

**Notice Inviting Open Tender for Procurement of Visible Near-Infrared,
Shortwave Infrared High Resolution Spectroradiometer (350nm – 2500nm) at
the Indian Institute of Science, Bangalore**

(Last date of Submission 15th June 2021)

Date: 25th May 2021

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 17:00 hours 15th June 2021.

The Chairman
Civil Engineering Department
Indian Institute of Science,
Bangalore 560012,
Karnataka, India.
Attn: Debsunder Dutta

SECTION 2 – Technical Specifications

High Resolution Spectroradiometer covering the 350-2500nm Spectral Range for field and laboratory use.

A. Main Instrument Specifications (the specifications stated are minimum required, a better specification is desirable).

SI No	Description	Specification (Minimum)
1	Spectral Range	350nm-2500nm
2	Spectral Resolution	3nm at 700nm, 8nm at 1400nm, 6nm at 2100nm
3	Spectral Sampling	<1.5nm at 350-1000 nm <3.8nm at 1001-2500nm
4	Scanning time	<100 milliseconds
5	Stray Light Specification	VNIR 0.02%, SWIR 0.01%
6	Wavelength Reproducibility	0.1 nm
7	Wavelength Accuracy	±1nm VNIR, ±2nm SWIR
8	Channels	>=1024 Distinct Channels
9	Detectors	VNIR detector (350-1000 nm): 512 element silicon array SWIR 1 detector (1001-1800 nm): Graded Index InGaAs Photodiode, Two Stage TE Cooled. SWIR 2 detector (1801-2500 nm): Graded Index InGaAs Photodiode, Two Stage TE Cooled.
10	Input	Ruggedized optical fiber cable with optional availability of narrower/wider field of view optics or Foreoptic lens.
11	Noise Equivalent Radiance (NEdL)	VNIR 1.0×10^{-9} W/cm ² /nm/sr @ 700 nm SWIR-1 8.0×10^{-9} W/cm ² /nm/sr @ 1400 nm SWIR-2 8.0×10^{-9} W/cm ² /nm/sr @ 2100 nm
12	Weight	Less than 6 Kgs.

Standard Items accompanying the Main Instrument for both field and laboratory use:

1. Grip for holding the fiberoptic cable.
2. Battery to instrument power cable
3. Optional fiber checker for checking the Fiberoptic cable
4. Power cable to power the instrument from vehicle power port.
5. Remote trigger for remote data storage.
6. Rechargeable battery pack for about 4 hour output.

7. External charging/power system battery charger with over current protection.
8. Transport Case: durable, airtight, wheeled, transport/shipping case with fold down handle.
9. Field/Back Pack: lightweight ergonomic backpack, waist belt with battery pouches, rain protector, controller computer compartment, sample storage compartment, etc.

B. Instrument Controller

Field and Laboratory Instrument controller loaded with data collection/calibration/instrument operating software and configured specifically to the corresponding spectrometer calibration files.

C. Accessory for Bare Reflectance Measurement

Spectralon, 5X5 inch, Calibrated, 99% Reflective Diffuse white reference panel. Include certificate of standard deviation and reflectance factors to 3 decimal places for 50nm intervals.

D. Accessory for Bare Radiance Measurement

Factory installed NIST traceable radiometric calibration for lens/fiber optics that is required for radiance ($W/m^2/steradian/nm$) calculation.

E. Software for data acquisition and preliminary post processing

Data Acquisition Software

User interface and software for the instrument for data collection, averaging, storage and display of DN, reflectance, radiance or irradiance spectra in 'real-time'.

Additional software for preliminary data processing and export data to ASCII format.

F. Warranty

The complete system is to be under manufacturer's warranty minimum for a period of 1-year from the date of installation including any accessories, parts and controllers.

G. Optional Extended Warranty

The complete system is to be under extended manufacturer's warranty for an additional period of 2 - years from the date of expiry of manufacturer's warranty including any accessories, parts and controllers.

H. Optional Accessories for Contact Measurements

Plant Probe Kit which includes Halogen Lamp, Contact Probe Plant, Leaf Clip, White Reference Cap.

I. Optional Annual Maintenance Contract

An annual maintenance contract for a period of 5 years from the date of installation.

Section 3 – 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 “High Resolution VSWIR Spectroradiometer Bid – Debsunder Dutta, Civil Engineering. Department” 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. In the technical bid include the complete details all components of the main instrument and the accessories. 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 2 of this document.
4. The commercial bid must include the price of the instrument (CIF, Bangalore, applicable Custom Duty will be borne by the Institute) and all components including controller accessories indicating component-wise and itemized breakup.
5. The commercial bid must indicate detailed component-wise and itemized price breakup and must include optional items/accessories. The bidder must indicate the base price and the tax amount separately for each component.
6. Bidder should have well established own establishment. Enclose Company Registration Certificate, PAN, 3 years of audited balance sheets and turnover amount for a period of 3 years.
7. 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). The total number of instruments supplied in India and supporting reference letters sought by the committee may be used to arrive at the decision.
8. The vendor should have qualified technical service personnel for the instrument based in Bengaluru.
9. 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).
10. The bidder should provide a list of national and international publication resulting from the data of the instrument.

11. The Bidder should not be currently blacklisted by any institution, bank in India or abroad (Please provide self-declaration).
12. The payment will be through a Letter of Credit.
13. Agency commission (not encouraged) if any should be clearly mentioned and detailed in the commercial bid.
14. The lead time for the delivery of the equipment should not be more than two months from the date of receipt of purchase order and must be mentioned in the technical bid.
15. If the equipment or any parts/accessories are found to be defective, they have to 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.
16. The technical bid will be opened first and evaluated.
17. Bidders meeting the required criteria as stated in Section 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.
18. Following the opening of technical bid a presentation may be sought from the bidder.
19. Mode of Shipment: the equipment must be shipped via air only, insured and transported to the installation site at IISc by the supplier.
20. Customs clearance: The department will furnish the necessary papers for the import of items into India, necessary custom duty exemption certificate and other supporting documents to facilitate the import of the items.
21. 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.
22. 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.
23. The Engineers of the parent manufacturer or bidding firm must install, demonstrate and provide the training on Spectroradiometer for two days at IISc, Bangalore without additional cost.
24. The bids should be valid for at least 90 days from the last date of submission of the quotation.
25. The cost should be inclusive of delivery till the IISc campus. Price offer must be on FOR-IISc Bangalore basis. Please note that IISc being a DSIR recognized research institution under GST notification no. 47/2017 and the items under this procurement is required for research purposes only, is eligible for reduced GST (5%). Please also include any available educational discounts in the commercial bid. IISc may issue the GST Exemption Certificate upon a formal request from the vendor along with a copy of invoice.
26. The decision of the purchase committee will be final.
27. IISc, Bangalore reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time period to award of construct without thereby incurring any liability of the affected bidder or bidders.

28. Tender documents that do not satisfy the “Terms and Conditions” listed herein will be disqualified.

29. The tender documents should be sent to the following address no later than **15/06/2021 17:00 Hrs.**

The Chairman
Civil Engineering Department
Indian Institute of Science,
Bangalore 560012
Karnataka, India.
Attn: Debsunder Dutta