



**INDIAN MARITIME UNIVERSITY – NAVI MUMBAI CAMPUS
(A Central University, Govt. of India)
TENDER FOR ECDIS SIMULATOR**

Tender No. IMU-NMC/ECDIS Simulator/2023/0036

Date: 08/12/2023

NOTICE INVITING TENDER
(NIT)

Sealed tenders are invited for **Supply and Installation of ECDIS Simulator [Software installation and supply of hardware (12 Station + 1 Instructor Station)]** to IMU NAVI Mumbai Campus under Two bid system.

Bidders are advised to study the Tender Document (including all Sections, Schedules and Annexure etc.) carefully. On submission of Tender, it shall be deemed that a careful study and examination of the Tender Document with full understanding of its implications have been done.

The Tender Document can be downloaded free of cost from IMU website www.imu.edu.in and www.imunavimumbai.ac.in from 08/12/2023 onwards. The last date for receiving tender at IMU – NAVI Mumbai Campus is 1300 Hrs on 10/01/2024.

DEPUTY REGISTRAR
IMU Navi Mumbai Campus

Tender Abstract

1	Title	:	Supply and Installation of ECDIS Simulator [Software installation and supply of hardware (12 Station + 1 Instructor Station)] at IMU Navi Mumbai Campus
2	Notice Inviting Tender No.	:	IMU-NMC/ECDIS Simulator/2023/ dated 08/12/2023
3	Tender document download date	:	08/12/2023 : 1500 hours.
4	Pre bid meeting (Mandatory)	:	14:30 PM on 29/12/2023 at Indian Maritime University, NAVI Mumbai Campus (T S Chanakya), Karave, Nerul, NAVI Mumbai-400076.
5	Last date and time for receipt of bids	:	1300 Hours on 10/01/2024
6	Date and time for opening of Technical bid	:	1430 Hrs on 10/01/2024
7	Date and time for opening of Financialbid (for technically qualified bidders)	:	To be intimated later
8	Proposal currency	:	Prices to be quoted in Indian Rupees (INR) only
9	Language of the proposal	:	This proposal should be filled in English language only. If any supporting documents are to be submitted, in any other language other than English, then translation of the same in English language, attested by the bidder should be attached.
10	Validity of tender offers	:	180 days from date of opening of Technical bid
11	EMD Amount	:	Rs. 2,34,000/-
12	Estimated Cost	:	Rs.78,00,000/- (Including GST)
13	Security Deposit (for finalized bidder only)	:	10% of the contract value in the form of Bank Guarantee of any nationalized /Scheduled Bank or DD in favour of Indian Maritime University Navi Mumbai Campus Payable at Navi Mumbai.
14	Address for Submission of Tender	:	Deputy Registrar (Admin), IMU, NAVI Mumbai Campus, (T S Chanakya) Karave, Nerul, NAVI Mumbai-400 706

INDIAN MARITIME UNIVERSITY – NAVI MUMBAI CAMPUS
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1. Invitation of Bids:

The Indian Maritime University – NAVI Mumbai Campus (NMC) (hereinafter referred to as the Buyer or NMC) invites sealed tenders for Supply and Installation of ECDIS Simulator [Software installation and supply of Hardware (12 Station + 1 Instructor Station)] (hereinafter referred to as the ECDIS Simulator) under Two bid system.

Type of Tender	Two bid system: 1. Technical Bid: “With superscrib as “Supply of ECDIS Simulator @ IMU Navi Mumbai Campus” 2. Price Bid: “With superscript as “Supply of ECDIS Simulator @ IMU Navi Mumbai Campus” 3. Main Cover: Including Technical Bid and Price Bid Cover “With superscrib as “Supply of ECDIS Simulator @ IMU Navi Mumbai Campus”
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Overall Scope and objective of this Tender is to select a successful bidder for supply, installation of the system, commissioning, training, subsequent Up gradation if any & Annual Maintenance Contract for initial 3 years after a period of warranty.

1.1 EMD and Tender Fees:

Sl.No.	Particulars	Supporting document
1	Tender documents can be downloaded free of cost from www.imu.edu.in and www.imunavimumbai.ac.in under the section TENDERS	Nil

Earnest Money Deposit (E.M.D.).- Earnest Money Deposit (E.M.D): Rs.2,34,000/- (Rupees Three lakhs rupee Only) by way of D.D. in favour of IMU- Navi Mumbai Campus payable at Navi Mumbai to be submitted to IMU- Navi Mumbai Campus along with Technical Bid. Exemption from EMD only on submission of valid proof for EMD exemption as per GoI norms and upon verification of genuineness for the exemption by IMU. The bids of the bidder, who fail to submit E.M.D (Except the exempted vendor), shall be summarily rejected.

- i) The EMD will be forfeited in the following cases: –
- (a) In case the bidder withdraws his tender once submitted after opening tender document.
 - (b) If the successful bidder fails to enter into a contract / agreement within 07 (seven) days from the date of receipt of Purchase Order.

1.2 Eligibility Criteria:

The bidder should have mandatory qualification as per the following table. The proposal of the bidders who are fulfilling the mandatory qualification criteria shall only be considered for technical

evaluation. The offer is liable to be rejected if non compliance to mandatory qualification criteria is detected during the technical evaluation also.

Sl.No.	Qualification Criteria	Supporting documents
1	The Bidder should be in the Business of Providing ‘Similar Supply & Installation of Simulator’ for a period not less than 5 years i.e. since 2018-2023	Copies of the Work order or Agreement or Work Completion certificate for the Completed or ongoing Supply and Installation of Simulator– Proof for providing similar Supply and Installation not less than 5 years
2	The Bidder should have satisfactorily completed “Similar Supply and installation” with minimum value specified in any one of the three set of values (a or b or c) carried out during the last any one of the five financial years (2018-2019 to 2022-2023) a) At least 1 Similar Supply and Installation with a minimum value of i.e. Rs. 62.40 Lakhs (80% of Bid value) [OR] b) At least 2 Similar Supply and Installation with a minimum value of i.e. Rs.39 Lakhs (50 % of Bid value [OR] c) At least 3 Similar Supply and Installation with a minimum value of i.e. Rs.31.20 Lakhs (40% of Bid value.)	Copies of the Work order for Supply and Installation order, Payment advice, Certification from buyer entity.
3	The Bidder should have an average annual turnover of at least Rs. 3 Crores during the past 5 financial year’s i.e.2018-19 to 2022-23.	Annual accounts duly certified by a Chartered Accountant.
4	The bidder should submit the copy of Income Tax return for last three financial years i.e. 2020-21, 2021-22 & 2022-23 (Assessment year 2021-22, 2022-23 & 2023-24)	Copy Income tax Returns.
5	The Bidder should have a valid PAN and GST Registration Certificate.	Copy of the PAN Card and GST registration certificate.

6	The Bidder shall be the reputed Original Equipment Manufacturer (OEM) or their authorized/certified partner or authorized reseller. He shall furnish necessary authorization from the OEM and authorizing him to provide all goods and services support indicated in this tender and confirming that necessary assistance would be provided to the firm in providing required support during the Warranty Period.	OEM Authorization / Certification as per the Annexure III. In case of participation by OEM, self-declaration.
7	The Bidder should not have been blacklisted or debarred from bidding for any government or central government autonomous organisation.	Self-declaration to this effect.

1.2.1 **“Supply and Installation of ECDIS Simulator”** means Supply and Installation of Simulator Equipment of the ECDIS Simulator as per the Standard specifications mentioned in DG shipping Guidelines for training purpose installed with Government / Semi- Government/ Public Sector organizations/ National level educational institutes like IIT, IIM, NIT and Central Universities/ State Universities / Public Limited Companies. / Reputed UGC/ AICTE Recognized or private Sector Universities / Maritime training institutes/Reputed Private Companies and Port Organizations.

1.2.2 With regard to the various proof/supporting documents produced by the bidders for establishing that they meet the various eligibility conditions, it shall be IMU’s prerogative to decide whether the document produced is valid evidence or not and to call for additional proof, if required.

1.2.3 All the Mode of Proof Documents for meeting eligibility criteria enclosed with the tender are to be duly signed by the authorized signatory. If required, NMC may insist for notarized copy or ask to produce originals to ascertain the veracity of the documents. NMC also reserves the right to ask more proof to corroborate the eligibility declarations.

1.3 **Pre-bid Meeting Clarification:** IMU-NMC shall organize a pre bid meeting at 1430 hrs on 29/12/2023. All interested suppliers are requested to participate in the pre-bid meeting regardless of their eligibility/acceptance of tender conditions as per the present form of the tender. The prospective bidders shall submit their queries in writing in prescribed format below in writing to the address mentioned in the invitation of tenders or E-Mail to dradmin.navimumbai@imu.ac.in three days prior to the pre-bid meeting and the same shall be clarified during the pre-bid meeting.

Sl.No.	Clause No.&Page No.	Reference Clause Details	Clarification-sought

NMC may or may not incorporate any changes in the Tender document based on acceptable suggestions received during the Pre-Bid meeting. The decision of NMC regarding acceptability of any suggestion shall be final in this regard and shall not be called upon to question under any circumstances.

1.4 **Response to queries and issue of amendments.**

- 1.4.1 NMC will respond to any valid request for clarification, received one week prior to the last date for submission of tender. NMC's is final and binding with regard to interpretation of terms used or other tender contents.
- 1.4.2 NMC may, for any reason, suo-moto or in response to a clarification by a prospective bidder or bid, modifies the tender documents by amendments (through addenda/corrigundm etc.)
- 1.4.3 Any such amendments will be informed to all the participants in the pre-bid meeting besides hosting on IMU website and NMC website. All the bidders who had downloaded the Bid Document shall verify, whether any such amendments have been issued by NMC, before submitting their bid and shall take cognizance of and include such amendment(s) in their submission. In any case, the amendment(s), if any, shall be binding on the Bidder.
- 1.4.4 Any such corrigendum/addendum shall be deemed to be part or incorporated into this Notice Inviting Tender (NIT).
- 1.4.5 In order to provide prospective bidders reasonable time for taking the Corrigendum/modifications into account, NMC may, at its discretion, extend the last date for the receipt of Bids. Minimum 5 working days would be allowed on publication of the corrigendum/addendum. However, no request for further postponement would be entertained. Decision of NMC in this regard would be final.

1.4.6 It is the responsibility of the bidder to check the website of IMU time to time for any updates.

- 1.5 **Language of Proposal & Correspondence.** The tender, and all correspondence and documents, related to the tender, exchanged between the bidder and NMC should be in the English language only. If the bidder along with their offer furnish any printed literature written in any other language, such documents should be supplemented with their English translation also. The contents in the English translated version alone shall be taken into consideration.

1.6 **Tender Validity.**

- 1.6.1 Tenders shall remain valid for 180 days from the last date for submission of tender. A proposal valid for a shorter period may be rejected by NMC as being non-responsive. During the period of validity of Proposals, the terms and condition mentioned shall not change and any such request may lead to denial of the award of work.
- 1.6.2 In exceptional circumstances, prior to the expiry of the original tender validity period, the NMC may request the bidder to extend the period of validity for a specified additional period. The request and the response thereof shall be made in writing through E-mail or Post. A bidder agreeing to the request will not be required to not permit to modify his tender, but will be required to extend the validity of his tender for the period of extension. In case a bidder is not agreeing to the request of the NMC for extension of validity of the tender, then his tender will not be processed further and the portions of his tender which have not been opened will be returned to them unopened as the case may be.

- 1.7 **Proposal prices.** The prices indicated in the price schedule should be in INR only and shall be entered

in the following manner.

- 1.7.1 The **price of the Software and Hardware equipment including installation** shall be inclusive of basic price, freight and insurance up to delivery at NMC, Installation, Commissioning, training the trainers including incidental charges, and up gradation of software & hardware (after commissioning whenever required) excluding applicable GST. The bidder would clearly indicate cost break down for all the major hardware assemblies and software (Including commercially licensed software's such as Windows/Unix/Linux etc)
- 1.7.2 Rate for Comprehensive Onsite Annual Maintenance should be given year wise for 3 years separately excluding GST immediately after expiry of 2 years warranty. GST of corresponding column should be entered in GST row in Price bid.
- 1.7.3 Prices quoted as above shall be valid for a minimum period of 180 days from last date for submission of the tender.
- 1.7.4 It must be clearly understood that the prices quoted in the tender are to include everything required to be done as per the specification and the conditions of tender and Supply and Installation for the proper execution of supply/works although special mention thereof may have been omitted in the specification. The specifications indicated are for minimum and shall include accessories etc. to make the system fully operational. The bidders can inspect the site of installation to assess installation requirements.
- 1.7.5 IMU has the right to change /increase / withdraw the quantities of any items in the tender prior to acceptance by the supplier of the work order issued by IMU. IMU also has the right to increase the quantity of Supply and Installation on prorate basis.

1.8 Earnest Money Deposit (EMD): 2,34,000/-

1.9 Submission of the Proposal:

The tender submitted by the Bidder shall comprise the following and should be read in conjunction with any amendments issued at the time of submission of bid.

1.10 Technical Bid (in Sealed cover-I). The Cover-I should comprise of following.

- 1.10.1 Earnest Money Deposit: 2,34,000/-
- 1.10.2 Tender Document downloaded from IMU Web site comprising Tender Notification, Abstract, General Rules and Directions for the Guidance of the bidder, General description of Supply and Installation and other terms and conditions, including the amendments, corrigendum / addenda issued by IMU which are duly signed by the authorized signatory of the bidder in each page with stamp signifying the acceptance of all the tender conditions / terms / contents.
- 1.10.3 Vendor need to provide the writing statement that simulator supplied will be as per the Technical specification & relevant documents asked in Annexure-I.
- 1.10.3 Duly filled Technical Bid format (Annexure-II) and Supplier's OEM Authorization Form (Annexure-III) with all the documents stated in the technical bids and other supporting

documents in evidence of the data filled in technical bids and any other documents/enclosures/schedules/annexure etc. stated in the tender document.

1.10.4 Bidder Memorandum (Annexure IV) duly signed by the bidder.

1.10.5 The duly authorized signatory(ies) of the entity should sign and seal in all the pages of the tender document including the annexure / schedules signifying the acceptance of all the terms and conditions, stated in the various parts of the tender. The person(s) authorized to sign the tender shall also sign in all the pages of the supporting documents with office seal submitted as proof of their eligibility, proof of technical compliance etc. In other words, every page of the bid submitted should have the signature of the duly authorized signatory of the bidder with rubber stamp.

1.10.6 The Cover I shall be addressed to “**The Deputy Registrar, Indian Maritime University – Navi Mumbai Campus**” and should be duly super scribed as “**TECHNICAL BID-SUPPLY AND INSTALLATION OF ECDIS SIMULATOR – NMC**” and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.

1.11 **Price Bid (in sealed Cover-II).**

1.11.1 The Cover II shall only contain the Price Bid formats given in Annexure–V & Schedule 1. It has to be duly filled in, signed and sealed.

1.11.2 The Cover II shall be addressed to “**The Deputy Registrar, Indian Maritime University – Navi Mumbai Campus**” and should be duly super scribed as “**PRICE BID- SUPPLY AND INSTALLATION OF ECDIS SIMULATOR – NMC**” and sealed properly. Name and Address of the bidder shall also be written/ printed on the cover.

1.11.3 The Rate shall be filled in either typed or written in indelible ink and shall be signed by the person or persons duly authorized to sign on behalf of the bidder. There should be no overwriting/scoring and rewriting. Any bid found to have overwriting or double entry or rewriting by scoring off one value shall be rejected during the price bid opening.

1.12 **Main Cover:**

Both the “**Cover I**” and “**Cover II**” shall be placed inside the main cover and sealed properly. The main cover should be duly super scribed as “**TENDER FOR SUPPLY AND INSTALLATION OF – ECDIS SIMULATOR TO IMU NMC**” and to be submitted in the following address which should reach on or before 1300 hrs on 10.01.2024.

Address:

**The Deputy Registrar,
Indian Maritime University – Navi Mumbai Campus
(TS Chanakya), Karave Village,
Palm beach Road, Nerul,
Navi Mumbai -400706**

1.12.1 The bidder shall note that no alternative or counter or qualifying tender conditions by the bidder will be acceptable to IMU. Tenders containing any qualifying conditions or even bidder's clarifications in any form may be treated as non-responsive and will run the risk of

rejection. In general, printed terms & conditions shall not be accepted.

1.12.2 Bidder who submits more than one tender will be disqualified.

1.13 **Cost of Bidding.** The bidders shall bear all costs, efforts or their time associated with the preparation and submission of their bids and the IMU will in no case be responsible or liable for those costs / efforts / time, regardless of the conduct or outcome of the tendering process or the cancellation, if any, of tender by IMU, due to any reason whatsoever and at any stage of the tender (IMU is not responsible, if there is a cancellation even after price bid opening).

1.14 **Completeness of Tender.** The Bidder is expected to examine all instructions, forms, terms, conditions and deliverables in the tender document. Failure to furnish all information required by the tender documents or submission of a tender offer not substantially responsive in every respect to the tender documents will be at the bidder's risk and may result in rejection of its tender offer. The tender offer is liable to be rejected outright without any intimation to the bidder if complete Information as called for in the tender document is not given therein, or if particulars asked for in the forms / proforma in the tender are not fully furnished.

1.15 **Deadline for Submission of Proposals.** Tenders must reach the Deputy Registrar's office through speed post/ courier or in person to be dropped in to the box placed in the IMU – Navi Mumbai Campus prior to the last date & time for submission, specified in the abstract. NMC may, at its sole discretion extend the date and time for submission of tenders. Any updates with regard to such extension or any other communication intended for the bidders / prospective bidders will be made only through IMU's website stated above. Any tender received after the last date and time for submission of tenders prescribed will be rejected.

1.16 **Late Proposal.** Any proposal received by NMC after the deadline for submission will be rejected and kept as an unopened Tender.

1.17 **Modification and withdrawal of bids.**

1.17.1 The bidder may be allowed to modify or to submit revised bid due to corrigendum, addendum, etc., issued by NMC, any time prior to the last date prescribed for receipt of bids, by giving a written notice to the IMU.

1.17.2 The bidder's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in a manner similar to the original Proposal.

1.17.3 Subsequent to the last date for receipt of bids, no modification of bids shall be allowed. No bid may be withdrawn in the intervening period between the deadline for submission of bids and expiration of the of bid validity period specified. Withdrawal of a bid during this period will result in forfeiture of EMD.

1.18 **IMU's Right to accept and to reject any or all proposals.**

Notwithstanding anything else contained to contrary in this Tender Document, IMU reserves the right to accept or reject any Bid or to annul the bidding process fully or partially or modifying the same and to reject all Proposals at any time prior to the award of work, without incurring any liabilities in this regard.

1.19 Rejection of Bids The bids will be rejected on following grounds:-

- 1.19.1 If any of the eligibility criteria as per the qualification criteria is not met.
- 1.19.2 If tender terms and conditions are not met.
- 1.19.3 If bidder gives wrong information in the bid.
- 1.19.4 Canvassing in any form in connection with the bids.
- 1.19.5 If the bid is incomplete /partial bid/ conditional/unclear in any form.
- 1.19.6 Bids submitted after due date and time.
- 1.19.7 Bids are submitted through Telex/Fax/ e-mail (i.e. modes other than by way of speed post/ courier/ dropping in the box in sealed covers as prescribed).
- 1.19.8 Erasure and/or overwriting (if not countersigned by authorized person).
- 1.19.9 Bids not signed by authorized signatory.

1.20 Evaluation Process.

- 1.20.1 IMU shall evaluate the responses to the NIT and all supporting documents / documentary evidence. Inability to submit requisite supporting documents / documentary evidence, may lead to rejection.
- 1.20.2 The interpretation of the bids and the decision made by the IMU in the evaluation of responses to the NIT shall be final. No correspondence will be entertained outside the process of evaluation with IMU.
- 1.20.3 IMU has the right to seek clarifications from the bidders during the technical evaluation process. All such clarifications would be recorded and signed by the bidders authorized rep and authorized officer of IMU. Any verbal agreement arrived would not be entertained.
- 1.20.4 IMU reserves the right to reject any or all bids on the basis of any deviations.
- 1.20.5 Each of the responses shall be evaluated as per the criteria and requirements specified in this NIT.

1.21 Tender Evaluation.

- 1.21.1 Technical bids will be opened at the IMU- Navi Mumbai Campus (TS Chanakya) located at the address stated in tender abstract. Any bidder who is willing to observe the tender opening, may, in person or through his authorized representative (Only one personnel on production of authorization letter), be present at the venue and witness the tender opening.
- 1.21.2 The bidder or his authorized representative who are present shall sign a register evidencing their attendance. IMU reserves the right to reschedule the tender opening date (technical / financial bid opening) if the scheduled tender opening day is declared as a holiday for the IMU or due to any other administrative reasons which would be published in IMU website and such rescheduling may not be communicated individually in any other modes.

- 1.21.3 Technical bid (Cover-I) of each bidder shall fulfil the minimum eligibility criteria prescribed in NIT. In exceptional cases IMU, Navi Mumbai Campus or his representative reserves the right to obtain the additional documents / clarifications from any of the bidder without vitiating the Tendering process. If, in the opinion of the IMU, Navi Mumbai Campus, information and documents supplied in support of the Tender do not indicate meeting the requirements of the Tender specifications, the Tender may be determined as non-responsive and may be rejected by the IMU, Navi Mumbai Campus.
- 1.21.4 The information furnished by the bidder in the Technical Bid in the format(s) prescribed as part of the tender document by IMU will form the basis for the technical evaluation. In exceptional cases, IMU reserves the right to obtain any clarifications from any of the bidder. If, in the opinion of the IMU, information and documents supplied in support of the tender do not meet the minimum eligibility criteria as per NIT and the any or some of the technical specifications as per NIT, as determined by IMU, the tender / product offering will be treated as non-responsive and rejected by the IMU and their Cover II – Price bid shall not be opened for evaluation. The NMC decision is final and binding, with regard to technical evaluation.
- 1.21.5 After satisfying that all / or some of the bidders have attained the minimum qualifying technical criteria as detailed above, bids of only such technically qualified bidders i.e. who fulfil all the qualification / eligibility criteria and also comply with the technical specifications, will be considered for further evaluation. A suitable date and time for opening of the **Price Bids** will be fixed and those bidder(s) who are technically qualified will be intimated through email about the opening of the Price Bids or alternatively, Other procedures for opening the Price Bid including the witnessing (by only the technical qualified bidders) the tender opening event, no. of participants etc., will be similar as those for Technical Bid explained in the earlier para(s).
- 1.21.6 Price bid evaluation will be made based on adding price of the equipment, comprehensive onsite Maintenance charges for 03 years (immediately after expiry of 2 years warranty) at NMC i.e. Grand total of Column 6 in Price bid. NMC also reserves right to change quantities before issuing the order, due to exigencies, if any.
- 1.21.7 After evaluating the price bids received under Cover II, the bidder who quoted the overall lowest (L-1) Price will be awarded the work.

1.22 **Consignee Details.** The destination point for delivery of materials will be as follows:-

Quantity in Nos	Consignee
01	The Director, Indian Maritime University, Navi Mumbai Campus (TS Chanakya) Krave Village, Palm Beach Road Nerul, Navi Mumbai - 400706

A. General Conditions of Contract.

- 2 **Execution of Contract.** The successful bidder has to enter in to an agreement with NMC incorporating all clauses of the Tender document and any other as may be agreed to by both the parties on a Non-Judicial Stamp Paper of Rs.200/-.

2.1 Termination Clause:-

- 2.1.1 In the event of the breach of any of the provisions of contract by the supplier, NMC shall have the right to terminate the tender summarily, at any stage.
- 2.1.2 In the event of NMC terminating the contract for breach by the supplier of any of the provisions thereof, the supplier shall be liable for any loss suffered by IMU up to the time of the termination of the contract.
- 2.1.3 In the event of the death, insanity or insolvency of the supplier IMU shall have the right to terminate the contract summarily and to purchase in the open market any Goods/ Services covered by the contract. In this case, the supplier shall not be liable for any excess in the price paid, for any such purchases over the tender price.

2.2 Security Deposit.

- 2.2.1 The supplier shall be required to submit the security deposit in the form of irrevocable bank guarantee or DD issued by any Indian Nationalized Bank for an amount of 10 % of the Work Order value within 7 days from the date of receipt of the Work order and should be kept valid for a period of 90 days beyond the date of completion of AMC period.
- 2.2.2 Security Deposit will be refunded / returned without any interest only 15 days after successful completion of AMC period. The refund or return of Security Deposit is subject to the complete fulfilment of the contract obligation by the supplier to the satisfaction of IMU and after adjustment of dues to IMU or penalty imposed by IMU.

- 2.3 **Delivery Period.** The bidder is required to deliver, installation, testing, Commissioning and starting of operation of the Simulators in all aspects within **45 days** from the date of Issue of work order by IMU – Navi Mumbai Campus. However, Supply and Installation of all the equipment should be ensured within 45 days of the receipt of the Work Order failing on which shall attract provisions of Para 3.6.

- 2.4 **Inspection & Rejection.** The Supply and Installation may be subject to inspection by a reputed external organisation or by internal Committee with external participation appointed/nominated by IMU and IMU's decision on their report as to the acceptance of any equipment or rejection of any equipment/goods as not conforming to specification shall be final and binding on the successful bidder. Such of the equipment / goods which are rejected shall be removed by the successful bidder at their own expense and replaced by fresh ones within a time, as determined by NMC. The Supply and Installation may be subject to inspection as per this clause.

- 2.5 **Liquidated Damages.** If the successful bidder fails to execute the Supply/Works in all respects within the period specified or within such extended period as may be allowed, the successful bidder shall pay a sum equivalent to 0.5% of the value of the total tender price per week (Seven

days) or part thereof subject to a maximum limit of 10% of the value of the each of the item tender as liquidated and ascertained damages. IMU shall have the right to determine what the “amount payable/corresponding payment” for any step/activity is, and while the Successful Bidder has a right to represent/clarify, IMU’s determination of the same shall be final without prejudice to the Successful Bidder’s rights to seek alternative remedy through arbitration/Courts.

2.6 Comprehensive Onsite warranty:

2.6.1 A comprehensive onsite warranty including software upgradation for the supplied software, equipment shall be provided by the supplier for a minimum of two years from the date of final acceptance of the equipment by IMU Navi Mumbai Campus. The supplier will be notified of any defect or claim arising under this warranty and the warranty support shall be provided at site of IMU – Navi Mumbai Campus.

2.6.2 If the supplier having been notified fails to remedy the defect immediately NMC may proceed to take such remedial action as may be necessary at the supplier’s expense. The period that the equipment is out of commission / operation as a result of supplier’s failure to remedy the defects notified shall result in extension of the warranty period correspondingly and imposition of penalty Rs. 25,000/- (Rupees Twenty five thousand only) per instance.

2.7 Comprehensive On-site AMC.

2.7.1 Comprehensive maintenance for 3 years is to commence immediately after the expiry of the comprehensive Two years warranty period.

2.7.2 The supplier shall provide necessary comprehensive preventive and corrective maintenance on site i.e., by sending the engineer to the NMC for attending the maintenance requirements of the supplied equipment. In case of intimation of break-down, the equipment should be attended immediately and restored to normal working condition within a maximum of 48 hours during the period of AMC. All spares which need replacement during the period of onsite maintenance are to be replaced without any additional cost. Any exception required with regard to the spares to be replaced to be intimated during the pre-bid meeting or by email within 15 days of notification of the tender to the above said email addresses. The conditions specified for warranty may also be applied by during AMC period and vice- versa.

2.7.3 In addition to above, support should also be available by phone, e-mail to solve the problem as soon as possible during the period of Warranty and Annual Maintenance Contract. He shall have facilities with sufficient service engineers trained to provide support services. The Bidder shall also have sufficient spares on hand for providing the uptime as indicated in this tender.

2.7.4 The AMC would include quarterly visit to clean the cabinets and devices internally to blow off any dust accumulated.

2.8 Payment Terms.

2.8.1 No advance payment will be made.

2.8.2 The Supplier shall be paid 100% of payment against Supply, Installation, Commissioning,

Acceptance Testing, Training and putting in to operation of Simulators at NMC against the invoice. IMU will, after verification of the claim for its correctness, make payment within one month after the date of receipt of the claim, complete and correct in all respects, from the supplier.

2.8.3 In respect of AMC, AMC charges will be paid at the end of each quarterly period.

2.8.4 The Tax Invoice raised by the supplier must be in compliance of relevant GST acts, rules & notifications made there under and should bear the **NMC GST Registration no. 27AAAAI2610K1ZX**. The rate and amount of CGST, SGST, IGST and GST (Compensation to state) cess, related to Supply and Installation of goods, shall be shown separately in tax invoice for each item of supply.

2.8.5 **Statutory Variation.** If there is any statutory change in CGST & SGST or IGST within contractual delivery period, the same shall be admissible and will be paid at actual based on the documentary evidence. However, no upward revision in the same beyond original delivery period shall be admissible.

2.9 **Anti-Profitteering Rules of GST.** The bidder should strictly adhere to Anti-Profitteering Rules of GST.

2.10 **Ownership of License.** Licenses for all the software including Anti-Virus supplied along with the equipment under the scope of Supply and Installation shall be in the name of Indian Maritime University Navi Mumbai Campus. All documents and reports prepared or obtained in performing the Simulator shall become and remain the property of IMU Navi Mumbai Campus.

2.11 **Secrecy.** The Supplier shall not transfer any part or share of his responsibilities directly or indirectly to any person whomsoever without the written consent of IMU.

2.12 **Force Majeure.**

2.12.1 The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.

2.12.2 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, and freight embargoes.

2.12.3 If a Force Majeure situation arises, the Supplier shall promptly notify the IMU in writing of such conditions and the cause thereof. Unless otherwise directed by the IMU 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.

2.13 **Indemnity.** The selected bidder shall indemnify IMU from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind how-so-ever suffered

including patent, copyright, trademark and trade secret, arising or incurred inter-alia during and after the Contract period out of:-

2.13.1 Negligence or wrongful act or omission by the Selected Bidder or its team or any Agency/ Third Party in connection with or incidental to this Contract;

2.13.2 Any breach of any of the terms the Selected Bidder's Proposal as agreed, the Tender and this contract by the Selected Bidder, its Team or any Agency/ Third Party.

2.13.3 The indemnity shall be to the extent of 100% of project cost in favour of the IMU.

2.14 **Arbitration & Jurisdiction.** In the event of disputes, differences, claims and questions arising between the parties hereto arising out of this Agreement or anyway relating hereto or any term, condition or provision herein mentioned or the construction or interpretation thereof or otherwise in relation hereto, the parties shall first endeavour to resolve such differences, disputes, claims or questions by mutual discussion and failing such settlement, the same shall be referred for arbitration by a sole Arbitrator appointed by IMU. Such arbitration shall be held in accordance with the provisions of the Arbitration and Conciliation Act 1996 or re-enactment thereof for the time being in force and shall be held in Navi Mumbai. In case the Arbitration award is not acceptable to either of the parties, they may approach courts having jurisdiction at Navi Mumbai only.

2.15 **Applicable Law.** The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction of Mumbai courts only.

3. Special Conditions of the Tender.

3.1 **Site Preparation.** The supplier shall Supply and Installation layout plan in the Technical Bid taking all the requirements in to consideration for the performance as well statutory (DG Shipping) requirements. The supplier must provide complete details regarding space and all the other infrastructural requirements needed for the equipment, which IMU should arrange before the arrival of the equipment to ensure its timely installation and smooth operation thereafter. The supplier shall visit IMU - Navi Mumbai Campus and see the site where the equipment is to be installed and may offer his advice and render assistance to the Institute in the preparation of the site and other pre-installation requirements. The operating environment is Tropical condition.

3.2 **Supply and Installation of Equipment.** The Supply and Installation shall include complete set of equipment including accessories and spares as described in the subsequent paragraphs of the "Technical Specification" (Annexure I)

3.3 Installation, Demonstration and User Acceptance Testing:

3.3.1 The supplier is required to Supply and Installation the whole of equipment within 45 days from the date of work order and does the installation and demonstration of the equipment within 15 days from the arrival of materials at the IMU's site; otherwise the penalty clause will be applied.

3.3.2 The successful Bidder shall depute their Service Engineer for demonstration or calibration of the equipment. The Service Engineer shall demonstrate operation of equipment to the

satisfaction of IMU - Navi Mumbai Campus. IMU-Navi Mumbai Campus may request to demonstrate the functioning of the equipment, after installation, by asking to perform a few experiments and verification of the results either by theoretical or other practical means.

3.3.3 In case of any miss happening /damage to equipment and supplies during the carriage of supplies from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own risk. Supplier will settle his claim with the insurance company as per his convenience. IMU will not be liable to any type of losses in any form.

3.3.4 The demonstration proposed to be done by the bidder in proof of correct working of the entire set up both individually and as an integrated system has to be specified in the technical bid format in Annexure. Such demonstration should be acceptable to IMU. If the demonstration proposed by the bidder is not acceptable to IMU, at its discretion either reject the tender or alternatively ask the bidder to do some other demonstration which found by IMU, to be more appropriate.

3.4 Inspection and Tests. The Supply and Installation may be subject to inspection by a reputed external organisation or by internal Committee with external participation appointed/nominated by IMU. This clause should be read in conjunction with clause 3.5. The compliance of the equipment with the requirements mentioned in Technical specifications and elsewhere in Tender document should be verifiable with supporting documents like OEM's manual, Certification from OEM etc. the certificate should be valid.

3.4.1 The above tests shall demonstrate the satisfactory operation of integrated system covering the full range of facilities of the equipment.

3.4.2 The acceptance tests for supplied goods shall be carried out at IMU by the supplier with the participation of concerned personnel from IMU.

3.4.3 In case of the acceptance tests are not concluded to the satisfaction of IMU the supplier shall repair or replace, at the supplier's cost, the whole or any part of the equipment as may be necessary for conclusion of the acceptance tests to the satisfaction of IMU within the reasonable period agreed by IMU. Demonstration of performance of the equipment should be done after such repair / replacement for acceptance of IMU.

3.4.4 IMU reserves the right to accept the delivered items with deviations, provided the supplier agrees to rectify the deviations within an acceptable time period. Regarding the acceptance date, decision of IMU would be final.

3.4.5 The supplier shall provide necessary consumables till the completion of acceptance testing, without any additional cost.

3.4.6 The All parts and equipment should be brand new and unused Refurbished items shall not be provided.

3.4.7 The equipment shall be robust for academic use and shall have to produce results with accuracy, as determined reasonable by IMU.

3.5 Availability of Spare Parts. The Supplier would be required to provide details of all the hardware used in the system. For commercially off the Shelf (COTS) item name of manufacturer and distributor. For customised or manufactured items the supplier will have to intimate basic technical information without affecting his IPR rights.

3.5.1 The Successful Bidder shall stand guarantee for the Supply and Installation of spares of all the equipment under the scope of Supply and Installation for a minimum period of 10 years from the date of commissioning the system. He is also to guarantee that in the event of discontinuation of a part by the manufacturer the system maintainability would not be affected for a period of 10 years from the start date of operation.

3.5.2 The purchaser may elect to purchase COTS items from the manufacturer/dealer providing that this election shall not relieve the Supplier of any warranty obligations under the Contract.

3.5.3 In the event of termination of production of the spare parts the company has to give advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements.

3.5.4 Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

3.5.5 Supplier shall carry sufficient inventories to assure ex-stock Supply and Installation of consumable spares for the Goods. Other spare parts and components shall be supplied as promptly as possible but in any case within one month of placement of order.

3.6 Replacement of Defective Equipment. If any of the equipment supplied by the supplier is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the IMU will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the supplier with 18% interest per annum if such payments for such equipment have already been made. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 30 days on receipt of the intimation from this office at the cost and risk of supplier including all other charges. In case supplier fails to replace above item as per above terms & conditions, IMU may consider 'Banning' the supplier and any other remedies, as deemed fit by IMU.

3.7 Supply and Installation of Manuals & Drawings.

3.7.1 Two Sets of operation and maintenance instruction manuals for the Simulator shall be supplied to NMC.

3.7.2 Complete technical and functional specifications, operation and maintenance manual for each hardware/cards on the equipment with part numbers and model de-codification documents, to be supplied in original, photocopy is not acceptable.

3.7.3 Complete engineering details of each system as required for the purpose (experiments and research) the equipment's are bought.

- 3.7.4 Complete system wiring details, input, output, wiring details as applicable to the scope of supply.
- 3.7.5 Operation and maintenance manuals for the scope of Supply and Installation including computers, Data Acquisition Units, interface devices etc. (to be supplied in original, photocopy is not acceptable).
- 3.7.6 The party shall Supply and Installation all the software with proper license (including Windows, PC- Motherboard drivers (as applicable to the supplied electronic data acquisition units), and any other software as required. The supplied software should comply appropriate software policy norms.
- 3.7.7 One set of service agents and depots lists shall be supplied along with the equipment.
- 3.7.8 In addition to the Manuals given by the Manufacturers, the successful Bidder shall prepare full documentation.
- 3.7.9 The Supplier shall provide soft copy of all the manuals, and all the software on CD in two sets.

3.8 Documentation.

- 3.8.1 The successful bidder shall provide IMU Navi Mumbai Campus with necessary documents including the following.
- 3.8.1.1 Operational and Maintenance Manuals of equipment.
 - 3.8.1.2 Equipment serial numbers and models.
 - 3.8.1.3 Test Certificates, Licenses if any.
 - 3.8.1.4 Acceptance test results and acceptance status.
 - 3.8.1.5 Training Material.
 - 3.8.1.6 Full documentation with the software on CDs.
 - 3.8.1.7 Four sets of hardcopy of the above shall be handed over to nominated personnel of IMU. Soft copy of the documents shall also be provided where applicable. Handing over of documents to IMU by supplier is a pre-requisite for Acceptance.
 - 3.8.1.8 Manuals for the instruments are to be supplied with respect to operation, maintenance, ordering spares / technical services.

- 3.9 **Power Tolerance.** The Primary power Supply and Installation for the system shall be 220 V Single Phase or 440 Volts Three Phase, frequency 50 Hz. The input power Supply and Installation tolerance should be +/- 15% for voltage variation and +/- 2 Hz. The Supply and Installation system for the simulator should have provision for online UPS to cater for full system load and should have surge protection plus EMI interference protection. It should be capable of withstanding permissible voltage and frequency variations without any damage to the equipment or loss of the information.

3.10 Data Storage capability. The equipment should be capable of storing sufficient measured data history in the equipment and should be able to transfer the data stored into a computer. The scope of Supply and Installation includes all means by way of drivers, software and interface cables and adapters to facilitate such transfer.

3.11 Training and Support.

3.11.1 The supplier shall impart training to four persons at IMU - Navi Mumbai Campus on operation of the Simulators. The training will be conducted as and when software/hardware upgraded or any other parameters altered by the Manufacturer/Supplier. Periodical refresher training may need to be imparted.

3.11.2 The supplier shall make his own arrangements for supplying training material, equipment required for training etc. IMU Campuses will provide necessary space, infrastructure free of cost for conducting the training.

3.11.3 The training provided by the supplier shall cover. Operation of the equipment to exploit all the available features.

3.11.4 On completion of training, the supplier shall submit an evaluation report on the participants along with course details.

3.11.5 Completion of training is a pre-requisite for acceptance of the equipment.

3.11.6 All charges pertaining to the training shall be part of the price bid.

3.11.7 Support the operators through help desk (online plus telephonic support) and visits to the sites (at his own cost) as may be required. The number of visits may be specified in the pre-bid meeting if any questions are raised on this.

3.12 Acceptance of Equipment.

3.12.1 The activity shall be deemed to have been completed with the completion of Supply, Installation, Commissioning, Training and putting in to operation of Simulators at IMU-Navi Mumbai Campus. However, the Supply and Installation shall be complete only upon certification to this effect issued by IMU's Consignee i.e. the Director of IMU -Navi Mumbai Campus.

3.12.2 Upon completion of Supply and Installation/ work and after successful completion of other prerequisites like acceptance testing, Training etc., as prescribed in this document, IMU shall receive a written undertaking from the supplier that the Supply and Installation/ works has been completed and accordingly a certificate of completion would be issued in respect of the supply/works. The warranty period for the supplied system would commence from the date of Acceptance by IMU - Navi Mumbai Campus.

3.13 Bidder's Representations and Warranties. The selected bidder has to confirm to the IMU that:-

3.13.1 He has the capability to duly perform its obligations in accordance with the terms of the

tender and to the satisfaction of the IMU.

3.13.2 The execution of the Supply, Installation, Commissioning, Training and putting in to operation of Simulator at NMC by the Bidder who does not and will not violate, breach any covenants, stipulations or conditions of any Agreement, Deed entered into by the Bidder with any third parties.

3.13.3 Bidder shall abide by all laws of the land including, Companies Act, Taxation laws, and all other statutory and other obligations applicable to this contract for Supply and Installation and IMU will not be responsible non-compliance, if any, by the supplier, in any way what-so-ever.

3.13.4 Provide the software updates free of charge during the period of Warranty and comprehensive AMC which is integral to this proposal.

3.14 **Bidder's Covenants.** The Goods/ Services to be supplied by the bidder shall be of the quality or sort specified and in every respect equal and answerable to the specifications sent with the tender and shall be subject to the approval of the IMU.

3.14.1 Supply, Installation, Commissioning, Training and putting in to operation of Simulators at NMC are to be completed, free of delivery charges as per specified time on Door delivery basis.

3.14.2 Rejected Goods shall be removed by and at the expenses of the bidder within seven days after notice. If not taken away so, the IMU may seize the goods or remove the materials on its own and charge the bidder with all expenses incurred on such removal.

3.14.3 Any notice to the successful bidder shall be deemed to be sufficiently served, if given or left in writing at his usual or latest known place of business or sent to the email address specified in the bid submitted.

3.14.4 In these conditions unless there is something in the subject or context is inconsistent there with words implying the singular shall include the plural and vice-versa words implying the masculine gender shall include the feminine and the words implying persons shall include bodies corporate/firms etc.

Sd/-
Deputy Registrar
Indian Maritime University
Navi Mumbai Campus

TECHNICAL SPECIFICATIONS OF ECDIS SIMULATOR**Objectives of ECDIS Simulator**
(Reference DGS Training circular 03 of 2009)

1. The Simulator should conform to meet the STCW requirements in the use of ECDIS, as revised by the 2010 Manila Amendments, specifically as these apply to Tables A-II/1, A-II/2 and A-II/3 and also to revised guidelines pertaining to training and assessment in the operational use of ECDIS in Table B-I, assessment in navigational watch keeping and evaluation of competence, both in table B-II. This course is also designed to meet the requirements of IMO model course 1.27 as revised (2012 Edition)

2. Simulator Technical Specification:

- The ECDIS simulation equipment must meet all relevant performance standards set out in Regulation I/12 and section A-I/12 taking into account section B-I/12 of the STCW Convention as amended in 2010. It should also meet all capabilities of performance standards adopted by IMO and DG Shipping guidelines as described in STCW2010 circular no. 29 of 2012 and its subsequent amendments and revisions, if any. It should also be type approved by any of the IACS members.
- The ECDIS should be type approved.
- The ECDIS simulator should consist of Twelve Student stations and one Instructor station.
- Each student station should have independent use of simulator with a resident installation of ECDIS with ENC data.
- The Instructor station should be equipped with equipment necessary to monitor the activities of student stations.
- The Instructor station should be equipped to see a bird's eye view of the current exercise being played on the student stations.
- All work stations should be networked to the Instructor station running an integrated navigation simulation application that delivers to each workstation high-fidelity own ship conning controls, navigational aids including GPS, Echo sounder, speed log, Autopilot, AIS, and Radar/ ARPA, and a visual scene, all of which are interfaced to the ECDIS. Additionally it should also be interfaced with Radar data including raw video, cursor, EBL and VRM.
- All ECDIS systems should have at least three Electronic Navigation Charts (ENC)/ System Electronic Navigation Charts (SENC) per area and it should have the facility to update the charts.
- Each piece of simulated equipment installed in the simulator should have a similar functionality to corresponding real equipment used on board.
- Simulated equipment shall correspond to the applicable IMO (International Maritime Organization) performance standards (functionality requirements only).

- Each piece of simulated equipment shall include the behavioural characteristics, e.g. accuracy, reaction time and other limitations, related to the corresponding equipment in use on board ship.
- User manuals for the simulator equipment and operational controls should be available to the learners for use during exercises.
- One actual ECDIS equipment with keyboard, which is being used on-board ship, shall be provided.
- Facility of audio-video recording of all students' stations shall be provided. At least six video cameras of HD resolution with recording capacity of each camera for eight hours at-a-stretch shall be provided. Provision should be there to save/ transfer the recording to a portable storage facility.
- A separate screen/ computer shall be available to plan the route other than
- the ECDIS being used. This should be connected to the ECDIS station with network so as to transfer route, charts update etc.

➤ SHIP TYPES AND AREAS

- The simulator should include mathematical models of at least 15 types of own ship. The models should resemble accurately the behavioral characteristics of an actual ship of that size, power and type, and realistically behave as per the hydrodynamic effects of wind, current and swell.
- The simulator should be able to present at least 100 different types of target ships, each equipped with a mathematical model, which accounts for motion, drift and steering angles according to the forces induced by current, wind and wave.
- The simulator should be able to provide at least 6 international geographical visual areas for exercises which include open sea and high density traffic areas.

● DETAILED SPECIFICATIONS:

➤ A. Electronic Charts:

- The S-57 ENC (Electronic Navigation Chart)/ SENC (System Electronic Navigation Chart)
- Three charts each for at least six of the following training areas, such as -, Dover straits, Singapore straits, Bosphorus straits, San Francisco approaches, Gibraltar straits and an Open Sea Area should be installed in the ECDIS workstations.
- Best scale charts for that area should be used.
- Three different scale charts of any one area to demonstrate the Variations in contents of the chart should be provided.

- The proprietary vector chart should be used to demonstrate the differences between the ENC and proprietary charts as well as to show smooth transition when navigating from one chart cell to the next.
- ARCS-one chart for any one of the above areas. The ARCS chart cell should be adjacent to the ENC chart to enable demonstrate the differences between the two as well as to show smooth transition when navigating from one chart cell to the next.

➤ **B.Visualization:**

- The visual system should show objects with sufficient realism (detailed enough to be recognized as in real life).
- The visual system should replicate movements of all Own Ships and target ships according to 6 degrees of motion freedom. It should also have the facility to take accurate visual bearing.
- The simulator should provide a realistic visual scenario by day, dusk or by night, including variable meteorological conditions, changing in time. It should be possible to create a range of visual conditions, such as rain, fog or clear visibility.
- There should be a proper correspondence between the visual picture, radar and ECDIS.
- Facility to provide for viewing scene by scrolling in all directions horizontally and vertically or horizontally without scrolling where fixed visual channels cover 360 degrees.
- C. Simulator Capabilities
- The model should realistically simulate own ship hydrodynamics in open water conditions, including the effects of wind forces, wave forces, tidal stream and currents.
- The model should realistically simulate own ship hydrodynamics in restricted waterways, including shallow water bank effect and interaction with objects.
- The target ships should be equipped with navigational lights, shapes and sound signals, according to the International Convention for the prevention of collisions at sea, 1972 (ROR).
- The simulator should be able to present at least 100 different target ships at the same time, where the instructor should be able to program voyage routes for each of the target ships individually.
- The simulator should be able to present different types of target ships, each equipped with a mathematical model, which accounts for motion, drift and steering angles according to forces induced by current, wind or wave.
- The simulator should be capable of providing environmental sound i.e. wind, waves etc. according to conditions simulated.
- The simulation should include the depth according to charts used, reflecting water level according to tidal water situation.

- The simulator should provide waves & s well, variable in direction and strength.

➤ **D.Student Station:**

- Each student station should have four monitors & should display the following separately and continuously;
- Radar – at least 19" (270x270 mm display 4:3ratio) LCD/ LED.
- Radar/ ARPA/ AIS data.
- ECDIS – at least 19" (270x270 mm display 4:3ratio) LCD/LED.
- ECDIS-integrated own ships in lab network with total navigational and ship control (virtual) functionality. It should also have radar overlay facility as on actual ECDIS.
- ECDIS Route Planner – at least 19" (270 x 270 mm display 4:3 ratio) LCD/LED
- An independent system for installing & updating charts, route planning etc.
- Conning + Visual – at least 26" LCD/LED
- Steering /engine controls /Echo-sounder,AIS, Speed Log, Auto- pilot, GPS and visualization.
- Auto-Pilot. The Auto-Pilot should have the following capabilities:-
 - Weather adjustment (yawing and course control).
 - Rudder limit setting.
 - Counter Rudder.
 - Off-course alarm.
 - Setting of constant rate of turn.
- Echo Sounder
- Simulation of complete echo sounder should be provided. Facility to change gain adjustment, change over from DBS to DBK and vice versa etc, should be provided. Alarm for shallow water depth should be provided.
- Electronic Navigation Aids
- Global Position System (GPS) - Simulation of all facilities of a standard GPS receiver should be available. This should include display of latitude, longitude, course and speed over ground by the own ship, UTC, normal navigational calculation functions such a Great Circle, Thumb line sailing, 100 way points, Alarms for X-track error, anchor drag, approaching way point, MOB etc.
- Radar set with Automatic Radar Plotting Aids(ARPA)

- It should be possible to simulate both 3 cms and 10 cms radar. The radar should be capable of being operated in the relative motion Head up, North up and Course up mode facilities and sea/ ground stabilized true motion modes (see STCW Section A-1/12.4., A-1/12.5 and paragraph 2 of section B-1/12).
- The radar simulation equipment should be capable of generation of interference, noise, Radar/ ARPA failure, yawing, clutter, spurious and false echoes, blind sector, parallel index lines for sea and for river navigation, model weather, tidal streams, current, shadow sectors, other propagation effects, generate coastlines, navigational buoys, search and rescue transponders (see STCW Section A-1/12.4.2).
- The ARPA simulation equipment should incorporate the facilities for:-
- Manual and automatic target acquisition.
- Past track information.
- Use of exclusion areas.
- Vector/ graphic time and data display.
- Trial manoeuvres.
- Electronic Chart Display & Information Systems (ECDIS)
- Should be able to display selected information from an Electronic Navigation Chart (ENC)/ System Electronic Navigation chart (SENC) with positional information from navigation sensors like AIS, Radar and by displaying additional navigation-related information to assist the mariner in route planning and route monitoring. (See STCW paragraph 35 of section B-I/12). Normal features for ECDIS system should be available including chart scaling, zooming, review, selectable layer, route planning and monitoring.
- A facility should be provided to communicate between student stations to interact with one another.
- Chart Table with paper charts and publications
- Chart Table will resemble a ship's Chart Table of minimum dimension 4'x 3'. Paper charts and publications provided should be appropriate for the areas in use.
- Projector, projector pull-down screen & whiteboard
- A high resolution projector which should project Instructor ECDIS on 'pull-down screen'. The screen size should be of size 8'x 6'
- The whiteboard should not be placed under pull-down screen. Should be placed separately. The board should be of size 6'x 4'.

➤ **E.Instructor:**

- Instructor station should have three monitors, each of at least 19"(270x270 mm displays) LCD/ LED, with compatible Operating System.
- The instructor should be able to:
 - Set Parameters and have a bird's eye view.
 - Design and execute the exercise.
 - Start, halt, reset in time and place, and restart an exercise.
 - Visually observe the trainees, their actions and follow the proceedings of an exercise.
 - Change the operating environment during the running of an exercise, viz. should be able to alter the wind (direction and force), swell (direction and height), current (direction and rate), cloud cover, state of visibility, etc.
- The Instructor should also have an ECDIS computer with 19" monitor (4:3 ratio), which should be connected to projector.
- A facility should be provided to communicate between the Instructor and student stations.
- Assessment and Evaluation System
 - Assessment and Evaluation System should be available.
 - The system should include an integrated system in order to evaluate the education and training effort.
 - The system should enable the instructor to make a structured and objective assessment of a student's performance during the exercise and produced a report of his performance on completion of the exercise.
 - The results of the exercise assessment should be presented in an easily understandable and clearly readable format, numerical as well as graphical. The outcome of the assessment must be presented on the screen and as a printout.
- De-Briefing System
 - De-Briefing system should be present at Instructor console.
 - It should be possible to replay a full exercise showing the actions performed by the trainees.
 - Ability to store played exercise data on disk-system.
 - The simulator should allow for replay of recorded exercise data in real time, fast/ slow motion and "Jump" forward/ backward to any specified time.
 - Ability to project recorded exercise for de-briefing purpose on: 8'x 6' screen.
- IT Infrastructure for Instructor & Students' stations

- The Server and Computers for Instructor & Student stations should be of reputed make /brand having sufficient capacity and speed to run the exercise smoothly.
- F. Desirable Features
- Provision for the simulation of AtoN – A Virtual aid to navigation which is already existing a number of waterways (It is actually quite easy to simulate – a triangular mark).
- Chart correction facility may be included as part of hands on training.
- G. Long Term (at Least 10 years from the date of supply) Support
- Long term (at least 10 years) support to be included as part of initial costing for the following:
- System Software Upgrade.
- Provision of including additional route chart on as required basis.

LIST OF DOCUMENTS TO BE PROVIDED BY THE SUPPLIER

Sr.No.	Name of the Books/ Reference	Quantity
1	A 1 IMO Model Course 1.27(2012Edition), A2 Audiovisual aids: Video/DVD Player.	1Set 1Set
1.1	Recommended Books: <ul style="list-style-type: none"> ● T1 ECDIS and Positioning by Dr. Andy Norris Publisher: The Nautical Institute ● T2 ECDIS Procedures Guide by Malcolm Instone, Publishers: Witherby ● T3 The Electronic Chart, 3rd Edition, Authors: Horst Hecht, Bernhard Berking 	1Set 1Set
	<ul style="list-style-type: none"> ● Bibliography: ● B 6 Simulator reference manual (Manufacturer, Date) ● B 7 User's manual accompanying the ECDIS software utilized during the course ● B 11 IHOS-52 Specifications for chart content and display aspects of ECDIS; 5th ed..., as amended (IHB, 2001) ● B13 IHOS-57, Electronic Navigational Chart (ENC), Edition 3.1 	1Set 1Set 1Set 1Set

Sr.No.	Name of the Books/ Reference	Quantity
	Reference Material: <ul style="list-style-type: none"> ● R 1 STCW 2010 ● R 2 SOLAS Convention, as amended 2009, IMO Res. MSC 282 (86) ● R 4 ECDIS Performance Standards, IMO Resolution, ● IMO Resolution A.817 (19) as adopted 11/1955 ● R 5 IMOMSC.1/ Circ.1391, Operating anomalies identified within ECDIS ● R 6 IMOSN.1/ Circ.266/ Rev.1, Maintenance of ECDIS software ● R 7 Guidelines for Voyage Planning, IMO Res. A.893(21) ● R 8 COLREGS 1972,as amended 	1Set 1 Set 1Set 1Set 1Set 1Set 1Set

(Technical Bid-Cover 1)

[On the Letter head of the Bidder]

Tender for “Supply and Installation of ECDIS Simulator (12 Station + 1 Instructor Station)” at IMU – Navi Mumbai Campus.

Ref: IMU-NMC/ECDIS Simulator/2023/0036

dated: 08.12.2023

From
Name & Address of the Bidder

Ph:

Email:

To
Deputy Registrar (Admin),
IMU, Navi Mumbai Campus,
(T S Chanakya)
Karave, Nerul,
Navi Mumbai-400 706

Dear Sir,

We hereby submit our Technical Bid for “Supply and Installation of ECDIS Simulator (12 Station + 1 Instructor Station)” at IMU – Navi Mumbai Campus.

1. Compliance Statement.

Sl. No	Item Description	Compliance to Specification Yes/No
1	Whether the bidder could Supply and Installation the simulators as per the technical specification in Annexure -I and as per NIT	

2. Experience in the business of providing Similar Supply and Installation Since 2018-2019 or earlier.

SI No	Eligibility Criteria Details	Bidders Confirmation
1	Whether in the business of Providing Similar Supply and Installation Since 2018-2019 to 2022-2023 or more to meet this eligibility criteria (Yes / No)	
a)	Supplier in business Since when	
b)	Mode of Proofs enclosed:	Page No.

(i)		
(ii)		
(iii)**		

** - May add more rows as required

3. A. Similar Supply and Installation with minimum value specified in any one of the three set of values (a or b or c) carried out during the last five financial years (2018-2019 to 2022-2023):

Sl. No	Eligibility Criteria Details	Bidders Confirmation
A	Whether carried out similar Supply and Installation with minimum value specified in any one of the three set of minimum value of contract (a or b or c) carried out during the last any one of the five financial years (2018-2019 to 2022-2023) & thereby meet this eligibility criteria (Yes / No)	
a)	At least one similar Supply and Installation with a minimum value of Rs.62.40 lakhs: (Yes / No)	
b)	At least two Similar Supply and Installation with a minimum value of Rs.39 lakhs each (Yes / No)	
c)	At least three Similar Supply and Installation with a minimum value of Rs.31.20 lakhs each (Yes / No)	

3. B. Details of similar Supply and Installation with minimum value specified in any one of the three set of values (a or b or c) carried out during the last any one of the five financial years (2018-2019 to 2022-2023) [in proof of sl. No. 3-A above]:

Sl. No.	Client-Name Address	Equipment Supplied & Commissioned	Work order ref	Value of Supply and Installation (Rs. in Lakhs)	Date of Commissioning by Bidder	Present Operational Status

** - May add more rows as required

4. Minimum Average Annual turnover.

Sl. No.	Eligibility Criteria Details	Bidders Confirmation	
(i)	Whether the bidder has an average annual turnover of at least Rs. 3 Crores during the past 5 financial years i.e. 2018-19 to 2022-23. (Yes / No)		
	Year / Proof enclosed	Turnover	Page No.
(ii)	2018-19		
(iii)	2019-20		
(iv)	2020-21		
(v)	2021-22		
(vi)	2022-23		

5. Other Eligibility Criteria & Essential requirements and details.

Sl. No.	Particulars	Bidders Confirmation / Details	Details of Proof Enclosed	Page No.
a	Whether the bidder submitted the copy of Income Tax return for last three financial year i.e. 2020-21, 2021-22 & 2022-23 (Assessment year 2021-22, 2022-23 & 2023-24)		Copy of Income Tax return	
b	Whether the Bidder have a valid PAN and GST Registration [YES/ NO]		Copy of PAN & GST Registration Certificate enclosed	
c	Whether the Bidder has been debarred or blacklisted by any Government department / agency so far on account of fraudulent or corrupt practices or inefficient / ineffective performance [YES/NO]		Declaration to this effect	
d	OEM Authorisation certificate – Annexure –III		Yes / No	
e	Other Modes of Proof enclosed			
f	<u>Name, Designation, Address and Telephone No. of Authorized person (s) of Firm / Agency:</u>			
g	Type of the Organisation (Sole Proprietorship/ Partnership/Pvt Ltd Co / Public Ltd Co. etc.			
h	Name of the Authorised Signatory with Designation			

i	Address of the Bidders	
j	Email Address	
k	Contract Numbers	
l	Any other Remarks from Bidders:	
m	Specific site preparation / site infrastructure required for effective functioning of equipment required (Yes/ No). If yet to be detailed in this column or to be enclosed.	

I am also enclosing bidder memorandum and undertaking duly signed by me /us.

Declaration

I / We certify that all the particulars furnished above are true and correct and based on documentary evidence, and that I /we understand that if any of the above particulars is found to be false or misleading, our bid is liable to be summarily rejected at any stage and my /our firm is liable to be debarred by IMU for at least 3 years, in addition to any other right or remedy available to IMU including, Security Deposit etc.

Date:

Signature with Seal of Authorized Signatory

Place:

OEM'S AUTHORISATION CERTIFICATE TO THE BIDDER

To

Deputy Registrar (Admin),
IMU, Navi Mumbai Campus,
(T S Chanakya)
Karave, Nerul,
Navi Mumbai-400 706

Ref:IMU-NMC/ECDIS Simulator/2023/0036

dated:08.12.2023

Sir,

Where as _____ who are official producers / authorized Sales and Service dealers, of do hereby authorize _____ located at _____ (to submit a bid and sign Tender with you for resale and support of the following Products supplied by us, for the quantities, specifications and delivery schedule called for by the technical specifications associated with the above Invitation for Bids:

Product Description	Type

We hereby extend to you a full guarantee and warranty and maintenance support, availability of spares for 10 years from the date of submission of the tender, in accordance with the Conditions of Tender along with the standard product warranty, and duly authorize the Bidder to act on our behalf in fulfilling all warranty and support obligations with respect to the above-listed products offered for resale by the Bidder in relation to this Invitation for Bids.

Name _____ in the capacity of _____
Signed Duly authorized to sign the authorization for and on behalf of _____ Dated
on day of ____

Note: This letter of authorization must be on the letterhead of the supplier, must be signed by a person competent and having the power of attorney to bind the supplier, and must be included by the Bidder in its bid.

BIDDER MEMORANDUM & UNDERTAKING

[to be signed enclosed with technical bid by the bidder.]

Tender IMU-NMC/ECDIS Simulator/2023/0036 dated 08.12.2023

1. General Description:
Tender for “Supply and Installation of ECDIS Simulator (12 Station + 1 Instructor Station)” at Indian Maritime University – Navi Mumbai Campus.
2. Period of Contract.Outright Supply and Installation with two-year warranty and Comprehensive Annual Maintenance Contract for subsequent 3 years.
3. Forfeiture of Undertakings by the Bidder
 - a) Should this tender be accepted in whole or in Part, I / we here agree to terms and abide and fulfil all conditions annexed hereto and all the terms and provisions contained in the all parts of the tender documents so far as applicable and/or in default thereof the EMD paid by me will be forfeited in favour of IMU – Navi Mumbai Campus.
 - b) To execute all the Supply and Installation and services referred to therein the tender documents upon the terms and conditions contained or referred to therein and carryout such deviations as may be ordered by IMU – Navi Mumbai Campus.
 - c) This is to certify that I/We before signing this bid have read and fully understood all the terms and conditions and instructions contained therein and undertake to abide by the all the terms and conditions laid down in the tender/bid documents.
4. I/We abide by all the laws and statutory provisions applicable to the contract.

SIGNATURE.....
FOR AND ON BEHALF OF
DATE.....

PRICE BID (Cover II)

Note: This Memorandum forms part of the Tender must be on the letterhead of the bidder, duly filled in, signed & sealed and enclosed along with the Tender.

To
Deputy Registrar (Admin),
IMU, Navi Mumbai Campus,
(T S Chanakya)
Karave, Nerul,
Navi Mumbai-400 706

Ref: Tender IMU-NMC/ECDIS Simulator/2023/0036

dated 08.12.2023

Sir,

WHEREAS _____ who are official producers /
Authorized Sales and Service dealers, of _____ do
Hereby authorize _____
located at _____ to submit a bid and sign Tender with you for sale and
support of the following Products supplied by us, for the quantities, specifications and delivery
schedule called for by the technical specifications associated with the above Invitation for Bids:

We hereby extend to you a full guarantee and warranty and annual maintenance support,
availability of spares for the period covering warranty and comprehensive annual maintenance
contract period from the date of submission of the tender.

SIGNATURE.....
FOR AND ON BEHALF OF
DATE

PRICE BID

“Supply and Installation of ECDIS Simulator (12 Station + 1Instructor Station)” at Indian
Maritime University – Navi Mumbai Campus as per the tender document complying with all
the conditions stipulated in various parts of the tender documents including its annexure and
schedules.

Detailed Price Bid is enclosed as Schedule 1

Date:
Place:

Yours faithfully,

Signature with Seal
Of Authorized Signatory

SCHEDULE-1 PRICE BID FORMAT

Supply and Installation of 01 Number of ECDIS Simulator at Indian Maritime University – Navi Mumbai Campus as per the tender document complying with all the conditions stipulated in various parts of the tender documents including its annexures and schedules.

Ref: Tender No. IMU-NMC/ECDIS Simulator/2023/0036

Dated: 08 /12/2023

Sl. No	Description and Specifications of the items.	Make & Model	Qty	Price of the equipment	Comprehensive Onsite Maintenance for 3 year Immediately after Warranty of 2 year (Amount)	Total
				A	B	A + B
1	ECDIS Simulator (12 students and 1 instructor station) (Supply and Installation with ready to use condition Only for ECDIS Software)	As per DG requirement	1			
2.	Hardware components required for 12 students and 1 instructor station, (Supply and Installation with ready to use condition Only for Hardware including suitable operating system)		13 Stations			
	GST charges					
Total (Including GST)						
	Total amount in words (Including GST):					

Authorized Signature with seal

FORM OF BANK GUARANTEE

Bank Guarantee No: _____ Date: _____ Valid up to _____

To
Deputy Registrar (Admin),
IMU, Navi Mumbai Campus,
(T S Chanakya)
Karave, Nerul,
Navi Mumbai-400 706

Sir,

In consideration of Indian Maritime University, Navi Mumbai Campus having its Office at Karave, Nerul, Navi Mumbai-400 706 (hereinafter referred to as "IMU") which expression shall mean and include its successors and assignees and having an Order No. _____ dated _____ for _____ (hereinafter called "The Contract") which expression shall include all the amendments thereto with _____ having its Registered Office at _____ (hereinafter referred to as "The Supplier"), which expression shall unless repugnant to the context or meaning thereof, shall include all its successors, administrators, executors and assignees and IMU, having agreed that the Supplier shall furnish the IMU, a Bank Guarantee for of _____ (Rupees _____ only) as per the terms of Tender document No _____ dated _____ and Order dated _____.

We, _____ registered under the laws of India having its registered /head office at _____, (hereinafter referred to as the Bank) which expression shall unless repugnant to the context of meaning thereof, include all its successors, administrators, executors and permitted assignees do hereby guarantee and undertake to pay immediately on first demand in writing and any/all monies to the extent of Rs. _____ (Rupees _____ only) without any demur, reservation, contest or protest and/or without any reference to the Supplier. Any such demand made by the IMU, on the Bank by serving return notice shall be conclusive and binding, without any proof, on the bank as regards the amount due and payable, notwithstanding any dispute pending before any Court, Tribunal, Arbitrators or any other Authority and/or any other matter or things whatsoever, as liability under these presents being absolute and unequivocal. We agree that Guarantee herein contained shall be irrevocable and shall continue to be enforceable until it is discharged by IMU, in writing. This guarantee shall not be determined, discharged or affected by liquidation, winding up, dissolution or insolvency of the Supplier and shall remain valid, binding and operating against the Bank.

The Bank also agrees that IMU, of its option shall be entitled to enforce this Guarantee against the bank as a principal debtor, in the first instance, without proceeding against the Supplier and notwithstanding any security or other guarantee that IMU, Navi Mumbai may have in relation to the Supplier's liabilities.

The Bank, further agrees that IMU, shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said

Contract or to extent time of performance by the said Supplier from time to time or to postpone for any time or from time to time exercise of any of the powers vested in IMU , against the said the Supplier and forebear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Supplier or for any forbearance, act or omission on the part of IMU , or any indulgence by IMU , to the said Supplier or any such matter or thing whatsoever which under the laws relating to the sureties would, but for this provision have effect of so relieving us.

The Bank further agrees that the guarantee herein contained shall remain in full force until _____ and all dues of IMU Navi Mumbai under or by virtue of this contract have been fully paid and its claim satisfied or discharged or till IMU, discharges the guarantee in writing, whichever is earlier.

This guarantee shall not be discharged by any change in our constitution, in the constitution of IMU, of that of the Supplier.

The Bank confirms that this Guarantee has been issued with observance of the appropriate laws of the country of issue.

The Bank also agrees that this Guarantee shall be governed and construed in accordance with Indian Laws and subject to the exclusive jurisdiction of Indian Court of the place from where tenders have been invited.

We further agree that as between us and IMU, for the purpose of this Guarantee any notice given to us by IMU, that the money is payable by the Supplier and any amount claimed in such notice by IMU, shall be conclusive and binding on us notwithstanding any difference between IMU, and the Supplier or any dispute pending before any Court, Tribunal Arbitrator or any other authority. We further agree that this Guarantee shall not be affected by any change in our constitution or that of Supplier. We also undertake not to revoke this Guarantee during its currency.

Notwithstanding anything contained herein above, our liability under this Guarantee is limited to Rs. ____/- (Rupees ____ only) and Guarantee shall remain in force until ____.

We must receive any claim under this Guarantee before the expiry of this Bank Guarantee. If we have received no such claim by the said date, the rights of IMU, under this Guarantee will cease. However, if such a claim has been received by us within the said date, all the IMU, Navi Mumbai's right under this Guarantee shall be valid and shall not cease until we have satisfied that claim.

In witness whereof, the Bank through its authorized officer has set its hand and stamp on this _____ Day of _____ 2023 at _____.

Date:

Authorized Signatory of the bank (with Bank Seal)

Place:

Witness No.1

Witness No.2