

Global Tender Notification for the procurement of an Electron-Multiplying CCD (EMCCD) camera and associated software to be integrated with a Andor, Kymera 328i spectrometer

GTE Approval No: IISc-GTE-2021-090

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

Quotations are invited for the procurement of an Electron-Multiplying CCD (EMCCD) camera and associated software to be integrated with a Andor, Kymera 328i spectrometer, along with following technical specifications on C.I.P. Bangalore basis (by Air Freight only). The quotation must mention the terms of delivery, delivery schedule, estimated delivery date, and payment terms.

The deadline for submission of proposals is **14th December 2021 by 5:00 PM**. Proposals should arrive at the office of **Dr. Varun Raghunathan, Department of Electrical Communication Engineering, Indian Institute of Science, Bangalore, Karnataka 560012, India**.

The bid should be addressed to: **The Chairman, ECE department, Indian Institute of Science, Bangalore 560012, India**.

Direct all questions concerning the acquisition to **Dr. Varun Raghunathan** at: **varunr@iisc.ac.in**.

General Terms and Conditions:

1. The bid should be submitted in the two-cover system, i.e. technical bid and commercial bid separately in sealed covers. The technical bid should contain all commercial terms and conditions, except the price.
2. The technical bid must contain a point-by-point technical compliance document. 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 reason 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 requirement table below.
3. In the commercial bid, the price should be inclusive of all discounts.
4. The vendor should have qualified technical service personnel for the equipment based in India (preferably in Bangalore).
5. 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 bids.
6. All the quotations must be valid for at least 120 days at the time of submission.
7. 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.

8. 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.
9. Items in addition to that listed in the technical table that you would like to bring to the attention of the committee, such as data sheets, technical plots etc. can be listed at the end of the compliance table.
10. Vendors are encouraged to highlight the advantage of their tools over comparable tools from the competitors.
11. If needed, a meeting for any technical clarifications can be scheduled with the undersigned by sending an email.
12. 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.
13. Warranty terms and additional warranty options is a must for all the components. Please specify the service plan like whether the local distributor will address the issue or the parent company.
14. Terms and conditions for the annual maintenance contract beyond the warranty period should be mentioned.
15. After the award of purchase order, the vendor must provide an Order Acknowledgement within 30 days from the receipt of the Purchase Order.
16. Please quote the price of each optional line item, separately.

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 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.

Technical Specifications	Values/ Range
Sensor Type	Electron-Multiplying CCD, Back illuminated
Pixel count	512 x 512 or better
Pixel size	16 x 16 microns or better
Sensor size	8.2 x 8.2 mm or better with 100% fill-factor
Pixel readout rate	Atleast 17 MHz
Deepest cooling	-100 degree Celsius or better
Blemish specification	Grade-1 sensor
System window type	Anti-reflection coating with fringe suppression
Wavelength range	300 – 1100 nm
Peak quantum efficiency	> 95% at 550 nm wavelength
Dark current	0.00015 electron/pixel/sec at maximum cooling or better
Spurious background	0.0018 event/pixel (specify corresponding gain and temperature) or better
Active area pixel well-width	180000 electrons or better
Gain register pixel well depth	800000 electrons or better
Pixel read-out rate (EM amplifier)	Atleast 17 MHz

Pixel read-out rate (Conventional amplifier)	Atleast 3 MHz
Read Noise	< 1 electron, with electron multiplication (specify pixel read-out rate)
Linear absolute electron multiplier gain	1-1000 times
Linearity	> 99.9%
Vertical clock speed	0.3 to 3.33 micro-second (user selectable)
Time stamp accuracy	10 nsec or better
Frame-rate	56 fps for full-frame size
Digitization	16-bits (for all speed)
Trigger mode	Internal, External, External start, External Exposure, Software trigger and others
PC interface	USB 2.0 or better
Spectral imaging software	To be specified and its compatibility with existing spectrometer to be clearly mentioned
Cables, Connectors etc.	To be included
Any adapter to interface the spectrometer (Kymera 328i)	To be included as options

Other requirements:	
1.	Sensor should be compatible for adaptive focus mechanism of spectrometer (Kymera 328i-B1)
2.	One same software should control our existing ANDOR Kymera 328i spectrometer, spectrograph grating rotation, control of input/ output ports, offering EMCCD's EM Gain operations, aquisition of spectra and adaptive focusing compatibility, calibration of spectrometer and EMCCD etc.
3.	To perform installation and integration with the spectrometer (Andor Kymera 328i) at customer site. To provide training to users at customer site. To demonstrate that the product meets the technical specifications listed above at the customer site.
4.	Supplier should agree to provide performance test reports prior to dispatch of goods.
5.	Compatible operating system(s) for the interface software should be specified. Suitable software drivers available should be specified.
6.	Please include other options currently available which can be added on in the future.
7.	The cost of shipping to IISc should be included.
8.	List of acceptance tests for on-site (vendor) inspection and after installation at IISc.
9.	A set of basic experiments for performing routine checks of acceptable operation with clear instructions to be provided.
10.	The payment terms will be specified in the commercial proposal and is subject to negotiations.
11.	Please provide details of the number of trained personnel in India, number in southern region or in Bangalore who can service the instrument.
12.	Service credentials: The supplier should have at least five similar installation in India. Customer list with contact details mandatory to prove your credential.
13.	Authorisation letter from OEM manufacturer to be included

14.	Vendor must provide complete compliance statement against each technical point.
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Varun Raghunathan
Assistant Professor
ECE department
Indian Institute of Science
Bangalore, Karnataka 560012
varunr@iisc.ac.in
Phone: +91-80-2293-3473