



भारतीय समुद्री विश्वविद्यालय INDIAN MARITIME UNIVERSITY

(Central University, Govt. of India)

HEADQUARTERS

Ref. No. IMU-HQ/R/71/21/1/2021-PUR/EoI-01/2022

06.01.2022



INDIAN MARITIME UNIVERSITY

East Coast Road
Semmencherry
Chennai - 600119

EXPRESSION OF INTEREST (EoI)

Title : Partnering in the Development of Remotely
Operated Boat in shallow waters

Department : Consultancy Section

Email ID : headacademics@imu.ac.in

Phone no. : 044-24539029

EoI Ref. No. : IMU-HQ/R/71/21/1/2021-PUR

EoI Publishing date : 06.01.2022

EoI Pre Bid submission meeting : 13.01.2022, 11:30 AM (Due to covid restrictions,
the meeting will held through Video Conference.
Bidders can register through registration form
available at IMU Tender Page)

EoI Closing date & time : 25.01.2022, 11:30 AM

Manoj Kumar
06-01-22 1

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Mrs. S. S. S. S.

SECTION - 1

LETTER OF INVITATION

This EoI is specific to Indian Firms. In this regard, Indian Maritime University (IMU) seeks response for the Expression of Interest (EoI) from any Indian Company (herein after called APPLICANT) who are meeting the requirements of this EoI and are willing to partner for the **development and supply of qty.1 no. of remote operated survey boat with survey systems like single beam echo sounder for depth measurement in shallow waters.**

Interested Bidders may download the documents of EoI free of cost from www.imu.edu.in & <https://eprocure.gov.nic.in>. Bidders shall submit hard copy of EoI, completed in all respect along with all documents to the following address, on or before the last date of submission:

Registrar,
Indian Maritime University-Headquarters,
East Coast Road, Semmencherry,
Sholinganallur (PO),
Chennai-600 119
Tel: 044- 2453 9020

IMU reserves the right to select the partner, amongst the technically qualified parties identified through this EoI Process or through a separate tender. EOI can be considered as initial step for selection of bidder for the development of the remote operated survey boat as indicated above.

The detailed terms and conditions and other definitive documents of supply shall be mutually agreed upon.



SECTION - 2

DISCLAIMER

1. IMU, its employees and advisors make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the EoI document.
2. IMU may, in its absolute discretion, but without being under any obligation to do so, modify, amend or supplement the information in this EoI document.
3. The issue of this EoI does not imply that IMU is bound to select and shortlist any or all the participating firm. Even after selection of suitable participating firm, IMU is not bound to proceed ahead with the participating firm and in no case be responsible or liable for any commercial and consequential liabilities in any manner, whatsoever.
4. The participating firm shall bear all costs associated with the preparation, technical discussion/presentation and submission of EoI. IMU shall in no case be responsible or liable for these costs regardless of the conduct or outcome of the EoI process.
5. Canvassing in any form by the participating firm or by any other agency on their behalf shall lead to disqualification of their EoI.

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SECTION - 3

SCHEDULE OF EOI PROCESS & CONTACT DETAILS

A. SCHEDULE OF EoI PROCESS

The schedule of activities during the EoI Process shall be as follows -

SN	Critical Dates	Date & Time
1	Publishing Date	06.01.2022
2	Document Download Start Date	06.01.2022
3	EOI Submission Start Date	07.01.2022
4	Last date for queries/seeking clarifications	12.01.2022
5	EoI Pre Bid Submission meeting	13.01.2022, 11:30 AM (Due to covid restrictions, the meeting will held through Video Conference. Bidders can register through registration form available at IMU Tender Page.
6	Document Download End Date	25.01.2022
7	EOI Submission End Date	25.01.2022, 11:30 AM
8	EOI Opening Date	26.01.2022, 11:30 AM

B. CONTACT DETAILS

Submission of proposal:

Proposal (**Hard Copy Only**) super scribing the EoI Ref. number, EoI subject, last date for receipt of EOI .

All the correspondences shall be addressed to the below mentioned address.

Registrar,
Indian Maritime University-Headquarters,
East Coast Road, Semmencherry,
Sholinganallur (PO),
Chennai-600 119
Tel: 044- 2453 9020



SECTION – 4

DETAILS OF EXPRESSION OF INTEREST (EoI)

4.1. ABOUT IMU

The Indian Maritime University, established through an Act of Parliament (Act 22) in November 2008 as a Central University, is poised to play a key role in the development of trained human resource for the maritime sector. To facilitate and promote maritime studies, training, research and extension work with focus on emerging areas of studies like oceanography, maritime history, maritime laws, maritime security, search and rescue, transportation of dangerous cargo, environmental studies and other related fields, and also to achieve excellence in these and connected fields and other matters connected therewith or incidental thereto. To take appropriate measures for promoting innovations in teaching-learning process, inter- disciplinary studies and research; and to pay special attention to the promotion of educational and economic interests and welfare of the people of India.

4.2. Background of the Project:

A shallow water bathymetric survey requires more automation to reduce the risk to men and survey boat. In stretches with very shallow depth (e.g. inland waterways) the rapid variation in available draft makes it imperative to survey in a periodic manner. However, due to shifting shoals pose a danger to the conventional survey boat which requires an assured draft in the order of 1 – 2 meters. If the boat gets grounded besides the equipment damage the survey personnel also get stranded leading to higher cost on Insurance, damages and delays.

IMU intends to develop a remotely operated survey craft for shallow water applications. This vehicle shall have a catamaran as the craft fitted with an echo sounder, positioning system, propulsion system, control and data storage system; and communication system. This system shall be capable of being operated in autonomous mode as well as guided by radio frequency (RF) link from mother boat or a base station.

4.3. IMU's Plan for development:

The development project has been divided in following components:

- (a) Design
- (b) Fabrication of catamaran
- (c) Procurement and integration of sub-systems (Propulsion, position fixing, echo sounding, communication)
- (d) Development of navigation control software with accessories

The Bidder would be required to partner with IMU in the overall development of the above mentioned project in the selected components which are:



(b) Fabrication of catamaran

(c) Procurement and integration of sub-systems (Propulsion, position fixing, echo sounding, communication)

After the supply of catamaran integrated with the subsystems, IMU will further add features for autonomous operation and complete the system development. The Bidder shall carry out the changes if needed by IMU, to the installed systems to suit the overall performance required by IMU. However, these changes are in terms of configuration setting and adjustments in interfaces/integration and not for part replacements.

4.4. TECHNICAL REQUIREMENTS:

4.4.1. TECHNICAL SPECIFICATIONS - Fabrication of catamaran

- (i) Hull Form: Catamaran
- (ii) Length: 1.0 m
- (iii) Beam: 0.3 m (Demi hull)
- (iv) Depth: 0.2 m
- (v) Draft: 0.1 m
- (vi) Displacement: 40 kg

The Catamaran tentative dimensions are given above.

4.4.2. TECHNICAL SPECIFICATIONS - Supply and integration of sub-systems

- (i) GPS sensor
- (ii) Echo sounder
- (iii) Digital compass
- (iv) Thrusters
- (v) Battery pack
- (vi) Central processor
- (vii) RF link upto 1 km range

4.4.3. General requirements of the complete system:

- (i) Lightweight (< 40 kg)
- (ii) Remote Operation with minimum 1 km range with radio control.
- (iii) Autonomous operation along pre-programmed track.
- (iv) Integration of survey sensors and communication devices.
- (v) The thruster power requirement are of the order to a maximum usage of 3 hours of propulsion load per voyage.
- (vi) The shape of the draft to be a streamlined body with minimum drag.
- (vii) The thrusters of adequate capacity shall be used for propulsion and course correction in longitudinal and transverse directions as and when required.



(viii) Battery management system along with battery pack.

Specification for sub – systems are provided in separate **Annexure-3**.

4.5. **PURPOSE OF THE EOI**

- 4.5.1. To identify a reputed company capable of manufacturing the craft and supply and integrating the sub-systems as per the specifications provided.
- 4.5.2. The obligation of the Bidder includes supporting IMU during the developmental stage of the autonomous survey craft.

4.6. **SCOPE OF WORK:**

IMU is seeking response from companies willing to collaborate and jointly develop a remote operated survey craft integrated with sub-systems.

4.7. **INSTRUCTIONS**

- 4.7.1. Language: All correspondences and documents related to the EoI response shall be in English language only.
- 4.7.2. The participating firm shall abide by the terms & conditions, as applicable, of the EoI.
- 4.7.3. All pages of the EoI shall be duly signed by the authorised signatory.
- 4.7.4. Multiple proposals from the same participating firm should not be submitted.
- 4.7.5. The financial data must be submitted in Indian Rupees only.
- 4.7.6. IMU at their discretion shall inspect the participating firm works/office/reference site premises for the purpose of evaluation, as deemed necessary. IMU decision in this regard shall be final.
- 4.7.7. Any participating firm which has been debarred/blacklisted by Central/State Governments or by any entity controlled by Central/State Governments from participating in any of their project, as on date of submission of EoI, shall not be eligible to submit the EoI.
- 4.7.8. The applicant shall submit the responses which shall remain valid for 90 days after the last date of submission. IMU may solicit the applicants consent for an extension of the period of validity if so warranted.

4.8. **PROCESS TO BE CONFIDENTIAL:**

Information relating to the Design documentation, clarification of EoI and recommendations and details about this project shall not be disclosed by the participating firm to others. Any effort by participating firm to influence IMU processing of EoI or selection decisions may result in the rejection of the EoI.



4.9. **Corrigendum**

At any time before the last date of submission of EoIs, IMU may, for any reason, whether at its own initiative or in response to a clarification by an applicant, modify the EoI document. The amendment will be posted in the website and will be binding on the applicants, and the applicant will give due consideration to the same, while they submit their EoI, and would invariably enclose documents/ information, as required, on account of the amendment, as part of the EoI. IMU, may, at its discretion, extend the deadline for the submission of EoIs.

4.10. **MISCELLANEOUS:**

4.10.1. Right to accept or reject any or all Bids.

4.10.2. Notwithstanding anything contained in this EoI, IMU reserves the right to accept or reject any application and to annul the EoI process and reject all applications, at any time without any liability or any obligation for such acceptance, rejection or annulment and without assigning any reasons, thereof. In the event that IMU rejects or annuls all the applications, it may at its discretion, invite all eligible participating firms to submit fresh applications.

4.10.3. IMU reserves the right to disqualify any applicant during or after completion of EoI process, if it is found there was a material misrepresentation by any such applicant or the applicant fails to provide within the specified time, supplemental information sought by IMU.

4.10.4. IMU reserves the right to verify all statements, information and documents submitted by the applicant in response to the EoI. Any such verification or lack of such verification by IMU shall not relieve the applicant of his obligations or liabilities hereunder nor will it affect any rights of IMU.

4.11. **Governing Laws & Jurisdiction:**

The EoI process shall be governed by, and construed in accordance with, the laws of India and the Courts at Chennai (India) shall have exclusive jurisdiction over all disputes arising under, pursuant to and / or in connection with the EoI process.



SECTION- 5

PRE-QUALIFICATION CRITERIA

5. The determination of eligibility will take into account the technical and experience capabilities and past performance of the participating firm; it will be based upon an examination of documentary evidence of the participating firm qualifications submitted by the participating firm as well as such other information, as the IMU deems necessary and appropriate. The participating firm should meet the following Pre-Qualification Criteria:

5.1. Technical Qualification: -

The bidder shall submit the following as a part of technical qualification.

- (i) Bidders Company Profile.
- (ii) List of infrastructure/equipment/software held by the firm along with details of their manufacturing facilities, if any.
- (iii) Details and personnel (Project Management Team) with designation, qualification and experience to determine their capabilities.
- (iv) Bidder to upload online relevant documents for the similar product/project / work performed during last 10 years. Firm to submit PO or other relevant document copies in support of above.

5.2. **Commercial Qualification:** - The bidder shall submit the following as a part of commercial qualification:

- (i) Shop & Establishment registration certificate.
- (ii) Certificate of Incorporation / Partnership deed as applicable.
- (iii) Bidder shall not be under a declaration of ineligibility issued by Govt. of India / State govt. / Public Sector Undertakings etc.
- (iv) MSME, Start-up certificate
- (v) GST certificate

5.3. Financial Qualification: -

- (i) Shall have Avg. Annual turnover of Rs.6 lakhs (min) during the last three financial years ending as on 31 Mar 2021 to participate in this EOI.
- (ii) The Bidder shall enclose with its Proposal as per **Annexure-2**, certificate issued by Chartered Accountant with their seal and signature, stating the firms net worth & turnover during the past three years. Firm to submit Balance Sheet and Profit and Loss statement for last 3 years.
- (iii) MSME / Start-ups may be relaxed for conditions of turnover, experience (PO copies), Infrastructure etc. offering proven solution of Unmanned



vessel. IMU reserves right to consider or reject based on merits of such proposal.

- (iv) Purchase Preference to Micro and Small Enterprises (MSEs) : Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase Preference for services, the bidder must be the service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered service. If L-1 is not an MSE and MSE Service Provider (s) has/have quoted price within L-1 + 15% of margin of purchase preference/price band defined in relevant policy, then 100% order quantity will be awarded to such MSE bidder subject to acceptance of L1 bid price.

A handwritten signature in black ink, appearing to read "Mr. Anurag", is written above a horizontal line.

SECTION- 6

6. **Bid Rejection Criteria:** - IMU may at its sole discretion and at any time during the evaluation of proposal, disqualify any bidder, if they have:
- (a) Bids received after due date.
 - (b) Bidder's failure to furnish sufficient or complete details for evaluation of the bids within the given period.
 - (c) Incomplete / misleading / false / ambiguous in the proof of eligibility requirements.
 - (d) Failed to produce timely clarifications related thereto, when sought.
 - (e) Bids not meeting qualification criteria mentioned above.
 - (f) Submitted more than one proposal for single specialisation area.
 - (g) Declared ineligible/blacklisted/debarred by the Government of India / State govt. / Public sector undertaking.
 - (h) Bids with technical requirements and or terms not acceptable to IMU.
 - (i) Information relating to the evaluation, clarification and recommendation for pre- qualification shall not be disclosed to bidders or any other persons not officially concerned with such process until the pre-qualification process is completed. Any effort by the bidder to influence IMU prequalification process may result in rejection of his EOI.



SECTION- 7

Documents to be submitted along with EoI*

Submission of EoI: - List of documents to be submitted as part of EoI:

Participating firm should submit following documents along with their Proposal.

Sl.	Document Description	Filled in Formats to be Submitted with Proposal	Remarks
1.	Covering Letter		As per format attached
2.	General information	Annexure-1	
3.	Financial Information	Annexure-2	
4.	Tentative Technical Information/Queries (To be filled by firm)		As per Section -4 in Para 4.4.1
5.	Pre-Qualification Document		As per section-5
6.	Documents in support of area of collaboration		

Abin Jayaraman
Registrar (I/c) 2022
06-01-2022

EoI FORMS

Format for Covering Letter
[On the Letterhead of the Participating firm]

To,
Registrar,
Indian Maritime University-Headquarters,
East Coast Road, Semmencherry,
Sholinganallur (PO),
Chennai-600 119
Tel: 044- 2453 9020

Sub: Submission of Expression of Interest (EoI) - Partnering in the
Development of Remotely Operated Boat in shallow waters

Ref.: IMU-HQ/R/71/21/1/2021-PUR/EoI-01/2022 dated 06.01.2022

Sir,

Being duly authorized to represent and act on behalf of.....
(Hereinafter Referred to as "the Applicant"), and having reviewed and fully
understood the evaluation criteria and information provided, the undersigned hereby
applies in response to the EoI document.

**We would like to offer our services in Partnering in the Development of
Remotely Operated Boat in shallow waters as per technical specifications.**

We understand that you are not bound to accept the EoI.

I am enclosing the Expression of Interest with the details as per the requirements of
the EoI document, for your evaluation.

I hereby declare that the details furnished in this EoI proposal are true and correct to
the best of my knowledge and belief. In case any of the information is found to be
false or untrue or misleading or misrepresenting, I am aware that I will be held liable
for it and IMU is free to take any legal / commercial action not limited to barring /
blacklisting.

We hereby declare that we are not under a declaration of ineligibility / blacklisting
/debaring from doing business issued by Govt. of India / State govt. / Public Sector
Undertakings etc.

Yours faithfully,

(Signature & Seal of Authorised Signatory) Name:
Designation: Date:

Annexure-1

General Information to be submitted by Applicant along with cover letter

1. Name of the Company/ Companies (if consortium):
2. Legal status of the Company(ies):
3. Brief description of the Company(ies) including details of its business groups/subsidiaries/ affiliates:
4. Date of Incorporation:
5. Date of Commencement of Business:
6. Full address including Telephone nos. / Fax nos.:

Registered Office:

Head Office:

Address for communication:

Contact Details:

Office Address in India, if any:

7. Documents to be enclosed:
 - a. As per pre-qualification criteria

Signature & Seal: Authorised Signatory of the Party

Financial Information

Date: [insert day, month, year] Legal Name: [insert full name]

Financial Data

Sl. No.	Last three Financial Year	Annual Turnover	Profit after Tax (PAT)	Net worth as at the end of the financial year
1				
2				
3				

2. Financial documents

The participating firm shall provide copies of the financial statements including balance sheets all notes and related income statements for last 3 years.

The financial statements shall:

- Reflect the financial situation of the participating firm submitting EoI.
- Be audited by a certified accountant.
- Be complete, including all notes to the financial statements.
- Correspond to accounting periods already completed and audited (no statements for partial periods shall be accepted).

(Signature & Seal)
Authorised Signatory of the Party

Certificate from Chartered Accountant:

This is to certify that _____ (name of the Applicant) has received the payments shown above against the respective years and that the net worth is as computed.

Name of the Authorized Signatory representing Auditing firm:

Designation:

Name of firm (Chartered Accountant):

Signature of the Authorized Signatory:

Seal of Audit firm.

Outline specification for Sub – Systems

1	<p>Depth Sensor</p> <p>Transducer Frequency: 235KHz Active Transducer Beam Spread : +/- 4 Degrees minimum Depth Range : 0.30m to 75.00m (Software limited) Accuracy : +/-0.025m (RMS) Overall Dimensions : 100w x 220h x 45d (mm) Weight : 0.75Kg</p>
2.	<p>Position Sensor</p> <p>WAAS enabled GPS receiver using multiple satellites (GPS and GLONASS)</p> <p>Accuracy: Standard Positioning Service (SPS) Position : < 15m, 95% typical</p> <p>WAAS/EGNOS/MSAS Position : < 3m, 95% typical</p> <p>Update rate : 1,5 or 10 per second Size : 96.1 mm diameter x 49.5 mm Height Weight : 201 g</p>
3.	<p>Digital Compass</p> <p>Dimensions (LxWxH): 86.3 x 52.9 x 33.7 mm. Default heading output: 10 Hz. Output heading with +/-3 degree accuracy. Water rating: IPX7. LEN: 2. Operating voltage: 9 VDC to 32 VDC.</p>
4.	<p>Data Transmission / Connectivity with remote station</p> <p>The collected data from GPS, depth and compass will be stored internally. Transmission can be considered in one of the following two schemes:</p> <p>(a) Transmission to a server using GPRS. The stored data can be transacted whenever the craft is in mobile service network. This data will be accessible to users via internet.</p> <p>(b) Local UHF transmission. A pair of short range UHF radio system can be used to transfer the data from survey craft to mother boat.</p>
5.	<p>Software /Data Format output</p> <p>Customized software will be implemented. This will handle the system</p>

	requirements for mission control, sensor interface, data acquisition and transmission etc. Data logging module to be SD card Module with 16 GB memory card.
6.	Remote control: facility shall be incorporated for remote control of boat through RF connectivity. The range of remote controlled operation shall be at least 1000m from the base station.

For Reference only

