Domestic Tender

Request for Quote (India-based vendors only) for the procurement of Customised Glovebox workstation for accommodating a large area spin coating unit & Electron beam evaporator unit (Last date: 30th September 2024)

This is a Request for Quote (RFQ) from **Class I and Class II local suppliers/ manufacturers** only for the procurement of a customised Glovebox workstation for accommodating a large area spin coating unit and electron beam evaporator unit, for the Centre for Nano Science and Engineering (CeNSE) at the Indian Institute of Science (IISc), Bangalore. IISc is India's best institution of higher learning and the Center for Nano Science and Engineering is home to one of the best academic fabs in the world that houses a 14,000 sq. ft. cleanroom. **The vendor should be willing to provide customization options both during and after installing the E-beam evaporation unit if needed.** The dimension of the Electron beam evaporator unit will be provided during the release of the purchase order.

Only the Indian Original Equipment Manufacturer (OEM) or their distributor shall submit a response demonstrating their capabilities to produce the requested equipment to the primary point of contact listed below. 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 or Promotion of Industry and Internal Trade, Ministry of Commerce, and Industry, dated 4th June 2020 will be followed. The bidders must go through the Government of India order stated above and follow all the rules and regulations therein.

Relevant definitions as per Government of India order:

- **Class-I local supplier** - A supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%.
- **Class-II local supplier** - A supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%.
- **Local content** – The amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.
- Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
- Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to the Class-1 supplier.

- SMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.

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 experience 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

Section 1- Bid Schedule

1	Tender No	CeNSE/SG/RFQ/05
2	Tender Date	9th September 2024
3	Item Description	Procurement of a Glovebox work station
4	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of tender submission	Chairperson Office, Attn: Dr. Sreetosh Goswami, Centre for Nano Science and Engineering Indian Institute of Science, Bangalore 560012
6	Last Date & Time for submission of tender	**30th September 2024, 5.00 PM (IST)**
7	For further clarification	Dr. Sreetosh Goswami Assistant Professor Centre for Nano Science and Engineering Indian Institute of Science Bangalore – 560012, India. Email: sreetosh@iisc.ac.in

- Vendors will be required to submit a technical proposal and a commercial proposal in **two separate sealed envelopes**. The technical bid should contain all commercial terms and conditions, except the price. **Only vendors who will be adjudged by the committee to meet the technical requirements will be considered for the commercial negotiation**.
- The covering letter should clearly state that whether the vendor is a Class-I or Class-II local supplier distinguished by their “local content”. Failing this the bid will be automatically rejected.
- The vendor must state the percentage of the local content and provide self-certification that the item offered meets the minimum local content requirement. They should also give details of the location(s) at which the local value addition is made.
- Separate detailed justification needs to be given to substantiate the qualification as Class 1 and Class 2 suppliers and the intender reserves the right to cross-check the factual validity of the same and one if some foreign parts or equipment is being put forward then please submit the “*bill of material*” details for the same for evaluation.

The deadline for submission of proposals is September 30th, 2024, 5:00 pm Indian Standard Time. Proposals should arrive at the Main office, GF-15, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India, on or before the above deadline.

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. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per Annexure 4.
4. 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.

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 technical specifications. The technical bid **must not contain** any price information.

    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 Indian Original Equipment Manufacturer (OEM) or from their distributors. 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.

    vi. **Tender documents without technical compliance documents will not be considered.**

    vii. Technical capabilities of 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.

    viii. Vendors are encouraged to highlight the advantages of their tools over comparable tools from the competitors.

    ix. Items in addition to those listed in the technical table that the vendor would like to bring to the attention, such as data sheets, technical plots etc. can be listed at the end of the compliance table. Vendors are also

encouraged to highlight the advantage of their tools over comparable tools from the competitors.

x. If multiple systems can fulfil the requirements, vendors can submit multiple bids.

xi. The RFQ must include references of 5 previous relevant installations, preferably in India. Please provide the names and contact addresses of the referees, so that the committee can contact them independently. Details of such systems with model numbers and users should be provided.

xii. The technical proposal will be evaluated against the technical requirement. Deviations from the technical specifications requested are allowed. Such deviations must be highlighted and justified. Their acceptance or rejection will be left to the discretion of the technical committee. Only the vendors, adjudged by the committee to be suitable to meet the technical requirements, will be considered for the commercial negotiation.

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 the tender**, and other commercial terms and conditions. The commercial bid should contain:

i. Itemized cost of the system and required accessories, such as software, power supply, etc.

ii. All accessories needed for the instrument to function as per the technical specification must be listed.

iii. Itemized cost, as an option, 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.

iv. The cost of shipping plus insurance up to IISc has to be included. IISc will help the shipping company to take care of the customs clearance at Bangalore Airport.

v. Please indicate the warranty provided with the tool. A warranty of 3 years or more is preferred.

vi. Provide itemized cost for required/expected spares for 2 years of operation. For sake of this calculation, the vendor may assume active tool usage of 40 hours/week. This number will be used to estimate the life cycle cost of the tool.

vii. The cost of annual maintenance contract (AMC). The details of AMC are given below. This number will be used to estimate the life cycle cost of the tool.

viii. Length of time that the tools will be supported with service and spares from the date of installation. Our requirement is that the tools be supported for at least 5 years from the date of installation. To quote the lowest price, vendors often quote for obsolete or soon-to-be obsolete equipment. This is NOT acceptable. For a user-facility like CeNSE, it is vital that the equipment be serviceable and supported for the foreseeable future. The length of guaranteed support will be used to estimate the life cycles cost of the tool.

ix. The commercial bid should indicate the following separately: (a) equipment price (b) optional items (c) insurance cost (d) Shipping cost and (e) the Total cost.

x. The quotations should be in INR only.

3. The technical bid and price bid must 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 Nano Science 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 vendor should have qualified technical service personnel for the equipment based in India and should assure a response time of <48 hours.
9. 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
10. 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 prior to the award of the contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
11. Incomplete bids will be summarily rejected.
12. The decision of the purchase committee will be final.

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 the 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, pre-processing 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 a warranty period of a **minimum 3 years** from the date of functional installation. The vendor should include the cost of any spares that are expected to be needed during the warranty period, including electronics, subcomponents, and software. If the instrument is found to be defective, it must 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 (AMC):

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

H) Purchase Order:

1. The order will be placed on the bidder whose bid is accepted by IISc Bangalore based on the terms & conditions mentioned in the tender document.
2. The quantity of the items in the 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.
4. After the award of the purchase order, the vendor must provide an Order Acknowledgement within 30 days from the receipt of the Purchase Order

I) 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 purchase order.
2. The system should be delivered, installed, and made functional **within 3-4 months** from the date of receipt of 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 and inspection, the date of taking over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period.
5. No partial shipment is allowed. The bidder should also arrange for technical training to the local facility technologists and users.
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

J) Payment Term:

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.

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) Dispute 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.

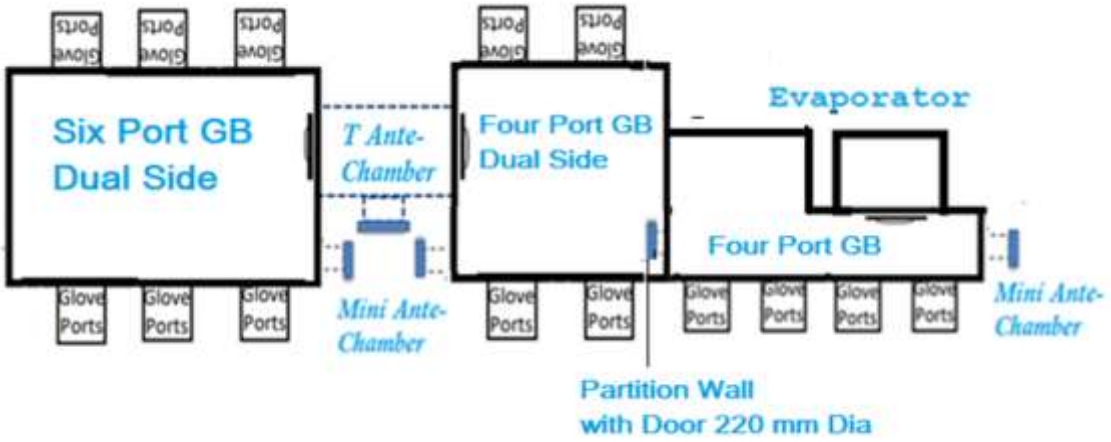
M) General:

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 of Glovebox workstation

Tender specification

Fourteen Ports Glove Box Two side operation 3+3, 2+2 and Four port for Electron beam evaporator unit.



All three Glove Box Should have individual Purification system.

Glove Box -1 Six Port Dual Side Operation Glove Box

Enclosure

• The working space of each glove box should be at least 850 - 890 mm in height, 1450 to 1550 mm in length, and 950 mm to 1150 in depth.
• The window materials should be impact-resistant polycarbonate at least 10 mm thick.
• Main body must be SS304, brushed stainless steel, at least 2.5 mm thick.
• The trays, rails, and other components in the ante-chambers should also be of 304 grade or 316 grade or similar corrosion/chemical resistant grades of brushed stainless steel.
• The external should either be powder coated or Spray paint finish.
• We strongly prefer a system where the space underneath the glove box is empty.
• Need a modular system that can be expanded further. The side panels must be removable to accommodate future expansions.
• Glove Ports: Delrin(POM) Natural white/PP – 6 No’s.

Programmatic Logic Control

• Glove box should be controllable with independent and fully integrated programmatic logic control (PLC), with a touch panel interface.

• The PLC should be from a reputed firm like Siemens or other globally reputed established ones.
• The touch panel interface should serve as a central control unit for all glove box functions and procedures.
• All glove box functions should be accessible via the touch panel.
• Graphical display of the box pressure, O2, and moisture levels should be available in the touch panel interface.
• Automatic Box purge should be possible via PLC.
• PLC should trigger an automatic box purge either due to high O2 or moisture or both in the glove box or an automatic timer option to trigger box purge at a pre-set time for a pre-set duration.
• Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.
• Gas (argon or nitrogen) flow rate of 200 liter/min or greater during purging should be possible.
• The O2 and moisture trigger set-point range for automatic box purging should be between 10-999 ppm. Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.

Purifier

• Single Column Gas purification system 7-inch Siemens or other globally reputed established touch screen HMI, remote and graphical PLC controller with Auto-regeneration
• Glove box should have at least one independent purifier capable of purifying the glove box ambient to attain purity of <1 ppm H2O and O2.
• The removable capacity should be a minimum of 36 to 41 liters minimum 5 Kg for oxygen and at least 1200 to 1400 grams for moisture minimum 5 Kg Specification sheets
or data sheets attesting to this must be provided.
• The purifier should be fully regenerable with an automatic/programmed control using forming gas (10% H2 or lower) or Ar or N2.
• The gas circulation blower should be capable of a circulation rate of at least 88 to 100 m3/hour. The maximum and minimum circulation rates of the blower should be provided and should work without any heat exchanger.
• The blower speed should be dynamically controlled via program logic based on the moisture and oxygen content in the glove box, to make the blower operation power efficient. Implementation diagrams or specifications that prove this is possible must be provided.
• The purifier loop must have at least two H14 dust filters (HEPA or ULPA

filters) -- one for filtering inlet gas (nitrogen or argon) and one for filtering the box ambient before it goes out to the gas circulation system.
• Oil bubblers should NOT be used in any of the gas circulation lines. The mechanism for pressure regulation should be clearly mentioned.
• NO component in the gas circulation line (except for the vacuum pumps) should use oil or oil-containing parts.
• Eco Mode Operation
• Auto purge with time sequence or ppm of O2 and H2O

Sensors

• A solid-state/Electrochemical oxygen sensor capable of measuring oxygen levels from 0.1 ppm to 1000 ppm should be provided with a box.
• A solid-state moisture sensor capable of measuring moisture levels from 0.1 ppm to 3000 ppm should be provided with the box.
Box pressure
• Box pressure should be controllable automatically (via programmatic logic) within a pressure range of -15 to +15 mbar.
• The desired pressure should be settable via the touch panel interface.
Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.

Gloves and Glove Port Covers

• There should be 6 POM (polypropylene is preferred) glove ports, and butyl gloves should be provided for these glove ports.
• The size of each glove port should be at least 9” in dia
• The glove ports should be O-ring sealed against the gloves.
• Must include at least one glove port cover.
• The thickness of the butyl gloves should be a minimum of 0.4 mm

Mini antechambers

• The box must have one mini ante-chamber for sample transfer.
• The ante-chamber should be at least 220 mm in diameter and 400 mm in length.
• The ante-chamber should have a tray to enable sample transfer.
• The chamber must have a manual pump and purge system: with a pressure gauge, manual valve, and connection to a vacuum pump.
• The ante-chamber should have a door that can seal the ante-chamber for evacuation.

Feedthroughs

• The box should have at least 6 KF-40 feed-throughs. These can be connected to liquid, electrical, or vacuum feedthroughs. The details of placement can be discussed at the time of ordering.
• The system must have at least 1 electrical feedthrough with 15 A connectors that are compatible with 220 V – 240 V supply.

7 Kg solvent absorption unit

Solvent absorption unit have both inline and bypass modes

Double stage rotary vane Edwards/other globally reputed brand 17m3 VACUUM PUMP

Glove Box -2 Four Port Dual Side operation Glove Box

Enclosure

• The working space of each glove box should be at least 850 - 890 mm in height, 1450 to 1550 mm in length, and 950 mm to 1150 in depth.
• The window materials should be impact-resistant polycarbonate at least 10 mm thick.
• Main body must be SS304, brushed stainless steel, at least 2.5 mm thick.
• The trays, rails, and other components in the ante-chambers should also be of 304 grade or 316 grade or similar corrosion/chemical resistant grades of brushed stainless steel.
• The external should either be powder coated or Spray paint finish.
• Need a modular system that can be expanded further. The side panels must be removable to accommodate future expansions.
• Glove Ports: Delrin(POM) Natural white/PP – 4 No’s.

Programmatic Logic Control

• Glove box should be controllable with independent and fully integrated programmatic logic control (PLC), with a touch panel interface.
• The PLC should be from a reputed firm like Siemens or other globally reputed established ones.
• The touch panel interface should serve as a central control unit for all glove box functions and procedures.
• All glove box functions should be accessible via the touch panel.
• Graphical display of the box pressure, O2, and moisture levels should be

available in the touch panel interface.
• Automatic Box purge should be possible via PLC.
• PLC should trigger an automatic box purge either due to high O2 or moisture or both in the glove box or an automatic timer option to trigger box purge at a pre-set time for a pre-set duration.
• Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.
• Gas (argon or nitrogen) flow rate of 200 liter/min or greater during purging should be possible.
• The O2 and moisture trigger set-point range for automatic box purging should be between 10-999 ppm. Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.

Purifier

• Single Column Gas purification system 7-inch Siemens or other globally reputed established touch screen HMI, remote and graphical PLC controller with Auto-regeneration
• Glove box should have at least one independent purifier capable of purifying the glove box ambient to attain purity of <1 ppm H2O and O2.
• The removable capacity should be a minimum of 36 to 41 liters minimum 5 Kg for oxygen and at least 1200 to 1400 grams for moisture minimum 5 Kg Specification sheets
or data sheets attesting to this must be provided.
• The purifier should be fully regenerable with an automatic/programmed control using forming gas (10% H2 or lower) or Ar or N2.
• The gas circulation blower should be capable of a circulation rate of at least 88 to 100 m3/hour. The maximum and minimum circulation rates of the blower should be provided and should work without any heat exchanger.
• The blower speed should be dynamically controlled via program logic based on the moisture and oxygen content in the glove box, to make the blower operation power efficient. Implementation diagrams or specifications that prove this is possible must be provided.
• The purifier loop must have at least two H14 dust filters (HEPA or ULPA filters) -- one for filtering inlet gas (nitrogen or argon) and one for filtering the box ambient before it goes out to the gas circulation system.
• Oil bubblers should NOT be used in any of the gas circulation lines. The mechanism for pressure regulation should be clearly mentioned.
• NO component in the gas circulation line (except for the vacuum pumps) should use oil or oil-containing parts.

• Eco Mode Operation
• Auto purge with time sequence or ppm of O2 and H2O

Sensors

• A solid-state/Electrochemical oxygen sensor capable of measuring oxygen levels from 0.1 ppm to 1000 ppm should be provided with a box.
• A solid-state moisture sensor capable of measuring moisture levels from 0.1 ppm to 3000 ppm should be provided with the box.
Box pressure
• Box pressure should be controllable automatically (via programmatic logic) within a pressure range of -15 to +15 mbar.
• The desired pressure should be settable via the touch panel interface. Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.

Gloves and Glove Port Covers

• There should be 6 POM (polypropylene is preferred) glove ports, and butyl gloves should be provided for these glove ports.
• The size of each glove port should be at least 9” in dia
• The glove ports should be O-ring sealed against the gloves.
• Must include at least one glove port cover.
• The thickness of the butyl gloves should be a minimum of 0.4 mm

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• The chamber must have a manual pump and purge system: with a pressure gauge, manual valve, and connection to a vacuum pump.
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Feedthroughs

• The box should have at least 6 KF-40 feed-throughs. These can be connected to liquid, electrical, or vacuum feedthroughs. The details of placement can be discussed at the time of ordering.
• The system must have at least 1 electrical feedthrough with 15 A

connectors that are compatible with 220 V – 240 V supply.

Double stage rotary vane Edwards/other globally reputed brand 17m3 VACUUM PUMP

Glove Box -3 Four Port One operation Glove Box Provision should be kept for Electron beam evaporator.

Enclosure

• The working space of glove box should be at least 850 - 890 mm in height, 1750 to 1850 mm in length, and Two Port 780 to 850 and reaming two port depth should be 250 mm to 300 in depth.
• The window materials should be impact-resistant polycarbonate at least 10 mm thick.
• Main body must be SS304, brushed stainless steel, at least 2.5 mm thick.
• The trays, rails, and other components in the ante-chambers should also be of 304 grade or 316 grade or similar corrosion/chemical resistant grades of brushed stainless steel.
• The external should either be powder coated or Spray paint finish.
• Need a modular system that can be expanded further. The side panels must be removable to accommodate future expansions.
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• The touch panel interface should serve as a central control unit for all glove box functions and procedures.
• All glove box functions should be accessible via the touch panel.
• Graphical display of the box pressure, O2, and moisture levels should be available in the touch panel interface.
• Automatic Box purge should be possible via PLC.
• PLC should trigger an automatic box purge either due to high O2 or moisture or both in the glove box or an automatic timer option to trigger

box purge at a pre-set time for a pre-set duration.
• Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.
• Gas (argon or nitrogen) flow rate of 200 liter/min or greater during purging should be possible.
• The O2 and moisture trigger set-point range for automatic box purging should be between 10-999 ppm. Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.

Purifier

• Single Column Gas purification system 7-inch Siemens or other globally reputed established touch screen HMI, remote and graphical PLC controller with Auto-regeneration
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• Oil bubblers should NOT be used in any of the gas circulation lines. The mechanism for pressure regulation should be clearly mentioned.
• NO component in the gas circulation line (except for the vacuum pumps) should use oil or oil-containing parts.
• Eco Mode Operation
• Auto purge with time sequence or ppm of O2 and H2O

Sensors

• A solid-state/Electrochemical oxygen sensor capable of measuring oxygen levels from 0.1 ppm to 1000 ppm should be provided with a box.
• A solid-state moisture sensor capable of measuring moisture levels from 0.1 ppm to 3000 ppm should be provided with the box.
Box pressure
• Box pressure should be controllable automatically (via programmatic logic) within a pressure range of -15 to +15 mbar.
• The desired pressure should be settable via the touch panel interface. Touch panel implementations showing this should be provided. A copy of relevant documentation from the user manual should also be provided.

Gloves and Glove Port Covers

• There should be 6 POM (polypropylene is preferred) glove ports, and butyl gloves should be provided for these glove ports.
• The size of each glove port should be at least 9” in dia
• The glove ports should be O-ring sealed against the gloves.
• Must include at least one glove port cover.
• The thickness of the butyl gloves should be a minimum of 0.4 mm

Mini antechambers

• The box must have one mini ante-chamber for sample transfer.
• The ante-chamber should be at least 150 mm in diameter and 400 mm in length.
• The ante-chamber should have a tray to enable sample transfer.
• The chamber must have a manual pump and purge system: with a pressure gauge, manual valve, and connection to a vacuum pump.
• The ante-chamber should have a door that can seal the ante-chamber for evacuation.

Feedthroughs

• The box should have at least 6 KF-40 feed-throughs. These can be connected to liquid, electrical, or vacuum feedthroughs. The details of placement can be discussed at the time of ordering.
• The system must have at least 1 electrical feedthrough with 15 A connectors that are compatible with 220 V – 240 V supply.

Double stage rotary vane Edwards/other globally reputed brand 17m3 VACUUM PUMP

T shape Antechamber to interconnect Box 1 and Box 2.

Cylindrical type 400 mm @ 800 mm Length Stainless Steel SS304
Inside and outside surface brushed finish
Stainless steel sliding tray
Aluminum anodized door 10mm thickness swing type 3 No's.
Analogue vacuum gauge
Automatic evacuating and refill valve

Other

• There must be a lamp inside, preferably LED. There must be a switch on the outside of the body or touchscreen to turn the light on/off.
• The circulation system should make it possible to have positive pressure regulation without a vacuum pump
• A foot pedal for controlling box pressure should be provided.
• At least two height-adjustable stainless-steel shelves of at least 1000 mm in length and at least 200 mm in depth should be provided. These should be centrally located so that any chemicals or tools are accessible from glove ports.
• Vendors should have a minimum 20 installations at reputed institutes like IISc/IIT/IISER.
• 1 - Glove port cover should be included for each Glove Box.
• All electrical connections should comply with line power specifications in India. Single phase voltage range is 220-240 Vac and the three-phase voltage range is 415 - 440 Vac. The line frequency is 50Hz.

Acceptance

- The institute reserves the right to accept or reject any bid, or to annul the bidding process and reject all bids, at any time prior to the award of the contract without thereby incurring any liability of the affected bidder or bidders.
- Previous installations can be used by the committee to disqualify vendors with a poor track record of service, build quality, system performance or poor availability of spares.
- Institute will expect acceptance tests, post installation. These can be recorded in the presence of representatives of the OEM. Inability to pass these tests will be a counted as a technical failure and breach of contract.
- Maintain <1 ppm of H_2O and O_2 for 24-hour period.
- Demonstrate automated routines for catalyst regeneration
- Demonstrate automated routines for maintaining target pressure.
- The vendor should be willing to provide customization options both during and after the installation of the E-beam evaporation unit if needed.

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. Sreetosh Goswami
Centre for Nano Science and Engineering Indian Institute of Science
Bangalore – 560012, India
Email: sreetosh@iisc.ac.in

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

Ref: Tender No: XXXXXXXXX Dated: XXXXX

Supply and installation of a Glovebox work station at CeNSE, IISc Bangalore.

Sir/Madam,
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 _____

(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: XXXXXXX Dated: XXXXX

Supply and installation of a Glovebox work station at CeNSE, IISc Bangalore.

Sir/Madam,
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 a Glovebox work station at CeNSE, IISc Bangalore.

Sir/Madam,
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. The bidder should provide technical specifications of the quoted product/s in detail.
2. Bidders 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	FOR- IISc, Bengaluru				

Any additional items

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

Addressed to

The Chairperson,
Attn: Dr. Sreetosh Goswami
Centre for Nano Science and Engineering Indian Institute of Science
Bangalore – 560012, India
Email: sreetosh@iisc.ac.in

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

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

(2) Sealed Envelope “B”: Commercial Bid

a. 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.

Thanking you,

Dr. Sreetosh Goswami
Assistant Professor
Centre for Nano Science and Engineering
Indian Institute of Science, Bangalore, India 560012.
E-mail: sreetosh@iisc.ac.in