



CSIR- CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE
MYSORE-570 020, INDIA
(Constituent Laboratory of CSIR, New Delhi (Ministry of Science & Technology))
An ISO 9001:2008, ISO 14001:2004 & ISO 17025:2005, NABL Accredited Laboratory



Invitation for Bids.

Tender No. CFTRI/52323/2021 Date: 06/Sept/2021

Electronic Tongue

For submitting tenders, login to <https://etenders.gov.in/eprocure/app>

LAST DATE:

- 1) TENDER SUBMISSION: AT 15.00 HRS (IST) ON 29-Sep-21
- 2) TENDER OPENING (Technical Bids only): AT 15.00 HRS (IST) ON 30-Sep-21

BID SECURITY/EMD: INR 2.50 LAKHS OR BID SECURING DECLARATION

PRE-BID CONFERENCE: 17-Sept-2021 @ 2.30 p.m.

Contact Details:
Stores & Purchase Officer
CSIR-CFTRI, Cheluvamba Vilas,
K.R.S. ROAD, Yadavgi P.O.
Mysuru -570020
Tel: 0821-2515440/2515447
Fax: 0821-2515440
E-mail: cosp@cftri.res.in
sosp@cftri.res.in

TECHNICAL SPECIFICATION FOR ELECTRONIC TONGUE

An electronic tongue based on potentiometric measurement principle using taste sensing electrodes and dedicated to taste analysis to analyze liquid products or solids dissolved in a liquid. The system should be composed of:

- A) An autosampler for the automated analysis of samples set in reproducible conditions (time, stirring)
- B) A detection system composed of an array of liquid sensors
- C) PC based data acquisition and processing with software

Detailed Specifications:

Liquid sensors:

- The Sensors should be made of an organic membrane which should be able to interact with ionic, neutral & chemical compounds
- Measurement of a potentiometric difference between the sensors and a reference electrode
- Sensors set should directly dip into the liquid product for analysis
- The Sensors should be sensitive to a wide range of compounds in food applications.

Software:

The E-Tongue should be Compatible with Windows® 10/Windows 11. This software should control and monitor the instrument and should include a full chemometrics package for data processing.

- System monitoring diagnostics and data acquisition
- Method/sequence settings including the autosampler monitoring
- Application wizard for automatic sequences and models

Data processing by multivariate statistics/Chemometrics

- Libraries loading
- Sensor's selection
- Models building and identification of unknown samples

Qualitative and quantitative tools

- PCA (Principal Components Analysis): discrimination between samples
- DFA (Discriminant Factorial Analysis): qualitative model and unknown sample Identification
- PLS (Partial Least Square): quantification and sensory panel score prediction samples
- SIMCA: acceptability prediction
- SQC: Qualitative results to check conformity by comparing to reference samples
- Sensor drift compensation procedure
- Data traceability with a logbook and operating condition history
- Data validation by electronic signature

Maintenance tools

- Complete System diagnostics: complete auto test of the autosampler and the unit, sensors diagnostic
- User preferences

Autosampler:

- Programmable sample sequence run
- Fully automated sensor analysis procedure
- Sample holder should have the capacity of holding 48 beakers with min. 20 ml of liquid sample.
- Reproducible stirring and measurement conditions.
- Startup kit and Maintenance Kit should be supplied with the E-Tongue
- Integrated PC for the operation of Electronic Tongue and Autosampler with software's should be supplied along with the Instrument

Note:

1. The entire system should have a minimum warranty of 1 year or standard warranty from the date of satisfactory installation and commissioning. The period of warranty offered shall be clearly specified in the technical bid.
2. Additional Sensor's Set should be provided by the supplier/Manufacturer.
3. The manufacturer/supplier/vendor has to supply the essential consumables required for the E-Tongue.
4. The technical bid should include quote for post-warranty Annual Maintenance Contract (AMC) charges both for **Labour only** and **Labour with parts (CAMC)** for three years after warranty period.

INSTRUCTIONS TO BIDDERS

1. The Instructions, Terms & Conditions, General Conditions of Contract (GCC), Special Conditions of Contract (SCC), Annexures and Formats hosted in our website www.cftri.res.in [Path: Home page → Tenders → Standard Tender Document (Scrolling Text)] constitutes integral part of this tender.
 2. BOQ (Bill of Quantity) - Bidders should submit their financial bid in the format provided and no other format is acceptable. BOQ (Price Schedule) has been given as a standard format along with the tender document. It is mandatory for all the bidders to upload duly filled BOQ (in MS Excel Format) towards submission of their Financial Bid. No changes or modification to the given format is acceptable. Bidders are required to go through the instructions carefully before filling BOQ.
- 3. Pre-Bid Conference (PBC)**
- (a) **Pre-Bid Conference (PBC) on September 17, 2021 at 14.30 Hrs (IST).**
The prospective bidders have the option to participate in the Pre-Bid Conference either in Person at the Office of the Stores & Purchase Officer, CSIR-CFTRI, Mysuru or through online mode. The interested bidders are required to confirm their mode of participation by e-mail to cosp@cftri.res.in, sosp@cftri.res.in latest by 13-Sept-2021 so as to enable us to make necessary arrangement as per the participant's preference.
 - (b) **Queries/Clarifications if any, on the tendered specification and terms & conditions should reach the office of the Stores & Purchase Officer latest by 11.00 am on Sept 13, 2021 for deliberations in the PBC.**
4. The amendments/clarifications if any, to the Bidding Documents pursuant to the Pre-Bid Conference would be hosted on the Website of CFTRI and all prospective Bidders are expected to take cognizance of the Proceedings of the Pre-Bid Conference before formulating and submitting their Bids.
 5. Please note that CSIR-CFTRI, Mysore is registered with the Department of Scientific and Industrial Research (DSIR) for purpose of availing GST @5% concessional rate as per Central Tax(Rate)/Integrated Tax(Rate) in terms of Notification No. 45/2017-Central Tax (Rate)/No. 47/2017- Integrated (Rate) Dt. 14-11-2017. You are advised to quote accordingly.
 6. **Bid Security/EMD: INR 2.50 Lakhs (INR Two Lakhs Fifty Thousand Only).** Bidders may also submit the Bid Securing Declaration Form as per Annexure-4 in lieu of Bid Security/EMD.
 7. **Performance Security- 10% of the total contract value.**
 8. **Integrity Pact- Not applicable for this tender.**

9. **Warranty:** Minimum ONE YEAR from the date of Installation and Commissioning. Period of warranty shall be clearly specified in the technical bid.

10. Delivery: Delivery within 60 days from the award of contract is desirable.

11. Terms of Payment: The method and conditions of payment to be made to the supplier under this Contract shall be as follows:

A. Payment for Goods supplied from Abroad:

Payment of foreign currency portion shall be made in () [currency of the Contract Price] in the following manner:

(i) On Shipment: 90 % (Ninety Percent) of the Contract Price of the Goods shipped shall be paid through irrevocable letter of credit opened in favor of the Supplier upon submission of documents specified in GCC/SCC.

(ii) On Acceptance: 10 % (Ten percent) of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods and successful installation & commissioning upon submission of claim supported by the acceptance certificate issued by the Purchaser along with the Performance security.

The L/C will be confirmed at the suppliers cost, if requested specifically by the supplier. All bank charges abroad shall be to the account of the beneficiary i.e. supplier and all bank charges in India shall be to the account of the opener i.e. purchaser. If L/C is requested to be extended/ reinstated for reasons not attributable to the purchaser, the charges thereof would be to the suppliers' account. Payment of local currency portion shall be made in Indian Rupees within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed. The LC for 100% value of the contract shall be established after deducting the agency commission payable if any, to the Indian agent from the FOB/FCA value.

B. Payment for Goods and Services supplied from India:

Payment for Goods and Services supplied from within India shall be made in Indian Rupees, [INR] as follows:

On Delivery, Installation and Acceptance: 100 % (Hundred Percent) of the Contract Price shall be paid on receipt of the Goods, upon submission of the documents specified in GCC/SCC and the Performance Security along with the acceptance certificate issued by the Purchaser.

12. Purchase Preference to Micro and Small Enterprises (MSEs) and Purchase Preference linked with MAKE IN INDIA Order shall be applicable subject to full compliance of Technical Specification and other terms and conditions of the RFQ / NIT and Contract, as per Government of India procurement policies.

13. Compliance of restrictions under Rule 144 (xi) of the GFR, 2017 related to restrictions on participation of Foreign Bidders and their Authorized Indian Agent/ Dealer

a. Any bidder from a country which shares a land border with India will be

eligible to bid in this tender only if the bidder is registered with the Competent Authority.

- b. "Bidder (including the terms "tenderer", consultant" or "service provider" in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated herein before, including any agency branch or office controlled by such person, participating in a procurement process.

- c. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
 - i. An entity incorporated, established or registered in such a country; or
 - ii. A subsidiary of an entity incorporated, established or registered in such a country; or
 - iii. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - iv. An entity whose beneficial owner is situated in such a country; or
 - v. An Indian (or other) agent of such an entity; or
 - vi. A natural person who is a citizen of such a country; or
 - vii. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

d. The beneficial owner for the purpose of (iii) above will be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation----

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;

- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders" agreements or voting agreements.

- 1. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

- 2. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

3. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
4. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Bid-Securing Declaration Form

Date: _

Bid No.

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)

Format for declaration by the Bidder on Non-applicability of Exclusion from Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 (on Letter Head of the bidder)

(Ref: - Govt. of India, Ministry of Finance, Dept. of Expenditure Order No. F.No.6/18/2019-PPD dated 23.07.2020 {Public Procurement No.1} and subsequent orders on the subject)

Ref. No: _____ Date _____

To,

The Director,

CSIR-CFTRI,

Cheluvamba Mansion

Opp. Railway Museum, KRS Road,

Mysuru-570020

Sir,

With reference to your Tender No. _____ dated _____ I/We hereby undertake that "I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

Thanking you,

Yours sincerely,

Signature (Name of the Authorized Signatory)

Company Seal

"[Where applicable, evidence of valid registration by the Competent Authority shall be attached]"