

**DEPARTMENT OF MECHANICAL ENGINEERING**  
**Indian Institute of Science (IISc), Bangalore,**  
**INDIA**

**Global Tender Notice**  
GTE Approval No. IISc-GTE-2021-067

**Tender Notification Ref No.: ME/ENQ/TNDR/GT/21-22/01**

**Date: 11<sup>th</sup> August 2021**

The *Department of Mechanical Engineering*, Indian Institute of Science Bangalore, invites Global tenders for supply of “**High-Speed Camera**”.

The scope of bid includes Supply, installation and configuration of “**High-Speed Camera**” on CIF-IISc Bangalore basis.

**Tender Summary**

1.	Tender Number	ME/ENQ/TNDR/GT/21-22/01
2.	Tender Date	11 <sup>th</sup> August 2021
3.	Item Description	High-Speed Camera
4.	Tender Type	Two bid system: (a) Technical Bid (Part A) (b) Commercial Bid (Part B)
5.	Place of tender submission	Dr. Gaurav Tomar Dept. of Mechanical Engineering, Indian Institute of Sciences, Bengaluru 560012
6.	Last Date & Time for submission of tender	31 <sup>st</sup> August 2021, 1700 hrs IST

**To whom it may concern**

This is a **Request for quote (RFQ)** from **Global Agencies** for supply and installation of “**High-Speed Camera**” at the “**Department of Mechanical Engineering, Indian Institute of Science, Bangalore.**”

This Invitation for Bids is open globally. All interested vendors shall submit a response demonstrating their capabilities to produce the requested equipment to the primary point of contact listed below.

The deadline for submission of proposals is **31<sup>st</sup> August 2021 by 1700 hrs.** Proposals should arrive at the office of **The Chair, Department of Mechanical Engineering, Indian Institute of Science, Bangalore, Karnataka 560012, India. Kind Attention: Dr. Gaurav Tomar**

Direct all questions concerning the acquisition to addresses to **Dr. Gaurav Tomar** at: [gtom@iisc.ac.in](mailto:gtom@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 high-speed cameras 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 quotations should be on CIF-IISc Bangalore basis. The equipment is required for research purposes only.
5. Import code (HSN code) of the items should be indicated.
6. 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.
7. All the quotations must be valid for at least 90 days at the time of submission.
8. 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.**
9. 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.
10. 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.
11. Vendors are encouraged to highlight the advantage of their high-speed cameras over comparable high-speed cameras from the competitors.
12. If needed, a meeting for any technical clarifications can be scheduled with the undersigned by sending an email.
13. 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.
14. 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.
15. Terms and conditions for the annual maintenance contract beyond the warranty period should be mentioned.
16. After the award of purchase order, the vendor must provide an Order Acknowledgement within 30 days from the receipt of the Purchase Order.
17. Please quote the price of each optional line item, separately.

**Technical requirements:** Please note that the requirements 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.

<b>SI No.</b>	<b>Description</b>	<b>Specification</b>
1.1	Sensor type	CMOS
1.2	Frame rate	8500 fps or higher at 1MP resolution
1.3	Maximum frame rate at reduced resolution	9,00,000 fps
1.4	Pixel size	20 micro-m x 20-micro-m or smaller
1.5	Acceptable frame size (pixels)	1024 x 1024 pixels or 1280 x 800 pixels
1.6	Onboard Memory	1) 16GB or higher
1.7	Minimum Throughput	8.5 Gpx/sec or higher
1.8	Quantum efficiency	> 60% in visible range
1.9	Input	Trigger (TTL/Switch), sync, ready, event, exposure rate to be controllable by hardware trigger or pulse width
1.10	Output	Trigger, sync, ready, rec, exposure
1.11	Bit Depth	12-bit or higher
1.12	Global electronic shutter	400 ns or lower
1.13	Intensity Dynamic Range	12-bit or higher
1.14	Lens Mount	F-mount and C-mount adapters to be provided
1.15	Interface	Ethernet (10Gbps)/USB

1.16	Operating Temperature	0-50°C or better
1.17	Standard Camera Lens	100 mm/f2.8 to be provided
1.18	Compatibility	Should be compatible with long distance microscopic, F and C mount zoom lenses from standard manufacturers and DSLR camera lenses.
1.19	Data Transfer Rate	10 GBPS on RJ45 port with downloading while recording option enabled
1.20	ISO (monochrome)	ISO 12232 Ssat sensitivity greater than or equal to 50,000
1.21	Window Manually selectable window independent of the frame rate, shutter control independent of the frame rate, download while recording option to be available.	
1.22	All necessary Power and Communication Cables should be included	

### Other requirements:

1.	Lenses: 50 mm/f1.8
2.	Tripod
3.	Hard case for Camera and Lenses.
4.	Please include upgrade 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.	The payment terms will be specified in the commercial proposal and is subject to negotiations.
8.	Please provide details of the number of trained personnel in India, number in southern region or in Bangalore who can service the instrument.

Dr. Gaurav Tomar  
Department of Mechanical Engineering,  
Indian Institute of Science,  
Bangalore, Karnataka 560012

[gatom@iisc.ac.in](mailto:gatom@iisc.ac.in)

11<sup>th</sup> August 2021

## Annexure-I

**Note:** Compliance Certificate must be enclosed with the Technical bid. Non submission of Compliance Certificate will lead to disqualification of the bidder.

SI No.	Description	Value / Range	Comply	Non-comply	Deviation	Remarks
1.1	Sensor type	CMOS				
1.2	Frame rate	8500 fps or higher at 1MP resolution				
1.3	Maximum frame rate at reduced resolution	9,00,000 fps				
1.4	Pixel size	20 micro-m x 20 micro-m or smaller				
1.5	Acceptable frame size (pixels)	1024 x 1024 pixels or 1280 x 800 pixels				
1.6	Onboard Memory	16 GB or higher				
1.7	Minimum Throughput	8.5 Gpx/sec or higher				
1.8	Quantum efficiency	> 60% in visible range				
1.9	Input	Trigger (TTL/Switch), sync, ready, event, exposure rate to be controllable by hardware trigger or pulse width				
1.10	Output	Trigger, sync, ready, rec, exposure				
1.11	Bit Depth	12-bit or higher				
1.12	Global electronic shutter	400 ns or lower				
1.13	Intensity Dynamic Range	12-bit or higher				
1.14	Lens Mount	F-mount and C-mount adapters to be provided				
1.15	Interface	Ethernet (10Gbps)/USB				

1.16	Operating Temperature	0-50°C or better				
1.17	Standard Camera Lens	100 mm/f2.8 to be provided				
1.18	Compatibility	Should be compatible with long distance microscopic, F and C mount zoom lenses from standard				
1.19	Data Transfer Rate	10 GBPS on RJ45 port with downloading				
1.20	ISO (monochrome)	ISO 12232 Ssat sensitivity greater				
1.21	Window	Manually selectable window independent of the frame rate, shutter control independent of the frame rate, download while recording option to be available.				
1.22	All necessary Power and Communication Cables	should be included				

## **Annexure-II**

### **MANUFACTURERS' AUTHORIZATION FORM**

*[The bidder shall require the manufacturer to fill in this form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by the person with the proper authority to sign documents that are binding on the Manufacturer.]*

Date: [insert date (as day, month and year) of Bid Submission]

Tender No.: [insert number from Invitation for Bids]

To: **The Chair, Department of Mechanical Engineering, IISc, Bangalore-560012**

#### **WHEREAS**

We [insert complete name of Manufacturer], who are official manufacturers of [insert full address of Manufacture's factories], do hereby authorize [insert complete name of Bidder] to submit a bid the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this authorization on behalf of: [insert complete name of Bidder]