

LOCAL TENDER NOTICE

Test facility for UAV propulsion system under various atmospheric conditions



TENDER DOCUMENT

AE/SSU/Long Endurance FW-VTOL-02

Department of Aerospace Engineering

Indian Institute of Science, Bangalore

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Bid Schedule

1	Tender Number	AE/SSU/Long Endurance FW-VTOL-02
2	Tender date	28-10-2025
3	Item description	Test facility for UAV propulsion system under various atmospheric conditions
4	Tender type	Two bid system: a. Technical Bid (Part A) b. Commercial Bid (Part B)
5	Place of tender submission	Department of Aerospace Engineering, Indian Institute of Science, Bangalore - 560012
6	Last date and time for tender Submission	26th November 2025 @ 5.00 P.M
7	For further clarification	Department of Aerospace Engineering, Indian Institute of Science, Bangalore - 560012 vssuresh@iisc.ac.in

Eligibility Criteria

Prequalification criteria:

1. The Bidder's firm should have existed for at least 5 years. The bidder should enclose company registration certificate.
2. Supplier Credibility:
 - a. The Bidder/Vendor Must have supplied minimum 3 similar orders to reputed Government Organizations in INDIA. Copies of Purchase Orders to be enclosed along with the Technical Bid as proof.
 - b. Please enclose User list in INDIA along with the contact details and performance certificate.
 - c. The bidder/vendor shall have a yearly turnover of at least 20 Cr for the past five years.
 - d. Vendor shall have local service engineers available to attend maintenance /troubleshooting/ breakdown etc within 24hrs from the date of complaint registration. Details of local service engineers with their experience shall be shared along with the proposal. Vendor Shall ensure spares and service support for the quoted model for next 10 years
 - e. The supplier shall have prior experience in handling turnkey projects involving Walk-In Altitude chambers. Supplier should have supplied, installed & commissioned at least 7 Altitude chambers with test space volume more than 2000L in India and details to be indicated in technical offer with supporting documents. Contact information of personnel from the organizations of installation to be given.
 - f. IISc team may contact/visit the customers and obtain feedbacks regarding the installed systems.
3. The Bidder should belong to either class 1 or class 2 supplier distinguished by their "local content" as defined by recent edits to GFR (please refer to annexure 1 attached). 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%.
 - c. 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 services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
 - d. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to the Class-1 supplier.
 - e. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
3. 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.
4. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per Annexure 4.
5. The bidder should provide a support certification as per Annexure 6
6. The Bidder should have qualified technical service personnel for the instrument(s) based in India.
7. INR quotes should be on a FOR-IISc Bangalore basis.
8. The order will be placed only on the bidder who participated in the bid.

Terms and conditions

A. Submission of Tender:

1. All documentations in the submission should be in English.
2. The bid should be submitted in the two-cover system, i.e., technical bid and commercial bid separately in sealed covers.
 - a. Technical Bid (Part-A) – The technical proposal should contain a compliance table besides the technical specifications listed in the description section below.

The compliance table should include all the items and in the same order. The first column should describe your compliance in a “Yes” or “No” response. The second column should state the extent of deviation if the answer was no or describe the exact specifications if the answer is yes. The “third” column should state the reasons for the deviation if the answer was No. The fourth column can be used to compare your solution with that of your competitors or provide details as requested in the technical requirements table below. Suppliers who include any indication of prices in the technical bid will be automatically disqualified.
 - b. Commercial Bid (Part-B) – Commercial bid indicating item wise price breakdown for the items mentioned in the technical bid, as per the format provided in tender, and other commercial terms and conditions. The price should be inclusive of all discounts and installation and training.
 - c. The technical bid and price bid should each be placed in separate sealed covers, superscripting on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No, Tender Description & Due Date.
 - d. The SEALED COVER superscripting tender number / due date should reach the address mentioned above on or before due date mentioned in the tender notice. In case the due date happens to be a holiday, the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
3. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document and provide a copy of both documents (Indian Bidders only).
4. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.
5. 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.
6. A technical evaluation by the purchase committee may include a demonstration at the Indian Institute of Science to verify the functionalities and capabilities of the system quoted. The technical/ purchase committee reserves the right to decide the time frame within which the demonstration must be completed. The technical/purchase committee also reserves the right to reject the bids based on their technical evaluation of the quality of data, capability demonstration, and service. If the data/ requested capability demonstration does not happen within a stipulated timeframe, the bid will be rejected. Any discrepancy between the promised specifications and measurements will be deemed as technical non-compliance.
7. All components and accessories should indicate component-wise and itemized breakup. Provide certificates for the country of origin of manufacturing for each line item. The price of every line item in the commercial bid should be quoted along with the total quoted price for the instrument to be operational (installed and ready to use) in our facility.

8. 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 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.
10. The decision of 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 at the time of submission.

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 essential items and selected optional 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. Hence, the bidder should provide best price for all essential and optional items asked in the tender under technical specifications.

E. Pre-requisites:

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

List of customers and references: ***The Bidder should have supplied similar equipment in Central Universities/govt research labs, preferably in centrally Funded Technical Institutes/Research labs (IITs, IISC, IISER, NIT, HAL, NAL, DRDO Labs). Please provide the details, performance certification from customer and contact information.***

F. Warranty:

The complete system is to be under warranty as listed in the technical specifications below including free supply of consumables, spare parts, and data analysis software from the date of functional installation. Vendor should include 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.

Warranty period: Two years and continued maintenance support with necessary spare parts for ten years.

G. 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 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

H. 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 4-5 months 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. The bidder should provide onsite application training for the local facility technologists and users. The bidder should also arrange technical training for the local facility technologists and users.

I. Payment Terms:

For INR quotes, 100% payments will be released after completion of delivery, satisfactory installation, and qualification, subject to TDS as per rules. As per GFR no advance payment can be made to domestic vendors. For INR quotes, the price must be on FOR IISc Bangalore basis only.

J. 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.

K. 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.

L. 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.
5. Vendors are encouraged to highlight the advantage of their system over their competitors.

Technical specifications

S.No	Specification	Technical Requirement
1	Test Space volume	7100 L (minimum)
2	Inner Dimension	Width: 1900±200 Depth: 2000±200 Height: 2000±200 (All dimensions in mm)
2	Load Bearing Capacity of the Chamber	500 Kg
	Temperature	
3	Temperature range	-40°C to +85°C
4	Temperature accuracy	±1 °C
5	Temperature uniformity within the chamber	<1.5 °C
6	Rate of change of heating	1°C /min Average from -20 C to +85 C
7	Rate of change of Cooling	1°C /min Average from +85 C to -20 C
8	Heat Dissipation to be considered for performance (Dead Load)	1000 W @-20 Deg C and above (Only During Soak)
9	Material load to be considered for performance (Dead Load)	100 Kg
	Vacuum/Altitude	
10	Vacuum/Altitude requirement	Ambient Atmospheric pressure (AP) to Altitude equivalent to 7Km
11	Altitude pull down time	Shall reach the altitude conditions equivalent to 7km from ambient atmospheric pressure within 30 mins
12	Altitude fluctuation	±3mbar from the setpoint after stabilization
	Humidity(at ambient atmospheric pressure)	
13	Humidity Range	10% RH to 98 %RH
14	Climatic range for humidity	+10°C to +85°C
15	Humidity control accuracy	±3%RH
16	Display Resolution	1.0% RH
17	Interfaces	ETHERNET & USB interfaces required
18	Humidity Sensor	Chamber shall be equipped with a Capacitive type humidity sensor. This sensor shall be maintenance free and shall not require the wick water to be maintained.
19	Refrigeration System	Chamber shall be equipped with Water-Cooled Cascade Refrigeration system
20	Heating unit	Suitable heating unit shall be installed in

		chamber
21	Vacuum/Altitude unit	Suitable vacuum unit/pump shall be installed in chamber along with the air compressor (If required)
22	Humidification	Reliable humidification unit with the heater surface mounted with a thermostat to cut-off the electrical supply in case the surface temperature reaches critical limit shall be provided.
23	Condensation Protection	A refrigeration based de-humidification system shall be provided in the chamber
24	Special Features	Power Resumption Modes: In case of a power failure, option of conditional restart based on temperature/time or continuous Delay Start: Real time clock based, delayed start function Process Mimic: Graphical representation of the working of the chamber, with live status of all the components, including the current temperature/humidity process values, compressor suction/discharge pressures and return gas temperature Event viewer will display a log of all errors/actions with a date and time stamp. PLC inputs and outputs status will be indicated. Security: Multi level security of guest, user, admin and factory level users with individual password protection All settings can be reset to factory defaults using admin login. Service Monitor: Log of critical components life cycle with a predefined life cycle time and elapsed time in hours
25	Door	The chamber door shall provide full access to the test space and shall be hinged to the left of the chamber Vendor shall provide ESD(Electro Static Discharge) coating for the door
26	Viewing Window	2 Nos. of Multi pane viewing window of size 225x225mm shall be provided: One shall be positioned on the Chamber door and one on the side the chamber
27	Illumination Lamp	Chamber should be provided with

		illumination lamp for the working space
28	Access Ports	2 Nos of 100mm feed through port holes (1 on LHS & 1 on RHS) with suitable material to prevent leakages during altitude/humidity/temperature tests shall be provided
29	Safety features	1. Max temperature cut off (automatic) digital safety controller with visual and audio alarm 2. Main door open cut off limit switch 3. Audio & Visual Alarm 4. Sensors to monitor the suction and discharge pressures of the compressor. These pressure value has to be displayed in the controller and user shall be able to get the logged data for the same High pressure and low pressure mechanical cut-out switches should be provided for the compressors. These cut-outs are factory set and shall be manually reset. Miniature circuit breakers shall be used for the protection of the motors of the compressor and the air circulation system from over current conditions, also the control circuit and heaters 5. Emergency Stop with Alarm
30	Provision for DUT placement inside the chamber	1. The vendor shall provide M10 Thread holes on the chamber floor, distributed on a grid of 1000mm x1000mm. This will be used to bolt the specimen onto the chamber floor. Total 10Nos of M10 thread holes shall be provided 2. Vendor shall provide flexible Exhaust duct of 1 feet Diameter and 5m length with suitable capacity blower to exhaust the gases from the DUT. The Duct shall withstand a temperature of 500 Deg C.
31	Provision for Future retrofitting of the accessories	The vendor shall consider the provision for the future retrofitting of the following accessories in the chamber: 1) Gas Monitoring system with O₂, CO and H₂ sensors 2) Fire suppression system with FM 200 Clean agent for localized fire suppression inside the chamber for an area of 600mmx600mm at the centre of the

		chamber 3) Fresh Air exchange system
32	Calibration	The supplier shall provide certificate of calibration, certificate of conformance traceable to international standards along with the supplied item. Calibration certificate shall be traceable to NABL labs. The calibration certificate shall be valid for 1 year
33	Chiller for the chamber	Chamber shall be provided with a suitable chiller for its operation. The pipelining distance between the chiller and the chamber shall be 5m. Chiller and the pipelining to connect the chamber to the chiller in vendor's scope
34	Utility information	Vendor to provide information regarding the utility requirement and electrical requirements that has to be arranged at the site for the installation of the offered chamber
35	Training	Onsite training on equipment operation and preventive maintenance should be provided after installation of the equipment
36	Installation	The supplier shall be responsible for the installation, commissioning and handing over the Altitude chamber to end user.
37	Documentation	1.Hard and soft copies of operation manuals, trouble shooting (With electrical and mechanical diagrams), Maintenance manuals including OEM's manual in English language should be provided along with service log book, drawing and test reports. 2. Calibration certificate, warranty certificate.
38	Sufficiency clause	The supplier as a part of this contract shall ensure completeness of the total system for installation and operation as per the above specifications for both hardware and software. The supplier shall ensure that all the necessary items for this total turnkey project are supplied and installation, commissioning of the system is ensured as per the stipulated delivery schedule
39	Delivery period	Shall be within 18 week from the date of P.O

Section 5- Technical Bid

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

**The Chairman,
Department of Aerospace Engineering,
Kind Attn: Prof Suresh Sundaram
Indian Institute of Science, Bengaluru - 560012, Karnataka, India.**

*Direct all questions concerning the acquisition to addresses to **Prof. Suresh Sundaram** at:
vssuresh@iisc.ac.in OR airl.aero@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

S No	Item	Details
1	Name of the bidder	
2	Nature of Bidder (Attach an 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	Email ID	
7	Website	
8	Contact person- Name and Designation	
9	Telephone No	
10	PAN No. (attach copy) For Indian Vendor only	
11	GST No. (attach copy) For Indian Vendor only	

Signature of the bidder

Name

Designation, Seal

Date

Annexure-2: Declaration regarding experience

To,

The Chairman,
Department of Aerospace Engineering,
Kind Attn: Prof Suresh Sundaram
Indian Institute of Science,
Bengaluru - 560012, Karnataka, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Dear Sir/Madam,

I've carefully reviewed the Terms & Conditions in the above-referred tender. I hereby declare that my company/firm has ----- years of experience in supplying and installing the proposed equipment.

(Signature of the Bidder)

Printed Name

Designation, Seal

Date:

Annexure-3: Declaration regarding track record

To,

The Chairman,
Department of Aerospace Engineering,
Kind Attn: Prof Suresh Sundaram
Indian Institute of Science,
Bengaluru - 560012, Karnataka, India

Ref: Tender No: XXXXXXXX

Dated: XXXXX

Dear Sir/Madam,

I've carefully reviewed the Terms & Conditions 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 a competent officer in my company/firm to make this declaration.

Or

I declare the following

S 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 the 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 Chairman,
Department of Aerospace Engineering,
Kind Attn: Prof Suresh Sundaram
Indian Institute of Science,
Bengaluru - 560012, Karnataka, India

Ref: Tender No: XXXXXX

Dated: XXXX

Dear Sir/Madam,

I've carefully reviewed the Terms & Conditions 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 the technical bid.
3. Bidders should clearly indicate compliance or non-compliance with the technical specifications provided in the tender document.

Annexure 6 – Support Certification

Declaration for instrument support

The Chairman,
Department of Aerospace Engineering,
Kind Attn: Prof Suresh Sundaram
Indian Institute of Science,
Bengaluru - 560012, Karnataka, India

Ref: Tender No: XXXXXX

Dated: XXXX

Dear Sir/Madam,

I've carefully reviewed the Terms & Conditions mentioned in the above-referred tender document. I declare that the model quoted has not been discontinued by our organization and the repair parts will be available for at least another ten years. 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:

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				
1a	...(details of essential items)				
1b	...				
2	Optional items noted in the technical specifications				
2a	...(details of Optional items)				
2b	...				
3	Accessories for operation and installation				
4	All Consumables, spares and software to be supplied locally				
5	Warranty (1 year)				
6	Cost of Insurance and freight				
7	CIP/CIF/FOR IISc, Bengaluru				

Any additional items

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

Addressed to

The Chairman,
Department of Aerospace Engineering,
Kind Attn: Prof Suresh Sundaram
Indian Institute of Science,
Bengaluru - 560012, Karnataka, India

Section 7 – Checklist

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

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

A. 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
- f. Annexure 6: Support Certification

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

B. Sealed Envelope “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.