



**Indian Institute of Technology Madras**  
**Chennai – 600 036, India**

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**January 7, 2016**

**REF No: OEC/15-16/660/NFSC/VSR**

**Due date: 21.1.2016**

Dear Sir,

1. Quotations are invited for the items shown below/overleaf/**enclosed list (Annexure I)**.
2. **Two bid system: Technical bid and Commercial bid.**
3. Vendors should give the technical presentation/demonstration on the equipment before the department purchase committee, if required.
4. The quotations duly sealed and super scribed on the envelope with reference no. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above
5. Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided.
6. Fax and Email quotation are not acceptable.
7. Quotations should be valid for 60 days from the due date and period of delivery required, warranty terms etc. should also be clearly indicated. A minimum of one year warranty is required from the date of commissioning.
8. Imported supplies should be quoted **for CIF Madras**.
9. Local firms to quote for free delivery to this Institute. If quoted for Ex-Godown delivery charges be indicated separately.
10. Relevant literature pertaining to the items quoted with full specifications (and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples / machine/ equipment if called for should be submitted / demonstrated at free of charges, and collected back at the supplier's expenses. Compliancy certificate is to be provided indicating conformity to the technical specifications
11. Sales Tax/General Taxes/ED if applicable and such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. If this is not indicated no such claim will be admitted at any stage. The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to Non-Government Educational Institutions run with no profit motive for which a concession is given. Sales Tax Certificate will be issued at the time of final settlement of the bill.
12. Goods should be supplied carriage paid and insured.
13. Goods shall not be supplied without an official supply order.
14. If the item is under DGS&D Rate contract No. and the price must be mentioned. It may also please be indicated whether the supply can be made direct to us at the Rate contract price (Please note that we are not Direct Demanding Officers). If so please send copy of the RC.
15. The Guarantee period of the item may be indicated clearly.
16. In case of LC. Payment, 90% of the payment will be made after completion of the supply. The balance 10% of the payment will be made after satisfactory installation of the equipment.

17. IIT Madras is exempt from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. IIT Madras will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above charges.
18. **Acceptance and Rejection:-** I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.

## **Annexure I**

### **Specifications of the High-Speed Video camera with accessories:**

1. Image resolution (pixel): 1 Megapixel with minimum 1024 x 800 resolution, minimum frame grabbing rate of 1500 frames per second.
2. Minimum record duration of 40s @ 1024 x 800 resolution with 40fps for larger FOV of about 2m x 2m. Lens minimum requirement: 24-85mm f/2.8-4.0D.
3. Lens mount: Interchangeable F-mount.
4. Adjustable resolutions and fps.
5. Grayscale resolution: 12 bit gray scale resolution.
6. Internal Memory: 12 Gb or above.
7. Light sensitivity: equivalent ISO light sensitivity 10,000 or above for monochrome.
8. Shutter: global electronic shutter variable down to 2  $\mu$ , independent of frame rate
9. Sensor: CMOS Monochrome, with pixel size of 20  $\mu$ m and pixel depth of 12 bit. Better sensor performance may be considered by the tender committee, subject to budget availability. Lesser performance will not be considered.
10. Video output: Live video during recording of the camera.
11. Recording: Manual and external trigger, Compatibility with National Instruments (NI) PCI express card is advisable.
12. Capability to change the recording speed up or down by a factor of 2, 4 or 8 during a recording.
13. Recording Modes: Start, End, Center, Manual, and, dual speed recording.
14. Software to control the system and view the image.
15. Operating system: Microsoft Windows 7 or windows 8 or windows 10.
16. Programmable delay on selected input and output triggers.
17. Phase locking capability to be precisely synchronized to an external source.
18. Saved image formats: JPEG, AVI, TIFF, BMP, RAW, PNG, MOV.
19. Selectable increment steps to prevent pixel over-exposure.
20. Timing: internal clock and external source.
21. Event Marker option to mark specific event in the image sequence in real time and immediate access through software.
22. Data display: Frame rate, Shutter speed, Trigger Mode, Date or time, status, real time, frame count and resolution.
23. Operating temperature: The application is for the outdoor environment, so it should withstand working conditions of maximum 42 degree Celsius without additional cooling.
24. The camera has to run continuously for about an hour in an open environment for the above temperature. Any problem in regard to this has to be mentioned.
25. Power : should be able to work with 220 V AC power supply

26. The camera should be supplied with Ethernet interface, 100-240VAC power adapter and a suitable case, All necessary cables for the camera operation and a suitable hardtop and shock proof carrying case for camera to be provided.
27. Warranty for 1 year
28. Each quotation of camera should also include a catalogue, containing technical specification of the camera offered, failing which the offer is liable to be rejected.

Accessories (Include as a separate quote):

1. Include the offer for the provision of extendable memory and extendable warranty of the camera for 2 years.

**Additional Requirements:**

1. Vendors should provide continuous technical support and maintenance of equipment.
2. Vendors must have sufficient experience in supplying equipment in reputed organizations for research purpose. They must provide references of end users whom we can contact for their experience with the supplied machine. Experience of the end users may also be used as a criterion for the selection of bids that meet technical requirements.
3. Vendors must provide detailed documentation for the equipment.
4. Vendors must provide training to our technical staff for using the equipment.
5. All the expenses for installation, training and post sales technical support will be borne by the vendor.

**For details you may contact**

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