions (E/N by varying voltage or pressure) and multiport switching valves if any Mass calibration automation</p>
24.	Remote access	24/7 Remote access to view system in online mode via secure internet should be possible with possibility to access data files on cloud using username and password
25.	Softwares for data acquisition and processing	Installation licences for all software required for data acquisition, data quality control and data processing from cps to ppb and time series plots, including future updates of the same shall be provided by OEM/vendor for free on the data acquisition computer plus two other computers (to be specified by IISER Mohali) for period of 6 years from the date of first installation in Delhi.
26.	NOTE	Kindly do not quote end of life system or parts. Spares should be available for a minimum period of 6 years for the quoted system/system parts.
27.	Installation and training and warranty/CMC	<p><u>Installation and training on-site by engineer from OEM</u> : For 5 days at Delhi site (to be specified by IISER Mohali in purchase order) during first installation and for 2 days at Mohali where it needs to be reinstalled after 1 year of measurements by vendor and team. Vendors will be expected to demonstrate all features in compliance with specifications during installation.</p> <p><u>NOTE: Please note instrument will have to be deployed and installed at Delhi for 1 year after which it is to be transported to IISER Mohali. Transportation logistics, insurance and costs are to be borne by vendor.</u></p> <p><u>Scope of CMC plan:</u> 6-year complete system CMC plan post warranty (warranty period should also cover all consumables/parts as per CMC plan specified below). This has to be quoted along with Instrument cost (mandatory to Quote), on yearly basis in the Price Bid with following inclusions: During 6 year period, atleast 5 on-site maintenance interventions by Service engineer from OEM which can be consumed on a "need-basis" after successful installation. - In person intervention takes place within 4 weeks after customer alert or once per year as regular maintenance service/remote intervention and support to be provided within 24 working hours of receipt of email from customer.</p>

		<p>All consumables/costs for the interventions (preventive maintenance and otherwise) will be covered by OEM/vendor.</p> <p>Replacements for all parts which break down/need to be replaced within 6-year CMC period after installation to be borne by OEM/vendor.</p> <p>Repairs: For repairs during warranty and CMC period manufacturer/local supplier must give Bank Guarantee if some part/s is/are required to be taken out from the installed premises in India.</p> <p>For repairs after warranty and CMC period, local office of OEM or local supplier should give Indemnity bond to take instrument for repairs if some part/s is/are required to be taken out from the installed premises in India.</p> <p>Institute reserves the right to reduce CMC period coverage for L1 computation, based on the funds available and received bids. However, the yearly rates quoted for the 6- year CMC plan will be frozen and accepted by OEM/vendor in case IISER Mohali opts for additional CMC coverage in future, if additional funds become available. In case the price bid exceeds available funds, IISER Mohali reserves right to cancel the tender completely.</p>
28.	Documentation	<p>Vendor should provide documentation of having previously supplied similar systems in India or abroad and enclose the test data sheets or peer reviewed publications if available affirming compliance with above technical specifications while measuring ambient air. Vendors must provide original catalog of their system and a compliance statement for each specific point. Hard copies and soft copies of all Manuals of system and its parts (pumps, mass analyzer, detector etc..) to be provided by OEM/vendor.</p>
29.	Validity of quote	9 months
30.	Delivery time	6 months for delivery in Delhi