

	<p>INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036</p> <p>Telephone: (044) 2257 5630 E-mail: edstores@iitm.ac.in</p>	
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Prof. Kavitha Arunachalam
Project Coordinator

Ref: EDD/KAVT/2019-20/01/005
Dated: 31.01.2020

Limited Tender No: EDD/KAVT/2019-20/01/005

Due Date: 13.02.2020, 5:00pm

Pre-Bid meeting: - Not required.

Technical Bid opening meeting on Due Date: 14.02.2020, 4:00pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of **“Thermal Imaging Camera and accessories”** conforming to the specifications given in (Annexure-I).

Terms and Conditions of Limited Tender

1. **Preparation of Bids:** - The Limited tenders should be submitted under **Two bid system** (i.e.) Technical- and -Financial bid.
2. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier (duly sealed and super scribed on the envelope with the reference No and due date) so as to reach the following address before the due date and time specified in our Schedule:
Prof. Kavitha Arunachalam
ED105, Department of Engineering Design
IIT Madras
Chennai - 600 036.
3. **Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Engineering Design.**
 - a. The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.
 - b. In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP (stating the Cost, Insurance, Freight separately) and indicating the mode of shipment.
4. **Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
5. **Catalogue:** Original catalogue (not any photocopy) of the quoted model duly signed must accompany the quotation in the Technical bid
6. **Late offer:** - The offers received after the due date and time will not be considered

7. **Payment:** - No Advance payment will be made for Indigenous purchase. However, 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).
8. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.
9. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within number of days (as prescribed by PI's) from the date of receipt of the item at site of IIT Madras.
10. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment.
11. **Validity:** Validity of Quotation not less than 60 days from the due date of tender
12. **Technical Bid Opening:** The technical bid will be opened on **14.02.2020, 4:00pm** at the **ED105, Department of Engineering Design**, IIT Madras and the **financial bids** of those tenders who are technically qualified will be opened at a **later date under intimation to them**.
13. **Accept /Reject:** IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.
14. **Settlement of Disputes:** Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Chennai in Tamil Nadu.
15. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
16. **Unsolicited offers:** "This notice is being published **for information only** and is not an open invitation to quote in this limited tender. Participation in this tender is by invitation only and is limited to the selected registered suppliers. Unsolicited offers are liable to be ignored. However, suppliers who desire to participate in such tenders in future may apply for registration as per procedure." The Website for Registration of vendors is <http://web.iitm.ac.in/supplier/> and the mail address for queries is "workflow@rt.iitm.ac.in".

Yours sincerely,

Prof. Kavitha Arunachalam
Department of Engineering Design
IIT Madras
Chennai - 600 036.

Supply of Thermal Imaging Camera and accessories

I. Scope:

Specification covers supply, commissioning and training of infrared thermal imaging camera.

II. Technical Specifications:

Thermal Imaging Camera with minimum of the following specifications	
IFOV with standard lens (spatial resolution)	≤0.93 mRad
Detector resolution	640 x 480.
Focus	Manual & Automatic
Laser based auto focus	Yes
Multisharp focus	Focused near and far, throughout the field of view
Advanced manual focus	Required
Resolution enhancing feature	Instrument shall have the facility to increase the IR resolution upto 4 times.
Multiple target focusing option	Required
Touchscreen display (capacitive)	Min 3.5inch diagonal landscape 640x 480 LCD
Digital zoom	2x, 4x.
Laser based distance meter	Required
Temperature measurement	
Temperature measurement range	-10 °C to + 1000°C or Better
Accuracy	±2 °C or 2% or better
Thermal sensitivity (NETD)*	≤50 mK or better
On-screen emissivity correction	Required
On-screen reflected background temperature compensation	Required
On-screen transmission correction	Required
On- screen relative humidity and distance to target adjustment	Required
Wireless connectivity	Should be compatible for PC, iPhone® and iPad® Android™, Wi-Fi to LAN and Bluetooth connectivity
IR Blend	Min, Mid, Max IR plus full visible on camera; variable in software
Picture-In-Picture (PIP)	Yes, required.
Built-in digital camera (visible light)	5 MP
Lens	

Standard lens	IFOV (spatial resolution)	0.93 mRad or less
	Field of view	34 °H x 24 °V
	Minimum focus distance	15cm.
Telephoto, wide angle, lenses option	Yes	
Memory options	Removable 4 GB micro SD memory card, 4 GB internal flash memory, save to USB flash drive capability.	
Image file formats	Fully radiometric and Non-radiometric	
Export file formats	Bitmap (.bmp), GIF, JPEG, PNG, TIFF	
Voice annotation	60 seconds, needs in built mic and speaker.	
IR-Photo Notes	Yes, required minimum 2 images	
Text annotation	Yes, required	
Video recording	Standard and radiometric.	
File formats video	Fully- radiometric and Non-radiometric	
Remote display viewing (live video streaming)	Yes, live stream of the camera display on PC, smartphone, or TV monitor. Via USB, Wi-Fi hotspot, or Wi-Fi network, HDMI	
Remote control operation	Required	
Auto capture (temperature, interval and manual trigger)	Required	
Battery		
Batteries	Yes	
Battery life	Minimum 3 hours	
Battery charge time	Maximum 2.5 hours to full charge	
Battery charging system	Two-bay battery charger or in-imager charging. Optional 12 V automotive charging adapter	
AC operation	AC operation with included power supply (100 V AC to 240 V AC, 50/60 Hz)	
Power saving	User selectable sleep and power off modes	
Color palettes		
Standard palettes	Minimum 9 types	
General specifications		
Frame rate	60 Hz	
Laser pointer	Required	
LED light (torch)	Required	
Handling feature	Shall have one handed image capture and save capability	
Color alarms (temperature alarms)	High temperature, low temperature, and isotherms	
Center-point temperature measurement	Required	
Spot temperature	Hot and cold spot markers	
User-definable spot markers	Minimum 3 spot markers.	

Center box	Expandable-contractible measurement box with MIN-MAX-AVG temp display
Infrared spectral band	7.5 µm to 14 µm (long wave)
Operating temperature	-10 °C to +50 °C (14 °F to 122 °F)
Storage temperature	-20 °C to +50 °C (-4 °F to 122 °F) without batteries
Relative humidity	10% to 95% non-condensing
Safety	IEC 61010-1: Overvoltage category II, Pollution Degree 2, Class 2 laser Complies with 21 CFR 1040.10 and 1040.11& IEC/EN 60825-1:2014.
Electromagnetic compatibility	IEC 61326-1: Basic EM environment. CISPR 11: Group 1, Class A
Australian RCM	IEC 61326-1
USA FCC	CFR 47, Part 15 Subpart C
Certifications	Shall conform to European union directives, north America safety standards, Australian safety and EMC standards, south Korean EMC standards, Appliance efficiency regulation for small battery charging systems.
Vibration	0.03 g2/Hz (3.8 g), 2.5 g IEC 68-2-6
Shock	25 g, IEC 68-2-29
Drop	2meter drop
Size (H x W x L)	Bidder should mention
Weight (battery included)	≤1.1 kg
Enclosure rating	IEC 60529: IP54
Accessories	Bidder should mention
Software	Full analysis and reporting software to be included free of cost with the supply.

Other requirements:

1. Equipment datasheet to be enclosed.
2. A comparison table containing numerical values of equipment specifications to be supplied against the requested specifications with reference to the page number in the datasheet must be included. If datasheet and/or specifications table is incomplete tender will be disqualified.
3. Training and installation must be done by **level 1 certified person**.
4. Service support record: The supplier should have installed and maintained similar system in India since last three years. Please provide at least three customer references from R&D industry or laboratory.
5. Warranty: **At least 3 years on equipment**.
6. Vendors must register on <http://web.iitm.ac.in/supplier/>

Tender submission information:

1. This is a limited tender and tenders from vendors will be entertained only upon invitation.
2. Technical and commercial bids must be submitted in sealed envelopes and the two bids must be submitted in a single sealed envelope.
3. Tenders will be received only between 9-12 pm and 1-4 pm in department stores office Monday through Friday excluding institute holidays.