

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

Tender for Global Vendors

GTE Approval No. IISc-GTE-2021-067

Tender Notification Ref No.: ME/ENQ/TNDR/MT/21-22/04

Date: 11th August 2021

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

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

Tender Summary

1.	Tender Number	ME/ENQ/TNDR/PK/21-22/04
2.	Tender Date	11 th August 2021
3.	Item Description	High-Speed Monochrome Camera
4.	Tender Type	Two bid system : (a) Technical Bid (Part A) (b) Commercial Bid (Part B)
5.	Place of tender submission	Dr. Pramod Kumar Department of Mechanical Engineering, Indian Institute of Sciences, Bengaluru 560012
6.	Last Date & Time for submission of tender	31 st August 2021, on or before 1700 hrs

To whom it may concern

This is a **Request for quote (RFQ)** from **Global Manufacturer** for procurement of **High-Speed Monochrome Camera** and associated software at the department of **Mechanical Engineering**, 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.

The deadline for submission of proposals is **31st August 2021 on or before 1700 hrs.** Proposals should arrive at the office of **The Chair, Department of Mechanical Engineering, Indian Institute of Science, Bangalore, Karnataka 560012, India. Kind Attn: Dr. Pramod Kumar**

Direct all questions concerning the acquisition to addresses to **Dr. Pramod Kumar** at: pramod@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 quotations should be on CIF-IISc Bangalore basis. The equipment is required for research purposes only.
5. Import code (HSN code) of item should be indicated.
6. The lead time for the delivery of the camera 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 cameras over comparable tools 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.

High-Speed Monochrome Camera

Sl. No.	Technical Specification	Value / Range
1.1	Sensor type	CMOS
1.2	Sensor's Full Resolution	1.2 MP or higher
1.3	Frames per Second at Full Resolution	10,500 fps at 1.2 MP or higher 12500 fps or more @1MP
1.4	Maximum Frame rate at Minimum Resolution	Regular Mode- 300,000 FPS or more. Binned mode: 400,00 FPS or more.
1.5	Acceptable frame size (pixels)	1024 x 1024 pixels or 1280 x 800 pixels
1.6	Memory	72 GB or higher
1.7	Record Time	Minimum 3.5 seconds at maximum frame rate, and resolution
1.8	Exposure time	800 ns or lower
1.9	Burst mode Image capture	Should be enabled with shutter off mode

1.10	Frame straddle	Option enabled with time of 726 ns or lower
1.11	Pixel Size	18 μm or lower
1.12	Bit Depth	12-bit or higher
1.13	Data Transfer Rate	10 Gb/s on RJ45 port
1.14	Data Acquisition Hardware Support	National Instruments M- and X-Series DAQ modules
1.15	Software Support (SDK)	NI-LabView, MATLAB, C++
1.16	Trigger Control	Programmable trigger location (pre/post trigger recording), Image-Based Auto-Trigger from software, or hardware trigger using BNC/TTL/Switch), sync, ready, event, exposure rate to be controllable by h/w trigger
1.17	Signal Control	Trigger, sync, ready, rec, exposure, timecode using BNCs, programmable I/O ports for F-sync, strobe, event, trigger output, ready
1.18	Synchronization	Frame synchronization to internal or external clock with 20ns timing accuracy
1.19	Exposure Control	Global electronic shutter, Auto Exposure and Shutter Off mode for PIV
1.20	Acceptable Interface	Ethernet/USB/HDMI
1.21	Lens Mount	F-mount as Standard and optional C-mount adapters to be provided
1.22	Packing and Storage	Hard Carry case with wheels
1.23	Operating Temperature	0-50 $^{\circ}\text{C}$
1.24	Power Supply	100 - 240 VAC (All necessary Power and Communication Cables should be included)
1.25	ISO (monochrome)	ISO 12232 with Tungsten STD > 50,000
1.26	Warranty	2 year Standard from the date of Installation/ Commissioning

Other requirements:

1.	F-Mount Camera Lens: 30 mm/f1.8
2.	Tripod Stand (should be capable of withstanding 3.5 kgs camera)
3.	Cheese Plate with Handle
4.	Additional Warranty for 3, 4 and 5 years

Dr. Pramod Kumar
Department of Mechanical
Engineering
Indian Institute of Science
Bangalore, Karnataka 560012
pramod@iisc.ac.in

Annexure-I

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

No.	Description	Value / Range	Comply	Non-comply	Deviation	Remarks
1.1	Sensor type	CMOS				
1.2	Sensor's Full	1.2 MP or higher				
1.3	Frames per Second at	10,500 fps at 1.2 MP of higher 12500 fps or more @1MP				
1.4	Maximum Frame rate at Minimum Resolution	Regular Mode- 300,000 FPS or more. Binned mode: 400,00 FPS or more.				
1.5	Acceptable frame size	1024 x 1024 pixels or 1280 x 800 pixels				
1.6	Memory	72 GB or higher				
1.7	Record Time	Minimum 3.5 seconds at maximum frame rate, and resolution				
1.8	Exposure time	800 ns or lower				
1.9	Burst mode Image capture	Should be enabled with shutter off mode				
1.10	Frame straddle	Option enabled with time of 726 ns or lower				
1.11	Pixel Size	18 μ m or lower				
1.12	Bit Depth	12-bit or higher				
1.13	Data Transfer	10 Gb/s on RJ45 port				
1.14	Data Acquisition Hardware	National Instruments M- and X-Series DAQ modules				
1.15	Software Support	NI-LabView, MATLAB, C++				
1.16	Trigger Control	Programmable trigger location (pre/post trigger recording), Image-Based Auto-Trigger from software, or hardware trigger using BNC/TTL/Switch), sync, ready, event, exposure rate to be controllable by Hardware trigger				
1.17	Signal Control	Trigger, sync, ready, rec, exposure, timecode using BNCs, programmable I/O ports for F-sync, strobe, event, trigger output, ready				

1.18	Synchronization	Frame synchronization to internal or external clock with 20ns timing accuracy				
1.19	Exposure Control	Global electronic shutter, Auto Exposure and Shutter Off mode for PIV				
1.20	Acceptable Interface	Ethernet/USB/HDMI				
1.21	Lens Mount	F-mount as Standard and optional C-mount adapters to be provided.				
1.22	Packing and Storage	Hard Carry case with wheels.				
1.23	Operating Temperature	0-50 °C				
1.24	Power Supply	100 - 240 VAC (All necessary Power and Communication Cables should be included)				
1.25	ISO (monochrome)	ISO 12232 with Tungsten STD > 50,000				
1.26	Warranty	2 year Standard from the date of Installation/Commissioning				

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, Mechanical Engineering Dept, 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]