# NOTICE INVITING DOMESTIC TENDER

Supply and installation of thermal evaporator



Instrumentation and Applied Physics, Indian Institute of Science, Bangalore

> MARCH 17, 2021 LANSPE, IAP Bangalore 560012

#### Table of contents:

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

This is an invited domestic tender

# Section 1 - Bid Schedule

1	Tender No			
2	Tender Date	18.03.2021		
3	Item Description	Supply and installation of thermal evaporator		
4	Tender Type	Two bid system		
		(i) Technical Bid (Part A)		
		(ii) Commercial Bid (Part B)		
5	Place of tender submission	Chairperson Office		
		Ground Floor		
		Instrumentation and Applied Physics		
		Indian Institute of Science, Bangalore 560012		
6	Last Date & Time for submission of	05 .04.2021		
	tender			
7	For further clarification	Dr. Tapajyoti Das Gupta		
		Room No: 126		
		Instrumentation and Applied Phyics		
		Indian Institute of Science, Bangalore 560012		
		Email: tapajyoti@iisc.ac.in		
		Phone: +91-80-2293-2349		

# Section 2 – Eligibility Criteria

Prequalification criteria:

- 1. The bidder must have supplied similar systems to at least 10 educational institutes/universities and/or research organizations and at least five to the CFTI's in India along with contact details.
- 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 servicerelated dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.
- 7. Original Invoice, Original Warranty Certificate, Original Test Reports should be produced for all imported items from OEM (Original Equipment Manufacturer) at the time of supply of the equipments.
- 8. System Catalogue should be produced with the Technical Bid.
- 9. Manufacturer should have ISO or equivalent international standard certificate. Please attach the required certificate with the bid.
- 10. Supplier will support the user with all the spares for a minimum period of 10 years.
- 11. Details of experienced service engineer including contact detail should be provided in tender document.
- 12. Bidder shall have to submit audited accounts (Balance sheet profit and loss account) of financial year 2015-16, 2016-17 and 2017-18. Audited statement must be signed and stamped by qualified chartered accounted.
- 13. Bidder must submit Income Tax return for assessment year 2016-17, 2017-18 and 2018-19.
- 14. Bidder must submit up to date sales tax or GST clearance certificate.
- **15.** CE Certification must be provided for the proposed system. The CE certificate should be provided with the Unit.
- 16. The Bidder should have supplied similar equipment in Central Unversities preferably in centrally Funded Technical Institutes (IITs, IISC, IISER, NIT). Please provide the details and contact informations.

# 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 envelops (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.

- 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 sparate 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, Instrumentation and Applied Physics, 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. The items are required for research purposes, and IISc is a DSIR registered institution, hence eligible for GST exemption (i.e. GST @ 5%). While submitting the price quote, this point must be taken care. For getting GST exemption certificate, successful bidders must submit, a formal request together with Invoice copy and Purchase order copy.

- 7. The price must be quoted in INR (Indian Rupee).
- 8. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.
- 9. 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.
- 10. 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.

### 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). In the bid AMC charge should also be provided.

### 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 to the local facility technologists and users.

# 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 guarentee 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 thermal evaporator

The Thermal Evaporation System will be comprised of a three numbers of evaporation sources. The vacuum system should consist of Turbo molecular pump and dry scroll pump with system of valves and vacuum measuring hardwares.

The system should meet or exceed the following minimum specifications. A compliance sheet with respect to our specification and your quoted system should be included while submitting the tender.

Please include relevant datasheets/images/plots to support your various compliance claims.

#### **Specifications of Thermal Evaporation System**

#### VACUUM CHAMBER:

S.No	Specification	Essential/Optional
1.	Material of Construction (MOC): SS 304 grade or better	Essential
2.	Chamber size: Approximately 500 mm (W) X 500 mm (D) X 500 (H) [minimum requirement]	Essential
3.	A front opening quick access door for loading & unloading of the substrates and materials. Removable chamber top plate with vacuum penetrations.	Essential
4.	Necessary ports required for Pumping, evaporation sources, Gas Inlet, Vent, gauge, feedthrough, port for substrate heaters and rotation mechanism etc.	Essential
5.	One high vacuum compatible, toughened glass view port with a manual shutter to avoid material deposition on the view port on the door.	Essential
6.	One set of removable stainless steel liners for easy cleaning	Essential

#### **Thermal Evaporation Sources:**

S.No	Specification	Essential/Optional
1.	3 sets of LT evaporation electrical feed through and evaporation	Essential
	source holder for evaporation made of electrolytic pure copper, with	
	200 A current carrying capacity for sector evaporation source holder	
	to be provided as a standard which can accept Filament / Basket /	
	Boat as evaporation source.	

-		
2.	Two numbers of 200 A power supply capable of delivering 200 A at 10	Essential
	V, 100 A at 20 V	
3.	One number of 400 A power supply capable of delivering 200 A at 10	Essential
	V, 100 A at 20 V	
4.	Thyristor Controller in the input circuit of LT selector provides the	Essential
	output power variation.	
5.	Digital panel meters provided for secondary current through current	Essential
	transformers.	
6.	Electromagnetic shutters with control panel for Thermal sources	Essential

#### Substrate Holder, Heater & Rotation:

S.No	Specification	Essential/Optional
1.	A substrate holder to handle up to a 6 inch dia. substrate	Essential
2.	Designed for long, trouble free operation.	Essential
3.	Rotation speed adjustable up to 20rpm.	Essential
4.	A suitable Heater should be provided for varying temperature from RT to a maximum of 250 Deg.C with a thermocouple and PID temperature controller.	Essential
5.	Temperature accuracy should be within ±5 Deg.C	Essential
6.	Simultaneous rotation & heating mechanism.	Essential

#### HT Cleaning:

S.No	Specification	Essential/Optional
1.	A bar type ion bombardment gadget with necessary HT feedthrough and cable are provided for the glow discharge cleaning of the substrate work holder.	Essential
2.	A 5000 volts DC Open circuit, 3500 volts at 50 mA high reactance type transformer and solid state bridge rectifier are provided. Thyristor based power controller is provided for HT power control and a digital panel meter for the HT primary current display.	Essential

#### FILM THICKNESS CONTROLLER:

S.No	Specification	<b>Essential/Optional</b>
1.	Sequential deposition controller.	Essential
	Measurement frequency range: 6.5 to 1.0 MHz (adjustable)	
2.	Frequency resolution: ±0.012 Hz at 6 MHz	Essential
3.	Thickness and rate resolution/measurement: ±0.015 Å	Essential
	The thickness uniformity ±5% or better for 4" substrate. Coating	
	Sample with uniformity and thickness measurement report should	
	be submitted along with the bid.	

4.	Measurement interval: 0.10 to 1.0 s (adjustable)	Essential
5.	Rate display: 0.01 Å/s	Essential
6.	Storage: 100 processes, 1000 layers, 50 films	Essential
7.	Three numbers of front load sensors with oscillators	Essential

#### VACUUM PUMPING SYSTEM

#### A) High vacuum pump:

S.No	Specification	Essential/Optional
1.	A Turbo molecular pump (LEYBOLD/ ALCATEL/ VARIAN / EDWARDs or	Essential
	equivalent) having suitable pumping speed (minimum 400 lit/sec) to	
	achieve chamber vacuum level at least 5x10 <sup>-7</sup> mbar. Detachable liquid	
	nitrogen trap to be provided for fitting below the high vacuum valve	
	and for use when needed.	
2.	Ultimate Pressure: $\leq 5 \times 10^{-7}$ mbar to be achieved	Essential

#### B) Dry Scroll pump:

S.No	Specification	Essential/Optional
1.	Dry scroll pump (10 m3 /hr or Higher)(Make ANESTA IWATA/	Essential
	LEYBOLD / EDWARD / VARIAN or equivalent)for roughing and backing	
	operations.	

#### C) HIGH VACUUM VALVE:

S.No	Specification	Essential/Optional
1.	Motorized high vacuum (Poppet) valve with built in facility to automatically throttle the pumping system by 'cracking' the valve, for maintaining accurate process pressure for plasma processes. Drawing should be provided along with the bid.	Essential

### D) VACUUM VALVES:

S.No	Specification	Essential/Optional
1.	Electro magnetically operated right angle bellow sealed valves for	Essential
	roughing, backing and high vacuum applications	
2.	Vent valve, fine control needle valves to be provided	Essential
3.	SS Plumbing line with flexible hoses & KF connections wherever	Essential
	required with necessary interlocks to be provided.	

#### E) VACUUM GAUGES:

S.No	Specification	Essential/Optional
1.	Imported Pirani & Penning Gauges for vacuum measurement.	Essential

# B. System Control , Safety and Interlocks

• Integrated Control console should be present

- PLC with HMI for semi automatic operation of the system. The following operation should be performed.
  - Automatic vacuum cycle
  - o Automatic shutter control.
  - Substrate rotation control.
  - Heater control
  - Water flow switch interlock status
  - Vacuum interlock status
  - Alarming, failure indication

#### Safety and Interlocks:

- Electrical overload protection.
- Mains Indication lamp.
- Emergency ON/OFF Switch should be provided.
- Vacuum switch interlocked with source power supply for avoiding switching-ON of Power sources without vacuum
- All major components will be connected through circuit breaker and contactor
- All major electrical circuit is provided with fuse.

#### Warranty (to be included in the quote)

- Atleast 24 months from the date of commissioning and acceptance of equipment Warranty will start from the day of installation of the equipment.
- Support for spare parts for xx years after sale and installation should be quoted.

# C. Training and demonstration

- Complete installation including demonstration of individual and combined UV and thermal nanoimprint processes with a feature size of at least 50 nm using the test stamp
- Training for users by the company personnel present 'on site' immediately after the installation.
- All pre-installation requirements to have the system installed in ideal room conditions should be included in the quote.

### D. Others

- The system must submit references from atleast 3 previous installations
- The names and contact addresses of the referees must be submitted with the proposal, so the purchase committee can contact them independently.
- The system should require minimal maintenance.
- Mention the recommended preventive maintenance schedule for the system. Any accessories needed for periodic preventive maintenance for 3 years, should be mentioned in separately the itemized quote.
- Can the preventive maintenance be done by a trained on-site engineer or requires a specialist from the OEM? If the latter, please provide cost of a 3 year AMC with required kit/consumables.
- CE Certification must be provided for the proposed system. The CE certificate should be provided with the Unit.
- Operation Manual to be given after installation and acceptance of equipment

• The system should be supported by a trained local representative and should have a 48hour window of response.

# Section 5- Technical Bid

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

The Chairperson, Attn: Dr. Tapajyoti Das Gupta Instrumentation and Applied Physics, 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**

SI. 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, Instrumentation and Applied Physics, Indian Institute of Science Bangalore – 560012, India

Ref: Tender No: XXXXXXXXX Dated: XXXXX

Supply and installation of Thermal Evaporator at Laboratory of Advanced Nanostructures for Photonics and Electronics (LANSPE), IAP 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 Confocal systems.

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

# Annexure-3:

Declaration regarding track record

To, The Chairperson, Instrumentation and Applied Physics, Indian Institute of Science Bangalore – 560012, India

Ref: Tender No: XXXXXXX Dated: XXXXX

Supply and installation of Thermal Evaporator at Laboratory of Advanced Nanostructures for Photonics and Electronics (LANSPE), IAP 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

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

(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, Instrumentation and Applied Physics, Indian Institute of Science Bangalore – 560012, India

Ref: Tender No: XXXXXX Dated: XXXX

Supply and installation of Thermal Evaporator at Laboratory of Advanced Nanostructures for Photonics and Electronics (LANSPE), IAP 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.	CIP/CIF IISc, Bengaluru				

#### Any additional items

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

Addressed to

The Chairperson, Attn: Dr. Tapajyoti Das Gupta Instrumentation and Applied Physics, 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.