

Tender Notification for the procurement of a Sputtering System

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Reference No:

A request for quotation from domestic (India-based) manufacturers for a Sputtering system. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. The quotation should clearly indicate the terms of delivery, delivery schedule, transportation charges (if any). The quotations should be on FOR-IISc Bangalore basis in INR only.

With respect to this tender, the rules laid out by the Government of India in order No. P45021/2/2017- PP (BE-II) issued by the Public Procurement Section, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 4th June 2020, will be followed. Per this order, the government has defined a 'Class-I local supplier' as "a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%". A 'Class-II local supplier' is "a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%". Only 'Class-I' and 'Class-II' local suppliers are eligible to participate in this open domestic tender. Any 'Non-local supplier', i.e., "a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%" is ineligible to participate in this tender.

Please enclose a compliance certificate along with the bid. This certificate should have a table that should describe your compliance in a "Yes" or "No" response against each of the items in the specifications listed below. If "No" is selected, the second column should state the extent of deviation. The third column should state the reasons for the deviation (if any). Please enclose a compliance statement along with the technical bid. Bids with no statement of compliance will be considered invalid.

The technical details of the system and general terms and conditions are given below.

THIS IS A REQUEST FOR QUOTE (RFQ) FROM DOMESTIC (INDIA-BASED) MANUFACTURERS For THE INDIAN INSTITUTE OF SCIENCE (IISC), BANGALORE. THIS IS A REQUEST FOR QUOTE (RFQ) FROM THE INDIAN INSTITUTE OF SCIENCE (IISC), BANGALORE, FOR THE SUPPLY OF SPUTTERING SYSTEM

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Section 1 - Bid Schedule

1	Tender No	
2	Tender Date	31 st January 2024
3	Item Description	Supply of a Sputtering system
4	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of tender submission	Chairperson Office First Floor Centre for Nano Science and Engineering Indian Institute of Science, Bangalore 560012
6	Last Date & Time for submission of tender	21 st February 2024
7	For further clarification	Dr. Akshay Naik Room No: FF 14 Centre for Nano Science and Engineering Indian Institute of Science, Bangalore 560012 Email: anaik@iisc.ac.in Phone: +91 80 2293 3517

Section 2 – Eligibility Criteria

Prequalification criteria:

1. The Bidder's firm should have been in existence for a minimum of 3 years. (Enclose Company Registration Certificate)
2. 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%.
3. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to Class-1 supplier.
4. MSME can seek exemption to some qualification criteria. IISc follows GFR2017 for such details
5. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4.
6. 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.
7. Bidders must have experience with providing similar tools and must provide details of at least 2 other locations globally where similar (or Nb sputtering system for superconducting applications) tool installations have been deployed for device fabrication.

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 check list 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 that they are 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 describe your compliance with a “Yes” or “No” only. Ensure that the entries in column 2 and column 3 are consistent.
- iv. The fourth column should state the reasons/explanations/context for deviations, if any.
- 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, or provide additional details, compare your solution with that of your competitors or provide details as requested in the technical requirements table below.

Technical bid should also contain a list of customers served in the last 5 years.

- 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, 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.
4. The SEALED COVER superscripting tender number / due date & should reach Chairperson Office, Centre for Nanoscience and Engineering, Indian Institute of Science, Bangalore – 560012, India on or before due date mentioned in the tender notice. In case due date happens to be 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. All queries are to be addressed to the person identified in “Section 1 – Bid Schedule” of the tender notice.

6. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document (Indian Bidders only).
7. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.
8. 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.
9. Incomplete bids will be summarily rejected.

B) Cancellation of Tender:

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.

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. 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.
3. 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.
4. The award of contract will be subject to acceptance of the terms and conditions stated in this tender.
5. 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.
- 6. 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.
- 7. 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.
- 8. 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, annual maintenance contract.
- 9. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
- 10. The quotations should be on FOR-IISc Bangalore basis in INR only. !

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 3 years (year wise breakup value should be shown in the commercial bid) 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 atleast 2 years post warranty should be provided on completion of warranty period. The AMC costs will not be considered towards classifying the domestic nature (class 1 or class 2) of the vendor (see eligibility criteria in section 2).

H) 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.

I) Delivery, Installation and Training:

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 system should be delivered, installed and made functional within 90 days from the date of receipt of purchase order. 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. After successful installation and inspection, the date of taking over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period. No partial shipment is allowed.

The bidder should also arrange for technical training of users if required.

J) Payment Terms:

100% payments (except AMC) will be released after completion delivery and satisfactory installation subject to TDS as per rules. AMC cost (if ordered), after completion of warranty period) will be released on half-yearly basis at the end of each six months subject to satisfactory services. The AMC will be comprehensive. Price basis must be on FOR-IISc Bangalore basis only. As per GFR no advance payment can be made to domestic vendors, unless an equal amount of bank guarantee is provided.

K) 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.

L) 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.

M) 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

A. Technical Specifications of the Sputtering system

B. Technical specifications:

No.	Specifications
1.	Primary application: Magnetron sputtering system for thin film deposition (metals such as Nb, Al, NbTi, alloys and insulating materials) on upto one 3” substrate.
2.	Chamber: Preferably SS316. A preferable chamber configuration is one that has a removable top plate with vacuum feed throughs. This will be a custom designed chamber which may be spherical or cylindrical. (the system can be designed for confocal)
3.	Chamber base pressure: requirement of base pressure of 1×10^{-8} Torr
4.	Chamber Pumping: It is preferred that the above pumping be achieved with a combination of a (preferably) turbo pump (preferably Pfeiffer) and a DRY backing/roughing pump.
5.	Loadlock: For the single wafer configuration, a load lock, and manual, that allows changing of wafers. Provision for oxygen gas line with flow control for oxidation after deposition.
6.	Loadlock pumping: Appropriate pumping for loadlock.
7.	Pumping/Pressure control: Details of the closed loop pressure control implemented during deposition though a combination of pressure sensor, control valve and feedback mechanism should be specified.
8.	Substrates: The sputtering system is being procured for deposition on up to 3 inch substrates
9.	Magnetron Sources: Two numbers of magnetron sources for upto 2” dia. target. Technical bid should include the details of the magnetron specification and manufacturer if not from the vendor’s company. Two additional Ports for adding two magnetron sources for future upgradation.
11.	Magnetron Sources: Electro pneumatically/motorized operated shutter for each magnetron source should be provided.
12.	Magnetron Sources: Specify if they are ultra-high vacuum, $< 10^{-8}$ Torr, compatible or not.
13.	Chamber Baking: Baking tapes for main chamber, along with power supply, thermocouple and display to read temperature. (set)

14.	DC Power Supply: One number of DC power supply of 600 W for magnetron sputtering which can be operated in voltage/current and power mode and can be automated. Technical bid should include the details of the source specification and manufacturer if not from the vendor's company.
15.	RF Power Supply: One number of RF power supply of 300 W source with automatching network for magnetron sputtering. Technical bid should include the details of the source specification and manufacturer if not from the vendor's company.
16.	Substrate Holder: A substrate holder should handle up to a 3-inch dia. and should be capable of holding small irregular pieces of wafers (suitable clips should be provided to hold samples onto the holder). Provision for varying substrate to target distance is required.
17.	Substrate Rotation: Substrate rotation of about 25 RPM.
18.	Substrate heating: Substrate heating upto 800 deg C.
19.	Main chamber Gas flow: 2 gas flow lines with two mass flow controller (typically 0-100 sccm MFC) and suitable valving should be provided for flushing the chamber. We expect a requirement for Ar and N2.
20.	View ports: The system should have view ports of atleast 3" dia, suitably shuttered and bolted to the system through conflate metal seals that allows for monitoring of the process without getting coated.
21.	<p>System safety control: A list of all safety interlocks available on the system and the cause/effect diagram that summarizes these safety features should be part of the technical bid. Some of the Safety and Interlocks:</p> <ul style="list-style-type: none"> • Electrical overload protection. • Mains Indication lamp. • Emergency ON/OFF Switch. • Vacuum switch interlocked with cathode power supply for avoiding switching-ON of power sources without vacuum. Safety panel switches to cut off source power supply, if doors open. • If the turbo molecular pump is water cooled system then, water flow switch in the water circulation line of the unit protects the turbo molecular pump incase of water supply failure/low pressure by switching off the turbo molecular pump. • All major electrical circuit is provided with fuse. • All major components will be connected through circuit breaker and contactor.
22.	References: Bidders must provide details of at least 2 other locations globally where similar (or Nb sputtering system for superconducting applications) tool installations have been deployed for device fabrication.
23.	Optional items:

a.	Ion Source/Ion milling: An ion source that can be accommodated in the chamber in addition to the 2 magnetron sputter heads should be quoted as an option for purposes of substrate cleaning. Also mention if this can be done in load lock chamber.
b.	System automation control: All important machine parameters should be controlled through a PLC and accessible through a touch pad human machine interface (HMI) or a laptop. A list of parameters that are logged and/or controlled should be included in the technical bid.
24.	Shipping: On all systems the cost of shipping up to IISc should be included. Please include your payment option. IISc would prefer to retain at least 70% of payment till instruments have been commissioned and successfully demonstrated.
25.	Tool Training: The bid should include as an option the cost of training personnel on site before shipment and post installation at IISc.
26.	Tool footprint and utilities: A floor plan should be part of the technical bid. A list of utility requirements should be part of the technical bid. The system should be compatible with 240±10V, 50 Hz single phase or 415±20V, 50 Hz 3 phase supplies. The MINIMUM set of utility requirements needed is provided in Table 1. If there are additional utility requirements, please include them in the technical bid. Please list connector types for all utilities.
27.	Cost of Ownership and supply of spares: The quote should include a listing of spares that need to be replaced periodically to ensure that the system is in operation in a stable fashion – the stability parameters being defined by the vendor and agreed to by the client – the cost of such items, the ability to guarantee their availability at this cost for a period of 5 years from the time of procurement.
28.	Maintenance: The cost of an annual maintenance contract and cost of emergency technical support that may involve an engineer being on site should be quoted for in the commercial bid and addressed in the technical bid. The availability of trained engineers in India for servicing the system will be preferred and should be described in the technical bid.
29.	Maintenance: On all systems a set of basic tools required -non-standard screw or spanner head that is required for routine tool maintenance should be mentioned- for performing routine maintenance should be included.
30.	Maintenance: System operation, process and troubleshooting manuals and detailed drawings should be provided with the instrument.
31.	Company financials: Bidder shall have to submit audited accounts of last three financial year. Audited statements must be signed and stamped by a qualified chartered accountant. Income Tax return for assessment year – 2020-21, 2021-22 and 2022-23.
32.	Water Chiller: Not required

Section 5- Technical Bid

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

The Chairperson,
Attn: Dr. Akshay Naik
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 of a Sputtering System, 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 laser sources.

(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 of a Sputtering System, 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 of a Sputtering system, 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 (3 years)				
6.	AMC 2 years beyond warranty				
7.	Cost of Insurance and Airfreight				
8.	FOR IISc, Bengaluru				

Any additional items

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

Addressed to

The Chairperson,
Attn: Dr. Akshay Naik
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.