

	<p style="text-align: center;">INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036</p> <p style="text-align: center;">Telephone: (044) 2257 4071 E-mail: skm@iitm.ac.in</p>	
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Dr. Varadhan SKM
Project Coordinator

Ref: APM/SKMV/2018/1057/SPIX
Dated: 31.01.2019

Limited Tender No: APM/ APM/SKMV/2018/1057/SPIX

Due Date: 14.02.2019, 3:00pm

Pre-Bid meeting: - Not required.

Technical Bid opening meeting on Due Date: 14.02.2019, 3:30pm

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, offers are invited for the supply of “**Electromagnetic Tracking sensors and Signal Processing Unit**” conforming to the specifications given in **Annexure-I**

Instructions to the Bidder

- I. **Preparation of Bids:** - The Limited tenders should be submitted under two-bid system (i.e.) Technical bid and Financial bid.
- II. **Delivery of the tender:** - The tender shall be sent to the below-mentioned addresses either by post or by courier so as to reach the following address before the due date and time specified in our Schedule:
**Department Stores,
Dr. Varadhan SKM
Department of Applied Mechanics,
IIT Madras
Chennai - 600 036.**
- III. **Opening of the tender:** - The offer/Bids will be opened by a committee duly constituted for this purpose. The technical bids will be opened first and it will be examined by a technical committee which will decide the suitability of the bid as per our specifications and requirements. The bidders will be invited for opening of Technical bids. In respect of opening of financial bid, those bidders who are technically qualified only will be called for.
- IV. **Price:** - The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges to **Department of Applied Mechanics.**

The offer/bid should be exclusive of taxes and duties. The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for concessional GST and relevant certificate will be issued.

In case of import supply, the price should be quoted without custom duty. IIT Madras is exempted from levy of IGST on Imports and eligible for concessional custom duty (not exceeding 5%) and the price should be quoted on EX-WORKS and CIP basis indicating the mode of shipment.

- V. **Agency Commission:** - Agency commission, if any, will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances. The details should be explicitly shown in Tender even in the case of 'Nil' commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent. The foreign Principal should indicate about the percentage of payment and it should be included in the originally quoted basic price, if any.
- VI. **Terms of Delivery:** - The item should be supplied to our Departments as per Purchase Order. In case of import supply, the item should be delivered at the cost of the supplier to our Institution. The Installation/Commissioning should be completed as specified in our important conditions.
- VII. **Technical Bid Opening:** The technical bid will be opened on **14.02.2019, 3:30pm** at the Department of Applied Mechanics, IIT Madras and the financial bids of those tenders who are technically qualified will be opened at a later date under intimation to them.
- VIII. IIT Madras reserves the full right to accept / reject any tender at stage without assigning any reason.

Yours sincerely,

Dr. Varadhan SKM
Department of Applied Mechanics,
IIT Madras
Chennai - 600 036.

SCHEDULE

Important Conditions of the tender

1. The due date for the submission of the tender is **14.02.2019, 3:00pm.**
The offers / bids should be submitted in two bids systems (i.e.) Technical bid and financial bid. The Technical bid should consist of all technical details / specifications only. The Financial bid should indicate item-wise price for each item and it should contain all Commercial Terms and Conditions including Taxes, transportation, packing & forwarding, installation, guarantee, payment terms, pricing terms etc. The Technical bid and financial bid should be put in separate covers and sealed. Both the sealed covers should be put in a bigger cover. The Limited Tender for supply of “**Electromagnetic Tracking sensors and Signal Processing Unit**” should be written on the left side of the Outer bigger cover and sealed.
2. If an Indian agent is involved, the following documents must be enclosed:
Foreign principal's proforma invoice indicating the commission payable to the Indian Agent and nature of after-sales service to be rendered by the Indian Agent.
 - ✓ Copy of the agency agreement with the foreign principal and the precise relationship between them and their mutual interest in the business.
3. The offer/bids should be sent only for a machine that is available in the market and supplied to a number of customers. A list of customers in India and abroad with details must accompany the quotations. Quotations for a prototype machine will not be accepted.
4. Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the Technical bid
5. Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal.
6. **Validity:** Validity of Quotation not less than 60 days from the due date of tender.
7. **Delivery Schedule:** - The tenderer should indicate clearly the time required for delivery of the item. In case there is any deviation in the delivery schedule, liquidated damages clause will be enforced or penalty for the delayed supply period will be levied.
8. **Risk Purchase Clause:** - In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from other sources on the total risk of the supplier under risk purchase clause.
9. **Payment:** -
 - i. No Advance payment will be made for Indigenous purchase. However 90% Payment against Delivery and 10% after installation are agreed to wherever the installation is involved. In case of import supplies the payment will be made only through 100% Letter of Credit i.e. (90% payment will be released against shipping documents and 10% after successful installation wherever the installation is being done).

- ii. **Advance Payment:** - No advance payment is generally admissible. In case of specific percentage of advance payment is required, the Foreign Vendor has to submit a Bank Guarantee equal to the amount of advance payment and it should be routed through the Beneficiary Bank to the end user Bank. Otherwise, the Indian Agent of the foreign vendor has to submit a Bank Guarantee through a Nationalized Bank of India.
- 10. **On-site Installation:** - The equipment or machinery has to be installed or commissioned by the successful bidder within 15 to 20 days from the date of receipt of the item at site of IIT Madras.
- 11. **Warranty/Guarantee:** - The offer should clearly specify the warranty or guarantee period for the machinery/equipment. Any extended warranty offered for the same has to be mentioned separately. (For more details please refer our Technical Specifications).
- 12. **Late offer:** - The offers received after the due date and time will not be considered. The Institute shall not be responsible for the late receipt of Tender on account of Postal, Courier or any other delay.
- 13. **Acceptance and Rejection:** - I.I.T. Madras has the right to accept the whole or any part of the Tender or portion of the quantity offered or reject it in full without assigning any reason.
- 14. **Do not quote the optional items or additional items unless otherwise mentioned in the Tender documents / Specifications.**
- 15. **Disputes and Jurisdiction:** -
 - a. **Settlement of Disputes:** Any dispute, controversy or claim arising out of or in connection with this PO including any question regarding its existence, validity, breach or termination, shall in the first instance be attempted to be resolved amicably by both the Parties. If attempts for such amicable resolution fails or no decision is reached within 30 days whichever is earlier, then such disputes shall be settled by arbitration in accordance with the Arbitration and Conciliation Act, 1996. Unless the Parties agree on a sole arbitrator, within 30 days from the receipt of a written request by one Party from the other Party to so agree, the arbitral panel shall comprise of three arbitrators. In that event, the supplier will nominate one arbitrator and the Project Coordinator of IITM shall nominate one arbitrator. The Dean IC&SR will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceedings shall be carried out in English language. The cost of arbitration and fees of the arbitrator(s) shall be shared equally by the Parties. The seat of arbitration shall be at IC&SR IIT Madras, Chennai..
 - b. **The Applicable Law:** This Purchase Order shall be construed, interpreted and governed by the Laws of India, Court at Chennai shall have exclusive jurisdiction subject to the arbitration clause.
 - c. 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 Chennai in Tamil Nadu.
- 16. All Amendments, time extension, clarifications etc., will be uploaded on the website only and will not be published in newspapers. Bidders should regularly visit the above website to keep

themselves updated. No extension in the bid due date/ time shall be considered on account of delay in receipt of any document by mail.

Acknowledgement: - It is hereby acknowledged that the tenderer has gone through all the conditions mentioned above and agrees to abide by them.

SIGNATURE OF TENDERER

ALONG WITH SEAL OF THE COMPANY WITH DATE

**Technical Specifications for procurement of calibration system
for data gloves (Electromagnetic Tracking sensors and Signal
Processing Unit)**

S.no	Technical Specification	Does your product meet the technical Specification (please tick your option)	If Yes, Mention the relevant Page. No in your Technical Literature.
1	The Electromagnetic tracking sensors (EMTS) must measure position/orientation in all three directions ("Six-Degree of freedom kinematic sensors").		
2	The maximum measurement uncertainty (due to non-linearity, cross-talk and hysteresis) must be lesser than 2 mm RMS for all X,Y,Z displacements and lesser than 0.50° RMS for all orientations (roll, pitch, yaw) at 30 cm from source/transmitter.		
3	Sensors must have a spatial resolution better than 0.015mm (15 microns) for X,Y,Z displacements at 30 cm from source/transmitter. (For example: A resolution of 0.012 mm is considered "better" than a resolution of 0.015 mm)		
4	The sensors must have a resolution better than 0.005° for roll, pitch and yaw at 30 cm from source/transmitter. (For example: A resolution of 0.004° is considered "better" than a resolution of 0.005°)		
5	EMTS should have update rate of greater than 50 Hz and should be adjustable based on the needs of the end-user (operator). Relevant technical literature containing details of how this adjustment can be made must be included		
6	The EMTS should have latency less than 20ms .		

S.no	Technical Specification	Does your product meet the technical Specification (please tick your option)	If Yes, Mention the relevant Page. No in your Technical Literature.
7	EMTS intended to buy should be capable of functioning independently without or less interference with other EMTS systems working in the same environment. The relevant details of how such interference affects performance must be included in technical bid.		
8	EMTS should have compatibility with the existing system in the lab (Polhemus Liberty system)		
9	EMTS should have compatibility with the latest computer interface like USB 2.0 or USB 3.0 and should also have provision for RS 232 communication.		
10	The software and drivers provided should support both windows and Linux based system.		
11	The GUI (user interface) provided must have different user specific/customizable options for viewing system (EMTS) setting parameters such as output formats, coordinate systems, filter options etc.		
12	The output formats should have user specific position selections in Cartesian coordinates, orientations in directional cosines, Euler angles, etc.		
13	EMTS should come with preprocessing (signal processing unit) for handling at least two sensor data (at least 2 sensors X 6 DOF).		

S.no	Technical Specification	Does your product meet the technical Specification (please tick your option)	If Yes, Mention the relevant Page. No in your Technical Literature.
14	The acquired data from the system should be in a format that can be used thereafter, for processing in Mat lab and LabVIEW.		
15	The SDK provided should be available to be further developed for 3D object rendering purpose which will be useful for on-line manipulation of visual feedback.		
16	The vendor must provide all assistance for using the sensors, such as provision of software (e.g. DLLs for easy LabVIEW and MatLab interfacing). All such relevant details must be included in the technical bid.		
17	Details of calibration options must be included in the technical bid.		
18	EMTS should come with inbuilt on-site calibration kit to cancel out the interference produced by the near-by object, earth magnetic field, and electrical wires in the room. This can be added as an add-on by the vendors		
19	The EMTS should be portable and should be easy to transport in future.		
20	Accessories like travel case and other maintenance accessories also to be included in the commercial bid.		
21	The technology preferred is Electromagnetic Tracking no other technology will be accepted.		