

To Whom It May Concern

Global Tender notification for the supply of vibrating sample magnetometer (VSM) at CeNSE, IISc Bangalore

(Last date of submission of tenders: 31st August 2022)

This is an RFQ (Request for Quote) for procurement of a vibrating sample magnetometer (VSM) as part of a global tender for the Centre for Nano Science and Engineering (CeNSE) at IISc, Bangalore. CeNSE is a multidisciplinary research department at IISc that houses a 14,000 sq. ft. cleanroom and 5000 Sq. ft characterization facility used by more than 100 faculty members from various disciplines at IISc. CeNSE also runs a program called Indian Nanoelectronics Users Program (INUP) which has allowed 4200 participants from more than 700 universities and institutes all over India to use the facilities at CeNSE. Consequently, any tool in CeNSE receives significant exposure to scientific community at IISc and beyond. The vendors are requested to factor in the value of this exposure in to their quotes. Details of existing facilities and INUP program can be found from:

<http://www.mnfc.cense.iisc.ac.in/>

<http://nnfc.cense.iisc.ac.in/>

<https://www.inup.cense.iisc.ac.in/>

Also, CeNSE hosts equipment on behalf of vendors, as a national standard or 'model' system. If the vendor is interested, CeNSE can consider working out a similar arrangement for the vibrating sample magnetometer (VSM)

Best quotations valid for 120 days are invited for the supply and installation of vibrating sample magnetometer (VSM). Your quotations should indicate the terms and conditions of the quotations, delivery, delivery schedule, estimated delivery date, entry tax, payment terms, warranty coverage, etc. The tender should be submitted in two separate sealed envelopes. one containing the "Technical bid" and other containing the "Commercial bid", both of which should be duly signed and must reach the undersigned on or before 17:00 hours 31st August 2022. C.I.P. Bangalore basis (by Air Freight only).

The bids should be addressed to:

The Chairperson,
Centre for Nano Science and Engineering
Indian Institute of Science
Bangalore – 560012, India
With attention to: Dr. Suresha S J

Please enclose a compliance statement along with the technical bid.

Section 1 - Bid Schedule

1	Tender No	CeNSE/NKB/01/22-23
2	Tender Date	10 th August 2022
3	Item Description	Vibrating sample magnetometer (VSM)
4	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of tender submission	CeNSE Office, GF-15, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India
6	Last Date & Time for submission of tender	31 st August 2022
7	For further clarification	Dr. Suresha SJ MNCF Centre for Nano Science and Engineering Indian Institute of Science, Bangalore 560012 Email: sureshasj@iisc.ac.in Phone: +91 80 2293 3253

Section 2 – Eligibility Criteria

Prequalification criteria:

1. The Bidder's firm should have existed for a minimum of 5 years. (Enclosed Company Registration Certificate)
2. The Bidder should have qualified technical service personnel for the instrument(s) based in India.
3. If the Bidder is a local distributor/dealer/Agent, attaching an authorization certificate with the technical bid from the original equipment manufacturer is mandatory.
4. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 1.
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 has to be given as per Annexure 2.

Section 3 – Terms and Conditions

A) Submission of Tender:

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 a checklist for conformance to technical specifications. The technical proposal should contain a technical compliance table with 5 columns.
 - i. The first column must list the technical requirements in the order given in the technical requirement below.
 - ii. The second column should provide specifications of the instrument against the requirement. Please provide quantitative responses wherever possible.
 - iii. The third column should only describe your compliance with a "Yes" or "No". Ensure that the entries in column 2 and column 3 are consistent.
 - iv. The fourth column should state the reasons/explanations/context for any deviations.
 - v. The fifth column can contain additional remarks from the OEM. You can use this opportunity to highlight technical features, qualify response of previous columns, provide further details, compare your solution with your competitors or provide details as requested in the technical requirements table below. (Suppliers who include any indication of prices in the technical bid will be automatically disqualified).
 - vi. Any additional capabilities or technical details, that you would like to bring to the attention of the purchase committee, can be listed at the end of the technical table.
 - b. Commercial Bid (Part-B) –
 - i. Indicating item wise price for the items mentioned in the technical bid, **as per the quotation format provided in tender**, and other commercial terms and conditions.
 - ii. As an option, please provide itemized cost for any suggested accessories/add-ons that may enhance the usability, capability, accuracy or reliability of the tool. Vendors are encouraged to quote for as many add-ons as their tool portfolio permits.
3. The technical and price bids should each be placed in separate sealed covers, superscribing the tender no. and the due date on both the envelopes. 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.
4. The SEALED COVER superscribing tender number / due date & should reach CeNSE Main Office, GF-15, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India on or before the due date mentioned in the tender notice. If 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. If multiple systems can fulfil the requirements, vendors can submit multiple bids.
6. All queries are addressed to the person identified in "Section 1 – Bid Schedule" of the tender notice.

7. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document.
8. If the price is not quoted in the Commercial Bid as per the format provided in the tender document, the bid is liable to be rejected.
9. The vendor should have qualified technical service personnel for the equipment based in India and should assure a response time of <48 hours.
10. The RFQ must include references of 3 previous installations, in a centralized characterization facility of similar size or bigger, preferable in India. Please provide the names and contact addresses of the referees, so that the committee can contact them independently.
11. A technical evaluation by the purchase committee may include a demonstration to verify the functionalities and capabilities of the system quoted. The purchase committee reserves the right to reject the bids based on their technical evaluation of the quality of data, capability demonstration, and service. If the data/requested capability demonstration does not happen within a stipulated timeframe, the bid will be rejected. Any discrepancy between the promised specifications and measurements will be deemed as technical non-compliance. Imported items should be shipped on C.I.P. Bangalore basis (by Air Freight only), and all components and accessories indicate component-wise and itemized breakup. Provide certificates for the country of origin of manufacturing for each line item. The price of every line item in the commercial bid should be quoted along with the total quoted price for the instrument to be operational (installed and ready to use) in our facility.
12. The purchase committee reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time before the award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
13. Incomplete bids will be summarily rejected.
14. The decision of purchase committee will be final.

B) Cancellation of Tender:

Notwithstanding anything specified in this tender document, IISc purchase committee, 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 conforming to the tender terms.

C) Validity of the Offer:

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

D) Evaluation of Offer:

1. The technical bid (Part A) will be opened first and evaluated.
2. Technical data, including the quality of the data and capability demonstration, will be considered.

3. 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.
4. Pre-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.
5. The award of contract will be subject to acceptance of the terms and conditions stated in this tender.
6. 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 / fax (unless specified otherwise).
 - c. Receipt of bids in open conditions.
7. 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.
8. No revision in the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
9. Lowest bid will be calculated based on the total price of all items tendered for Basic equipment along with accessories selected for installation, operation, preprocessing and post processing, optional items, recommended spares, warranty.

E) Pre-requisites:

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

F) Warranty:

The complete system is to be under warranty period of minimum 1 years (although warranty of 3 years or more is preferred) including free supply of consumables, spare parts and data analysis software from the date of functional installation. If the instrument is found to be defective, it has to be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

G) Annual Maintenance Contract:

An annual maintenance contract for a period of 2 years post warranty should be provided on completion of warranty period. If not possible, ample justification is needed.

I) Purchase Order:

1. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.
2. The quantity of the items in tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.

3. If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

J) Delivery, Installation and Training:

1. The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore, from the date of receipt of a purchase order.
2. The system should be delivered, installed and made operational within 90 days from receipt of the purchase order.
3. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore.
4. After successful installation, the handover date shall be the start of the warranty period.
5. No partial shipment is allowed.
6. The bidder should provide onsite application training for the local facility technologists and users.
7. The bidder should also arrange technical training for the local facility technologists and users.

K) Payment Terms:

The payment will be through a Letter of Credit and the milestone of the payment will be determined after mutual discussions with the successful bidder.

L) Statutory Variation:

Any statutory increase in the taxes and duties subsequent to 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.

M) Disputes and Jurisdiction:

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.

N) General:

1. All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension in the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.
2. 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.
3. The bidder may visit the installation site before submission of tender, with prior intimation.
4. 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.

Section 4 – Technical Specifications

Technical Specifications for the vibrating sample magnetometer (VSM):

The specification of a vibrating sample magnetometer for the measurement of both DC and high-frequency magnetic characteristics of material is presented here.

General Description

The equipment should be used for the measurement of magnetic properties of materials, especially thin magnetic films, magnetic semiconductors, and solid powders possessing low magnetic moments.

The key requirements of this system are

- (i) ± 2 T or higher field strength,
- (ii) operating temperature ranging from 100 K to 900 K, without the need of helium,
- (iii) sensitivity of ~ 50 nemu or better at room temperature, and
- (iv) vector measurement capability to investigate ferromagnetic resonance characteristics of a magnetic body at the high frequency ranges (up to 40 GHz).

The details of the required technical specifications for this magnetic characterization equipment, VSM, is mentioned in the table below:

Required Technical Specifications for the Vibrating Sample Magnetometer (VSM)

Key parameters		Specs (Requirements)	
A.	Base System (Instrument console and electronics)	1. Cryogen supply	System should be fully helium free. There should be no requirement for liquid He at any point of time. However, liquid/gas N2 can be used.
		2. Cryogen control	Cryogen supply control and its monitoring along with the temperature control and monitoring should be automated through electronic and computer control. A dedicated software interface/window should be provided for monitoring the cryogen status.
		3. Thermometers and thermostats	The system should be fitted with reliable and high-quality thermometers and thermostats from reputed brands at all necessary stages/locations to ensure accurate measurement and necessary control of the temperature. All sensors should be interfaced with the operating software seamlessly.
		4. System head for test sample loading/unloading and control	Sample exchange system head should be easy to operate in a repeatable fashion, preferably by a single-handed operation. The system head should house the necessary fitting mechanism for installing the provisions for various

		temperature and measurement options in an easy, quick, and repeatable manner.
	5. Electronics and control units	All electronic and control units should be chosen from reputed suppliers and should have the capacity for interfacing to the software through industry standard protocols. Control electronics noise floor should not be higher than 20 nemu with excellent moment stability (<0.1% per day)
B Electromagnet	1. Field strength	± 2 T or higher
	2. Field sweep rate	200 Oe/s or higher A complete -2 T to +2 T hysteresis loop with 3,000 measurement points should be completed in <2 min. Magnetic ramping should not affect temperature stability.
	3. Field setting resolution and accuracy	Resolution: ~ 1 mOe or better. Accuracy: $\pm 0.05\%$ of the full-scale
	4. Field homogeneity	Better than or equal to 0.01% over 3 cm on-axis at field centre
	5. Field discharge or safety option	Automatic discharge of the magnet should be provided if the magnet cooling system fails
	6. Magnet temperature control	Magnet control software should monitor temperature of the magnet and cryostat at various locations to ensure proper operation of the entire magnet system
	7. Power supply	Bi-polar power supply with over voltage protection and indication.
	8. Cooling system	Provision for using closed cooled water supply is preferred for cooling of the control electronics (if needed) and the electromagnet.
	9. Pole-size specs	Pole diameter: ~ 100 mm Pole gap: around 5 gap provisions in between 3 mm to 30 mm to accommodate various sample sizes and attachments. The change of gap should be easy, quick, repeatable.

		10. Magnetic shield	A built-in magnetic shield to maintain 5 gauss lines <30 cm from the surface of the cryostat cabinet allowing the system to be installed closer to other sensitive instrument for better lab space utilization (provide data).
C.	Ambient control of the sample space	1. Temperature range	100 K to 900 K
		2. Temperature stability and resolution	Stability: $\sim \pm 100$ mK Resolution: ~ 10 mK or better
		3. Cool-down time	<1 hour from RT to 100 K
		4. Temp. ramp rate	~ 2 K/min or higher
		5. Cryogen supply limitation	Liquid N2 and N2/Ar gas supply should be enough for attaining the desired temperature, ramp rate, and resolution
		6. Control electronics/monitoring	Temperature control should be fully automated. System should have fully automatic and precise low temperature controller for continuous low temperature operation to allow the measurements at ~ 100 K continuously for long time. Proper user interface and displaying of the information should be provided with.
		7. Vacuum pumps and fittings	System should come with suitable Vacuum pumps and fittings along with vacuum gauges, meter, standard vacuum coupling essential for the uninterrupted functioning of the instrument and its various measurements options must be included. Necessary arrangements for vacuum requirements of the attachments should be included in the package.
D.	Essential Measurement	1. DC magnetization	<ul style="list-style-type: none"> i. Hysteresis loop ii. Isothermal remnant magnetization iii. DC demagnetization remanence iv. Minor loops v. First order reversal curve vi. $M(T)$: temperature dependent magnetization vii. $M(\Theta)$: rotational hysteresis and anisotropy
		2. High frequency measurements	<p>Capability to measure the ferromagnetic resonance characteristics of the material up to 40 GHz.</p> <p>Necessary accessories and fittings along with their software integration should be provided with the</p>

		system, excluding the vector network analyser (VNA). Necessary sample holders, Helmholtz coil, cables etc. should be provided included.
E.	Spares and accessories	1. Spare tools A complete set of spares and tools needed for user tasks, and complete set of manuals / documentation exhibiting compliance must be provided. A list of mandatory spares need to be quoted separately
		2. Sample holders and accessories VSM sample holders, 5 each for powder, bulk (polycrystalline and single crystal samples) and thin-films has to be provided
		3. Service Manual A service manual has to be provided with the instruments.
		4. Standard Samples and demonstration of the specifications NIST based standard samples (Nickel spheres or palladium cylinders) must be provided for periodic calibration of magnetic moment at low and high magnetic fields/temperatures Guaranteed specifications to be demonstrated at the time of installation. All necessary standard samples for that purpose should be brought by the service engineers.
F	General information	1. Installation requirement Offer should contain information about the requirement of cryogenic and other gas replenishment. The bid should also indicate recommended service/ maintenance, calibration schedule required for the system.
		2. Installation and commissioning Installation, complete interfacing of the system with its subsystems, and commissioning is to be carried out by the vendor's factory-trained engineers, followed by a demonstration of the system's performance to the user's complete satisfaction.
		3. Training The manufacturer/supplier of the system should provide basic operational training post installation, and should provide adequate advanced operational

			training subsequently, preferably within a year of installation
		4. Support and service	<p>The manufacturer and/or their Indian representative must have qualified and factory trained service engineer in India to be able to attend to a complaint with a response time not exceeding 48 hours.</p> <p>During warranty period, only factory trained, and certified engineers are acceptable to attend the service.</p> <p>The company must provide evidence that it can fulfil this requirement.</p>
		5. Annual Maintenance Contract (AMC)	Vendor should provide the scope of AMC after the completion of the standard warranty period.

Section 5- Technical Bid

The technical bid should furnish all requirements of the tender along with all annexures in this section and submitted to

CeNSE Office
GF-15,
Attn: Dr. Suresha S J
Centre for Nano Science and Engineering
Indian Institute of Science
Bangalore – 560012, India

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

To,
The Chairperson,
Centre for Nanoscience and Engineering,
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Vibrating sample magnetometer (VSM) at CeNSE, IISc Bangalore
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 Vibrating sample magnetometer (VSM) .

(Signature of the Bidder)

Printed Name

Designation, Seal Date:

Annexure-3:

Declaration regarding track record

To,
The Chairperson,
Centre for Nano Science and Engineering
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXXXX
Dated: XXXXX

Supply and installation of Vibrating sample magnetometer (VSM) at CeNSE, IISc Bangalore

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

(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 Chairperson,
Centre for Nano Science and Engineering
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXX
Dated: XXXX

Supply and installation of Vibrating sample magnetometer (VSM) at CeNSE, IISc Bangalore
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				
6.	AMC 2 years beyond warranty				
7.	Cost of Insurance and Airfreight				
8.	FOR-IISc Bangalore				

Any additional items

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total

Addressed to

The Chairperson,
Attn: Dr. Suresha SJ
Centre for Nano Science and Engineering
Indian Institute of Science
Bangalore – 560012, India

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.