INDIAN ASSOCITION FOR THE CULTIVATION OF SCIENCE

2A & 2B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032

FORMAT OF TENDER

NIT No. : IACS / TRC / DRU / 2016-17 / 54 **Date: 09/11/2016**

Sealed tender in two bids system (technical bid and price bid) is invited from bonafide, resourceful, and eligible manufacturer/exclusive distributor/vendors for a "Secondary ion mass spectrometer (SIMS)."

Part-I (Technical Bid) of the tender should contain technical specifications in detail as well as commercial terms and conditions. Part-II (Price Bid) should clearly indicate group-wise price, if needed, as mentioned in the technical bid. The Technical Bid and Price Bid are to be submitted in separately sealed envelopes, distinctly marked accordingly and both to be put inside another envelop, that should be sealed and superscribed with tender notice no. and due date. The bidders may submit bids duly signed in their own letterheads.

Completed tender bids should reach the office of **the Technical Research Centre , Indian Association for the Cultivation of Science (IACS), 2A & 2B Raja S. C. Mullick Road, Jadavpur, Kolkata-700032** on or before the scheduled date and time specified below:

Tender Notice No.	**IACS /TRC/DRU/2016-17/54 Date: 09/11/2016**
Last date and time of submitting tender	16/ 12/ 2016 till 2.00 PM
Pre-bid meeting to discuss technical specification	30/ 11/ 2016 at 11:30 a.m.
Date and time of opening tender (Technical Bids)	16/12/ 2016 at 4.00 PM.
Date and time of opening of Price Bids	The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.
For quires, write only emails	Email: admskb@iacs.res.in

The technical bids will be opened first to judge/evaluate the technical specifications of the said instrument and thereafter the price bids of only technically qualified bidders will be opened.

Technical Bid Evaluation: The Technical Bids will be evaluated in the presence of the representatives of intending bidders who will be able to clarify technical aspects of their bids, if any, required by the Technical Evaluation Team.

Opening of price-bid: The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.

Please note that IACS will not provide any accommodation or reimburse any expenses to any of the bidders for attending opening of technical bid.

1. TECHNICAL BID

The technical bid should contain technical specifications and should be kept in a separate sealed envelope duly super scribed as 'TECHNICAL BID' on the outer cover of the envelop as already detailed above. It should be clearly mentioned on the envelope as "Technical Specification of the SIMS for Biological Applications".

The desirable technical specifications of the SIMS are the following:

Tender Specifications for a secondary ion mass spectrometer (SIMS)

Quotations are invited for a Secondary Ion Mass Spectrometer for characterization of surfaces and interfaces of soft and other standard materials. The instrument should be capable for elemental analysis of surfaces, high-mass resolution, imaging and depth profiling of thin films of organic and bio-molecular substances, imaging of biomaterials like cells and tissues, and also other standard applications where SIMS is typically used.

The following features of the mass spectrometer are desired:

1. Primary Ion beams: Bi, Bi_n, Bi_nMn_m cluster ions

    - Beam energy: up to 30 keV
    - Beam diameter: < 70 nm (This must have to be demonstrated on a suitable reference sample)
    - DC beam current: > 30 nA
    - Pulse beam current: > 20 pA (with respect to Bi) [in the case of TOF mass analyzers]
    - Mass resolution ($m/\Delta m$): > 5,000 @ 29 u for all primary ions in the beam
    - Automated G-SIMS analysis capability

2. Ion gun: Inert gas cluster ions with size tunability up to 5000 atoms
    - Energy 2 - 20 keV
    - Minimum beam diameter <5 µm
    - Current density: 10 nA cluster current in a 50 µm spot
    - It must be operable also in analysis mode with a good mass resolution
    - Depth resolution of <10 nm (FWHM) demonstrated on NPL reference material "IRGANOX 3114"

3. Mass analyser: Fully automated with following specifications
    - Mass range: > 10,000 u
    - Mass resolution : > 12,000 @ 29 u mass

4. The Instrument must be equipped with an oil free UHV vacuum system, which is fully automated and under electronic control. The analysis chamber and load lock should be isolated from one another by a gate valve. Ion sources should also be fitted with valves to enable them to be maintained without venting the main chamber. For maximum upgrade flexibility in the future, the vacuum system must allow to install up to five ion sources. Base pressure in main chamber (with all ion sources installed) after bake out should be < 7.0×10^{-10} mbar

5. Fully motorised, computer controlled sample stage with 5 axes of motion (X, Y, Z, tilt and rotation). The sample holder should be able to accommodate samples of up to 50 mm size or larger. Sample holder analysis position should be horizontal. In order to facilitate charge compensation and measurement of the pulsed target current during analysis, the sample must be permanently held at ground potential throughout the complete measurement.

6. Sample observation system for main chamber should consist of two colour video cameras. These must provide close up microscope image of the analysis area and a wide view of sample holder. The video image must be viewable in the instrument control software. A method of visually indicating the analysis position, such as using a laser, should also be provided.
7. A system of charge neutralisation, using low energy electrons (1 – 20 eV energy range) or similar, must be provided for the analysis of insulating samples. There shall be no need to use low-energy ion beams at the same time, in order to avoid sample damage by ion sputtering.
8. The instrument should be equipped with a secondary electron detector (SED) for imaging of sample using secondary electrons emitted during ion bombardment.
9. The instrument must have hardware and software interlocks to prevent incorrect system operation by the operator.

10. Internal bake out of the main analysis chamber and the load lock. Bake out must be under computer control for unattended operation.

11. Valve and nozzle arrangements for automatic gas flooding of the samples. Automated switching of the flood gases under computer control.

12. Comprehensive software package for machine control, data acquisition, visualization of the measured spectra, spectral library and search engine.

13. Warranty: Full warranty for three years.

14. The manufacturer should guarantee the continued available of spares parts, consumables and support services (onsite and remote) for 10 years after instrument delivery

15. Services:
    - Shipment must be FOB basis
    - Installation cost must be included until technical acceptance is obtained
    - A comprehensive initial user training by the application engineer must have to be provided by the manufacturer
    - Complete set of tools and special tools for maintenance and services

Technical compliance chart should be provided following format,

Sr. No	Tender specification	Your offered instrument specification	Extent of compliance

Tender will not be accepted if the technical compliance chart is not provided following the above format.

2. PRICE BID

The financial bid indicating (item-wise, if required) price for the item(s) mentioned in the technical bid should be kept in a separate sealed envelope, writing clearly as 'PRICE BID' on the outer cover of the envelop as already detailed above. Price bids of only technically qualified bidders will be opened and the corresponding

manufacturer/exclusive distributor/vendors will be intimated the date and time of the opening of price bid at their e-mail ids. Rest of the bidders will stand rejected.

PRICE: Price to be quoted on FOB basis only.

3. BID SECURITY:

a. An Account payee Demand Draft/Pay Order for Rs. (2 to 5) % of Estimated Cost i.e. Rs. 15, 00, 000/- drawn in favour of "Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699211, IFSC: SBIN000093, MICR Code: 700002048)" is to be furnished by the bidders except those who are registered with the Central Purchase Organizations, National Small Industries Corporation or the concerned Ministry or Department, as Bid Security money or Earnest Money Deposit (EMD).

b. The Demand Draft for the Bid-Security should have at least 90 (ninety) days validity period of opening of the bids.

c. In case of non-award of the work the Bid Security money would be returned to the unsuccessful Bidders.

4. PERFORMANCE SECURITY:

An Account Payee Demand Draft of (5 to 10) % of the order value in the name of "Indian Association for the Cultivation of Science" is to be furnished by the successful bidder as Performance security. Performance security money should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Bid security money or EMD will be refunded to successful bidder on receipt of the Performance security money.

GENERAL INSTRUCTIONS

1. Validity of tender: Tender submitted should remain valid for at least six months from the date of opening the tender. Validity beyond six months from the date of opening of the tender shall be lapsed by mutual consent.
2. The tender should accompany a compliance chart.
3. Incomplete and conditional tenders as well as tenders received after the due date will be summarily rejected without assigning any reasons thereof.
4. At any time prior to the bid due date, IACS may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder during pre-bid meeting, modify the bidding documents. The amendment(s) will be notified on the institute website. Prospective bidders are advised to occasionally to visit the website (www.iacs.res.in/tender) for any amendment.
5. Payments: 100% against delivery and successful installation or 100% Letter of Credit.
6. Installation/Demonstration/Application training at site: Installation & user training at IACS, free of cost by the supplier.
7. Service facility: In India, preferably Kolkata, supplier should mention their details of service setup and man powers who are responsible for after sales support. Response time should be within 24 hrs.
8. The model number, make and a printed literature of the product should be submitted positively.
9. Proposed delivery schedule should be mentioned clearly.
10. Manufacturers / exclusive distributors / vendors should have history of supplying this type of instruments to this or other scientific organizations. Availability of a list in this regard would be preferred.
11. Authorized dealership certificate should be provided in case of principal manufacturing company is not quoting directly.
12. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.
13. In the event of date being declared a closed holiday for purchaser's office, the due date for submission of bids and opening of the technical bids will be the following working day at the appointed time.
14. In case of any dispute, the decision of IACS authority shall be final and bidding on the bidders.
15. For any clarification about this, please send your query to the following e-mail address mentioning the render number, admskb@iacs.res.in
16. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Registrar (Acting)