

Notice Inviting Tender

Design, Installation, and upgradation of Cell Culture facilities at the Biological Sciences Building, IISc

Tender No. DBS-IISc/ Cell Culture facility /2021-2022



Indian Institute of Science

Division of Biological Sciences
Indian Institute of Science
Bangalore — 560012
July 2021

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SECTION 1 – Bid Schedule

1	Tender Number	DBS-IISc/ Cell Culture facility /2021-2022
2	Tender date	27th July 2021
3	Item description	Design, Installation, and upgradation of Cell Culture facilities at the Biological Sciences Building, IISc
4	Quantity	1. Upgradation of existing culture rooms (30 rooms), ~5000 sq ft 2. Design and installation of New divisional facility (6 rooms) ~1000 sq ft.
5	Tender Type	Two Bid System Technical Bid (Part-A) Commercial Bid (Part-B)
6	Place of Submission and tender opening	Division of Biological Sciences Indian Institute of Science Bangalore - 560012, India
7	Last Date & Time for submission of tender	5 PM, 16th August 2021
8	Date of opening of technical bids	20th August 2021
9	For further clarification	Prof. Sathees Raghavan Division of Biological Sciences Indian Institute of Science Bangalore - 560012, India

SECTION 2 - ELIGIBILITY CRITERIA

Prequalification criteria:

1. The Bidder's firm should have existence for a minimum of 3 years. (Enclose Company Registration Certificate).
2. The Bidder should have qualified technical service personnel for the instrument(s) based in Karnataka.
3. If the Bidder is a local distributor/dealer/Agent, it is mandatory to attach authorization certificate along with the bid from the original equipment manufacturer.
4. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4.
5. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.
6. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
7. The quotations should be on FOR-IISc Bangalore basis in INR only.

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, check list for conformance to specifications, format in which the price bid is quoted without the actual prices (suppliers who include any indication of prices in the technical bid will be automatically disqualified).

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 a sealed cover, superscripting on both the envelopes the tender No. and the due date and both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No & Due Date.
4. The SEALED COVER superscripting tender number / due date & should reach The Dean, Division of Biological Science, 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 communications are to be addressed to- Dean, Division of Biological Sciences, Indian Institute of Science, Bangalore— 560012, India.
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 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 120 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 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 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 requirements along with the technical bid.

F) Warranty:

The complete system is to be under warranty for an additional period of minimum 4 years (CMC) (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 facility is found to be defective, it has to be rectified or when required replace required parts/components at the cost of the bidder within 15 days from the date of receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

G) Annual Maintenance Contract:

An annual maintenance contract for a period of 2 years post warranty should be provided on completion of warranty period.

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 and Installation:

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.

J) Payment Terms:

The payment will be through a Letter of Credit and milestone of the payment will be determined after the 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) 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 must 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 - User Requirement Specification

1. Scope of Work:

Sl. #	Item	Description / Scope
1.0	Design	
1.1	Basic Engineering	Scope of vendor
1.2	Detailed Engineering	Scope of vendor
2.0	Construction Permits /Approvals	Scope of IISc
3.0	Project Management	Scope of vendor
4.0	Construction	Rooms will be provided by IISc.
4.1	Clean Room Interiors	Scope of vendor
4.2	HVAC	Scope of vendor
4.3	Electrical	
	HT	By IISc
	LT	Scope of vendor
	DG	IISc
4.4	BMS	Scope of vendor
4.5	Fire	Scope of vendor
	Fire Alarm System (FAS)	Scope of vendor
	Fire Suppression System (FSS)	Scope of vendor
4.6	Communication Systems	
	Intercom	Scope of vendor
	PA system	Scope of vendor
4.7	Surveillance Systems	
	Access control	Scope of vendor
	CCTV (Required only for common divisional facility)	Scope of vendor
4.8	Utilities to added	Will be specified at later stage

2. Facility plan:

- 15 cell culture clean rooms on each floor (5 in each wing, 1st and 2nd floor biological sciences building).
- Common divisional cell culture clean room (~1000 sq ft) on the 1st floor, C wing with 6 independent rooms.
- Ante-room for cell culture room, wherever required.

3. Existing Building Details:

- Building / cleanroom layout plan and sections
 - Floor-plan will be provided

- Height of true ceiling and false ceiling
 - Minimum of 8-9 feet of clear height is required (floor to false ceiling)
- Electrical substation/ DG locations
 - Will be provided by Biology Building

a. Facility Function:

Facility will be used to culture and maintain mammalian cells for research purpose. Individual cell culture rooms will be used by concerned lab members for of different research laboratories, whereas the divisional cell culture facility will be used by any member of the division on rental basis.

b. Room details:

- Relationships among the various rooms and personnel and material movements.
 - Vendor should design a comprehensive plan (single corridor system) utilizing the available space effectively
- Lab equipment / Furniture planning
 - One or two biosafety hoods and chair along with necessary equipment such as microscope, CO₂ incubators electroporator, etc will be arranged by the lab PI or the division.
- Once-through air circulation / exhaust requirements.
 - Once-through air circulation is required for rooms and 100% fresh air.

c. Critical Dimensions of Rooms / Corridors:

- Room sizes (including height) to accommodate special equipment / Critical heights (e.g., for HVAC, etc.)
 - Minimum room size should be 15 x 12 ft and door height should be minimum of 7.2 feet.

d. Statutory / certification requirement

- Should meet ISO 7 (Class 10,000) specifications

e. Personnel Numbers and Working Patterns:

- The number of personnel on which the design should be based
 - Maximum 2 personnel per room at a given time
- The number of shifts in a day
 - One (8 AM to 10.00 PM)
- The number of working days in a week
 - 7 days

f. Materials Movement:

- The flow of incoming materials
 - Bi-directional inside the facility
- The flow of waste material
 - Unidirectional inside the facility

g. Personnel Movements, Controls and Restriction:

- Controlled areas (e.g., airlock)
 - Air shower/lock in each wing at the entrance

a. Design Conditions – Weather Data

- Should design the facility to provide constant temperature through out the year

b. Cleanroom Classification

- Cleanroom classification plan
 - Facility should be built on the Class 10,000 (ISO 7) classification standards
- Air Changes required
 - As per the ISO 7 classification standards
- **Room pressures planned**
 - As per the ISO 7 classification standards

c. Room Conditions (temp, RH, etc)

Should design the facility to provide constant temperature and humidity throughout the year as mentioned below

- Temperature range should be 22 ± 2 °C
- Humidity range should be 50 – 60 %

d. Pressure and Containment Levels

Should design the facility to provide appropriate pressure and containment levels for each area

- Ex. Positive pressure in rooms

e. Temperature & Humidity Levels

Temperature and humidity levels for each area in the cleanroom are as follows:

- Temperature : 22 ± 2 °C and humidity : 50-60% in each clean rooms

6. Electrical, instrumentation and telecoms

Probable list of equipment in the facility in each room are as follows

Sl. No.	Equipment	Number
1	Biosafety cabinets	01/2
2	Refrigerators	01
3	Electroporators	1

4	Microscopes	1
5	Co2 incubators	2
6	LN2 container	1

a. Transformers and Distribution Voltage

- The power supply to the facility should be drawn from the LT panel boards located in the building
- Each room should have eight-ten 15A sockets

b. UPS Requirements

UPS (Uninterrupted Power Supply) will be provided by IISc and all wiring should be done by vendor for following equipment.

c. Intercom and PA System

Intercom in each floor should be provided

For emergency evacuation, Portable Audio system in each floor is required

d. CCTV Requirements

- CCTV in the divisional facility entrance should be provided

Note :

1. While calculating the heat load, following factors may be considered

- The number of biosafety cabinets in each room and number of people allowed at a time.
- The number of equipment like Biosafety Cabinets which may add to the heat load :
 - Biosafety cabinets – 02
- Type of Biosafety Cabinets that will be used in the facility
 - Class II A2 or Class II B2
- Outer side of the building is not exposed to sun through view panels. Hence, heat ingress from the solar radiations will not be there.

2. Design Criteria / Assumptions

- As per CCA Guideline 96 for conventional culture rooms, the HVAC system should be capable of supplying and exhausting air exchanges as per the standards.
- As per CCA guideline 92: Culture Facilities should be supplied with 100% Fresh air. Air should not be re-circulated within the facility.

3. Basis of Design

The design shall be done taking into account of following:

Guidelines and Standard Followed:

- Constructing and Checking Code for Clean Room (JGJ 71-1990)
- Architecture and Technical code for Biosafety Laboratory (GB50346-2004)
- ASHRAE and ISHRAE Standard for the complete HVAC designing.
- WHO/CDC/NIH , Biosafety in Microbiological and Biomedical Laboratories for Infectious Disease Research Area.

4. Design parameters

Indicative Outdoor Ambient Conditions: (Bangalore). The vendor must consider accurate figures while designing

Weather	DB ° F	WB ° F	RH %
Summer	96	78	45
Monsoon	82	78	82
Winter	58	54	78

Inside Conditions:

Weather	DB ° F (± 2)	WB ° F	RH % (± 5)
Required Inside Lab	71.6	62.4	50

*DBT – Dry Bulb Temperature

*WBT – Wet Bulb Temperature

5. Basic design standard

- All ducts shall be made of Galvanized Iron leak proof ducting
- Air Flow/volume shall be controlled by using Manual/Motorized Volume control Damper/ VAVs in between the ducts, wherever required
- All the Units (Supply/Exhaust Units) have been selected for redundant operation
- Standby units should be taken into consideration
- All the Motors shall be VFD Compatible for Energy saving
- Temperature, relative humidity and differential pressures should be monitored frequently in each and every culture room
- **Supply Air (3-stage filtration):**
ASHRAE 1st stage: 5-8% efficiency

ASHRAE 2nd stage: 30% efficiency

Final Stage Terminal HEPA Filtration to the main Labs: 99.99% efficiency

- **For highly sterile area** :- HEPA/Double HEPA/ULPA Filters
- **For ante-room areas** :- Exhaust through return air risers with filter
- **Exhaust for infectious areas** :- BIBO HEPA

Following assumptions should be considered while calculating the air conditioning cooling load:

Construction of wall	PUF Panel of 80 mm (min.) thickness PUF in-filled with 40±2 Kg/m ³ (min.) density insulation.
Air Exchange	100% Fresh Air system
Biosafety Cabinet (BSC) – Exhaust	BSC Class II B2 Type = 850 CFM (4 Feet) = 1250 CFM (6 Feet) BSC Class II A2 Type = 255 CFM (4 Feet) = 375 CFM (6 Feet)
Air Flow Control	Air Flow/volume shall be controlled by using Motorized Volume control Damper/VAV in between the ducts, wherever required.
Energy Saving Operation	All the Motors shall be VFD Compatible for Energy saving.
24 X 7 Redundant Operation	
Option 1	All the Units (Supply AHU/Exhaust Units) selected for redundant operation (with Standby Motor and Blower arrangement.
Option 2	All the Units (Supply AHU/Exhaust Units) selected for redundant operation with (100% Standby) Separate supply AHU/Exhaust units. (One+ One)
Option 3	All the Units (Supply AHU/Exhaust Units) selected for redundant operation by n+1 arrangement depends on zoning with no cross contamination.
Ceiling Height	9.0 ft

Note:

1. The vendor should visit the site and make a detailed drawing if required. Inferior designs will be rejected.
2. Suggested design should fit in the available floor area at installation site.
3. The vendor will be responsible for the complete installation, testing and handover.
4. Accessories: Required, If any
5. Training and demonstration: Training on usage of the machine (hardware) must be demonstrated by the successful bidder free of cost at bidder's cost to the end users at IISc, Bangalore.

Section 5: Bid

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

The Dean

Division of Biological Sciences

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:

Sr. No.	Name of the Bidder	
1.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
2	Registration No/ Trade License, (attach attested copy)	
3	Registered office address	
4	Address for communication	
5	Contact person- Name and designation	
6	Telephone number	
7	Website and email ID	
8	PAN No. (attach copy)	
9	GST No. (attach copy)	

Signature of The Bidder

Name

Designation and Seal

Date:

Annexure-2:

Declaration regarding experience

To,

The Dean

Division of Biological Sciences

Indian Institute of Science Bangalore - 560012, India

Ref: Tender No: XXXXXXXXXXX Dated: XXXXX

Design, Installation, and upgradation of Cell Culture facilities at the Biological Sciences Building, IISc

Respected Dean,

I have 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 Autoclave.

(Signature of the Bidder) Printed Name

Designation, Seal Date:

Annexure-3:

Declaration regarding track record

To,
The Dean
Division of Biological Sciences
Indian Institute of Science Bangalore - 560012, India

Ref: Tender No: XXXXXXXX

Dated: XXXXX

Design, Installation, and upgradation of Cell Culture facilities at the Biological Sciences Building, IISc

I have 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
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(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 and Seal

Date:

Annexure - 4:

Declaration for acceptance of terms and conditions

To,
The Dean
Division of Biological Sciences
Indian Institute of Science Bangalore - 560012, India

Ref: Tender No: XXXXXX

Dated: XXXX

Design, Installation, and upgradation of Cell Culture facilities at the Biological Sciences Building, IISc

I have 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 the items quoted:

Company Name	
Product Name	
Part/Catalogue number	
Product description/main features	
Detailed technical specification	
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:

Sr. No.	Description	Catalogue No.	Quantity	Unit Price	Sub Total
1					
2					
3	All Consumables, spares and software to be supplied locally				
4	Warranty				
5	Cost of Insurance and freight				

Buyback, if any

Sr. No.	Description	Quantity	Unit Price	GST	Total

Addressed to,

The Dean

Division of Biological Sciences

Indian Institute of Science Bangalore - 560012, India

SECTION 7 - CHECK LIST

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Envelope “A”: Technical Bid

- a. Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:

Annexure 1: Bidders details

Annexure 2: Declaration regarding experience

Annexure 3: Declaration regarding clean track record

Annexure 4: Declaration for acceptance of terms and conditions

Annexure 5: Details of items quoted

- b. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. 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. & Due Date.