To Whom It May Concern

Tender for supply of superconducting nanowire single-photon detectors.

This is an RFQ (Request for Quote) for supply, installation, commissioning and testing of **Superconducting nanowire single-photon detectors** at the Centre for Nano Science and Engineering (CeNSE) at IISc., Bangalore.

1. Vendors will be required to submit a technical proposal and a commercial proposal in **two separate sealed envelopes**. Quotes in violation of this will be rejected.
2. **Based on the request from vendors, due to COVID situation, the extended deadline for submission of proposals is the 7th July 2020, 5:00 pm Indian Standard Time.** Proposals should arrive at the office, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India, by the above deadline.
3. The technical proposal should contain
    a. Relevant technical datasheets. The committee reserves the right to cross-check the information in these datasheets with publicly available information.
    b. A compliance table with 5 columns. The first column must list the technical requirement, in the order that they are given in the technical configuration below. The second column should describe the capability of the tool for that specific requirement. In case the technical requirement is a question, second column must provide a technical answer. Please be quantitative and consistent with the technical datasheets. Third column must specify whether the technical requirement is met with a "Yes", "No", or "Partially". If the response is "Partially" or "No" the third column, the fourth column must explain the extent of the deviation and, if possible, the reasons for the deviation. The fifth column is for other "Remarks". You can use it to compare your tool with that of your competitors or provide more details/justifications.
    c. Technical capabilities of any suggested accessories/add-ons that may enhance the usability, capability, accuracy or reliability of the tool.
    d. Any additional capabilities or technical details, which you would like to bring to the attention of the purchase committee. Vendors are encouraged to highlight the advantages of their tools over comparable tools from the competitors
4. The technical proposal will be evaluated against the technical requirement. Only vendors who meet the technical requirement will be considered for the commercial negotiation.
5. Deviations from the requirement will not directly lead to rejection, however, it will be compared with the other bids to identify the best option.
6. If multiple systems fulfill the requirements, vendors can offer multiple bids.
7. The commercial bid must contain:
    a. Itemized cost of the system and required accessories.
    b. Itemized cost, as an option, for any suggested accessories/add-ons that may enhance the usability, capability, accuracy or reliability of the tool.
    c. The quotes should be CIF Bangalore, India. So please include cost of shipping to Bangalore. The quote does not need to account for Customs duties.
    d. Please indicate the warranty provided with the tool.
    e. Please indicate payment teams.
    f. Please indicate shipping and handling for CIF Bangalore.

8. The RFQ must include references of 3 previous installations of the proposed system, in India or abroad. Please provide the names and contact addresses of the referees, so that the committee can contact them independently.
9. The technical bid should contain details of local technical support.
10. The decision of the purchase committee is final.
11. The purchase committee at IISc has the right to reject all bids and annul the bidding process, at any time prior to the award of the contract, without thereby incurring any liability of the affected bidder or bidders
12. Any technical questions or request can be directed to Prof. Shankar Kumar Selvaraja, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India. (shankarks@iisc.ac.in).

Requirements	Specifications
Primary Application	Superconducting nanowire single-photon detectors in telecommunication wavelength
Quantity	2 Detectors/channels
System Detection Efficiency	>80% from 1310 to 1550 nm
System Dark Count Rate	≤ 100 Hz
Timing Jitter (without cryo amplifier)	≤100 ps
Recovery Time (to 50% of maximum efficiency)	≤ 100 ns recovery time (Also quote if there are detector for high rate detection as an option)
Polarization	Include details of polarization sensitivity
Operating Temperature (at the best detector efficiency)	<1 K
Output Pulse	LVTTL/TTL
Latching	Provide information about latching of the proposed detector at high photon flux rate.
Fiber connector	FC/PC Single mode SMF28 and Multimode connector.
Control	Include necessary bias source.
Amplifiers	Include necessary amplifiers.
Cryo cooler	Include appropriate cryo cooler preferably closed-cycle system.
Cool down time	12 hrs or lower.
Hold time at the lowest operating temperature	24 hr or better under no-load. Also specify hold-time on-nominal load.
Compressor	Include appropriate compressor, add both air- and water-cooled options.
Control software	Software should be run on latest windows (preferable) operating system. Software should be upgradable and supported through the life of the equipment.
Vacuum Pump	Include appropriate vacuum pump.
Warranty	In addition to standard warranty quote for 3-year additional warranty.

Electrical power supply	200 - 240 VAC @ 50 - 60 Hz, with India-compatible power plug.
Periodic Maintenance	Specify a periodic maintenance period.
Installation and Training	Provide details of installation requirements and training.
Safety	Plug and Play. Specific necessary safety precautions.
Recommendations	Include a list of reference; Indian and foreign.
Spare parts and accessories	Include necessary spares and accessories for operation.
Acceptance tests	Provide details about factory acceptance tests and on-site acceptance test.
Systems mobility	Add options to make the unit mobile.

Time-Correlated Single-Photon Counter-Propose compatible TCSPC. It is preferable that a compatible TC-SPC is quoted as an option with the following specifications. Quoting TCSPC is an option, so even not quoting will not be lead to disqualification. However, it is essential that a compatible TCSPC from other OEMs is proposed.

Requirements	Specifications
Number of channels	Minimum 2 channels and 2 external trigger output
Clock rate	≥ 1 GHz
Time bin width	≤100 picoseconds
Timing jitter	≤40 picoseconds
Dead time	≤10 nanoseconds
Maximum data processing	≥ 100 Million events/second per channel
Input voltage range	+/- 3 V maximum
Input pulse delay	1 picosecond – 1 millisecond (specify steps)
Discriminator levels: (step size to be specified)	+/- 2V maximum (specify steps)
Output pulse format:	TTL/ NIM (pulse width to be specified)
Output pulse frequency	≥ 125 MHz
Output pulse delay	100 picosecond – 1 millisecond (specify steps)
Maximum data transfer rate to be specified	Specify details
Any latency between input and output to be specified	Specify details
Number of time-bins of the histogram which can be processed to be specified	Specify details
Software to control and process data from the TCSPC unit to be specified	Should be running on the latest Windows OS. Forward compatible with new releases and upgrades.

End of document.