RFQ for Prototyping Services for Pyroelectric Detectors

This RFQ is for a domestic tender to procure prototyping services for a pyroelectric fire detector being developed at CeNSE, IISc. This activity is under a DRDO-funded DIARCoE project, where the goal is to develop indigenous pyroelectric fire detectors that can replace an imported detector in a CFEES-designed fire suppression system. The detailed technology document and specifications will be provided by CeNSE, IISc.

The scope of the potential bidder is to prototype sensors as per the of the specification in requisite numbers and deliver them to CFEES for qualification testing. The bidders will be chosen based on technical compliance, experience, access to background IP, and capability of the engineering team. The bidder must have an interest in commercialisation of pyroelectric devices. If the project meets its goals, DRDO or their production partner will be interested in purchasing several thousand of these sensors. The bidder should be interested in this future commercial opportunity.

CeNSE is a multidisciplinary research department at IISc that houses a 14,000 sq. ft. cleanroom and characterization facility used by more than 100 faculty members from various disciplines at IISc.

1 Bid Schedule

1.	Tender title	Tender for Prototyping Services for Pyroelectric Detectors
2.	Tender date	20th Jan 2026
3.	Tender Number	IISc/Purchase/CeNSE/SA/2026_01_Pyro
4.	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5.	Last date of submission	**Feb 11th, 2026, 5:30 pm Indian Standard Time.** If this a holiday, the packet must reach the next business day.
6.	Address of submission	Proposals should arrive at the CeNSE office, TF-06, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India, by the above deadline. Please mention the tender title on the envelopes.
7.	Contact	Prof. Sushobhan Avasthi, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India. (savasthi@iisc.ac.in)

2 Pre-Eligibility Criteria

1. The bidder must be registered or incorporated enterprise in India, for at least 3 years. Enclose the certificate.
2. The bidder must be in business of design, engineering & manufacturing of electronics devices, sub-systems or systems.

3. The bidder must have specific experience in the strategic sector. They must be compliant with requirement for the defense manufacturing in India.
4. The bidder must have history of electronic fabrication. Provide details of your technical capability.
5. The bidder must have capability to fabricate the pyroelectric devices, either in an in-house facility or by accessing a central facility. Please provide a proof for either.
6. The bidder must have a full-time employee with domain experience in designing or manufacturing pyroelectric detectors. The employee will be the single-point-of-contact for this order for IISc. Provide proof of domain expertise and CV of the SPOC
7. The fabrication process requires capability to fabricate pyroelectric devices. Bidder must have an in-house indigenous technology for pyroelectric devices; OR Bidder must have a license to the background intellectual property for the pyroelectric device (docket #IDR-CeN-2023-108).
8. The bidder must sign and submit the declaration for the terms and conditions (Annexure 4)
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 has to be given as per Annexure 3.
10. The bidder must be a Class 1 domestic supplier as per GFR 2017 with more than 50% indigenous content can participate in the bid. Need a formal declaration from the bidder.
11. The order will be placed only on the bidder who participated in the bid

3 Terms and Conditions

3.1 Submission of Bid

1. All documentations in the tender should be in English.
2. The tender is being launched as per Government of India rules, specifically GFR 2017. We shall follow the GFR rules as they stand on the date the tender has been released.
3. As per recent edits to the GFR, there are three classes of bidders distinguished by their "local content". **This order is open only to domestic bidders**, i.e., Class 1 & Class 2 are eligible to send a bid.
   a. Class 1 supplier: Goods and services have a local content of equal to or more than 50%
   b. Class 2 supplier: Goods and services have a local content more than 20% but less than 50%
   c. Non-local supplier: Goods and services have a local content of equal to or less than 20%
4. Purchase preference as defined by the recent edits to GFR 2017 (within the "margin of purchase preference") will be given to the Class-1 supplier.
5. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
6. Bidders will be required to submit a technical proposal and a commercial proposal in **two separate sealed envelopes**. Quotes in violation of this will be rejected. See Anexures.
7. The technical proposal should have the compliance statement with supporting documents. See Annexure for a template.The committee reserves the right to cross-check the information with publicly available information.

8. A compliance table with 5 columns. The first column must list the “Technical requirement & scope of work”, in the order that they are given. The second column should provide proof for compliance in terms of numbers or supporting documents. Please be quantitative and consistent. Third column must specify whether the technical requirement is met with a “Yes”, “No”, or “Partially”. If the response is “Partially” or “No” the third column, the fourth column must explain the extent of the deviation and, if possible, the reasons for the deviation. The fifth column is for other “Remarks”. You can use it to provide context, details or justifications. See Annexure for a template.
9. Any additional capabilities or technical details, which you would like to bring to the attention of the purchase committee. Bidders are encouraged to highlight the advantages of their service over the competitors.
10. The technical proposal will be evaluated against the technical requirement. Only bidders who meet the technical requirement will be considered for the commercial comparison and negotiation.
11. The lowest bid L1 will be calculated based on the total price of all items tendered for Basic equipment along with accessories selected for installation, selected optional items, recommended spares and warranty.
12. The commercial bid must conform to the following:
    a. The quotations should be CIP Bangalore.
    b. Mention itemized costs.
    c. See Annexure for a template.
13. The technical bid and price bid should each be placed in separate sealed covers, superscripting 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 superscripted with the Tender No, Tender Description & Due Date.
14. If the quotation cover is not sealed, it will be rejected.
15. The bids must reach the address given in the Bid Schedule by the date given in the bid schedule.
16. All queries are to be addressed to the person identified in Section 1 “Bid Schedule” of the tender notice.
17. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document.
18. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.
19. The Institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract, without there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
20. Incomplete bids will be summarily rejected.
21. We encourage bidders to provide technical details, so the committee can better understand the technical capabilities of the bidders, and the bidder better understand the requirement.

3.2 Cancellation of Tender

22. 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 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 to the tender terms.
23. 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 tendering/taking up of work in IISc, Bangalore

3.3 Validity of the Offer

24. The offer shall be valid 90 Days from the date of opening of the commercial bid.

3.4 Evaluation of Offer

25. The technical bid (Part A) will be opened first and evaluated.
26. Bidders meeting the required eligibility criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the
    documentary evidence as required will not be considered.
27. Qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and / or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and decision in this regard shall be binding on the bidders. The award of the contract will be subject to acceptance of the terms and conditions stated in this tender.
28. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
    a. Non-submission of complete offers.
    b. Receipt of bids after due date and time and or by email (unless specified otherwise).
    c. Receipt of bids in open conditions.
29. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall construe that the BIDDER had accepted the clauses as of the tender and no further claim will be entertained.
30. No revision of the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
31. Lowest bid will be calculated based on the unit price for the protype.

3.5 Purchase Order

32. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.
33. If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

3.6 Delivery, Installation and Training

34. The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The prototypes should be delivered to CFEES DRDO within 4 weeks from the date of receipt of the information from IISc.

3.7 Payment Terms

35. Bidder can claim payment by submitting invoices on a per device basis after every shipment. There will be no advance payment.
36. Bidder must quote a per piece cost assuming a total prototyping run of 40 devices.

3.8 Statutory Variation

37. Any statutory increase in the taxes and duties after 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.

3.9 Disputes and Jurisdiction

38. 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 Bangalore, India.

3.10 General

39. All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension of the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.
40. The bidder may furnish any additional information, which is necessary to establish capabilities to successfully complete the envisaged work. It is, however, advised not to furnish superfluous information.
41. The bidder may visit the installation site before submission of tender, with prior intimation.

4 Technical Details & Scope of Work

1.	Scope	a. Fabricate 40 numbers of pyroelectric sensors as per the process and specification of IISc. b. The detailed process flow and specification will be provided by IISc. c. All the wafers, materials, chips, and consumables must be sourced by the bidder. IISc will only provide the bill of materials (BoM). d. Bidder must have access to the instruments to fabricate and test the devices, either in house or from sub-contracts.
2.	Other details	e. The sensors will be fabricated and shipped in multi batches of 5 devices. f. The bidder must prove interest in commercialisation of pyroelectric devices. If the project meets its goals, DRDO or their production

		partner will be interested in purchasing several thousand of these sensors. The bidder should be interested in this future commercial opportunity. g. The complexity of the fabrication process and device can be gleaned from the device specification and examples given in the next section.
3.	Quality Assurance	h. Bidder must take complete ownership of the quality of the prototype. i. The device cross-section and fabrication must exactly match the IISc specification j. The technology document lists up to 10 quality checks for materials, devices, and circuits. These tests are the responsibility of the bidder. k. The device-to-device variation in a batch must be < 10%
4.	Shipping	l. Bidder must fabricate the devices and ship them to CFEES, DRDO. The liability of shipping damage is with the bidder.
5.	Tenure of the service contract	m. The sensors will be fabricated over the next 24 months from the date of PO release. n. The PO can be extended by another 12 months, at the same cost.
6.	Background IP	o. The fabrication process requires capability to fabricate pyroelectric devices. Bidder must have an in-house indigenous technology for pyroelectric devices; OR Bidder must have a license to the background intellectual property for the pyroelectric device (docket #IDR-CeN-2023-108) p. Please contact office.iptel@iisc.ac.in for licensing, mentioning the docket number.
7.	Future engagement	q. Demonstrate the interest in commercialising the pyroelectric detector
8.	MoU, Confidentiality & IP	r. The bidder must sign a MoU to operationalise the terms of the engagement. The terms of the MoU will be final and supersede the information in this document. s. IISc will transfer IP to the bidder during the execution of project. However, this is not a license to use or extend the IP. The budder cannot use the knowledge for any other work without express permission of IISc. t. Bidder must maintain the confidentiality of the knowledge shared by IISc. No information can be used or shared without explicit consent of IISc. u. This PO does not provide rights to any IP of this project. If interested, the bidder must license the IP from IISc in a separate process. v. A separate RFQ will be floated for licensing the IP from DRDO and IISc. If interested, the bidder can apply in that process.
9.	Acceptability criteria	w. The shipped detectors must be as per the IISc process specifications. x. The detectors must not be damage during shipment. y. The fabrication process must use the materials specified by IISc. Any deviation must be approved explicitly by IISc.

		z. The shipment of a batch must be within 4 weeks of IISc request.

5 Annexure 1: Details of the Bidder

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

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 & Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	
12.	Description of expertise in pyroelectric devices (attach CV).	

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Signature of the Bidder
Printed Name
Designation, Seal
Date:

6 Annexure 2: Declaration regarding experience

To,
Prof. Sushobhan Avasthi
Centre for Nano Science and Engineering
Indian Institute of Science Bengaluru – 560 012

Dated: XXXXX
Subject: [Tender No] [Tender Title]

Dear Prof. Avasthi,
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 such services.
--
(Signature of the Bidder)
Printed Name

Designation, Seal
Date:

7 Annexure 3: Declaration regarding track record

To,
Prof. Sushobhan Avasthi
Centre for Nano Science and Engineering
Indian Institute of Science Bengaluru – 560 012

Dated: XXXXX
Subject: [Tender No] [Tender Title]

Dear Prof. Avasthi,
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

	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
1.				

(NOTE: In case the company / firm was blacklisted previously, please provide the details regarding the 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:

8 Annexure 4: Declaration for acceptance of terms and conditions

To,
Prof. Sushobhan Avasthi
Centre for Nano Science and Engineering
Indian Institute of Science Bengaluru – 560 012

Dated: XXXXX
Subject: [Tender No] [Tender Title]

Dear Prof. Avasthi,
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:

9 Annexure 5: Compliance statement

	Technical Details & Scope of Work	Proof of compliance	Requirement met? (Yes/no/Partially)	Justification for Deviation	Remarks
1.					
2.					

10 Annexure 6: Commercial Bid

	Item	**Unit cost of each sensor (₹)**	**GST (₹)**	**Total cost per sensor (₹)**	**Remarks**
1.	Supply of 40 pyroelectric sensor prototypes in batch of 5 or more over 2 years and shipping	XXX	XXX	XXX	
	Total for 40 sensors			**XXX**	

11 Annexure 7: Checklist

Note 1: This document should be enclosed with technical bid- Part A
Note 2: 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.

The following items have been checked before the Bid is submitted

11.1 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: Compliance statement
2. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

11.2 Sealed Envelope "B": Commercial Bid

3. Annexure 6: Commercial bid. We have quoted a per unit cost for the prototypes, including QA testing and shipping.

Yours faithfully,
(Signature of the Bidder)
Name
Designation, Seal Date:

12Annexure 8: Pyroelectric Sensor Description

Note: This section is being provided so that the bidders can assess the complexity of the service. The bidder is not responsible for the fabrication technology or testing. IISc will provide a technology document with details fabrication steps to achieve these specs. DRDO will do the testing. The scope of the bidder is only to prototype the devices as per the specifications and send them for testing to CFEES, DRDO.

1. The pyroelectric sensor uses heat from a flame to detect hydrocarbon fires.
2. The specification of the sensor is as follows.
   a) Responsivity @1Hz: 1400 V/W
   b) Thermal breakpoint: 0.2 Hz
   c) Field-of-view: -45 to 45 degrees with >40% response
   d) Optical bandwidth: 4.1 to 4.5 um only.
   e) Operating temperature: -10 to 50 C
   f) Storage temperature: -55 to 125 C
   g) Supply voltage:
   h) Output voltage:
3. Examples. Following is the list of some exemplary commercial pyroelectric sensors.
   a) https://eltecinstruments.com/products/catalog#detectors
4. Qualification standards: CFEES DRDO will subject the prototypes to qualification testing. The list of tests will be as per MIL-PRF-62546C https://indianinstituteofscience-

my.sharepoint.com/:b:/g/personal/savasthi_iisc_ac_in/IQAs9A-DCWS1S77rKFKNRD3qAVmSriTzp9IGV8MjZ9ackR4?e=IxSsl9