



**Department of Aerospace Engineering,
Indian Institute of Science,
Bangalore – 560 012,
India**



Email: pratikashp@iisc.ac.in

Phone: 080-22932480

Ref. No.: IISc/AE/Tender/2025/Local/Intensified Camera-Spectrometer

Date: 6th Oct 2025

Tender Notification for the Procurement of an intensified scientific CCD camera and a dual-exit port spectrometer (Last Date for Submission: 27th Oct 2025)

This is a Request for Quote (RFQ) for procurement of an intensified scientific CCD camera and a spectrometer as per the specified technical requirements at the Department of Aerospace Engineering, Indian Institute of Science, Bangalore. The tender should be submitted in two separate sealed envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 5 PM on 27th Oct 2025.

The bids should be addressed to:

The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Pratikash Panda
email: pratikashp@iisc.ac.in, chair.aero@iisc.ac.in

1	Section 1	Bid Schedule	As specified by IISc
2	Section 2	Eligibility Criteria	As specified by IISc
3	Section 3	Terms and Conditions	As specified by IISc
4	Section 4	Specifications	Technical specifications
5	Section 5	Technical Bid	Annexure 1: Bidder details
			Annexure 2: Declaration regarding experience of bidder
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			Annexure 4: Declaration of acceptance of Terms and conditions
			Annexure 5: Details of item quoted
6	Section 6	Commercial bid	Quotation with Price, Technical specifications of the Equipment

Section 1: Bid Schedule

1.	Tender No	IISc/AE/Tender/2025/Local/Intensified Camera-Spectrometer
2.	Tender date	6 th Oct 2025
3.	Instrument	Intensified Scientific CCD camera and Spectrometer
4.	Tender type	i) Technical bid (Part A) ii) Commercial bid (Part B)
5.	Place of tender submission	The Chairman, Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Kind attention: Dr. Pratikash Panda
6.	Last date and time of tender submission	27 th Oct 2025, 5 PM
7.	For Further clarification	Dr. Pratikash Panda Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Ph: +91-80-2293-2480 email: pratikashp@iisc.ac.in

Section 2: Eligibility Criteria

Prequalification criteria:

1. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
2. The quotations should be on FOR-IISc Bangalore basis in INR only
3. The product should not require an export control license.
4. The Bidder should have at least 3 years of experience in supplying and servicing the intensified CCD or CMOS cameras in India.
5. The Bidder's firm should have existence for a minimum of 3 years (Enclose Company Registration Certificate).
6. If the Bidder is a local Distributor/Dealer/Agent, it is mandatory to attach the authorization certificate along with the technical bid from the OEM.
7. The Bidder should provide the certificate from the OEM stating they are the Indian authorized distributor of their products.
8. The Bidder should belong to either Class 1 or Class 2 supplier distinguished by their "local content" as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter.
 - a. Class 1 supplier: Goods and services should have local content of equal to or more than 50%.
 - b. Class 2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.
9. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per - Annexure 4.
10. Bidders offering imported products will fall under the category of non-local suppliers.
11. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
12. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to the Class-1 supplier.
13. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
14. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per - Annexure 4.
15. 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 has to be given as per Annexure 3.

Section 3:

I. Technical Specification for intensified scientific CCD camera

The intensified CCD scientific camera will be used for high resolution imaging and spectroscopy in flames. A fiber-optically coupled sensor to a Gen III filmless intensifier is desired.

T1. Mandatory specifications:

A. Sensor specifications		
S.N.	Parameter	Specification
1.	Sensor type	Scientific full fram CCD
2.	CCD Format	1024 x 1024 imaging pixels
3.	Sensor size: width × height	≥ 12 mm x 12 mm
4.	Pixel size	13x13 μm
5.	Pixel binning feature	E.g., 2 × 2, 4 × 4 pixels etc.
6.	Method of coupling to CCD	1:1 fibre optic
7.	Sensor cooling options	Thermoelectric cooling or better
8.	Dark Current	≤ 2 e-/pix/s @ -25 °C
9.	Digitization and data storage range	16-bit
10.	Read noise, rms	≤ 20 e- @ 10 MHz
11.	Pixel well depth	≥ 100,000 e-
12.	Operational Specification: Repetition Rate: Sustained: With pico-second gating With MCP gating	≥ 1 MHz ≥ 100 kHz ≥ 8 kHz
13.	Resolution Limit	50 line pairs/ mm or better
B. Intensifier specifications		
1.	Intensifier type	Gen III filmless, with QE more than 30% in 400 – 700 nm; more than 10% in 300 – 400 nm
4.	Phosphor option	P43
5.	Phosphor decay time to 10% of its initial value	≤ 2 ms
9.	Intensifier resolution	≤ 25 μm
11.	Fast gate	≤ 0.5 ns

C. System specifications		
1.	Intensifier gate timing synchronization	Through TTL
	Timing generator	Built-in programmable timing generator with 10 pico-sec step size
2.	Gate monitoring capability	Signal output from camera unit
3.	Data acquisition software	Should be provided with camera
4.	Operating temperature	10 to 40 °C
5.	Warranty	At least 2 years for complete system, including intensifier
6.	Internal memory within camera if USB interface is used	≥ 1 GB
7.	Camera lens adapter	F-mount
8.	Data exchange interface	USB 3.0 or another high-speed interface
9.	Detector sensor, Intensifier, and Digital delay generator should be built as a single integrated camera module.	

II. Technical Specification for High-resolution spectrometer with dual exit ports

The high-resolution spectrometer is required for precise spectral measurements with dual exit ports, allowing flexible detection configurations with up to two spectral regions simultaneously. The spectrometer should have a single entrance slit and must have a superior resolution and accuracy across a broad wavelength range (200 – 900 nm).

A. Optical specifications		
S.N.	Parameter	Specification
1.	Entrance Slit	Single entrance slit
2.	Exit ports	Dual exit ports
3.	Focal length	≥ 300 mm
4.	Aperture Ratio	$\geq f/3.9$
B. Spectral specifications		
1.	CCD Spectral resolution	≤ 0.1 nm
2.	Reciprocal linear dispersion	2.5 nm/mm or better
3.	Focal plane size (both exit ports)	14 mm x 30 mm or better
4.	Scan Range	0 – 1500 nm
5.	Drive step size	≤ 0.005 nm/step
6.	Wavelength accuracy	± 0.25 nm or better

7.	Wavelength reproducibility	± 0.05 nm (both scan directions) or better
C. Grating System		
1.	Turret Type	Triple-grating interchangeable CTS-Turrets, self-align to the system when installed
2.	Grating change repeatability	0.05 nm or better
3.	Grating size	68 mm x 68 mm standard
4.	Number of turrets supported	Should accept up to 3 turrets, each with 3 gratings.
5.	Warranty	At least 2 years for complete system, including intensifier

**** Options of 900 lines/mm, 1200 lines/mm and 1800 lines/mm gratings to be included in the bid.**

Section 4: Terms and Conditions

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
 - a) Technical Bid (Part-A) – Technical bid consisting of all technical details and checklist for conformance to technical specifications. The proposal should contain a compliance table. The compliance table should include all the items of the technical specifications in the same order and format. The first additional column should describe product specifications. The next column should indicate compliance in a “Yes” or “No” response.
 - b) Commercial Bid (Part-B) – Indicating item-wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.
3. The technical bid and price bid should each be placed in separate sealed covers, superscribing on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscribed with the Tender No, Tender Description & Due Date.
4. The SEALED COVER superscribing tender number and due date & should reach the office of the Chairman, Department of Aerospace Engineering Indian Institute of Science Bangalore 560012, India. Kind attention: Dr. Pratikash Panda, on or before the due date mentioned in the tender notice. In case the due date happens to be a holiday, the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
5. 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.
6. The lead-time for the delivery of the equipment should be less than 16 weeks from the date of receipt of necessary documents. It should be clearly mentioned in the technical and commercial bids. The vendor shall provide the past delivery duration for similar system supplied

- to Indian customers recently (up to 5 recent orders).
7. The vendor must provide a compliance statement in a tabular form concerning each technical specification in the tender document duly supported by the manufacturer's literature and published papers. Any other claim will not be accepted and may lead to the rejection of the bid.
 8. Wherever requested, data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed as technically non-compliant.
 9. The institute reserves the right to verify the accuracy and seek clarification of submitted specifications after opening the technical bids. Based on such clarification, if specifications are found to be unsuitable, the technical committee reserves the right to disqualify vendors. Any discrepancy between the promised and verified specifications will be deemed as technical non-compliance.
 10. The technical bid should also contain warranty details and terms. Further, any periodic maintenance requirements for regular operation should be specified in detail, along with the extent of coverage under warranty for such maintenance activity.
 11. The warranty period of 24 months should start from the date of installation, commissioning, and acceptance of the item. If the equipment requires repairs or failures are developed during the warranty period, all expenses related to shipping and custom duties/taxes (within or outside India) should be borne by the vendor.
 12. The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid. The vendor is responsible for the installation of the system at the institute, along with the training of end-users.
 13. In the commercial bid, the price should be inclusive of all discounts. The price quotation should include the cost of installation and training of potential users if any. Please quote the price of each optional item, separately.
 14. Any statutory increase in the taxes and duties subsequent to the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore, subject to the claim being supported by documentary evidence. However, if any decrease takes place, the advantage will have to be passed on to IISc, Bangalore. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from the bidding process.
 15. The vendor should have an office with qualified technical service personnel based in India and should assure a response time of less than five business days.
 16. The vendor must submit a list of all Indian customers (only Government of India organizations) where similar systems have been installed. References from this list can be used to disqualify vendors with a poor track record of service, build quality, system performance, or poor availability of spares. Additionally, IISc shall have the absolute right to take the opinion of other departments/institutes for their opinion/experience about the bidder's services/sales. Based on such input, IISc may decide about the rejection of a bid of such bidder(s).
 17. The vendor should include at least five testimonials from existing users of a similar camera system indicating the performance of the camera and maintenance satisfaction. The vendor should have supplied and installed at least four intensified CCD cameras and spectrometer in India. The camera will be triggered by a TTL pulse from a Nd:YAG laser. The vendor should be experienced to support such application.
 18. Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
 - a) To accept OR reject the lowest tender or any other tender or all the tenders.
 - b) To accept any tender in full or in part.

- c) To reject the tender, offer not confirming the tender terms.
19. The indenter reserves the right to relax any or all of the above conditions without assigning any reason.

Annexure 1:

Details of the Bidder: The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Sr. No.	Type	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 2:

Declaration regarding experience

To,

The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Pratikash Panda

Ref: Tender No:

Dated:

Sub: Supply and installation of intensified scientific CCD camera and
Spectrometer

I have carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ---- years of experience in supplying and installing intensified scientific CCD camera and spectrometer.

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 3:

Declaration of track record

To,
The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Pratikash Panda

Ref: Tender No:

Dated:

Sub: Supply and installation of intensified scientific CCD camera and
Spectrometer

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender.

I hereby declare that my company / firm is not currently debarred / blacklisted by any Government / Semi-Government organizations / institutions in India or abroad. I further certify that I am competent officer in my company / firm to make this declaration.

OR

I declare the following:

Sr. No.	Country in which the company is debarred/ blacklisted / having pending case	Blacklisted / debarred by Government / Semi Government Organizations or Institutions / having pending case	Reason	Time Period

(Note: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 4:

Declaration of acceptance of terms and conditions

To,
The Chairman,
Department of Aerospace Engineering
Indian Institute of Science
Bangalore 560012, India.
Kind attention: Dr. Pratikash Panda

Ref: Tender No:

Dated:

Sub: Supply and installation of intensified scientific CCD camera and
Spectrometer

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

(Signature of the Bidder)

Name:

Designation, Seal

Date:

Annexure 5:**Details of items quoted:**

- a. Company Name
- b. Product Name
- c. Part / Catalogue number
- d. Product description / main features
- e. Detailed technical specifications
- f. Remarks, if applicable

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

Section 5 – Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

Items requested in the mandatory specification section

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
2	... (details of essential items)				
3.	Warranty (years)				
4.	FOR-IISc Bangalore only				

Items requested in the optional specification section

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Optional items noted in the technical specification				
2	... (details of Optional items)				
3.	Warranty (years)				
4.	FOR-IISc Bangalore only				

Section 6 - Checklist

The following items must be checked before the bid is submitted.

1. Sealed Envelope “A”: Technical Bid

Technical bid (signed by the authorized signatory and sealed) with the below documents:

- a. Annexure 1: Bidders details
- b. Annexure 2: Declaration regarding experience
- c. Annexure 3: Declaration of track record
- d. Annexure 4: Declaration of acceptance of terms and conditions
- e. Annexure 5: Details of item quoted.

20. Authorization certificate from the OEM The vendor should you supplied and installed at least three intensified CCD cameras and spectrometer in India. The camera will be triggered by a TTL pulse from a Nd:YAG laser. The vendor should be experienced to support such application.

2. Sealed Envelope “B”: Commercial Bid

Your quotation must be submitted in two separate sealed envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date. These envelopes should be put in a bigger cover which should also be sealed and duly super scribed with Tender No., Tender description & Due Date.