

**Notice Inviting Open Tender for:**  
**Supply, Installation, Commissioning & Training of an Microwave Digestion System**  
**At the Indian Institute of Science, Bangalore**

(Tender from Domestic Vendor and Suppliers)

**Bids are invited from domestic OEM / authorized distributor of domestic OEM**

(Last date of Submission February 27, 2023)

Date: February 15, 2023

Dear Sir/Madam:

Please send your tender documents valid for 90 days from the actual date of opening the technical bid, for the supply of equipment described below. Your documents/quotation should clearly indicate the terms and conditions of the quotations, delivery schedule, entry tax, payment terms, warranty coverage etc. The tender should be submitted in two separate sealed envelopes – one containing the “Technical bid” and other containing the “Commercial bid”, both of which should be duly signed and must reach the undersigned on or before 16:00 hours February 27, 2023. Please provide your contact details so that we can get in touch with you and set-up appointments for opening the bids.

The primary interest of the Centre is the procurement of a microwave digestion system. Any vendor(s) who are not local manufacturers of microwave digestion system of solid samples should NOT submit a quote.

**Mailing Address:**

The Chairman,  
Prof. Binod Sreenivasan  
Centre for Earth Sciences  
Indian Institute of Science,  
Mallechwaram,  
Bangalore 560012,  
Karnataka, India.  
Attention: Dr. Sambuddha Misra

**Email Addresses:**

[chair.ceas@iisc.ac.in](mailto:chair.ceas@iisc.ac.in)

[sambuddha@iisc.ac.in](mailto:sambuddha@iisc.ac.in)

## **Section 2 - Eligibility Criteria:**

With respect to this tender, the rules laid out by the Government of India in order No. P-45021/2/2017-PP (BE-II) issued by the Public Procurement Section, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 16<sup>th</sup> September 2020, will be followed. Per this order, only Class-I and Class-II local suppliers as defined below are eligible to participate in this open domestic tender. Non-local suppliers are ineligible to participate in this tender.

Relevant definitions as per Government of India order:

- Class-I local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%
- Class-II local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%.
- Non-local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%.
- Local content – the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.

**Only Local Suppliers are eligible to participate in the bid.** The bidders must go through the Government of India order stated above and follow all the rules and regulations therein. The covering letter Should clearly indicate whether the vendor is a Class I or class II local supplier failing which the vendor will automatically be disqualified.

## **SECTION 3 – Technical Specifications:**

### **3. Microwave Digestion System:**

A microwave digestion system capable of quantitatively solubilizing solid samples like silicate rock powders, sediments from terrestrial and marine realm, plant tissues, and animal tissues of  $25 \pm 5$  g with the use of small volume of acid ( $\leq 2$  ml of concentrated acid). The primary application of the instrument at IISc will be digestion of rock and sediment samples for trace metal concentration and isotope ratio analyses. The instrument is expected to dissolve 50 – 60 samples per day for research application. The microwave digester should give the following specifications:

#### **I. Instrument Specifications:**

1. **Energy Output:** The instrument should preferably have un-pulsed microwave energy output of 1500 to 2500 W.
2. **Pneumatic Seal:** The instrument should have high quality pneumatic seal made of acid resistant material to eliminate possible leakage of acid vapor.
3. **Digestion Slots:** The instrument should have 6 – 18 digestion slots.
4. **Digestion Vessels:** The digestion vessels should be resistant to acid / base / organic solvent-based corrosion. They either be of high-quality quartz or PFA or PTFE (or equivalent Teflon material).
5. **Hydrofluoric Acid (HF) Resistant Digestion Vessels:** There MUST be multiple HF resistant digestion vessels available for dissolution of silicate rocks/material.
6. **Radiation Safety:** The instrument should have microwave trap (or equivalent technology) to ensure quantitative trapping of radiation.
7. **Pressure of Operation:** The instrument should be capable of operating at pressures  $\geq 1$  bar for accelerated digestion of solids. Instruments with higher operational pressure will be given preference.
8. **Mass Flow Controllers:** Instrument designed to operate under high gas pressure should be equipped with independent mass flow controllers or equivalent technology.
9. **Cooling System:** The instrument should have independent cooling system for dissipation of heat. Auxiliary coolers should NOT be a requirement.
10. **Magnetic Stirring:** It is required for the instrument to be equipped with magnetic stirring technology for rapid dissolution of samples.

#### **II. Instrument Performance:**

1. Quotation should include full specification of the microwave digestors performance, including: (i) maximum mass of solid (rock or sediment – with clear/unambiguous identification of the source of the material) samples that can be digested; (ii) typical digestion time – including setup, digestion, and cool-down; (iii) ease of operation; (iv) minimum volume and type of acid required for digestion; (v) handling capability of HF bearing solutions. The service engineer should carry out various performance parameters of the instrument(s) according to those mentioned in the brochure and/or quoted in the technical bid submitted by the vendor, whichever is better both at factory before delivery and at IISc after delivery. Towards this the supplier should provide test certificates.
2. Quotation to include clear, unambiguous statements of expected routine performance of the instrument while digesting different types (as mentioned before) of sample.

#### **III. Accessories and Spares:**

The offer should include all of the required accessories/ spares/ consumables for seamless performance of the system and its peripherals. A list of spares and consumables should be provided. Please note, that inability to provide HF resistant digestion vessels will disqualify the bidder.

#### **IV. ADDITIONAL REQUIREMENTS:**

1. The technical specifications listed above are a minimum indicative. The ease of operation and maintenance, the ability to integrate latest technology, and after sales service facilities are some of the key factors in the evaluation process.
2. **The details, credentials, and experience of individuals who are factory trained service engineers of**

**the quoted model of mass spectrometer and is currently on roll in India or at the nearest service hub should be submitted with the offered quotation.**

3. Quotation should include all cost including logistics required to complete the installation at IISc.
4. The Vendor should certify and confirm availability of spares, service support and, both hardware and software upgradation for at least 10 years from the year of installation.
5. All equipment of component procured locally and supplied with the instrument should be quoted in Indian Rupees.
6. List of select user laboratories of an instrument of similar configuration and scientific application must be provided with the contact details (e-mail) of the person-in-charge of the instrument, model and date of installation.
7. IISc may opt for demonstration of any technical specifications and performance of the quoted model, at any available user site in India or at the factory / preferred demonstration site for the company, as a part of technical evaluation.

#### **V. Training**

After the successful installation of the mass spectrometer and its peripherals, selected personnel from IISc should be provided with hands-on and in-depth training on the operation, maintenance and application of the instrument by factory engineer. The cost of an on-site training session should be part of the quotation.

#### **VI. Warranty (to be quoted as a separate item)**

Supplier should provide comprehensive onsite warranty (including parts and labor) for 3 years (36 months), to be executed in a 1-year (manufacturer warranty) + 2-year (extended warranty) fashion, including all locally supplied items after successful installation of the system. The supplier should also quote for annual service maintenance contract (breakdown visits and two preventative service visits) for the next five years after the warranty period.

#### **VII. Pre-installation Guideline**

A comprehensive guideline/list of requirements for site preparation, installation of pre-installation infrastructure with their specifications is to be provided by the manufacturer.

#### **VIII. Installation:**

The complete installation of the supplied INSTRUMENT system should be carried out by the factory engineer. All the expenses including travel, accommodation etc. towards this should be included in the quote. It is the responsibility of the vendor to ensure that all of the required accessories and ancillary items are included in the quotation for carrying out the installation, standardization, optimization and calibration of the instrument. The supplied system should be complete in itself in all respect to take up the sample analysis at the IISc premises.

#### **Section 4–Terms and Conditions:**

1. The tender document should be in English and be submitted in **two bid system, i.e., Technical bid, and Commercial bid in two sealed envelopes with commercial or technical bid clearly indicated on the envelope**. These two sealed envelopes should be placed within a larger envelope and “ICPMS Bid – Sambuddha Misra, Centre for Earth Sciences, IISc” should be written on the outer envelope.
2. The technical bid must include all details of technical specifications of the instrument along with commercial terms and conditions masking only the price component. Bill of materials, brochures, technical datasheets, and any other document may be enclosed to help the evaluation of the technical bid. Please also include warranty terms and any other information on upgradation terms/extra accessories in the technical bid.
3. The technical bid must clearly state the specifications of the main instrument (A) along with the accompanying standard items and all other details including the warranty terms (B-I) as specified in section 3 of this document.
4. The commercial bid must include the base price of the instrument delivered in place and all components including controller accessories plus any additional GST component.
5. The commercial bid must indicate detailed component-wise and itemized price breakup and must include optional items/accessories.
6. Bidder should have well established own establishment. Enclose Company Registration Certificate, PAN, 3 years of audited balance sheets and turnover.
7. **The covering letter in the technical bid should clearly mention whether the vendor is a Class I or Class II local supplier, failing which the vendor will be automatically disqualified.**
8. In the technical bid include the complete details all components of the main instrument and the accessories as to whether they are sourced locally or foreign made/imported along with the manufacturer and sourcing details.
9. The ‘Class-I local supplier/Class-II local supplier’ is required to indicate the percentage of local-content and provide self-certification that the item offered meets the local content requirement for ‘Class-I local supplier/Class-II local supplier’ as the case may be. They shall also give details of the location(s) at which the local value addition is made.
10. The vendor should provide detailed cost breakup for the Indian and foreign content of the bid in the commercial bid proving their status as a Class I or Class II local supplier. Vendors who do not provide such justification in the commercial bid will be automatically disqualified.
11. In case if there are any imported/foreign made components, the commercial bid must indicate procurement price from the manufacturer and any import duties incurred. IISc will not be responsible for any import duties.
12. The vendor should have a good track record of having previously supplied similar equipment in India or elsewhere in the world (Please furnish complete details including names and contact addresses). Reference letters may be sought by the committee to arrive at the decision.
13. The vendor should have qualified technical service personnel for the instrument based in Bengaluru.
14. Bidder should have executed at least three order of similar instrument in India in the last 2 years. (Please provide copy of purchase orders and details).
15. The bidder should provide a list of national and international publication resulting from the data of the instrument.
16. The Bidder should not be currently blacklisted by any institution, bank in India or abroad (Please provide self-declaration).

17. No advance payment will be made, the payment will be made after delivery and installation of equipment.
18. Agency commission (not encouraged) if any should be clearly mentioned and detailed in the commercial bid.
19. The lead time for the delivery of the equipment should be less than two months from the date of receipt of purchase order and must be mentioned in the technical bid.
20. If the equipment or any parts/accessories are found to be defective, they must be replaced or rectified at the cost of the supplier within 30 days from the date of receipt of written communication from us. If there is any delay in replacement or rectification, the warranty period needs to be extended by a year and/or face a penalty equal to the valuation of the equipment.
21. The technical bid will be opened first and evaluated.
22. Bidders meeting the required criteria as stated in Sections 2 and 3, of this document as well as the terms and conditions shall only be considered for Commercial Bid opening. Further, agencies not furnishing the documentary evidence as required will not be considered.
23. Following the opening of technical bid, a presentation may be sought from the bidder.
24. During the warranty period, the bidder shall be fully responsible for the manufacturer's warranty in respect of proper design, quality, and workmanship of all the systems supplied. If there is any delay in replacement or rectification, the warranty period needs to be extended by a year and/or face a penalty equal to the valuation of the equipment.
25. During the warranty period, the bidder shall attend to all the hardware problems on site and shall replace the defective parts at no extra cost to the purchaser.
26. The Engineers of the parent manufacturer or bidding firm must install, demonstrate, and provide the training on laser ablation ICPMS for two days at IISc, Bangalore without additional cost.
27. The bids should be valid for at least 90 days from the last date of submission of the quotation.
28. The price should be quoted in INR only. The cost should be inclusive of delivery till the IISc campus. Price offer must be on FOR-IISc Bangalore basis.
29. The decision of the purchase committee will be final.
30. IISc, Bangalore reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time to award of construct without thereby incurring any liability of the affected bidder or bidders.
31. Tender documents that do not satisfy the "Terms and Conditions" listed herein will be disqualified.
32. The tender documents should be sent to the following address no later than 27/02/2023 4:00 PM IST.

The Chairman,  
Prof. Binod Sreenivasan  
Centre for Earth Sciences  
Indian Institute of Science,  
Mallechwaram,  
Bangalore 560012,  
Karnataka, India.  
Attention: Dr. Sambuddha Misra (Assistant Prof. CEaS)