



Department of Electrical Communication Engineering
Indian Institute of Science, Bangalore 560012, India

18th April, 2016

To Whom It May Concern

This is a RFQ (Request for Quote) for procurement of a **low temperature micro-Raman/Photoluminescence system** (referred to as **LT micro-Raman/PL system** in the RFQ) at the Department of Electrical Communication Engineering (ECE), Indian Institute of Science, Bangalore.

To the extent possible, the LT micro-Raman/PL system price should be broken up into as many individual components as possible. This aids price comparison on commercial bids.

All interested vendors shall submit a response demonstrating their capabilities to produce the requested equipment to the Primary Point of Contact listed below.

Direct all questions concerning this acquisition to **Dr. Kausik Majumdar** at **kausikm@ece.iisc.ernet.in**.



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Procedure:

1. Vendors will be required to submit a technical proposal and a commercial proposal in **two separate envelopes**.
2. The deadline for submission of proposals is the 10th May 2016, 5 pm. Proposals should arrive at the office of **Dr. Kausik Majumdar, Department of Electrical Communication Engineering, Indian Institute of Science, India, 560012** by the above deadline.
3. The technical proposal should contain a compliance table that should describe your compliance in a “Yes” or “No” response against each of the items in the table listed in this RFQ. **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. Items in addition to that 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.
5. **Vendors are encouraged to highlight the advantages of their tools over comparable tools from the competitors.**



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Technical Requirements: Please note that the requirements listed below are only guidelines. It does not disbar tools that do not meet the criteria listed. Vendors are requested to quote for tools that meet 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.

<u>Tool Name:</u> Low temperature micro-Raman/Photoluminescence system	
1.	<u>Lasers:</u> Two laser sources at wavelengths (1) 633 nm, (2) 785 nm. Necessary optics for each laser should be included in the quote. Power levels and other specs of the lasers should also be included in the quote.
2.	<u>Optional laser:</u> Add a third laser@532 nm as an option. Necessary optics for the laser should be included.
3.	<u>Detector in visible range:</u> CCD detector with detailed specs should be included.
4.	<u>Detector up to 1600nm:</u> InGaAs array detector covering up to 1600 nm. Detailed specs of the InGaAs array detector should be included, including cooling method.
5.	<u>Gratings:</u> The gratings included should be specified for each range.
6.	<u>Optics and Filters:</u> All necessary optics and filters should be included (with specification) for the lasers mentioned above.
7.	<u>Adapters required for more than one detector:</u> Necessary adapters should be included for >1 detectors.
8.	<u>Objectives:</u> 10X VIS, 100X VIS, 50X LWD VIS, 50X LWD NIR (mention NA and working distance for all LWD objectives)
9.	<u>Low temperature cryostat:</u> Should be able to provide temperature <80K with ultra-low vibration (<30 nm RMS), should have at least 4 electrical pins and necessary feedthroughs, should allow vacuum measurements. Mention whether wet system, or closed-cycle. It is preferable if it can be integrated with the mapping stage. The LWD objective should be compatible with the cryostat.
10.	<u>Motorized mapping XYZ stage:</u> A motorized mapping stage should be included with XY spatial resolution ~100nm.
11.	<u>Polarizer-Analyzer setup:</u> The system should be capable of exciting the sample with linear and circular polarization , with user defined angle. The system should also be able to analyze the polarization of the emission (linear or circular). Necessary half-wave plates, quarter wave-plates and analyzer should be included (for both VIS and NIR). The system should have proper provision to mount these as well.
12.	<u>PC and software:</u> Operating system should be specified and if not windows 10, duration of support for older versions and cost of upgrades to newer versions should be included in the commercial bid. Also specify all software required for data acquisition and analysis.
13.	<u>Power meter:</u> A power meter should be included.



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Clauses	
1.	Operating system should be specified and if not Windows 10 duration of support for older versions and cost of upgrades to newer versions should be included in the commercial bid
2.	Monitors should be 19" (diagonal) LCD monitors or better.
3.	Please include options currently available that can be added on in the future.
4.	Training and Installation: Onsite installation and training should be quoted.
5.	Warranty and AMC: Warranty period and cost of AMC beyond warranty period should be included in the commercial bid.
6.	Please include standards to be used for calibration of tool parameters.
7.	The cost of shipping up to IISc should be included. IISc will help with customs clearance at Bangalore Airport. Please include your payment option. IISc would prefer to retain at least 20% of payment till instruments have been commissioned and successfully demonstrated.
8.	Please list a set of acceptance tests for on-site (vendor) inspection and after installation at IISc.
9.	Spares for up to one year should be included.
10.	The delivery time should be indicated in the quote.
11.	A set of basic tools required for performing routine maintenance. A tool cart that can be locked and that can accommodate these tools should be provided.
12.	The payment terms will be specified in the commercial proposal and is subject to negotiation.
13.	Please provide details of the number of trained personnel in India, number in the southern region or in Bangalore who can service the machine.

On behalf of the technical committee,

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