



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
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The Senior Manager (Project Purchase)

Date: 06.03.2024

Open Tender Reference No: MS/BOBY/163/2024/COMP SIMU

GEM NAR ID: GEM/GARPTS/06032024/ZTDEM QH0G627

Due Date/Time: 12.03.2024@ 3:00 PM

Dear Sir/Madam,

On behalf of the Indian Institute of Technology Madras, digitally signed online bids are invited in two bid system from Class-I local suppliers and Class II local suppliers, for the supply of: **“COMPREHENSIVE SIMULATION TRAINING CENTER”** Conforming to the specifications given in **Annexure -A.**

Tender Documents may be downloaded from Central Public Procurement Portal <https://etenders.gov.in/e procure/app>. Aspiring Bidders who have not enrolled / registered in e-procurement should enroll / register before participating through the website <https://etenders.gov.in/e procure/app>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at **“Help for Vendors”**. [Special Instructions to the Vendors / Bidders for the e-submission of the bids online through this eProcurement Portal”]

Bidders can access tender documents on the website (For searching in the NIC site, kindly go to Tender Search option and type ‘IIT Madras’. Thereafter, click on “GO” button to view all IIT Madras tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://etenders.gov.in/e procure/app> as per the schedule attached.

No manual bids will be accepted. All tender documents including Technical and Financial bids should be submitted in the E-procurement portal.

1)	Pre-bid Meeting Details	:	If required will be intimated
2)	ICSR Vendor Registration	:	<p><u>Vendor registration:</u> Vendor registration with IC&SR (IITM) is mandatory for bidders to participate in tenders.</p> <p>** <u>For Vendor Registration & Guidelines, Please follow the website :</u> https://icandsr.iitm.ac.in/vendorportal; Helpdesk: vendorhelpdesk@icsrpis.iitm.ac.in</p>

Last date for receipt of tender	:	12.03.2024@ 3:00 PM
Date & time of opening of tender	:	13.03.2024@ 3:00 PM

3. Instructions to the Bidder:

A)	Searching for tender documents	:	<ul style="list-style-type: none"> • There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal. • Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective “My Tender” folder. This would enable the CPP Portal to intimate the bidders through SMS / email in case there is any corrigendum issued to the tender document. • The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.
B)	Assistance to bidders	:	<ul style="list-style-type: none"> • Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender. • Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is [0120-4200462, 0120-4001002, 0120-4001005]
C)	Enrollment Process to Bidders	:	<p><u>REGISTRATION</u></p> <ul style="list-style-type: none"> • Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal URL:https://etenders.gov.in/eprocure/app by clicking on “Online Bidder Enrollment”. Enrollment on the CPP Portal is free of charge. • As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts. • Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal. • Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.) • Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse. • Bidder then may log in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken. • Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name

			<p>is a prerequisite for registration and participating in the bid submission activities through https://etenders.gov.in/eprocure/app</p> <ul style="list-style-type: none"> • Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site https://etenders.gov.in/eprocure/app under the “Information about DSC”.
D)	Preparation of bids	:	<ul style="list-style-type: none"> • Bidder should take into account any corrigendum published on the tender document before submitting their bids. • Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid. • Bidder, in advance, should prepare the bid documents to be submitted as indicated in the tender document / schedule and generally shall be in PDF / XLS formats as the case may be. Bid documents may be scanned with 100 dpi with black and white option. • To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, GSTIN Details, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Documents” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.
E)	Submission of bids	:	<ul style="list-style-type: none"> • Bidder should log into the site well in advance for bid submission so that he/she can upload the bid in time i.e. on or before the bid submission date and time. Bidder will be responsible for any delay due to other issues. • The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document. • Bidder has to select the bid security declaration. Otherwise, the tender will be summarily rejected. • A standard BOQ format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BOQ file, open it and complete the detail with their respective financial quotes and other details (such as name of the bidder). If the BOQ file is found to be modified by the bidder, the bid will be rejected. • The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

		<ul style="list-style-type: none"> • The Tender Inviting Authority (TIA) will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders due to local issues. • The uploaded tender documents become readable only after the tender opening by the authorized bid openers. • Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details. • Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet. • More information useful for submitting online bids on the CPP Portal may be obtained at: https://etenders.gov.in/e procure/app. • All tender documents including pre-qualification bid, Technical Bid & Financial Bid should be submitted separately in online CPP portal as per the specified format only. Right is reserved to ignore any tender which fails to comply with the above instructions. No manual bid submission will be entertained.
F)	Marking on Technical Bid	<ul style="list-style-type: none"> • The bidder eligibility criteria, technical specification and supply of item for this tender is given in Annexure A. • The Bidders shall go through the specification and submit the technical bid. • The Technical bid should be submitted in the proforma as per Annexure-B in pdf format only through online (e-tender). No manual submission of bid will be entertained. • The technical bid should have a page-wise heading as “Technical Bid” and page no. in all pages with seal and signature of authorized signatory. The total no. of pages should be mentioned at the last page of the documents. • The technical bid should consist of bidder eligibility criteria details and all technical details along with catalogue/ pamphlet which will give a detailed description of product with technical data sheet so that technical compliance can be verified.
G)	Marking on Price Bid	<ul style="list-style-type: none"> • Financial bid (BoQ) should be submitted in the prescribed proforma format as per Annexure-C in xls format through e-tender only. No manual or other form of submission of Financial Bid will be entertained

4)	<p>Preparation of Tender: The bidders should submit the bids in two bid system as detailed below.</p> <p>Bid I _Technical Bid</p> <p>The technical bid should consist of bidder eligibility criteria and technical specification compliance sheet as per the Technical Bid Proforma (Annexure-B).</p> <p>Bid II _Price Bid</p> <p>The price bid should be submitted in the Tabular format (BoQ) as per the Financial Bid Proforma (Annexure -C) uploaded in the e-Tender web site. The Quoted price should be for supply and installation of the item and inclusive of all cost and statutory levies at IIT Madras.</p>
5)	<p>Price:</p> <ol style="list-style-type: none"> a) The price should be quoted only in INR net per unit (after breakup) and must include all packing, transit insurance and delivery charges to The Department of Medical Science and Technology, IIT Madras. b) The rate quoted shall be all inclusive of all taxes and no extra payment will be made other than statutory revisions as per the terms and conditions stipulated in this contract document. c) The percentage of tax & duties should be clearly indicated separately. IIT Madras is eligible for custom duty at a concessional rate, i.e., 5.5%. Relevant certificates will be issued by IIT Madras wherever necessary. d) The offer/bids should be submitted through online only in two bid system i.e. Technical Bid and Financial Bid separately.
6)	<p>Tenderer shall submit along with this tender:</p> <ol style="list-style-type: none"> (i) Proof of having ISO or other equivalent certification given by appropriate authorities. (ii) Name and full address of the Banker and their swift code and PAN No. and GSTIN number. (iii) GST registration proof showing registration number, area of registration etc. (iv) All of your future correspondences including Invoices should bear the GST No. and Area Code.
7)	<p>Terms of Delivery:</p> <p>Supplier will be fully responsible for the safe carriage, Installation/Commissioning of goods up to The Department of Medical Science and Technology, IIT Madras, or named place as per PO, Insurance coverage will be in the scope of the supplier.</p> <p>The tenderer should indicate clearly the time required for delivery of the item (subject to the approval of the Exclusive Purchase Committee-IIT-Madras). 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.</p> <p>In the event of delay or non-supply of materials/execution of Contract beyond the date of delivery/completion of job. The penalty will be levied @1% per week of delay subject to a max of 10% of the value of purchase order and if the delay is more than accepted time frame by IIT M, the PO would be partially or fully cancelled and liquidated damages will be enforced accordingly.</p>
8)	<p>Period for which the offer will remain open:</p> <p>The offer shall remain valid for 120 days from the date of opening of the tender. However, the day up to which the offer is to remain valid being declared closed holiday for the Indian Institute of Technology Madras, the offer shall remain valid for acceptance till the next working day.</p>
9)	<p>EMD:</p> <p>The EMD of Rs.12,00,000 to be transferred to the account details mentioned in Annexure I and proof</p>

	<p>should be enclosed in the Technical Bid. Any offer not accompanied with the EMD shall be rejected summarily as non-responsive.</p> <p>As per rule no. 5.1.4 (vi) of the Manual of Procurement of Goods, no bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity. Withdrawal of a bid during this period will result in forfeiture of the bidder's bid security (EMD) and other sanctions.</p> <p>The Institute shall not be liable for payment of any interest on EMD.</p> <p>As per the Public Procurement Policy for MSEs, Order 2012 dated 25.03.2022, EMD is exempted for Micro and Small Enterprises (MSE) as defined in MSE Procurement Policy issued by the Department of Micro, Small and Medium Enterprises (MSME) and Startups as recognized by the Department of Industrial Policy & Promotion (DIPP). (MSE/MSME/DIPP PROOF should be enclosed in the cover containing the technical bid)</p>
10)	<p>Performance Security: -</p> <p>The successful bidder should submit Performance Security for an amount of 5% of the basic invoice value of the contract/supply. The Performance Security may be furnished in the form of an Insurance Surety Bond, Account Payee DD, FD Receipt in the name of "The Registrar, IIT Madras" from any scheduled commercial bank or Bank Guarantee from any scheduled commercial bank in India or online payment in an acceptable form. The performance security should be furnished within 14 days from the date of the purchase order.</p> <p>Performance Security in the form of Bank Guarantee: - In case the successful bidder wishes to submit Performance Security in the form of Bank Guarantee, the Bank Guarantee should be routed directly to IIT Madras from the Bank.</p> <p>The Performance Security Deposit should remain valid for a period of sixty days beyond the date of completion of all contractual obligations.</p>
11)	For the same tender, either the OEM or the authorized dealer/service provider can only quote. But both of them cannot quote separately for the same tender.
12)	The offers/bids should be submitted only for an item/Equipment of the exact standard that is acceptable to IIT Madras without Prejudice. The details of a list of customers in India for whom the item is already supplied with must accompany the quotations. Quotations for a prototype machine will not be accepted
13)	Original catalogue (not any photocopy) of the quoted model duly signed by the principals must accompany the quotation in the technical bid.
14)	Compliance or Confirmation report with reference to the specifications and other terms & conditions should also be obtained from the principal/OEM.
15)	<p>Risk Purchase Clause</p> <p>In the event of failure of contractual obligation during the schedule, the Office of Industrial Consultancy and Sponsored Research, Indian Institute of Technology Madras has all the right to engage other sources on the total risk of the sanctioned vendor under risk purchase clause.</p>
16)	<p>Payment:</p> <p>(i) As per GFR 2017 Terms: 90% Payment after supply and 10% after installation are agreed to wherever the installation is involved.</p> <p>(ii) Advance Payment: No advance payment is generally admissible. In case a specific percentage of advance payment (not more than 30%) is required, the Vendor has to submit a Bank Guarantee from a scheduled commercial bank in India equivalent to the amount of advance payment.</p>

17)	<p>On-site Installation:</p> <p>The equipment/item or Machinery has to be installed or commissioned by the successful bidder within the number of days (as prescribed by PI) from the date of receipt of the item at the site of IIT Madras.</p>
18)	<p>Warranty:</p> <p>The offer should clearly specify the warranty 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).</p> <p>** Note: PO which involves installation, warranty shall be applicable from date of installation.</p>
19)	<p>Acceptance and Rejection:</p> <p>Failure to comply with any of the instructions stated in this document or offering unsatisfactory explanations for non-compliance will likely to lead to rejection of offers.</p> <p>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.</p>
20)	<p>Debarment from Bidding:</p> <p>In case of breach of Terms & Conditions, Bidder may be suspended from being eligible for bidding in any contract with the IIT Madras up to 2 Years [as per Rule 151(iii) of GFR] from the date as fixed by IIT Madras.</p>
21)	<p>Disputes and Jurisdiction:</p> <p>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 an arbitrator. The Dean IC&SR will nominate the Presiding Arbitrator of the arbitral tribunal. The arbitration proceeding 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.</p> <p>a. The Applicable Law: The 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.</p> <p>b. 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.</p>
22)	<p>Force Majeure: The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.</p> <p>For purposes of this Clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.</p> <p>If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.</p>

23)	<p>Eligibility Criteria:</p> <ul style="list-style-type: none"> ➤ As per the Government of India Order, only “Class - I Local Suppliers” and “Class - II Local Suppliers” <u>can participate in this tender.</u> ➤ <u>Bidder should confirm their acceptance that they comply with the provisions with report to “Guidelines for eligibility of a bidder from a country which shares a land border with India as detailed at Annexure-E. The bidder should submit Certificate for “Bidder from/ Not from Country sharing Land border with India & Registration of Bidder with Competent Authority” as per Order of DoE F.No.6/18/2019-PPD dated 23.07.2020 and No.F.7/10/2021-PPD(1) dated 23.02.2023 and No.F.7/10/2021-PPD(1) dated 23.02.2023.</u>
24)	<p>Preference to “class I Local Suppliers”: preference will be given to “class 1 local suppliers” (subject to class -I local supplier’s quoted price falling within the margin of purchase preference) as per public procurement (preference to make in India) order 2017 .O.M No P- 45021/2/2017 – pp(BE - 11) dt 04/06/2020 subject to the conditions that the “class 1 Local Supplier” should agree to supply goods / provide service at L1 rate and furnish a certificate with the technical bid document that the goods/service provided by them consists local content equal to or more than 50%.(certificate from Chartered Accountant in case value of contract exceeds Rs 10 crore).</p> <ul style="list-style-type: none"> ➤ ‘Class - I local supplier’ means a supplier or service provider whose goods, services or works offered for procurement consists of local content equal to or more than 50% as defined under the above said order. Declaration to be provided as per Annexure-D per item/service/work. ➤ ‘Class - II local supplier’ means a supplier or service provider whose goods, services or works offered for procurement consists of local content equal to 20% but less than 50% as defined under the above said order. Declaration to be provided as per Annexure-D per item/service/work. ➤ ‘Margin of purchase preference’: - The margin of purchase preference shall be 20%. The Definition of the margin of purchase preference is defined in the Govt. of India Order No: P-45021/12/2017-PP (BE-II) Dt.4th June, 2020) Order 2017. As per the Government of India Order – “Margin of Purchase Preference” means the maximum extent to which the price quoted by a “Class-I local supplier” may be above the L1 for the purpose of purchase preference. <p>**Note: Local content percentage to be calculated in accordance with the definition provided at clause 2 of revised public procurement preference to Make in India Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P-45021/102/2019-BE-II-Part(1) (E-50310) Dt.4th March 2021</p>
25)	<p>Evaluation of Bids</p> <p>Bid evaluation will take place in two stages.</p> <p>Stage I Technical Bid evaluation</p> <p>All bids received within due date and time will be opened for technical evaluation as per scheduled time. All bidders who have fully complied with bidder eligibility criteria I, II and technical Specification (Annexure B) will only be considered for opening of financial bid.</p> <p>Stage II: Financial Bid Evaluation</p> <p>The Financial bid evaluation will be based on price quoted by the bidder. The rate quoted for COMPREHENSIVE SIMULATION TRAINING CENTER unit will alone be taken up for arrival of Lowest Bid (L1) value.</p>
26)	<p>In accordance to the Rule 173 of GFR,2017 and relevant provisions thereof in Procurement Manuals, 2022, IC&SR, IITM reserves the right to carry out the negotiation process through its purchase/technical committee with L1/H1 (as applicable) vendor to ensure price reasonability before final recommendation to the Competent Authority. The negotiation details, if any, on case-to-case basis shall be recorded in minutes of meetings suitably for records.</p>

27)	<p>Selection of successful bidder and Award of Order</p> <p>The order will be directly awarded to the technically qualified bidder as per the condition in para 3A of DIPP, MoCI Order No. 45021/2/2017-PP (BE II) dated 16th September 2020.</p>
28)	<p>All information including selection and rejection of technical or financial bids of the prospective bidders will be communicated through e-Tender portal. In terms of Rule 173(iv) of General Financial Rule 2017, the bidder shall be at liberty to question the bidding conditions, bidding process and/or rejection of bids.</p>
29)	<p>The tenderer shall certify that the tender document submitted by him / her are of the same replica of the tender document as published by IIT Madras and no corrections, additions and alterations made to the same. If any deviation found in the same at any stage and date, the bid / contract will be rejected / terminated and actions will be initiated as per the terms and conditions of the contract.</p>
30)	<p>Clarification to the queries and doubts raised by the bidders will be issued as a corrigendum/addendum in the e-tenders portal.</p>
31)	<p>In the e-tender process, participation of bidders after the due date is not possible. The eligible bidders can login to the e-Procurement portal to ascertain the tender status.</p>

ACKNOWLEDGEMENT

It is hereby acknowledged that I/We have gone through all the points listed under “Specification, Guidelines, Terms and Conditions” of tender document. I/We totally understand the terms and conditions and agree to abide by the same.

**SIGNATURE OF TENDERER ALONG WITH
SEAL OF THE COMPANY WITH DATE**

Bidder Eligibility Criteria and Technical Specification for COMPREHENSIVE SIMULATION TRAINING CENTER

Tender No. MS/BOBY/163/2024/COMPSIMU

Bidder Eligibility Criteria – I (Public Procurement – Preference to Make in India)

Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 and other subsequent orders issued therein (ANNEXURE – D)

Bidder Eligibility Criteria – II

1. Vendor Registration ID/Proof.
2. Land Border Certificate (ANNEXURE – E).
3. **OEM Certificate Form**-The Participating Bidder's firm shall be the Original Equipment Manufacturer (OEM) or OEM Certified authorized firm (ANNEXURE – F).
4. Non- Debarment Declaration (ANNEXURE – H).
5. Mandate Form (ANNEXURE – J)
6. EMD as per Tender, to be remitted in the account number as given in the (Annexure – I) or EMD is exempted for Micro and Small Enterprises (MSE) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) and Startups as recognized by Department of Industrial Policy & Promotion (DIPP). (MSE/MSME/DIPP PROOF should be enclosed in the cover containing technical bid).
7. The bidder must be authorized by manufacturer to participate in this tender. Authorization certificate should be attached.
8. Bidders can visit and inspect the site for simulation center design before quoting the tender.
9. The bidder/ OEM must provide performance certificate from two Institutes to certifying satisfactory performance in last 2 years of the above.
10. The bidder/ OEM must provide performance certificate from two Institutes to certify that they have Indian experience in handholding the trainers towards training on simulation and should have been functional for at least 2 years.
11. The bidder should provide 95% uptime warranty in any case, if any repair is needed it should be attended within 48 hours or Hospital will penalize as per the tender clause.
12. The Bidder must have service center in Chennai for maintenance works.

III. Technical Specification for COMPREHENSIVE SIMULATION TRAINING CENTER

S.no	Specification
	General Specifications
1.	Single vendor should quote all the below systems on turnkey basis.
2.	Comprehensive simulation lab must include the following.
	a) High fidelity adult patient simulator for cardio pulmonary with validated physiological modelling with hands-on practice using real clinical devices such as ventilator, Patient Monitor, Defibrillator used for biomedical research.

	b) Diagnostic and Interventional ultrasound Simulation training suite
	c) Advanced Surgical Simulation training for laparoscopy
3.	Trainings
	a) Trained & Certified Medical Simulation trainers accredited by those national/international universities having an experience of at least 3 to 5 years in the field of simulation will be enrolled for imparting training to appointed faculties by the institute. CV with certificate should be attached.
	b) They will be visiting the Centre as per the following schedule. ·During Installation- 5 days ·Post installation- 12 days in 2 years. ·IIT Madras will designate trainers to train their students on Simulation.
4.	Company should have enough spares bank locally to maintain the up time.
5.	A necessary three visit per year of company engineer is mandatory in warranty period apart from repair call for calibration. The visit must be registered in institute Logbook, verified by Central store in charge.
6.	Firm must quote cost of consumables (if any) separately.
7.	Comprehensive Warranty for all the mannequins is three years from the date of installation
8.	Firm must quote cost of AMC for further 3 years. Bidder will be responsible to inform the institute at least 6 months earlier for AMC.
9.	The whole work to be done under the monitoring of technical committee.
10.	An undertaking has to be given by supplier that the quoted simulator is of latest technology.

S.no	Specification
	Technical Specifications
A.	It should be an adult patient module with fully articulating legs and arms designed to deliver the most realistic training possible with diverse range of patient scenarios while using real clinical devices, in compliance with current guidelines, checklist and protocols.
	1. It should be provided with an extensive list of clinical presentations and features that will optimize simulation training scenarios with light sensitive pupils, bodily fluid excretion and life like skin.
	2. It should be based on wireless technology for a flexible and mobile configuration, so that it possible to conduct training for the entire rescue chain and allow training to include patient handover and emergency reporting.
	3. The system permits multi-media images, lab values, X-Rays, CT scans and USG video and image files to be inserted into simulations where it will be displayed on demand from simulation participants on the patient monitor.
	4. The simulator can produce and mimic tonic and clonic convulsion or seizures as per simulation facilitator demand or during a scenario automatically.
	5. It should be an integrated system that allows simulation of bleeding throughout the manikin wherein the vital signs automatically respond to bleeding and treatment.
	6. The simulator is capable of controlled and measurable urine output, and it can micturate with or without Foley catheterization.
	7. The simulator is capable of secreting simulated body fluids tears, cerebral spinal fluid, blood, sputum, as physiologically possible, from the Eyes and Ears, Forehead Diaphoresis.

	8. System Should have inbuilt Ultrasound Training System for RUSH, E-fast.
	9. The simulator system could be utilized as a geriatric patient with exact same features and capabilities.
	10. The manikin weight, unpacked and ready for use, does not exceed 125 pounds (40kg), thus permitting easy repositioning by average sized rescuers and learners
	11. Should have Integrated High Fidelity Lungs for Realistic Ventilation Management Training.
B.	A. Inbuilt Debriefing and Scenario
	1. For a naive participant enrolling into simulation-based methodology training the simulator should be able to operate on manual mode where all the features and clinical presentation is under faculty control as it helps to train with rapid cycle deliberate practice mode.
	2. For an experienced simulation-based participants, the simulator should have physiologically driven auto mode operation which permits the simulation scenario to proceed with limited operator interaction, once the scenario has started, each scenario in an auto mode is time bound and have interventional triggers for proceeding to next stage, here the simulator reacts to physiologically correct and incorrect amounts of medication. The auto mode scenarios also prompt the facilitator for greater engagement.
	3. The operating system controlling the simulator should have scenario writing and editing tool, which allows each instructor or user to specifically configure the simulator, make innumerable scenarios and edit existing scenarios as per the learning requirements of each batch or institution.
	4. The operating system can control multiple simulators and scenario from a single point.
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	<p>v) The system should detect proper head position.</p> <p>w) The system creates various grades for airway assessment as per Mallampati classification.</p> <p>x) The simulator should be able to create difficult airway situation like -</p> <ul style="list-style-type: none"> – Cannot intubate/Can ventilate. – Cannot intubate/Cannot ventilate. – Tongue edema with 2 levels. – Pharyngeal swelling with no or reduced vocal cords visibility. – Laryngospasms with no or reduced vocal cords visibility. – Decreased cervical range of motion is possible. – Trismus
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	<p>d) The system should provide following 30 clinical scenarios cases covering eFAST, RUSH and Critical Care scenarios.</p> <p>Trauma Care case scenario library:</p> <ol style="list-style-type: none"> i. Tension pneumothorax as in a Blunt Trauma ii. Hemopericardium as in Penetrating Trauma iii. Tension pneumothorax as in Penetrating Trauma iv. Hemoperitoneum as in Blunt Trauma v. Abnormal Mental Status as in Blunt Trauma vi. Hemoperitoneum and hemothorax both as in Blunt Trauma vii. Hemothorax as Penetrating Trauma viii. Hemoperitoneum as in Blunt Trauma ix. Hemoperitoneum & coagulopathy as in a Blunt Trauma x. False positive hemoperitoneum; liver cirrhosis and ascites complicated by acute gastrointestinal hemorrhage as in Blunt Trauma <p>Critical Care case scenario library:</p> <ol style="list-style-type: none"> i. Moderate hypothermia and hyperkalemia ii. Severe hypovolemia secondary to gastroenteritis iii. Severe sepsis complicated by deep vein thrombosis. iv. Severe sepsis with disruptive +/- hypovolemic shock v. Blunt trauma due to motor vehicle accident, smoke inhalation injury, including carbon monoxide toxicity. vi. Hemorrhagic shock secondary to ruptured abdominal aortic aneurysm. vii. Severe sepsis complicated by pericardial effusion. viii. Pneumonia-related severe sepsis, cardiomyopathy, and live first trimester intrauterine pregnancy. ix. Hemorrhagic shock secondary to blunt trauma. x. Pneumonia-related severe sepsis and disruptive +/- hypovolemic shock. <p>Cardiac Resuscitation case scenario library:</p> <ol style="list-style-type: none"> i. Pulseless electrical activity due to hyperkalemia. ii. Acute ascending aortic dissection; thoracic aortic aneurysm iii. Massive pulmonary embolus iv. Severe sepsis with pulmonary source infection v. Anaphylaxis vi. Cardiac syncope; hypertrophic cardiomyopathy vii. Cardia tamponade viii. Hypotension; dehydration; electrolyte imbalance ix. Tension pneumothorax x. Acute coronary syndrome
F.	Mechanical Ventilation
	<ul style="list-style-type: none"> ● The lung simulator should allow teaching mechanical ventilation.
	<ul style="list-style-type: none"> ● Should able to Manage ventilation of a patient with normal and abnormal lung mechanics and other respiratory conditions.
	<ul style="list-style-type: none"> ● The simulator should allow practicing various modes of mechanical ventilation.
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	Products features –

	<ul style="list-style-type: none"> ● Should be able to create obstructive lung conditions with the facility to adjust lung resistance both bilateral and unilateral lungs.
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	<ul style="list-style-type: none"> ● Should have facility to adjust lungs resistance and compliance electronically in a minimal scale to wide range e.g. Compliance to 0.5 to 150 mL/cmH20 or above, Resistance to be 10 to 100 cmH20/L/s or above.
	<ul style="list-style-type: none"> ● Should be able to create a spontaneously breathing lung with adjustable respiratory rate and patient effort.
	<ul style="list-style-type: none"> ● Should be able to adjust spontaneous breath rate from 0-120 and above.
	<ul style="list-style-type: none"> ● Should be able to set simulate spontaneous control of breath timing (I: E) ratio.
	<ul style="list-style-type: none"> ● Should be able to conduct advanced ventilator management scenarios such as patient-ventilator desynchrony, weaning trials, and waveform analysis.
	<ul style="list-style-type: none"> ● Should be compactable to works with all modes of ventilation including Pressure/Volume Control, Pressure Support, APRV, PAV, HFOV, NIV
	<ul style="list-style-type: none"> ● Should demonstrate the treatment effects of PEEP at any clinically relevant setting including values > 20 cmH20.
	<ul style="list-style-type: none"> ● Should be able to easily activate pre-programmed respiratory conditions with variable levels of severity e.g. Normal, Asthma, ARDS, Interstitial Lung Disease (ILD), and COPD
	<ul style="list-style-type: none"> ● Should have operating system with graphical user interface with reference scalar waveform for the appropriate settings.
G.	Cardiac
	a) The operating system should have an extensive ECG library with rates ranging from 0 to 220 as per the selected rhythm.
	b) Heart sounds can be auscultated at 4 anterior locations for aortic, pulmonic, mitral & tricuspid sounds. <ul style="list-style-type: none"> - Normal - Aortic stenosis - Austin Flint murmur - Friction rub - Holosystolic murmur - Mitral valve prolapses - Systolic murmur - Diastolic murmur - OS70 - Stills murmur - VSD - Atrial septal defect - Pulmonary stenosis - Early systolic murmur - Gallop - Continuous murmur - Absent cardiac sound
	c) It's possible to attach a 4 lead ECG machine or with realistic patient monitor.
	d) It should be possible for a 12-lead dynamic ECG capture.

	e) Defibrillation and cardioversion are possible with pads and paddles without any accessories.
	f) Pacing and capture are also possible with a real defibrillator.
	Circulation
	a) Blood pressure is measurable by automated NIBP Monitor, bilaterally.
	b) Return to flow blood pressure measurement is also possible.
	c) Bilateral Pulse palpation at Carotid, femoral, brachial, radial, dorsalis pedis, popliteal and posterior tibialis pulses and should be synchronized with ECG.
	d) Pulse strength should be coupled with blood pressure for realistic palpation.
	e) Pulse Palpation are detected and logged in the system.
	Vascular Access
	a) It should have a bilateral preported IV access in the cubital fossae.
	b) It should have both humerus IO access bilaterally and tibial Intraosseous access.
	c) it should have bilateral Intramuscular access at deltoid and gluteal regions.
	CPR
	a) It should be CPR compliant with AHA 2020 Guidelines.
	b) CPR compressions should generate palpable pulses.
	c) Blood pressure waveform artifacts should be reflected on ECG.
	d) It should have a realistic depth of CPR compressions as per AHA 2020 Guidelines.
	e) It should be able to provide extensive feedback on CPR Compression as per AHA 2020 Guidelines i.e.,
H.	Eyes
	a) They should be blinking, slow, normal, fast and winks for Trauma and Neurology assessment.
	b) It can be positioned as open, closed and partially open as per the scenario.
	c) Eye movement should not cause unnecessary noises and must be silent.
	d) Eye movement can also be electronically controlled causing sensors to enter movement information into an event logs.
	e) The pupil diameter should automatically respond to light stimuli.
	f) The pupil response should be both synchronous & asynchronous as required.
	g) The response from pupil would be able to present as speedy normal or sluggish response.
I.	Sounds and Voices
	a) The abdomen bowel Sounds should be available via 4 different speakers for wide auscultation.
	b) The simulator system shall be able to use prerecorded audio files and/or files created by faculty for live.
	c) patient assessment and AETCOM Training.
	d) The faculty Instructor shall also be able to simulate patient voice and phrases wirelessly via voice over IP. (Internet Protocol) technology.
J.	Patient Monitor & Clinical accessories
	1. The faculty or instructor can override the connection of the patient monitor sensors using the respective check boxes from the control as required in a simulation.
	2. The patient monitor is easy to use and completely configurable to use as a 3 wave, 4

	<p>wave Big Numbers and shall be able to use the following list of parameters with their values or waveform.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> ✓ ECG (2 traces) ✓ SpO2 ✓ CO2 ✓ ABP ✓ CVP ✓ PAP ✓ PCWP ✓ NIBP ✓ TOF ✓ Cardiac Output ✓ 12 Lead ECG Display </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> ✓ Temperature (core and peripheral) ✓ AGT (labeled) ✓ awRR ✓ N2O ✓ ICP ✓ O2 ✓ pH ✓ Patient Information Display ✓ X-Ray ✓ ABG Blood gases Report </td> </tr> </table>	<ul style="list-style-type: none"> ✓ ECG (2 traces) ✓ SpO2 ✓ CO2 ✓ ABP ✓ CVP ✓ PAP ✓ PCWP ✓ NIBP ✓ TOF ✓ Cardiac Output ✓ 12 Lead ECG Display 	<ul style="list-style-type: none"> ✓ Temperature (core and peripheral) ✓ AGT (labeled) ✓ awRR ✓ N2O ✓ ICP ✓ O2 ✓ pH ✓ Patient Information Display ✓ X-Ray ✓ ABG Blood gases Report
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3. Operating system should log time stamped comments to the data log, bookmark important events and capture notes throughout the simulation. Operating system should have straightforward logging capabilities and should allow integrated event log for more effective review, for improved learning outcomes.

4. The simulation engine resides in the manikin simulator to assure continued correct response to inputs and continued operation in the event of communication loss.

5. One set of following clinical consumables or accessory to be supplied for training:

Clinical Consumables Accessories required	Size
Oropharyngeal Airway	(OPA)3
Nasopharyngeal Airway	(NPA)7
ET tube and Laryngoscope blade 4,5,6,	7 - 8.5
I-gel Airway	4
King LTS-D/LT-D	4
combi tube	37 Fr (small adult)
LMA	4 or 5
Tracheostomy tube	8 Fr
Airway suctioning Catheter	Rigid Adult Size
Thoracostomy Needle	22 G
Chest tube	14-28 Fr
Catheter	22G
IM needle	21 G Max
Mask (For ventilation)	Adult Mask 4 to 5+
IO access Tibial	BIG Automatic Intraosseous Device, 15 GEZ-IO, 15 G x 1", 1.8mm x 25mm
IO access Humeral	Or Jamshidi Illinois Bone Marrow Aspiration/-Intraosseous Infusion Needle 18 Ga. 9/16" (14mm)-1 1/2 (38mm)
Catheter (male genitalia)	Foley 14Ch and Lofric 16Ch
Catheter (female genitalia)	Foley 16Ch and Lofric 16Ch
Stethoscope adult	02 Nos

	Portable small torch with battery	One
K.	Power Supply	
	a) The simulator manikin should be self-contained with internal electrical and pneumatic power.	
	b) The simulator system should be able to provide supplemental wired connectivity and power.	
	c) capability with the easily swappable, rechargeable batteries while being in use.	
	d) The simulator manikin shall be able to operate for 4 hours continuously in the wireless mode.	
	<ul style="list-style-type: none"> * External power Input voltage 24VDC, 6.25A or similar * Internal batteries (two)Each 14.8V, 4.6Ah, Lithium-Ion 	
L.	Temperature Limits	
	<ul style="list-style-type: none"> * Operating temperatures+4 °C to 40 °C * Storage temperatures-15 °C to 50 °C * Environment -: Relative humidity20% -90% (non-condensing) 	
M.	Quality Certifications	
	1. The product should be in compliance with the essential requirements of Council Directive 2014/30/EU on electromagnetic compatibility (EMC) and with Council Directive 2011/65/EU on restriction of the use of certain hazardous substances (RoHS).	
	2. It should be marked according to the European directive 2012/19/EC on Waste Electrical and Electronic Equipment (WEEE).	
N.	Standard supply	
	It should be supplied with a full body manikin with articulating legs and arms, Set of clothes like trousers, zip- hoodie, gown, wig, set of male and female genitalia, adhesive wounds kit, external power supply with adapter & Battery chargers, soft carrying cases , blood pressure cuff, blood and fluid refill bottles, IV Bag and lock accessories , system Information and setup manual , usb headset with microphone, geriatric accessories , microphone , Mechanical ventilation lung adapter with Plugin module , operating system console and a patient monitor	
O.	Training and Adoption	
	1. The bidder shall arrange in situ face to face and virtual training for faculty development courses to be rolled out while integrating the simulation in the curriculum.	
	2. It should be instructor-led, hands-on, on-site courses to help instructors or faculty implement best practices in simulation using interactive content.	
	3. The training courses should range from how to get started, to basic simulation, to advanced use of simulators by providing consultative and custom solutions to help with more specific needs.	
	4. Orientation of Simulation based education will teach the faculty to learn the basics of patient simulator including start-up and shut down procedures, the operation of the patient simulator, and understand the Simulation Methodology, define learner objectives and roles. <ul style="list-style-type: none"> • Simulation system should be supplied complete with user friendly software so that any PC or computer (Mac/ Windows) can be used to connect with simulator. • Should have summary page which should display the events and log, Medication library, Intervention library, current physiological parameters • Should display real time physiological parameters and should customizable according to ongoing scenario and patient condition 	

	<ul style="list-style-type: none">• Should have search function to search Scenario• The Scenario screen page should have an overview section, patient history section, and should define learning outcome/ objective.• Modification of preconfigured scenarios & patient profiles or creating new scenarios & profiles.• The system shall be capable of operating automatically as per the patient physiology changes because of action taken by the student on the mannequin, which permits the simulation to proceed without instructor interaction, in scenarios as well.
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TECHNICAL BID PROFORMA

Tender No. MS/BOBY/163/2024/COMPSIMU

Item Name: COMPREHENSIVE SIMULATION TRAINING CENTER

1.0 Bidder Eligibility Criteria:

I	Bidder Eligibility Criteria-I (Public Procurement – Preference to Make in India)	Class I / Class II	Local Content Percentage	Ref. Page No.
I	Only 'Class-I local suppliers' and 'Class-II local suppliers', as defined under DIPP, MoCI Order No. P-45021/2/2017-PP (BE II) dated 16 th September 2020 and other subsequent orders issued therein (ANNEXURE – D)			

II	Bidder Eligibility Criteria-II	Complied/Not Complied	Ref Page No.
1	Vendor Registration ID/Proof		
2	Land Border Certificate (ANNEXURE – E)		
3	OEM Certificate Form -The Participating Bidder's firm shall be the Original Equipment Manufacturer (OEM) or OEM Certified authorized firm (ANNEXURE – F)		
4	Non- Debarment Declaration (ANNEXURE – H).		
5	Mandate Form (ANNEXURE – J)		
6	EMD as per Tender, to be remitted in the account number as given in the (Annexure – I) or EMD is exempted for Micro and Small Enterprises (MSE) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) and Startups as recognized by Department of Industrial Policy & Promotion (DIPP). (MSE/MSME/DIPP PROOF should be enclosed in the cover containing technical bid).		
7	The bidder must be authorized by manufacturer to participate in this tender. Authorization certificate should be attached.		
8	Bidders can visit and inspect the site for simulation center design before quoting the tender.		
9	The bidder/ OEM must provide performance certificate from two Institutes to certifying satisfactory performance in last 2 years of the above.		
10	The bidder/ OEM must provide performance certificate from two Institutes to certify that they have Indian experience in handholding the trainers towards training on simulation and should have been		

	functional for at least 2 years.		
11	The bidder should provide 95% uptime warranty in any case, if any repair is needed it should be attended within 48 hours or Hospital will penalize as per the tender clause.		
12	The Bidder must have service center in Chennai for maintenance works.		

2.0 Technical Compliance:

S.no	Specification	Complied/Not Complied	Ref Page No.
	General Specifications		
1.	Single vendor should quote all the below systems on turnkey basis.		
2.	Comprehensive simulation lab must include the following.		
	a) High fidelity adult patient simulator for cardio pulmonary with validated physiological modelling with hands-on practice using real clinical devices such as ventilator, Patient Monitor, Defibrillator used for biomedical research.		
	b) Diagnostic and Interventional ultrasound Simulation training suite		
	c) Advanced Surgical Simulation training for laparoscopy		
3.	Trainings		
	a) Trained & Certified Medical Simulation trainers accredited by those national/international universities having an experience of at least 3 to 5 years in the field of simulation will be enrolled for imparting training to appointed faculties by the institute. CV with certificate should be attached.		
	b) They will be visiting the Centre as per the following schedule. ·During Installation- 5 days ·Post installation- 12 days in 2 years. ·IIT Madras will designate trainers to train their students on Simulation.		
4.	Company should have enough spares bank locally to maintain the up time.		
5.	A necessary three visit per year of company engineer is mandatory in warranty period apart from repair call for calibration. The visit must be registered in institute Logbook, verified by Central store in charge.		
6.	Firm must quote cost of consumables (if any) separately.		
7.	Comprehensive Warranty for all the mannequins is three years from the date of installation		
8.	Firm must quote cost of AMC for further 3 years. Bidder will be responsible to inform the institute at least 6 months earlier for AMC.		
9.	The whole work to be done under the monitoring of technical committee.		

10.	An undertaking has to be given by supplier that the quoted simulator is of latest technology.		
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S.no	Specification		
	Technical Specifications		
A.	It should be an adult patient module with fully articulating legs and arms designed to deliver the most realistic training possible with diverse range of patient scenarios while using real clinical devices, in compliance with current guidelines, checklist and protocols.		
	1. It should be provided with an extensive list of clinical presentations and features that will optimize simulation training scenarios with light sensitive pupils, bodily fluid excretion and life like skin.		
	2. It should be based on wireless technology for a flexible and mobile configuration, so that it possible to conduct training for the entire rescue chain and allow training to include patient handover and emergency reporting.		
	3. The system permits multi-media images, lab values, X-Rays, CT scans and USG video and image files to be inserted into simulations where it will be displayed on demand from simulation participants on the patient monitor.		
	4. The simulator can produce and mimic tonic and clonic convulsion or seizures as per simulation facilitator demand or during a scenario automatically.		
	5. It should be an integrated system that allows simulation of bleeding throughout the manikin wherein the vital signs automatically respond to bleeding and treatment.		
	6. The simulator is capable of controlled and measurable urine output, and it can micturate with or without foley catheterization.		
	7. The simulator is capable of secreting simulated body fluids tears, cerebral spinal fluid, blood, sputum, as physiologically possible, from the Eyes and Ears, Forehead Diaphoresis.		
	8. System Should have inbuilt Ultrasound Training System for RUSH, E-fast.		
	9. The simulator system could be utilized as a geriatric patient with exact same features and capabilities.		
	10. The manikin weight, unpacked and ready for use, does not exceed 125 pounds (40kg), thus permitting easy repositioning by average sized rescuers and learners		
	11. Should have Integrated High Fidelity Lungs for Realistic Ventilation Management Training.		
B.	B. Inbuilt Debriefing and Scenario		
	1. For a naive participant enrolling into simulation-based methodology training the simulator should be able to operate on manual mode where all the features and clinical presentation is under faculty control as it helps to train with rapid cycle deliberate practice mode.		
	2. For an experienced simulation-based participants, the simulator should		

	<p>have physiologically driven auto mode operation which permits the simulation scenario to proceed with limited operator interaction, once the scenario has started, each scenario in an auto mode is time bound and have interventional triggers for proceeding to next stage, here the simulator reacts to physiologically correct and incorrect amounts of medication. The auto mode scenarios also prompt the facilitator for greater engagement.</p>		
	<p>3. The operating system controlling the simulator should have scenario writing and editing tool, which allows each instructor or user to specifically configure the simulator, make innumerable scenarios and edit existing scenarios as per the learning requirements of each batch or institution.</p>		
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	<ul style="list-style-type: none"> ● Should be able to create a spontaneously breathing lung with adjustable respiratory rate and patient effort. 		
	<ul style="list-style-type: none"> ● Should be able to adjust spontaneous breath rate from 0-120 and above. 		
	<ul style="list-style-type: none"> ● Should be able to set simulate spontaneous control of breath timing (I: E) ratio. 		
	<ul style="list-style-type: none"> ● Should be able to conduct advanced ventilator management scenarios such as patient-ventilator desynchrony, weaning trials, and waveform analysis. 		
	<ul style="list-style-type: none"> ● Should be compactable to works with all modes of ventilation including Pressure/Volume Control, Pressure Support, APRV, PAV, HFOV, NIV 		
	<ul style="list-style-type: none"> ● Should demonstrate the treatment effects of PEEP at any clinically relevant setting including values > 20 cmH20. 		
	<ul style="list-style-type: none"> ● Should be able to easily activate pre-programmed respiratory conditions with variable levels of severity e.g. Normal, Asthma, ARDS, Interstitial Lung Disease (ILD), and COPD 		
	<ul style="list-style-type: none"> ● Should have operating system with graphical user interface with reference scalar waveform for the appropriate settings. 		
G.	Cardiac		
	<p>a) The operating system should have an extensive ECG library with rates ranging from 0 to 220 as per the selected rhythm.</p>		
	<p>b) Heart sounds can be auscultated at 4 anterior locations for aortic, pulmonic, mitral & tricuspid sounds.</p> <p>- Normal</p>		

	<ul style="list-style-type: none"> - Aortic stenosis - Austin Flint murmur - Friction rub - Holosystolic murmur - Mitral valve prolapses - Systolic murmur - Diastolic murmur - OS70 - Stills murmur - VSD - Atrial septal defect - Pulmonary stenosis - Early systolic murmur - Gallop - Continuous murmur - Absent cardiac sound 		
	c) It's possible to attach a 4 lead ECG machine or with realistic patient monitor.		
	d) It should be possible for a 12-lead dynamic ECG capture.		
	e) Defibrillation and cardioversion are possible with pads and paddles without any accessories.		
	f) Pacing and capture are also possible with a real defibrillator.		
	Circulation		
	a) Blood pressure is measurable by automated NIBP Monitor, bilaterally.		
	b) Return to flow blood pressure measurement is also possible.		
	c) Bilateral Pulse palpation at Carotid, femoral, brachial, radial, dorsalis pedis, popliteal and posterior tibialis pulses and should be synchronized with ECG.		
	d) Pulse strength should be coupled with blood pressure for realistic palpation.		
	e) Pulse Palpation are detected and logged in the system.		
	Vascular Access		
	a) It should have a bilateral preported IV access in the cubital fossae.		
	b) It should have both humerus IO access bilaterally and tibial Intraosseous access.		
	c) it should have bilateral Intramuscular access at deltoid and gluteal regions.		
	CPR		
	a) It should be CPR compliant with AHA 2020 Guidelines.		
	b) CPR compressions should generate palpable pulses.		
	c) Blood pressure waveform artifacts should be reflected on ECG.		
	d) It should have a realistic depth of CPR compressions as per AHA 2020 Guidelines.		
	e) It should be able to provide extensive feedback on CPR Compression		

	as per AHA 2020 Guidelines i.e.,		
H.	Eyes		
	a) They should be blinking, slow, normal, fast and winks for Trauma and Neurology assessment.		
	b) It can be positioned as open, closed and partially open as per the scenario.		
	c) Eye movement should not cause unnecessary noises and must be silent.		
	d) Eye movement can also be electronically controlled causing sensors to enter movement information into an event logs.		
	e) The pupil diameter should automatically respond to light stimuli.		
	f) The pupil response should be both synchronous & asynchronous as required.		
	g) The response from pupil would be able to present as speedy normal or sluggish response.		
I.	Sounds and Voices		
	a) The abdomen bowel Sounds should be available via 4 different speakers for wide auscultation.		
	b) The simulator system shall be able to use prerecorded audio files and/or files created by faculty for live.		
	c) patient assessment and AETCOM Training.		
	d) The faculty Instructor shall also be able to simulate patient voice and phrases wirelessly via voice over IP. (Internet Protocol) technology.		
J.	Patient Monitor & Clinical accessories		
	1. The faculty or instructor can override the connection of the patient monitor sensors using the respective check boxes from the control as required in a simulation.		
	2. The patient monitor is easy to use and completely configurable to use as a 3 wave, 4 wave Big Numbers and shall be able to use the following list of parameters withier values or waveform. <ul style="list-style-type: none"> ✓ ECG (2 traces) ✓ SpO2 ✓ CO2 ✓ ABP ✓ CVP ✓ PAP ✓ PCWP ✓ NIBP ✓ TOF ✓ Cardiac Output ✓ 12 Lead ECG Display ✓ Temperature (core and peripheral) ✓ AGT (labeled) ✓ awRR ✓ N2O ✓ ICP ✓ O2 ✓ pH ✓ Patient Information Display ✓ X-Ray ✓ ABG Blood gases Report 		
	3. Operating system should log time stamped comments to the data log, bookmark important events and capture notes throughout the simulation. Operating system should have straightforward logging capabilities and should allow integrated event log for more		

	effective review, for improved learning outcomes.																																												
	4. The simulation engine resides in the manikin simulator to assure continued correct response to inputs and continued operation in the event of communication loss.																																												
	5. One set of following clinical consumables or accessory to be supplied for training:																																												
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K.	Power Supply																																												
	a) The simulator manikin should be self-contained with internal electrical and pneumatic power.																																												
	b) The simulator system should be able to provide supplemental wired connectivity and power.																																												
	c) capability with the easily swappable, rechargeable batteries while being in use.																																												

	<p>d) The simulator manikin shall be able to operate for 4 hours continuously in the wireless mode.</p> <ul style="list-style-type: none"> * External power Input voltage 24VDC, 6.25A or similar * Internal batteries (two)Each 14.8V, 4.6Ah, Lithium-Ion 		
L.	Temperature Limits		
	<ul style="list-style-type: none"> * Operating temperatures+4 °C to 40 °C * Storage temperatures-15 °C to 50 °C * Environment –: Relative humidity20% -90% (non-condensing) 		
M.	Quality Certifications		
	1. The product should be in compliance with the essential requirements of Council Directive 2014/30/EU on electromagnetic compatibility (EMC) and with Council Directive 2011/65/EU on restriction of the use of certain hazardous substances (RoHS).		
	2. It should be marked according to the European directive 2012/19/EC on Waste Electrical and Electronic Equipment (WEEE).		
N.	Standard supply		
	It should be supplied with a full body manikin with articulating legs and arms, Set of clothes like trousers, zip- hoodie, gown, wig, set of male and female genitalia, adhesive wounds kit, external power supply with adapter & Battery chargers, soft carrying cases , blood pressure cuff, blood and fluid refill bottles, IV Bag and lock accessories , system Information and setup manual , usb headset with microphone, geriatric accessories , microphone , Mechanical ventilation lung adapter with Plugin module , operating system console and a patient monitor		
O.	Training and Adoption		
	1. The bidder shall arrange in situ face to face and virtual training for faculty development courses to be rolled out while integrating the simulation in the curriculum.		
	2. It should be instructor-led, hands-on, on-site courses to help instructors or faculty implement best practices in simulation using interactive content.		
	3. The training courses should range from how to get started, to basic simulation, to advanced use of simulators by providing consultative and custom solutions to help with more specific needs.		
	<p>4. Orientation of Simulation based education will teach the faculty to learn the basics of patient simulator including start-up and shut down procedures, the operation of the patient simulator, and understand the Simulation Methodology, define learner objectives and roles.</p> <ul style="list-style-type: none"> • Simulation system should be supplied complete with user friendly software so that any PC or computer (Mac/ Windows) can be used to connect with simulator. • Should have summary page which should display the events and log, Medication library, Intervention library, current physiological parameters 		

	<ul style="list-style-type: none"> • Should display real time physiological parameters and should customizable according to ongoing scenario and patient condition • Should have search function to search Scenario • The Scenario screen page should have an overview section, patient history section, and should define learning outcome/objective. • Modification of preconfigured scenarios & patient profiles or creating new scenarios & profiles. • The system shall be capable of operating automatically as per the patient physiology changes because of action taken by the student on the mannequin, which permits the simulation to proceed without instructor interaction, in scenarios as well. 		
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(Note: It is mandatory for the bidders to provide the compliance statement (comply/not comply) for the above points with document proof as required). If the compliance statement (comply/Not comply) is not furnished for the evaluation Bidders will be disqualified.

**SIGNATURE OF BIDDER ALONG WITH
SEAL OF THE COMPANY WITH DATE**

FINANCIAL BID (PROFORMA) - BILL OF QUANTITIES (BOQ)**Item Name: COMPREHENSIVE SIMULATION TRAINING CENTER****Tender No. MS/BOBY/163/2024/COMPSIMU**

It. No	Description of work	Quantity	Units	Basic Rate in INR	GST in Percentage	Total Amount with taxes in INR
1	Comprehensive Simulation training Center with Comprehensive Warranty for all the mannequins for three years from the date of installation	1	No.			
2	AMC for 3 years after completion of three years Comprehensive warranty	1	No.			
	Grand Total					

Total Amount Rupees in words _____

Note:

1. Price bid as per this format to be uploaded only at the financial document column in CPP Portal. Price disclosure at the technical bid will result in disqualification.
2. Technical Bid Should NOT Contain Price Bid/Financial Bid details (or) Indication. If the price Details are indicated, mentioned inside the technical bid, then bid will be disqualified and neither the Technical Bid nor the Price Bid/Financial Bid will be considered.

I/We the bidder accept all the terms and conditions as per tender including all technical & commercial conditions.

Date:

Place:

Authorized Signatory

(_____)

Seal and signature

**FORMAT FOR AFFIDAVIT OF SELF-CERTIFICATION UNDER PREFERENCE TO MAKE
IN INDIA – PER ITEM**

Tender Reference Number:

Name of the item / Service:

Date: _____

I/We _____ S/o, D/o, W/o, _____

Resident of _____

Hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P- 45021/102/2019-BE-II-Part (1) (E-50310) Dt.4th March 2021 and any subsequent modifications/Amendments, if any and

That the local content for all inputs which constitute the said item/service/work has been verified by me and I am responsible for the correctness of the claims made therein.

Tick (✓) and Fill the Appropriate Category

<input type="checkbox"/>	I/We _____ [name of the supplier] hereby confirm in respect of quoted items that Local Content is equal to or more than 50% and come under “ Class-I Local Supplier ” category.
<input type="checkbox"/>	I/We _____ [name of the supplier] hereby confirm in respect of quoted items that Local Content is equal to 20% but less than 50% and come under “ Class-II Local Supplier ” category.

- The details of the location (s) at which the local value addition is made and the proportionate value of local content in percentage

Address _____

Percentage of Local content: _____%

Country of Origin of Goods: _____

For and on behalf of (Name of firm/entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

[Note: In case of procurement for a value in excess of Rs. 10 Crores, the bidders shall provide this certificate from statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.]

This letter should be on the letterhead of the quoting firm and should be signed by a competent authority.

Non-submission of this will lead to Disqualification of bids.

Land Boarder Sharing Declaration

(To be given on the letter head of the bidder)

In-line with Department of Expenditure's (DoE) Public Procurement Division Order vide ref.

F.No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020

Tender No. _____

Dated: _____

CERTIFICATE

(Bidders from India)

"I/ we have read the clauses pertaining to Department of Expenditure's (DoE) Public Procurement Division Order (Public procurement no 1, 2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020) regarding restrictions on procurement from a bidder of a country which shares a land border with India. I/We hereby certify that I/ we _____ (Name of the bidder) is/are

a) Not from such a country and eligible to be considered for this tender.

OR

(Bidders from Country which shares a land border with India)

I/We _____ (Name of the bidder) is/are from _____ (Name of the Country) and has been registered with the Competent Authority. I also certify that I fulfil all the requirements in this regard and is eligible to be considered. *(Copy/ evidence of valid registration by the Competent Authority is to be attached)*

Place:

Signature of the Bidder

Date:

Name & Address of the Bidder with Office Stamp

OEM CERTIFICATION FORM
(In Original Letter Head of OEM)

Tender No: Dated:

We are Original Equipment Manufacturers (OEM) of..... (Name of the company) Ms..... (Name of the vendor) is one of our Distributors/Dealers/Resellers/Partners (tick one) for the and is participating in the above-mentioned tender by offering our product model.....(Name of the product with model number).

..... is authorized to bid, sell and provide service support warranty for our product as mentioned above.

Name and Signature of the authorized signatory of OEM along with seal of the company with Date

TENDER CHECKLIST – Mandatory to be filled and sent (inside the Main Bid Cover) along with Bidding Document.

- (1) I have registered as a Vendor with IC&SR. (Proof to be enclosed)
 To submit document proof pertaining to point.no: 6 of tender ISO certificate, Active GSTIN certificate, valid PAN details.
- (2) Technical bid cover and Financial Bid cover to be submitted separately
- (3) Completed and **Signed Form of Tender**. The Form of Tender document shall be signed by a person legally authorized. (Proof of Authorization to be enclosed)
- (4) Completed Technical Compliance Statement
- (5) Certification of Class I / Class II Local Supplier (Goods, Services, or Works) is submitted as part of the technical bid. (**Annexure – D**)
- (6) EMD as per tender norms is deposited and the proof is enclosed (**Annexure – I**)
- (7) Land Border sharing declaration document is submitted (**Annexure – E**)
- (8) Authorized agent certificate from OEM is mandatory if Indian agent/Indian office of OEM is participating in this tender on behalf of OEM. (**Annexure F**)

The bid will be valid if all the above documents are provided. Bidders are asked to supply and tick off the required information. Failure to provide any of the stated documents as per tender norms may result in the bid being considered non-compliant and rejected.

Signature of the Bidder

**FORM - A
NON- DEBARMENT DECLARATION**

Date: XXXX

To,
The Indian Institute of Technology Madras,
Sardar Patel road,
Guindy, Chennai - 600036

Subject: Non-debarment declaration in connection with tender RFF No: XXXXXX for procurement of “XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX”

Dear Sir,

This is to notify you that our Firm/Company/Organization *<provide Name of the Firm/Company/Organization>* intends to submit a proposal in response to the invitation for procurement of “XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX” In accordance with the above we declare that:

- a. We are not involved in any major litigation that may have an impact of affecting or compromising the delivery of services as required under this assignment.

- b. We are not debarred by any Central/ State Government/ agency of Central/ State Government of India or any other country in the world/ Public Sector Undertaking/ any Regulatory Authorities in India or any other country in the world for any kind of fraudulent activities in last XX years.

Sincerely,

[BIDDERS NAME]

Name

Title Signature



CENTRE FOR INDUSTRIAL CONSULTANCY & SPONSORED RESEARCH (IC&SR)
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI 600 036



ELECTRONIC CLEARING SERVICE (Credit Clearing)/ REAL TIME GROSS SETTLEMENT (RTGS) FACILITY FOR RECEIVING PAYMENTS

A. Details of Account Holder

Name of the Institution	Indian Institute of Technology - Madras
Complete Contact Address	Industrial Consultancy and Sponsored Research Indian Institute of Technology-Madras, IIT- Madras Campus Post Office, Sardar Patel Road, Guindy, CHENNAI - 600 036
Permanent Account Number (PAN)*	AAAAI3615G
GST REGISTRATION NO.	33AAAAI3615G1Z6
Telephone No./ Fax No.	Tel - 044-2257 8356
E- mail ID of the FO/AO/REG/DIR	dricrs@iitm.ac.in

B. Bank Account Details:

Institution Account Name (As per Bank Record)	The Registrar, Indian Institute of Technology - Madras
Account No.	2722101003872
IFSC CODE	CNRB0002722
SWIFT CODE	CNRBINBBIIT
Bank Name (in full)	Canara Bank
Branch Name	IIT-Madras Branch
Complete Branch Address	Canara Bank, IIT-Madras Branch, IIT- Madras Campus Post Office, Sardar Patel Road, Guindy, CHENNAI - 600 036
MICR No.	600015085
Account Type	Savings Account

Certified that the Institute's account is in an RTGS enabled branch.

I hereby declare that the particulars given above are correct and complete.

Date: 04/08/2023

कृते कनरा बँक / For CANARA BANK


अधिकारी / Officer
आई आई टी चेन्नई शाखा / IIT Chennai Branch
चेन्नई / Chennai - 600 036

करोलिन लेमिना.न
M. KAROLINE LEMINA
अधिकारी
OFFICER
S.P. No:64356


Signature of the Competent Authority
of the Institution with seal.

उप कुलसचिव (आईसी एवं एसआर)
DEPUTY REGISTRAR (IC & SR)
आईआईटी मद्रास
I.I.T. MADRAS

MANDATE FORM

ELECTRONICS CLEARING SERVICE (CREDIT CLEARING)/REAL TIME GROSS SETTLEMENT (RTGS) FACILITY FOR RECEIVING PAYMENTS.

A. DETAILS OF ACCOUNT HOLDER: -

NAME OF ACCOUNT HOLDER	
COMPLETE CONTACT ADDRESS	
TELEPHONE NUMBER/E MAIL	

B. BANK ACCOUNT DETAILS: -

BANK NAME	
BRANCH NAME WITH COMPLETE ADDRESS, TELEPHONE NUMBER AND EMAIL	
WHETHER THE BRANCH IS COMPUTERISED?	
WHETHER THE BRANCH IS RTGS ENABLED? IF YES, THEN WHAT IS THE BRANCH <u>IFSC CODE</u>	
IS THE BRANCH ALSO NEFT ENABLED?	
TYPE OF BANK ACCOUNT(SB/CURRENT/CASH CREDIT)	
COMPLETE BANK ACCOUNT NUMBER(LATEST)	
MICR CODE OF BANK	

DATE OF EFFECT:

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the user institution responsible. I have read the option invitation letter and agree to discharge the responsibility expected of me as a participant under the Scheme.

(.....)

Signature of Bidder

Date:

Certified that the particulars furnished above are correct as per our records.

(Bank's Stamp)

(.....)

Signature of Bidder

Date :

1. Please attach a photocopy of the cheque along with the verification obtained from the bank.
2. In case your Bank Branch is presently not "RTGS enabled", then upon its upgradation to "RTGS Enabled" branch, please submit the information again in the above pro-forma to the Department at the earliest.