

Notice Inviting Open Tender for:
Tender Notification for Supply, Installation, commissioning and training for an Electron-Back-Scattered-Detector (EBSD) system to be installed in a scanning electron microscope (APREO 2S, ThermoFisher make) housed at AFMM, Indian Institute of Science, Bangalore - 560012

(Tender from Domestic Vendor and Suppliers)

Bids are invited from domestic OEM / authorized distributors of domestic OEM

(Last date of Submission August 21, 2026)

1	Section 1	Bid Schedule	
2	Section 2	Eligibility Criteria	As specified by IISc
3	Section 3	Terms and Conditions	As specified by IISc
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Date: July 31, 2026

Please send your tender documents valid for 180 days from the actual date of opening the technical bid, for the supply of equipment described below. Your documents/quotation should clearly indicate the terms and conditions of the quotations, delivery schedule, entry tax, payment terms, warranty coverage, etc. The vendors have to submit the technical bid and commercial bid separately in two envelopes. The technical bids should also include a compliance table indicating whether the required specifications are met. The bids with your signature should reach us on or before 1700 hours 21/08/2026.

We are interested in procuring an Electron Backscatter Diffraction (EBSD) system to integrate with the existing scanning electron microscope (APREO 2S). The system should be compatible with APREO 2S (ThermoFisher Make). Kindly send your best quotation for an EBSD system as per the specifications below.

The tender documents should be addressed to:

**The Chairman,
Department of Materials Engineering,
Indian Institute of Science,
Bangalore 560012,
Karnataka, India**

Email addresses: office.mte@iisc.ac.in

Cc: rajeev@iisc.ac.in

Section 1 - Bid Schedule

1	Tender No	MT-APREO-EBSD-1
2	Item Description	Supply, Installation, commissioning and training for an Electron-Back-Scattered-Detector (EBSD) system to be installed in a scanning electron microscope (APREO 2S, ThermoFisher make) housed at AFMM, Indian Institute of Science, Bangalore - 560012
3	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
4	Place of tender submission	The Chairman Department of Materials Engineering Indian Institute of Science, Bangalore 560012
5	Last Date & Time for submission of tender	21.08.2026, 10 AM
5	For further clarification	Prof Rajeev Ranjan Chair and Professor Department of Materials Engineering Indian Institute of Science, Bangalore 560012 Email: office.afmm@iisc.ac.in , rajeev@iisc.ac.in

Section 2 - Eligibility Criteria:

With respect to this tender, the rules laid out by the Government of India in order No. P-45021/2/2017-PP (BE-II) issued by the Public Procurement Section, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 16th September 2020, will be followed. Per this order, only Class-I and Class-II local suppliers as defined below are eligible to participate in this open domestic tender. Non-local suppliers are ineligible to participate in this tender.

Relevant definitions as per Government of India order:

- Class-I local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%
- Class-II local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%.
- Non-local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%.
- Local content – the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.

Only Local Suppliers are eligible to participate in the bid. The bidders must go through the Government of India order stated above and follow all the rules and regulations therein. The covering letter Should clearly indicate whether the vendor is a Class I or class II local supplier failing which the vendor will automatically be disqualified.

1. Bidders offering imported products will fall under the category of non-local suppliers. 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.
2. Purchase preference as defined by the recent edits to GFR (within the “margin of purchase preference”) will be given to the Class-1 supplier.
3. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
4. The quotations should be on FOR-IISc Bangalore basis in INR only.
5. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
6. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per - Annexure 4.
7. 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.
8. The vendor should have a good track record of delivering identical EBSD systems at universities/research institutions (please furnish the details).
9. Please provide list of customers who have procured similar EBSD systems in last 5 years.
10. The system must be delivered at the earliest. The smallest lead time will be appreciated. Our expectation is shipment immediately after PO and full or part payment post installation.
11. On all systems the payment terms will be specified in the commercial proposal and is subject to negotiation.
12. The vendor must provide evidence of service, maintenance and application engineering capability for both hardware and software. Please indicate the number of service and application engineers for the quoted EBSD systems and their locations. Evidence of

inadequate service and maintenance or application engineering support will be cause for disqualification. The vendors can indicate any special service and maintenance features of their systems, which can be enforced if an order is placed with the vendor.

SECTION 3 – Terms and conditions:

1. The vendor should also make sure that the price quoted would be valid for a period of 180 days.
2. Two-bid system with separate technical and financial bids in sealed envelopes.
3. The technical bid must clearly specify the prescribed technical specifications without including the prices. Please provide in detail the specifications. Unique characteristics may be highlighted. Vendors who include price information in the technical bids will be automatically disqualified.
4. A compliance statement and table must be included for each specification point.
5. Technical bids will be opened first. IISc may seek clarifications after opening of technical bids and may ask them to perform some example experiments on the sample given by IISc to demonstrate the promised technical specifications. Vendors may be required to give presentations. There are several items that require information to be provided by the supplier. If information is not provided against any of these items, this will disqualify the supplier. After technical evaluation by a committee, vendors may be asked to re-quote in a specific format to facilitate comparison of prices. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.
6. Price bids of only technically qualified vendors will be considered.
7. Prices to be quoted separately for baseline system and options. Prices should be quoted in adequate detail with relation to packing details to cover insurance compensation in case of damage to any specific modules
8. Indicate price and terms for an annual maintenance contract, and typical annual appreciation. The terms and price will be a subject of negotiation, but will not be included in the cost comparison.
9. The payment will be by letter of credit: payable 100% after satisfactory installation and acceptance.
10. Indicate the delivery period.
11. Warranty period up to an additional 3 years should be quoted separately as an optional item.
12. Order will be placed on lowest bid from a technically. qualified vendor.
13. The last date to submit the quotations is **21/08/2026, before 5 p.m.**

SECTION 4 – System Specifications:

Sl. no	Features	Specification
1	Compatibility	It should be compatible with APREO 2S (ThermoFisher make). The EBSD system should also have a suitable vacuum interface for mounting the EBSD camera in the SEM port.
2	Camera	CMOS-based camera with phosphor screen. The phosphor screen of the EBSD detector should be optimised for low-kV data acquisition when working with SEM. The camera should include an integrated forward-scatter detector. The native resolution should be > 400 X 400

3	Sensitivity	Should be able to work at low probe currents (between 100 pA-200 nA) and low voltages (between 5 kV-30 kV) The vendor will provide typical values of sensitivity in ipps/nanoamp for Ni at 20 KV at 3000 ipps with a 99% indexing rate at a defined pixel resolution, and will be required to demonstrate these values in acceptance tests.
4	Indexed pattern speed (ipps)	A maximum ipps greater than 5000 ipps with an indexing rate of at least 98% for a pixel resolution of at least 100X100. The vendor will be required to demonstrate this in acceptance tests. The vendor will indicate the standard material, accelerating voltage and current for the acceptance test in the technical bid. The vendor will demonstrate an orientation precision of less than 0.1° during the acceptance test in a standard material at a vendor defined voltage and current, at the highest pattern speed offered. A table of pixel resolution compatible with various ipps should be provided at a typical working voltage(s) and currents for Ni for at least a 98% indexing rate. The vendor will provide the pixel size of the camera.
5	Insertion and retraction	The EBSD camera should have a motorised insertion and retraction mechanism with a remote control digital handset. The position accuracy is to be 0.1mm.
	Transmission Kikuchi Diffraction	We require off-axis transmission Kikuchi diffraction capability. An appropriate holder should be provided. The vendor will demonstrate TKD during the acceptance test.
6	Holders	1 pre-tilt holder, 1 holder that can be tilted to any desired angle and 1 holder for transmission Kikuchi diffraction
7	Standards	Standards for calibrating the EBSD system. The vendor will provide standard samples to demonstrate performance against specifications during the acceptance test.
8	Safety	Safety feature to avoid collision of the sample stage/sample with the camera
9	Softwares	The EBSD software should be compatible with the operating system in the computer of APREO 2S. The software should be upgradable to new features for its lifetime. A complete description of all software functions must be provided, along with any optional features. The vendor will demonstrate the functioning of all aspects of the software during the acceptance tests.
10	Data acquisition and hardware control	On-screen visualisation of the EBSD pattern for the static beam
		Automated and dynamic pattern center calibration during data acquisition and processing
		On-screen visualisation of the pattern centre
		Flexible binning and subsampling options to balance speed and optimum indexing
		Real-time, automated and manual background subtraction, including static background subtraction.
		Automated and manual camera gain adjustments
		Exposure time control
		Flexible frame averaging options
		Post-acquisition indexing and analysis capability

11	Data processing and visualisation	Standard Mapping Types: Automatic generation of Inverse Pole Figure (IPF), Band Contrast (BC), Phase, and Grain Boundary maps. Microstructural Quantification: Automated grain sizing, aspect ratio calculations, misorientation distribution, and twin boundary identification. Phase partitioning, grain size and shape-based partitioning, strain-based partitioning misorientation-based partitioning Texture Analysis: Pole Figures (PF), Inverse Pole Figures, and Orientation Distribution Function (ODF) calculation and plotting. High-Resolution EBSD (HR-EBSD): Strain and dislocation density mapping based on sub-pixel cross-correlation techniques All additional capabilities and software functions shall be provided. Parent grain reconstruction for martensitic and other transformations in steels and titanium alloys
12	Indexing algorithms	Adjustable Hough transformation parameters Phase databases: integration with standard crystallographic databases for structure information loading Dictionary indexing variants or spherical indexing Clean-up algorithms (e.g., neighbour CI standardization, dilation) with strict data audit trails to track modifications. Specialised algorithms for transmission Kikuchi diffraction for an optimised band detection routine to accommodate distortions arising from displaced pattern centers
13	Data Architecture	The software shall allow storage of EBSD patterns at each acquisition point. We require open data export formats to enable compatibility with 3rd-party tools like MTEX. All file formats shall be provided
14	Warranty	A minimum of 1 year warranty (also see point 11 in terms and conditions)
15	License	One online license and three offline licenses
16	Application Training	Minimum two training workshops per year should be conducted on the software and data acquisition.

SECTION 5 – Technical Bid:

Annexure-1: Details of the Bidder

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

Details of the Bidder

Sl. No	Items	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 of bidder

To,

The Convener,
Advanced Facility for Microscopy and Microanalysis (AFMM)
Indian Institute of Science,
Bangalore 560012,
Karnataka, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply, Installation, commissioning and training for an Electron-Back-Scattered-Detector (EBSD) system to be installed in a scanning electron microscope (APREO 2S, ThermoFisher make) housed at AFMM, Indian Institute of Science, Bangalore - 560012

Sir,

I've 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 the equipment mentioned in the Tender.

(Signature of the Bidder)

Printed Name

Designation, Seal Date:

Annexure-3: Declaration regarding track record

To,

The Convener,
Advanced Facility for Microscopy and Mircoanalysis (AFMM)
Indian Institute of Science,
Bangalore 560012,
Karnataka, India

Ref: Tender No: XXXXXXXX

Dated: XXXXX

Supply, Installation, commissioning and training for an Electron-Back-Scattered-Detector (EBSD) system to be installed in a scanning electron microscope (APREO 2S, ThermoFisher make) housed at AFMM, Indian Institute of Science, Bangalore - 560012

Sir,

I've 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'm competent officer in my company / firm to make this declaration.

Or

I declare the following

Sl.No	Country in which the company is Debarred /blacklisted / case is Pending	Blacklisted / debarred by Government / Semi Government/Organizations /Institutions	Reason	Since when and for how long
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(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).

Yours faithfully
(Signature of the Bidder)

Name
Designation, Seal

Date:

Annexure – 4: Declaration for acceptance of terms and conditions

To,

The Convener,
Advanced Facility for Microscopy and Mircoanalysis (AFMM)
Indian Institute of Science,
Bangalore 560012,
Karnataka, India

Ref: Tender No: XXXXXX

Dated: XXXX

Supply, Installation, commissioning and training for an Electron-Back-Scattered-Detector (EBSD) system to be installed in a scanning electron microscope (APREO 2S, ThermoFisher make) housed at AFMM, Indian Institute of Science, Bangalore - 560012

Sir,

I've carefully gone through the Terms & Conditions as mentioned 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'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(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

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 6 – Commercial Bid

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

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
1.a	... (details of essential items)				
1.b	...				
2.	Optional items noted in the technical specification				
2.a	... (details of essential items)				
2.b	...				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software to be supplied locally				
5.	Warranty (1 year)				
6.	AMC 2 years beyond warranty				
7.	Cost of Insurance and Airfreight				

Any additional items

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1	Additional warranty (3 years)				

Section 7 – Checklist

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Sealed Envelope “A”: Technical Bid

1. Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:
 - a. Annexure 1: Bidders details
 - b. Annexure 2: Declaration regarding experience
 - c. Annexure 3: Declaration regarding clean track record
 - d. Annexure 4: Declaration for acceptance of terms and conditions
 - e. Annexure 5: Details of items quoted
2. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. Sealed Envelop “B”: Commercial Bid

Section 6: Commercial Bid

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

