INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

JADAVPUR, KOLKATA – 700 032

FORMAT OF TENDER

NIT No.: IACS-G/CSSSD/2025-26/54 **Date: 23.01.2026**

Sealed tender in two bids system (technical bid and price bid) is invited from Bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for **High-Resolution Confocal Raman Spectrometer.**

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 **Central Scientific Services, 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.	**NIT No.: IACS-G/CSSSD/2025-26/54** **Date: 23.01.2026**
Last date and time of submitting tender	14.02.2026, 2:00 PM
Date, time and venue of Pre-bid meeting to discuss technical specification	03.02.2026, 2:00 - 3:00 PM, Hybrid mode (Sadhan Basu Hall, IACS & Google Meet: https://calendar.app.google/odXb318DxVysbFEP8)
Date, time and venue of opening technical bid of the tender	23.02.2026, 2:00 PM, Sadhan Basu Hall, IACS.
Date, time and venue of opening the price bid of the tender	Will be informed later.
Contact	Email: sspsdd@iacs.res.in Tel: +91 33 2473 4971 (Ext: 2141)

*If you wish to participate in the online Pre-bid meeting, please write a mail to the email account (@iacs.res.in) on behalf of your company so that the required link can be sent prior to the online meeting.

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 for High-Resolution Confocal Raman Spectrometer".

Technical Specification for High-Resolution Confocal Raman Spectrometer

Features	**Specification**
Raman Spectrometer	A high-resolution confocal micro-Raman spectrometer system with integrated photoluminescence (PL) and mapping capabilities. The system shall be compatible with an optical cryostat and shall include all essential components - lasers, detectors, components, microscope, control and analysis software, computer (PC), and all necessary accessories to ensure complete and fully functional operation.
Spectrometer	○ High-throughput (> 30%), Stigmatic and on-axis spectrometer with refractive optics ○ Spectral Range: 200-1600 nm ○ Spectral Resolution: ≤ 0.4 cm^{-1} (FWHM) in Vis-NIR ○ Signal-to-noise ratio: >15:1 for Si 3^{rd} order peak and >3:1 for Si 4^{th} order peak ○ Direct laser coupling to the spectrometer (no optical fiber) ○ Focal Length: <300 mm ○ The spectrometer should have the capability to mount up to 4 detectors. ○ Variable Confocal facility using a motorized slit with automated signal optimization. ○ Raman edge filters allowing measurements down to 50 cm^{-1} ○ Raman Edge Filters with cut off 50 cm^{-1} or lower and PL filters up to 1050 nm for 532 nm, 633 nm and 785 nm Lasers. ○ Raman Edge Filters with cut off 100 cm^{-1} or lower and PL filter up to 900 nm for 405 nm Lasers.

	○ Ultra Low Frequency Notch Filters: 10 cm^{-1} or lower for 532 nm laser. ○ Automated laser switching between all lasers.
Laser Sources Laser Power Control	○ 405 nm diode, ≥ 50 mW (TEM00 mode and ultra-narrow linewidth < 1 MHz) ○ 532 nm diode, ≥ 50 mW (TEM00 mode and ultra-narrow linewidth < 1 MHz) ○ 633 nm, ≥ 17 mW (TEM00 mode) ○ 785 nm diode, ≥ 100 mW (TEM00 mode and ultra-narrow linewidth < 1 MHz) ○ Lasers should be directly coupled to the microscope without any fibre coupling ○ Motorized ND filters (minimum 12 combinations) to allow laser attenuation on the sample from 0.0005 % (or less) to 100%.
Detectors	○ Back Illuminated CCD Detector (UV-Visible-NIR): ○ Pixels:1024×256, Pixel Size: 26 μm × 26 μm ○ Peltier Cooled to –70°C ○ Peak QE > 90% ○ Range: 200–1050 nm ○ Spectral Readout speed upto 1000 spectra/s
Gratings	○ Gratings: 3000 l/mm, 2400 l/mm, 1800 l/mm or 1200 l/mm to attain desired performance and spectral resolution in both Raman & PL spectral ranges. ○ At least two gratings must be mounted back-to-back on a motorized turret and should be easily user swappable. ○ Single scan support across entire Raman spectral range without stitching while maintaining high spectral resolution (< 1 cm^{-1}): 2400 l/mm or 1800 l/mm
Microscope	○ High-stability research-grade microscope with binoculars for viewing the sample microscope ○ Objectives: 5x/10x, 20x, 100x and 50x Long Working Distance ○ Laser spot size: ≤ 1.5 μm ○ Lateral resolution < 1 μm, axial < 2 μm ○ High-resolution color video camera (≥ 8 MP) ○ Visible laser spot centered in camera view ○ Auto alignment and power optimization ○ Auto switching and beam alignment through beam expanders on individual laser path for all three lasers. ○ In-Built calibration Sources inside the microscope for automated calibration without disturbing the samples: Si for laser dependent

	spectral calibration and Neon lamp for laser independent spectral calibration. o In-Built white light source for Intensity calibration of the spectrometer. o Motorized switching between video viewing and Raman modes. Automated image saving.
Mapping Stage	o Fully motorized XYZ stage with trackball and software control o Travel Range: X = 100 mm, Y = 75 mm, Z = 25 mm o Step Size: ≤ 50 nm (X, Y), ≤ 8 nm (Z) o 2D & 3D Imaging with confocal depth profiling
Software	o Unified control, acquisition, and analysis suite: Instrument control and data acquisition software, fully integrated data analysis and presentation software with image capture software for white light image display and capture. o Features: o Baseline subtraction o Peak fitting o 3D visualization and mapping o White light image capture o Export to SPC, Txt, MATLAB etc. o Includes 5 offline analysis licenses
Workstation	o Intel Core i7, 16 GB RAM, 500 GB SSD, Graphics card, 27" LED monitor
Polarization Accessories	o Individual half-waveplate and quarter waveplate in the path of all lasers for circular & orthogonal polarization of the incoming laser beam. o Individual half-waveplate and analyzer on the Raman path for each laser.
Additional Accessories	o Laser power meter with measurement ranges from ≤ 100 nW to ≥ 100 mW. o Polarizer, analyzer, half-wave, and quarter-wave plates mounted on precision rotating mounts with appropriate holders, suitable for operation over the specified wavelength range.
Cryostat Integration	o Full integration with cryogen-free 4K optical cryostat o Extendable sampling arm for cryostat integration o Must support PL and Raman mapping at cryogenic temperatures
Establishment	The OEM should have an established track record of installing similar integrated system with cryogen-free 4K optical cryostat in India: minimum 3 across esteemed academic institutions like IITs and IISc. The OEM should have their own team of factory trained service engineers and applications scientist in India. The OEM should also have their own facility in India with a

	dedicated Applications & Training center along with a demo instrument.
Warranty	○ 3 years Warranty on all items, excluding lasers. ○ Lasers should come with 12 months warranty
Delivery	Within 5 months from the date of purchase order release

Service Facility: Supplier should mention the details of their service setup and man powers in India, preferably Kolkata.

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 duly superscribed 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 in **USD/Euro/GBP,** on a CIP basis up to Kolkata Airport (CCU).

3. BID SECURITY: Declaration in terms of F.9/4/2020-PPD dated 12.11.2020

a. An Account payee Demand Draft/Pay Order for Rs. 9,00,000 (Rupees Nine Lakhs Only) drawn in favor of "Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699211, IFSC: SBIN0000093, 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. Bid Security money or Earnest Money Deposit (EMD) may also be deposited in Bank Guarantee or any other acceptable form.

b. The Demand Draft for the Bid-Security should have at least 90 (ninety) days validity period from the date 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 3% 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. 100% Payment by LC with 90% against submission of shipping documents and balance 10% after installation.

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 1 week.

8. The model number, make and a printed literature of the product should be submitted positively.

9. Proposed delivery schedule should be mentioned clearly. Delivery of the materials to the PI should be within 60 days from the date of purchase order.

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 regarding technical specifications, information etc., please send your queries to Dr. Subhadeep Datta (sspsdd@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.

17. The OEM should have a service center of its own in East for more than 5-10 Years.

Registrar