

02-05-2024

To Whom It May Concern

This is a **Request for Quote (RFQ)** from only domestic (India-based) original equipment manufacturers (OEMs) or their authorized Indian distributors for procurement of Highly Nonlinear Optical fiber (HNLf) as part of a limited tender for the Department of Electrical Communication Engineering (ECE) at Indian Institute of Science, Bangalore.

All interested vendors shall submit a response demonstrating their capabilities to produce the requested equipment to the primary point of contact listed below.

With respect to this tender, the rules laid out by the Government of India in order No. P45021/2/2017-pp-BE-II issued by the Public Procurement Section, Department or Promotion of Industry and Internal Trade, Ministry of Commerce, and Industry, dated 16th Sept 2020 will be followed. As per this order, the government has defined a 'Class-I local supplier' as "a supplier or service provider whose goods, services or work offered for procurement, have local content equal to or more than 50%". A 'Class-II local supplier' is "a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%". Only Class-I and Class-II local suppliers are eligible to participate in this open domestic tender. Any "non-local supplier" i.e., "a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%" is ineligible to participate in this tender.

The deadline for submission of proposals is **30th May 2024 by 5:00 PM**. Proposals should arrive at the office of **Dr. Balaswamy Velpula, Department of Electrical Communication Engineering, Indian Institute of Science, Bangalore, Karnataka 560012, India**.

Direct all questions concerning the acquisition to Dr. Balaswamy Velpula at: **velpulab@iisc.ac.in**

General Terms and Conditions

1. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.

2. Vendors will be required to submit a technical bid and a commercial bid in two separate sealed envelopes. The quotations should be on FOR-IISc Bangalore basis in INR only.
3. The technical bid should contain a compliance table with 4 columns in addition to the ones in the technical requirements table that has been included with this RFQ below. The compliance table should include all the items and be in the same order. The first column should describe your compliance in a “Yes” or “No” response. If “No” the second column should state, the extent of deviation. The “third” column should state the reasons for the deviation if any. The fourth column can be used to compare your tool with that of your competitors or provide details as requested in the technical requirements table below.
4. In the commercial bid, the price should be inclusive of all discounts.
5. The vendor should have qualified technical service personnel for the equipment based in India (preferably in Bangalore).
6. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
7. The covering letter should clearly state whether the vendor is a Class-I or Class-II local supplier. Failing this, the proposal will be automatically rejected.
8. Purchase preference as defined by the recent edits to GFR (within the “margin of purchase preference”) will be given to the Class-1 supplier.
9. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
10. The vendor must state the percentage of the local content and provide self-certification that the item offered meets the minimum local content requirement. They should also give details of the location(s) at which the local value addition is made.

11. The lead time for the delivery of the equipment should not be more than 3 months from the date of receipt of our purchase order. It should be clearly mentioned in the technical and commercial proposals.
12. All the quotations must be valid for at least 90 days at the time of submission.
13. List of customers and references: The Bidder should have supplied similar equipment in Central Universities, preferably in centrally Funded Technical Institutes (IITs, IISC, IISER, NIT). Please provide the details and contact information.
14. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.
15. In the quote vendors are requested to provide itemized costs for all the associated accessories as options.
16. Please provide itemized quotes for the tool and any attachments/packages. Vendors are encouraged to quote for as many packages as their tool portfolio permits.
17. Please provide information regarding the annual maintenance contract (AMC) beyond the warranty period. Please itemize the year wise AMC as options.
18. Warranty terms, duration and additional warranty options are a must for all the components. Please specify the service plan like whether the local distributor will address the issue or the parent company.
19. Items in addition to those listed in the technical table that you would like to bring to the attention of the committee can be listed at the end of the compliance table.
20. Vendors are encouraged to highlight the advantages of their tools over comparable tools from the competitors.
21. If needed, a meeting for any technical clarifications can be scheduled with the undersigned by sending an email.

22. The Institute reserves the right to accept or reject any bid, or to annul the bidding process and reject all bids, at any time prior to the award of contract without thereby incurring any liability of the affected bidder or bidders.
23. After the award of purchase order, the vendor must provide an Order Acknowledgement within 30 days from the receipt of the Purchase Order.

Technical requirements: Please note that the requirements and options listed below are only guidelines. It does not disbar bids that do not meet the criteria listed. Vendors are requested to quote for equipment that meets the criteria to the best extent possible and list deviations. Deviations are NOT an automatic reason for disqualification. They will be discussed by the technical committee prior to making an informed decision.

Technical Specifications

Polarization Maintaining (PM) HNLF

1. Fiber Length: 100m
2. Cutoff Wavelength: <1500nm
3. Effective Area @ 1550nm (Typical): $12.5\mu\text{m}^2$
4. Dispersion @ 1550nm: -2.58 ps/nm/km
5. Dispersion Slope @ 1550nm (Typical): 0.025 ps/nm²/km
6. Attenuation @ 1550nm (Typical): 0.8dB/km
7. Splice Loss to PM fiber pigtail @ 1550nm (Typical): 0.3dB
8. Polarization Extinction Ratio (min): >18dB
9. Nonlinear Coefficient: 10.7/W/km

Non-PM HNLF

1. Fiber Length: 300m
2. Cutoff Wavelength: <1300nm
3. Effective Area @ 1550nm (Typical): $12.4\mu\text{m}^2$
4. Dispersion @ 1550nm: -1 ± 1.5 ps/nm/km
5. Dispersion Slope @ 1550nm (Typical): 0.006 ± 0.004 ps/nm²/km
6. Attenuation @ 1550nm (Typical): 0.8dB/km
7. Splice Loss to Standard Single Mode fiber pigtail @ 1550nm (Typical): 0.1dB

8. Polarization Mode Dispersion @ 1550nm: ≤ 0.2 ps/ $\sqrt{\text{km}}$
9. Nonlinear Coefficient: 10.8/W/km

PM Raman Fiber

1. Cladding Diameter 125 ± 1.0 μm
2. Coating Diameter 245 ± 5 μm
3. Clad non-circularity $< 2\%$
4. Core Eccentricity < 0.6 μm .
5. Cutoff Wavelength $< 1050\text{nm}$
6. Effective Area @ 1450nm: 16.1 ± 1.5 μm^2
7. Effective Area @ 1550nm: 18.7 ± 1.5 μm^2
8. Attenuation @ 1450nm: (Maximum) 0.58 dB/km
9. Attenuation @ 1550nm: (Maximum) 0.45 dB/km
10. Attenuation @ 1450nm: (Typical) 0.54 dB/km
11. Attenuation @ 1550nm (Typical) 0.42 dB/km
12. Dispersion @ 1550nm: -20 ps/(nm·km)
13. Dispersion Slope @ 1550 nm: 0.02 ps/(nm²·km)
14. Raman Gain Efficiency @ 1551nm: 2.5 (W·km)⁻¹
15. Extinction Ratio (L=100 m) > 30 dB
16. Peak Raman Gain Efficiency (Typical): 2.5 (W·km)⁻¹ using a Depolarized Pump at 1453 nm
17. Birefringence (Typical): 2.8×10^{-4}
18. Length: 200m

Other requirements:

1. To perform installation at the customer site. To provide training to users at customer site.
2. Supplier should agree to provide Performance test reports prior to dispatch of goods.
3. Compatible operating system(s) for the interface software should be specified. Suitable software drivers available should be specified.
4. Please include other options currently available which can be added on in the future.
5. The cost of shipping to IISc should be included.
6. List of acceptance tests for on-site (vendor) inspection and after installation at IISc.
7. A set of basic experiments for performing routine checks of acceptable operation with clear instructions to be provided.

8. The payment terms will be specified in the commercial proposal and is subject to negotiations.
9. Please provide details of the number of trained personnel in India, number in southern region or in Bangalore who can service the instrument.
10. Service credentials: The supplier should have at least five similar installations in India.
11. Customer list with contact details mandatory to prove your credential.
12. Authorisation letter from OEM manufacturer to be included.
13. Vendor must provide complete compliance statement against each technical point.