



IIITDM
KANCHEEPURAM

TENDER NOTICE FOR PROCUREMENT

Tender Enquiry No: **IIITDMK/24-25/SP/DTTMS/015 Dt09/09/24**



Tender (E-Procurement Mode)

For

**Supply and Installation of Digital Twin of
Thermal Management System for Electric Vehicle**



Tender Enquiry No: **IIITDMK/24-25/SP/DTTMS/015 Dt09/09/24**

Notice Inviting E-Tender (E-Procurement Mode)

Date: 09.09.2024

IIITDM Kancheepuram is intent to procure in E-Procurement of the articles mentioned below as per the terms and conditions attached. Please submit your bid documents on <https://eprocure.gov.in/eprocure/app> as per the due date and time.

Item	:	Supply and Installation of Digital Twin of Thermal Management System for Electric Vehicle (Specification/Quantity details enclosed as Annexure-1)
Tender Enquiry No	:	IIITDMK/24-25/SP/DTTMS/015 Dt09/09/24
EMD	:	Payment proof for EMD of Rs.1,05,000/- or a valid MSME Registration Certificate for EMD exemption must be attached.

CRITICAL DATE SHEET

STAGE	DATE & TIME
Bid Submission End Date & Time	14 th October 2024 - 15:00 HRS
Bid Opening Date & Time	15 th October 2024 - 15:30 HRS

NOTE:

- The bidder should be a Class-I / Class-II Local Supplier meeting the requirement as per the Order No. P-45021/2/2017-PP (BE-II) issued by the Public Procurement Section, DPIIT, Ministry of Commerce and Industry, GOI dated 16-09-2020.**
- Bidders other than Class-I / Class-II Local Suppliers will not be considered and bids will be rejected outright.**

Important:

All communications are to be addressed to in the name of The Registrar, IIITD&M Kancheepuram only and not in the name of any officer and mails has to be sent to official purchase email id purchase@iiitdm.ac.in



Terms and Conditions

1. The Bidders are requested to give detailed tender in two bid format.

Bid-I : **Technical Bid**
Bid-II : **Commercial Bid**

2. The tender document can be downloaded from the CPPP Portal <https://eprocure.gov.in/eprocure/app> . The duly filled tenders should be submitted **on or before due date 15.00 HRS, 14th October 2024**. Extension of due date will not be entertained. The instruction regarding e-bidding is enclosed.

3. Tenders submitted without following the two bid offer system will summarily be rejected.

4. Bid -1: Technical Bid

The online Technical bids should be uploaded containing the scanned copy of the following documents in (.pdf file)

- I. The technical bid compliance sheet & Eligibility Criteria (**Annexure-1**)
- II. Payment proof for EMD of **Rs.1,05,000/-** or valid MSME Registration Certificate for EMD exemption (**Annexure-2**).
- III. Declaration of Local Content (**Annexure-3**)
- IV. Authorization Letter from OEM (**As Annexure-4**)
- V. Experience Certificate: Should have Supplied Two similar equipment to reputed organizations/ research institutions/ Universities etc. on or after 1/1/2018 (PO copies to be enclosed) (**As Annexure -5**)
- VI. Item Description Leaflet. (**Annexure-6**)
- VII. Bids should have a validity of **90 days**. The technical offer should not contain any information on price.

Important:

The Technical bid consisting of all annexures and other documents should be serially numbered and to be uploaded as a single pdf file and the page number details has to be furnished in the compliance sheet. The total number of pages uploaded to be mentioned in the relevant column.

Earnest Money Deposit:

- Bidders shall Deposit EMD in the following bank. The amount must be through online mode and it shall be received on or before the last date and time of bid submission and the payment proof of EMD shall be attached along with the technical bid. No other mode of payment is accepted.

Steps for submission of EMD through SBI E'Collect.

- Go to link - <https://www.onlinesbi.sbi/sbicollect/icollecthome.htm>
- Please select category as "Educational Institutions"
- Please select "IIITDM – KANCHEEPURAM A/C" from drop down list
- Please select "Earnest Money Deposit (EMD)" from Payment Category drop down list
- Kindly fill all tender details, contact details, EMD amount and make payment.
- After successful payment, the payment proof of EMD shall be attached along with the technical bid.



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- In the case of payment failure/ mismatch of particulars leads to cancellation of bid.
- For the successful bidder, the EMD will be retained/ adjusted against the security deposit.
- For the unsuccessful bidders, EMD amount will be refunded within 30 days from the date of issue of work order.
- The bidder shall enclose cancelled cheque/bank details to refund the EMD amount in case of unsuccessful bids.
- EMD shall be forfeited if any tenderer withdraws their offer within the bid validity period.
- **EMD Exemption:** Vendors registered under ‘**Micro & Small Enterprises Act**’ (MSE) are exempted from submission of EMD. Exempted bidders should upload a valid certificate issued by the Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organisation or the concerned Ministry or Department along with Bid document.

5. Bid-2: Commercial Bid / Price

- i. **The Institute is exempted from custom duty (as applicable to Research Institutes/University) vide Custom notification no. 51/96 dt 23.07.1996 based on the DSIR notification in this regard.**
- ii. The Price may be quoted in INR only.
- iii. The price quoted should be for FOR Destination at IIITD&M Kancheepuram, Melakkottaiyur, Off Vandalur-Kelambakkam Road, Chennai – 600 127.
- iv. The packing, forwarding, freight, insurance and commissioning charges, if any extra may be quoted separately in commercial bid.
- v. This should contain only the price information along with commercial terms & conditions.
- vi. Submission of commercial bids by any other means shall not be accepted by the Institute in any circumstances.
- vii. Online submission of the bid will not be permitted on the portal after expiry of submission time and the bidder shall not be permitted to submit the same by any other mode.
- viii. **The Institute is Government Funded Educational Institution offering UG/PG and PhD programmes. The Item is required for student laboratory purpose and prices may be quoted at applicable “Academic Pricing”.**

6. Technical Evaluation

All the technical aspects of the bids will be evaluated by a committee constituted by the Director. Further, the institute may verify from the end users specified in the technical bid about the execution and satisfactory functioning of the item quoted if required.

7. Opening of Commercial Bids

IIITD&M Kancheepuram will open commercial bids of only the shortlisted bidders after technical evaluation.

8. Make in India Policy

1. This Institute is following and will abide with the Public Procurement (Preference to Make in India), Order 2017 issued from time to time. The Institute will award the Contract to the Bidder whose bid has been determined to be substantially responsive as per the Order No.



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P-45021/2/2017-PP(BE-II) dated 16- 09-2020 from Department for Promotion of Industry and Internal Trade (Public Procurement Section), Ministry of Commerce and Industry, Govt. of India.

2. The bidder should be a Class-I / Class-II Local Supplier meeting the requirement of minimum 20% Local Content in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP(BE-II) dated 16-09-2020.
 - i. Class I local supplier – has local content equal to more than 50%
 - ii. Class II local supplier – has local content 20% to less than 50%
3. Further among all technically qualified bids during the price evaluation the lowest bid will be termed as L1. If L1 is Class I local supplier the contract will be awarded to L1. If L1 is not Class I Local supplier the lowest bidder among the class I local supplier will be invited to match the L1 price subject to class I local supplier quoted price falling within the margin of purchase preference and the contract shall be awarded to such class I local supplier subject to match the L1 price. In case the lowest eligible class I supplier fails to match the L1 price, the class I local supplier with next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and the contract shall be awarded accordingly. In case none of the class I local supplier within the margin of purchase preference matches the L1 price the contract shall be awarded to the L1 bidder (Class II Local supplier). Class II Local supplier will not get any purchase preference.
4. The margin of purchase preference for Class I local supplier is 20% from L1 price (without tax).

9. **Delivery Period / Timelines**

The deliveries and installation must be completed **within 08 weeks** from the date of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet this expectation, as this is linked to student's Labs / classes.

10. **Supply & services**

- i) The items covered by this document is required to be supplied and installed at **Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram, Off Vandalur-Kelambakkam Road, Melakkottaiyur, Chennai – 600 127, Tamil Nadu.**
- ii) IIITD&M Kancheepuram will not provide any accommodation / transportation for the engineers / representatives for attending installation, commissioning and demonstration work. It is the absolute responsibility of the principal supplier / agent to make their own arrangements.

11. **Restriction on Purchase on Grounds of Defense of India**

The Institute follows Ministry of Finance and Department of Expenditure OM No.6/18/2019-PPD dated 23rd July 2020 and subsequent order dated 23rd July 2020 which are binding and the evaluation will be done accordingly.



12. Installation

- i) Bidder shall be responsible for installation / demonstration as applicable and for after sales service during the warranty and thereafter.
- ii) Installation and demonstration to be arranged by the supplier free of cost and the same is to be done within 15 days of the arrival of the equipment at site.

13. Warranty / Support

- i) The items supplied shall carry the warranty as per the requirement mentioned in the technical specification.
- ii) The defects, if any, during the guarantee / warranty period are to be rectified free of charge by arranging free replacement wherever necessary.

14. Indemnity

The vendor shall indemnify, protect and save IITD&M Kancheepuram against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc., or such other statutory infringements in respect of all the items supplied by them.

15. Freight and Insurance

The items to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at IITD&M Kancheepuram site.

16. Payment

100% payment after delivery, installation and acceptance by IITD&M on submission of Bank Guarantee for an equivalent value of 3% of PO value valid till warranty period plus 2 months

17. Penalty for delayed services / LD

- i) As time is the essence of the contract, delivery period mentioned in the purchase order should be strictly adhered to. Otherwise LD clause will be applied / enforced.
- ii) If the supplier fails to supply, and fix the item as per specifications mentioned in the order within the due date, the supplier is liable to pay liquidated damages of 1% of order value for delay of every week or part thereof subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.
- iii) IITD&M Kancheepuram reserves the right to cancel the order in case the delay is more than 04 weeks and the contractor is not eligible for any damage from the Institute and contractor will forfeit his claim for EMD.

18. Jurisdiction

The disputes, legal matters, court issues, if any, shall be subject to Courts in the district of Chengalpattu Jurisdiction only.



19. Force Majeure

- a) IIITD&M Kancheepuram may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that the delay, in performance or other failure to perform its obligations under the contract, is the result of a force majeure.
- b) If the due date of submission of tender / tender opening is declared a holiday for the Institute, the due date for submission of tender / tender opening will be extended to same time on next working day.

20. Arbitration

All disputes of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc., shall be referred by either party (IIITD&M Kancheepuram or the bidder) after issuance of 30 days notice in writing to the other party clearly mentioning the nature of dispute and will be referred to the arbitrator to be nominated by Director, IIITD&M Kancheepuram, India. The Venue for arbitration shall be Chennai, India.

21. Acceptance of the terms and conditions of tender document

The bidders has to accept all the terms and conditions of this tender document and it is made known that the bidders quoting for this tender had impliedly accepted the terms and conditions of this tender.

22. Interpretation of the clauses in the Tender Document

In case of any ambiguity / dispute in the interpretation of any of the clause in this tender document, interpretation of Director, IIITD&M Kancheepuram shall be final and binding on all parties. The IIITD&M Kancheepuram reserves the right to accept the offer in full or in parts or reject the offer summarily or partly without assigning any reasons.

23. Integrity Clause

No official of a procuring entity or a bidder shall act in contravention of the codes which includes prohibition of making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process.

24. The competent authority reserves the right to either accept or reject the tender without assigning any reason.

कुलसचिव / Registrar
IIITD&M Kancheepuram



ANNEXURE-1

TECHNICAL BID

Technical Compliance Sheet (to be filled and uploaded)

Name of the Agency					
Office Address:					
Name and Mobile No. of contact person:					
ITEM: Supply and Installation of Digital Twin of Thermal Management System for Electric Vehicle (QTY: 01 No)					
SI No	Parameter	Technical Specification	Compliance Yes/No/N.A.	Deviation (If Any)	Remarks
1.	Type	Floor Standing			
2.	Thermal imager Window size	Minimum 2 inch with mounting			
3.	Test Chamber Material	MCC Panel			
4.	Dimensions	1 m x 1 m x 1 m			
5.	Handling battery	Guides for Battery Rolling into the chamber			
6.	Cable connections in chamber	Cables should be provided to connect Motor or charger Wiring connections from and to the controller			
7.	Mounting Provisions	HMI device on the front side of the chamber			
8.	Chamber Temperature Thermocouples	K-Type Range: 0 to 500 °C Accuracy: +/- 2.5 deg C			
9.	Control	Electronically controlled Air-cooling System			
10.	Direction of flow and control	Two Opposite sides Forced Air cooling with Low Speed and High Speed			
11.	Ducts	Flexible Air ducts for Adjust the air flow position to the Test System with Vents for			



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		air flow			
12.	Fan Assembly	Cooling fan (300 W, 12 V) assembly with protective cover on two opposite sides of chamber			
13.	Control	Electronically controlled Air Compressor with ON/OFF AC Compressor			
14.	Refrigerant	R134a refrigerant			
15.	Tonnage of refrigeration (TR)	Minimum 1 Ton			
16.	Duct	Air ducting system from back side of the test chamber			
17.	Resolution	120 x 90			
18.	Temperature range	-20 °C to 400 °C with $\pm 2^{\circ}\text{C}$ or 2% @ $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$, whichever is greater			
19.	IR frequency band	7.5~14 μm (long wave)			
20.	Frame rate	9 Hz			
21.	Thermal Sensitivity	NETD <60 mk			
22.	Field of View	(H x V): 50 ° X 37.5 °			
23.	Spatial resolution	7.6 mrad			
24.	Minimum focusing distance	0.5 m			
25.	Image mode	Thermal image, Visible image			
26.	File format	jpg			
27.	Internal Storage	14 GB			
28.	Alarm	Maximum/Minimum temperature alarm			
29.	Suitability	IP65 rated for dust and water proof, 2m drop test, suitable for harsh industrial environments			
30.	Pointer	Quickly locate the measured target with built-in laser pointer			

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31.	Charging	2 hours charging time, 5 hours battery life			
32.	Processor	MATLAB Simulink Programmable			
33.	Operating Voltage	10 to 32V			
34.	Touchscreen	Minimum 7" Touchscreen LCD Color Display with Data-logging capability and sunlight readable			
35.	Processor	454 MHz, Freescale iMX 286			
36.	Memory	128 MB Flash 128 MB RAM			
37.	Inputs	Minimum 15 inputs – Atleast 3 Digital Inputs and 12 Analog inputs			
38.	Outputs	Minimum 8 Outputs with Relay and PWM Capability			
39.	Channels	Minimum 2 CAN Channels, 1 RS-232 and 1 USB 2.0, Data transfer to host computer Via Wi-Fi			
40.	Accessories	Siren and Red Light			
41.	Implementation	Software should be compatible with MATLAB Simulink; ECU Calibration Software; CAN Debugging Software			
42.	Thermal Management Control	<ul style="list-style-type: none"> Control Electric fans 12V – 2 speed fans – 2 qty based on the temperature sensors data Control Electric AC Compressor – ON/OFF based on the battery temperature Trigger Warning System when temperatures go beyond acceptable range. Control the Siren and warning light 			
43.	Display screens for Battery Parameters	Display screen 1: Battery Parameters Display screen 2: Chamber Parameters Display Screen 3: Errors Display Screen 4: Warning System Parameters Display Screen 5: Data Logging screen			
44.	Voltage	Upto 100 V and Current upto 150 amps			
45.	Mode of test	Constant current (CC), Constant Voltage (CV), constant Resistance (CR), Constant			



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		Power (CP), short circuit simulation, overcurrent protection test, sequence test			
46.	Protection	overcurrent, overvoltage, over temperature, reverse connection			
47.	Communication interfaces	USB			
48.	Thermal paste preparation	Vacuum Stirrer with Two 500 ml made of SS316 and 1 kg ball mill			
49.	Thermal paste ejector	100 ml Syringe pump - 2 Nos, linear load 1 to 10 kg			
50.	Thermal paste press	Manual cold roll press – 1 No			
51.	Thermal paste laminator	Roll to Roll laminator, Min 150 mm width with IR heater of Min 200°C			
52.	Warranty	03 Years (Comprehensive Onsite Warranty)			

Note: The total cost will be taken into account for arriving L-1.



ELIGIBILITY CRITERIA

Sl.No	Description	Compliance Yes/No/N.A.	Page No.
1.	Technical Sheet	The technical bid compliance sheet & Eligibility Criteria (Annexure-1)	
2.	EMD	Payment proof for EMD of Rs.1,05,000/- or valid MSME Registration Certificate for EMD exemption must be attached. (Annexure-2)	
3.	Declaration of Local Content	Declaration of Local Content (Annexure-3)	
4.	Authorization Letter from OEM	Authorization Letter from OEM (As Annexure-4)	
5.	Experience Certificate	Experience Certificate: Should have Supplied Two similar equipment to reputed organizations/ research institutions/ Universities etc. on or after 1/1/2018 (PO copies to be enclosed) (As Annexure -5)	
6.	Leaflet	Product Leaflet (Annexure-6)	
7.	Bid Validity	90 Days	
8.	Total Number of pages uploaded in the technical bid		

Please Enclose Relevant Document Only.



ANNEXURE-3

**SELF-CERTIFICATION REGARDING LOCAL CONTENT (LC) FOR GOODS,
SERVICES OR WORKS ISSUED BY OEM UNDER PREFERENCE TO MAKE IN INDIA
ORDER CERTIFICATE FOR CLASS-I or CLASS- II LOCAL SUPPLIER**

Tender No.: _____; Date: _____

Date: [insert date (as day, month and year) of Bid Submission]

We hereby declare that the items under our Quotation No. _____ in the brand name of _____ & (equipment details) _____ are manufactured at (complete address) _____.

Hence, it contains the local content of: _____% as defined under the Make in India policy of the Department for Promotion of Industry & Internal Trade, DPIIT, Govt. of India.

The value addition for the local content is done at (Name of the place & address) _____.

The Country of Origin of the item(s) is/are _____.

Further, it is declared that finished Equipment is not imported and local Content not calculated on the basis of Transportation, Insurance, Installation, Commissioning, and Training & after sales services. But Equipment is Manufactured/Assembled in India at out Factory address _____.

The false declaration will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules of which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under Law.

We also declare that the goods are not manufactured in a country that shares its land border with India nor the beneficial owner belong to those country.

We shall be held responsible if the certificate is found to be incorrect.

Seal and Signature of OEM & Bidder