NATIONAL INSTITUTE Of OCEAN TECHNOLOGY	NOTICE INVITING TENDER (NIT)	
	Form No.	NIOT/S&P/NIT

e- Tender Schedule	
ननिवदा संख्या/ **Tender No.**	**NIOT/HVT/1393/2025-26**
कोजारी/ **Tender Title**	**Development and Testing of Integrated Software for Deepwater Human Submersible**
ननिवदाप्रणाली/**Tender Mode**	**GeM portal (Open Tender-Two Bid)**
निविदा जारी करने की तारीख /**Tender Issue date**	**06.06.2025**
प्रि-बिड मीटिंग की तारीख और समय /**Pre-bid Meeting Date and Time**	**23.06.2025@11.00AM**
निविदा समापन तिथि और समय/ **Tender Closing Date and Time**	**04.07.2025 @11.00 AM**
निविदा खोलने की तिथि और समय/**Tender Opening Date and Time**	**04.07.2025 @11.30 AM**
ईएमडी जमा करना /**Submission of EMD**	**INR 1,84,000/-** a) Scanned copy of the EMD instrument to be uploaded in the GeM portal. **b) Original EMD should be submitted through courier/ speed post or in person dropped at the tender box before the closing date and time of the tender**
निविदा दस्तावेज उपलब्ध स्थान / Tender Documents available place	Tender documents can be downloaded from GeM portal app and NIOT website www.niot.res.in till closing date and time of the Tender.
बोली का प्रकार और निविदा जमा करना /**Bidding Type & Tender submission**	Two Bid tender comprising of Techno- commercial Bid and Price Bid should be submitted electronically through GeM portal http://gem.gov.in
ई-टेंडर के लिए सहायता मैनुअल / Help Manual for e-tender	Bidders may be downloading the help documents Helpdesk number :1800-419-3436 e-mail: helpdesk-gem@gov.in For any issues/clarification relating to the tender(s) published kindly contact the respective tender inviting authority
अपने प्रश्न ईमेल आईडी पर भेजें / Send your queries to the email ID	hvt@niot.res.in

राष्ट्रीय महासागर प्रौद्योगिकी संस्थान / **NATIONAL INSTITUTE OF OCEAN TECHNOLOGY**
वेलचेरीताम्बरममेनरड / **VELACHERY TAMBARAM MAIN ROAD**
नोरायणपरम, चेनन् 600 100 / **NARAYANPURAM, CHENNAI 600 100**
रा.स.प्रौ.स्. वेबसाइट / NIOT Website http://www.niot.res.in/tenders

INTRODUCTION

National Institute of Ocean Technology (NIOT) is the technical arm of the Ministry of Earth Sciences, Government of India and is involved in developing technology for utilizing ocean resources in an eco-friendly manner.

General Conditions of Order (GCC)

National institute of Ocean Technology invites GeM bids for **"Development and Testing of Integrated Software for Deepwater Human Submersible" at NIOT, Chennai** as per details given below.

Notice Inviting Tender (NIT) -Section-I

1. Submission of bids: Bidders are requested to submit their Bid/quotation in two parts containing Technical proposal and price bid (BOQ) as Part-2 should be submitted electronically through GeM portal http://gem.gov.inThe responsibility to ensure timely submission of bid lies with the bidder. Bids submitted through FAX or e-mail will not be considered. Bidders shall also upload scanned copies of all the requisite documents i.e. other certificates/documents specified in the tender documents. The bids are to be submitted (electronically) as per the bidding type indicated in the front page of the NIT. **No Manual tender is accepted.**

Part-1 should contain Techno-Commercial Bid and duly signed blank price bid (without indicating the cost) and scanned copy of EMD. All documents to be submitted for tender to be uploaded in the portal only. **The price/cost should not to be revealed in the technical bid, if the price/ cost is revealed, the tender will be treated as invalid.** The bids are to be submitted as per the bidding type indicated in the front page of the NIT.

Part-2 should contain only the price bid indicating the cost.
The Part-1(Technical bid) and Part-2 (Price bid) should be uploaded separately, indicating the Tender No, Tender date, Tender due date and time. This NIT shall form part of the Purchase Order.

2. NIT: NIT shall form part of the Purchase order.

3. Pre-Qualification Criteria (Technical):
3.1.   Technical
a)   The bidder or the corresponding OEM (if the bidder is not the OEM for control software development) must have designed and developed control software using LabVIEW for at least three projects within the last 10 years (up to 31.03.2025) for mission-critical applications in space, defense, or marine projects for an Indian government organization(such as in the defense, space, or offshore sectors).Proof of execution document such as copies of project completion certificate or testimonials from the clients shall be submitted.

b)   OEM (National Instruments, India) authorization letter should be furnished for development of Control software for MATSYA6000.

c)   A Certified LabVIEW Architect (CLA) and 2-3 certified LabVIEW Developers (CLD), each with a minimum of five years of experience in LabVIEW software development, must be exclusively assigned to the software development process from the beginning to the completion. Valid CLA and CLD certificates for proposed software team shall be submitted.

Proof of execution/supply such as copies of delivery acceptance/completion certificate/ testimonials from past clients etc. should be submitted. Absence/ non-submission of documentary evidence as any of the above may lead to tender being non-respective/ invalid.

3.2   Pre-Bid meeting:

Pre-bid meeting shall be held on at **23.06.2025@11.00AM** through WebEx to clarify queries of all potential bidders. Potential bidders are advised to send their queries sufficiently in advance i.e. at least two days in advance of the pre-bid meeting date by email to hvt@niot.res.in. The meeting link will be uploaded as a corrigendum. A Corrigendum will be issued based on pre-bid meeting clarifications and shall form part of the NIT/ LOI & Contract.

Instruction to bidders:

4. Security: Any information / material / document uploaded along with this tender or after placement of Purchase Order should not be disclosed or copied without written permission from NIOT.

5. Contacting NIOT: No correspondence / discussion / visits whatsoever will be entertained on the subject unless specifically called by this office after opening the tender for any clarifications in writing. Any violation of this will render the quotation invalid and the firm is liable to be removed from our approved vendor list. However, if bidder requires any clarification on the bid, the query may be mailed to the mail ID **hvt@niot.res.in**.

6. Default in Performance: If any Vendor is not successfully discharging their order obligations against the order / order placed on them by NIOT within the agreed time limit, (OR) if there is any deficiency in performing such obligations, NIOT reserves the right to suspend such Vendor from their participation in future tenders of NIOT for a minimum period of one year. Even after revoking the suspension period the Vendor's performance still continues to be the same without any improvement, NIOT reserves its right to BAN such Vendor permanently from participation in all the tenders of NIOT and also the organization under MoES.

7. <u>Order Acceptance:</u> The successful bidder should submit order acceptance within **7 days** from the date of Purchase Order failing which it shall be presumed that the vendor is not interested and the EMD submitted will be forfeited.

8. <u>Change of Name after award:</u> Request / intimations with regard to change of name of the order or constitution of the Supplier after the tender opening or award of order shall not be allowed as a matter of right. The bidders / Suppliers are required to submit all relevant documents with regard to change of name or/and change of constitution and the circumstances leading to such change beforehand. It shall be the discretion of NIOT to proceed with the order after such changes and in case, NIOT decides to proceed with the order, it may require the bidder / Supplier to execute further agreements with regard to execution / implementation of the order.

9. <u>One Bid per Bidder:</u> A firm shall submit only one bid either individually or as a partner of a joint venture. A firm that submits either individually or, as a member of a joint venture, the same bidder cannot submit more than one bid, which will result in rejection of all the bids.

10. <u>Tender opening</u>: All the tenderers can participate in the e-tender opening with proper authorization letter from the respective company.

11. <u>Goods</u>: Goods should not be supplied without receipt of order from NIOT authorized official.

12. <u>Contacting the Purchaser</u>
a) No Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Order is awarded.
b) Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or Order award may result in rejection of the Bidder's bid.

<div align="center"><u>**BIDDING CONDITION**</u></div>

13. <u>Dead line for submission of bids</u>: E-Bids must be submitted only at the GeM portal specified in the invitation for bids cover page on or before the due date/extended due date thereof. All bidders are advised to take adequate care to plan for bid submission well ahead of closing date and time and avoid any last minute connectively problem in submission.

14. <u>Due date Extension, Corrigendum to NIT:</u> Any corrigendum including due date extension for NIT will be notified in GeM portal and NIOT website. Hence bidders are requested to watch website for such due date extension and corrigendum if any.

15. <u>In case of the unscheduled holiday in Chennai</u> being declared on the prescribed closing/opening day of the tender, the next working day will be treated as the scheduled prescribed day of closing/opening of the tender.

16. <u>Unsolicited correspondences:</u> NIOT will not entertain any unsolicited correspondence or queries on the status of offer against this tender**.**

17. <u>Submission of E-tender</u> by a tenderer implies that he has read this NIT and all other tender documents and has made himself aware of the scope and specifications of this tender. Conditional offers are liable for rejection/treated as invalid tender.

18. <u>Non-receipt of EMD:</u> NIOT will not be responsible for the non-receipt of EMD or any documents to be submitted physically by the bidder well before the tender closing date and time or any last-minute issues in uploading process in the e tender portal.

19. <u>Bid Validity</u>: Bids shall remain valid and open for acceptance for a minimum period of **120 days** from the date of opening of priced Techno-commercial Bids when fully compliant tender is submitted by the bidder without any requirement for NIOT to seek additional documents towards evaluation of pre-qualification and/or in ensuring conformance to the specification/requirements of the tender. In the event of any delay in evaluation attributable to the vendor, vendor shall extend the tender by such a time taken by them in addition to above minimum tender validity period. A Bid valid for shorter validity period will be considered as a conditional tender and treated as invalid tender.

20. <u>Bid validity extension:</u> In exceptional circumstances, prior to expiry of the original Bid validity period, NIOT may request the Bidder for a specified extension in the period of validity. The request and the responses thereto shall be made in writing. A Bidder agreeing to the request will not be required nor permitted to modify his bid, and will be required to extend the validity of his Bid Security correspondingly.

21. <u>Conditional offers</u> / quotations will not be accepted.

22. <u>Signing of bids:</u> Each page of the tender (NIT) and tender document shall be digitally signed by the bidder and upload in the GeM portal. Unsigned bid is liable for rejection.

23. <u>Acceptance of bids</u>: NIOT may accept or reject any/all tenders including the lowest tender without assigning any reasons whatsoever. NIOT also reserves its right to accept any tender in part or parts only with such conditions as it may prescribe. NIOT is not bound to accept the lowest tender. NIOT expects full technical compliance and expects full scope of integrated supply as per tender specification and do not accept partial tenders.

24. The compliance sheet with reference to the specifications should be furnished against each parameter while submitting the quotation, which is absolutely necessary. THE TENDERER SHALL SUBMIT TECHNICAL & COMMERCIAL COMPLIANCE SHEETS ALONG WITH THEIR OFFER. TENDERS WITHOUT COMPLIANCE SHEETS WILL NOT BE EVALUATED. The Price bid should be unconditional.

25. Award: NIOT shall place the Purchase order with the Successful bidder.

26. Commercial compliance as per the NIT should be uploaded along with the offer/ quotation.

27. Unrealistic bids with either cost which is impossible to achieve or for bidders who show that they are completely inexperienced or have completely inappropriate equipment will be rejected.

28. Discounts: Bidders are advised not to indicate separate discounts. Discounts, if any, should be duly considered and net rate quoted in the BOQ/Price Bid.

29. Broad configuration specification of the proposed purchase are given in NIT. Bidders are required to keep their proposal strictly as per the specification prescribed.

30. EMD/Bid security: The EMD/Bid security is mandatory requirement as indicated in the cover page and should be submitted along with the technical bid for the value indicated in the front page of this tender document. No exemption for EMD will be entertained. Bids without EMD will be summarily rejected.
The EMD /bid security shall be in the following forms
(i)Bank demand draft drawn in favour of "NIOT OTHER RECEIPT ACCOUNT" in INR or guarantee from commercial banks and the original should be submitted to NIOT before tender due date. By Demand Draft/Banker's Cheque drawn in favour of "NIOT –OTHER RECEIPT ACCOUNT", NIOT, Payable at Chennai (or)
(ii)Bank Guarantee as per prescribed format issued by an Indian Nationalized Bank or indicate in stamp paper of appropriate value and valid for 60 days beyond the validity of the bid (or)
(iii)Insurance Security Bond (or)
(iv)Fixed Deposit Receipt (or)
(v)Online payment in an acceptable form.

If the EMD (scanned copy of the instrument of EMD) is not submitted along with Techno-commercial (Part-I), the bid will be summarily rejected. The original EMD should be submitted (or) reach NIOT on or before closing date and time of the tender.

GeM recommends quantum of Bid Security @ 1% of estimated value of procurement. The Buyer also has the option to select Bid Security between 0.5%to5%. The same should be valid for 45 days beyond the bid validity. No interest shall be payable upon

the Bid Security/ EMD or any other amounts payable by the Seller to the Buyer under the Contract. Following categories of Sellers/buyer shall however, be exempted from furnishing Bid Security:

i. Micro and Small Enterprises (MSEs) who are holding valid Udyam Registration and are manufacturer of the offered Product or Service (Primary Product/Service-in case of bunch bid with total value wise evaluation) and give specific confirmation to this effect at the time of bid submission and claim EMD exemption and whose credentials are validated online through Udyam Registration website of Ministry of MSME and also through supporting document uploaded during bidding process and validated by the Buyer. State Government Buyers may, however, choose to exempt only MSEs from the State of Bid Inviting Authority by specifying the same in ATC of the Bid. In case no such ATC is included, eligible MSEs of all states are exempted.

ii. Start-ups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT), holding valid Startup Recognition Certificate which is to be uploaded while bidding and claiming EMD exemption and to be validated by the Buyer. Bidder to ensure that turnover for any of the financial years has not exceeded beyond limits prescribed in the certificate / Start Up scheme of DPIIT.

iii. KVIC, ACASH, WDO, Coir Board, TRIFED and Kendriya Bhandar.

iv. Sellers who have got their credentials verified through the process of Vendor Assessment by Vendor Assessment Agencies for the Primary Product / Primary Service for which Bid / RA has been invited and holding valid Vendor Assessment or Vendor Assessment Exemption Report/confirmation (Seller to upload VA report/ VAE confirmation to be validated by the Buyer).

v. Sellers / Service Provider having annual turnover of ₹ 500 Crore or more, at least in one of the past three completed financial year(s)

vi. Sellers/Service Providers holding valid BIS License for the Primary Product Category whose credentials are validated through BIS data base and through uploaded supporting documents to be validated by the buyer.

vii. Central/State PSUs.

viii. Seller / Service Provider registered with designated Agency / Authority as specified in the bid document by the Buyer–such bidder shall have to upload scanned copy of relevant valid registration document in place of Bid Security document while bidding.

The EMD of the unsuccessful bidders shall be returned without interest after award of purchase order to the successful bidder. The EMD/Bid Security of the successful bidder first stage (i.e.) Technical evaluation etc shall be returned within 30 days of declaration of result of first stage (i.e.) technical evaluation. The EMD stands forfeited in case the bidder withdraws or amends his bid after submission of tender document and tender closing date/time. (GeM Portal permits all the bidders to modify/ withdraw their bid before bid closing date/time).

31. MSME: "Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME)" are exempt from submission of EMD (Bid security). Bidders claiming exemption of EMD under this rule (170 of GFR are however required to submit a signed Bid securing declaration (format to be enclosed) along with the relevant and valid exemption certificate issue

by the appropriate authorities. Accepting that if they withdraw or modify their Bids during the period of validity, or if they are awarded the order and they fail to sign the order, or to submit a performance security before the deadline defined in the request for bids document, they will be suspended for the period of one year from being eligible to submit Bids for tenders with NIOT and all the departments under MoES. Bid declaration format to be attached.

The MSME is classified as mentioned below. (Ref Ministry of MSME Notificaion dated 26.06.2020)

The MSE's bidder who claim EMD request should submit the relevant document towards investment on equipment and machinery. As per NIT clause no 65 make in India as per the DPIIT order under Annexure 9, under MSE.
The MSE's bidder to note and ensure that nature of service and goods/items manufactured mentioned in MSE's certificate matches with the nature of the service and goods/item to be supplied as per tender.

The MSME is classified as mentioned below; (Ref Ministry of MSME Notification dated 26.06.2020)
(i) **Micro Enterprises:** Where the investment in plant and machinery or equipment does not exceed 1 crore rupees and turnover does not exceed 5 crore rupees,
(ii) **Small Enterprises:** Where the investment in plant and machinery or equipment does not exceed 10 crore rupees and turnover does not exceed 50 crore rupees,
(iii) **Medium Enterprises:** Where the investment in plant and machinery or equipment does not exceed 50 crore rupees and turnover does not exceed 250 crore rupees.
Retail & Whole sale Traders: Any bidder who are retailer / Traders claim EMD / Bid security exemption shall refer Ministry OM 5/2(2)/2021-E/P&G/Policy dtd 02.07.2021 & 5/2(1)2020/E-P&G/Policy dtd 01.12.2020. The bidder whoever claim EMD / Bid security exemption through MSME certificate should classify themselves as above and need to provide details.

32. <u>Conditions for EMD / Bid Security</u>:
EMD may be forfeited:
(i) If a bidder withdraws, modifies for provided unsolicited offer voluntarily revising the price in whatsoever aspect, its bid during the period of bid validity specified by the bidder on the bid form; or
(ii) In case of a successful bidder, fails to furnish order acceptance within 15 days of the order and / or fails to furnish Performance Security.
EMD for a successful bidder shall be adjusted against performance security payable if EMD is submitted in the form of DD / refunded, if performance security is paid in full / performance security is submitted in the form of Bank Guarantee.
(iii)If it comes to notice that the information/documents furnished in its bid is false, misleading or forged.
33. <u>Unsolicited Post-Tender Reduction:</u> The bidder shall note that any unsolicited post-tender reduction by them would disqualify them from participating in this as well

as future tenders apart from forfeiting the EMD submitted or any other Bank Guarantee submitted.

34. <u>Modifications to Bids:</u> The Bidder shall make no modifications to the bids after the closing date unless specifically requested for, by NIOT. In case certain clarifications are sought by NIOT after opening of tenders, then the reply of the partner should be restricted to the clarifications sought. Any bidder who modifies his bid (including a modification which has the effect of altering the value of his offer) after the closing date without any specific communication from NIOT shall make their tender as invalid and liable to be debarred from participation in future Tenders of NIOT.

35. <u>Canvassing:</u> Exerting pressure and/or offering in documenting any form by the bidder or by any other person on behalf of the bidder shall disqualify the bid and lead to its rejection.

36. <u>Clarifications:</u> Bidders requiring any clarification on the RFP/ NIT may send their query by email to hvt@niot.res.in before the tender closing date. The Authority will post the reply to all such queries on the Gem Portal and NIOT Website as corrigendum. All bidders shall visit official GeM portal before uploading of their bid to take note of the changes/corrigendum issued. The Authority reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this RFP shall be construed as obliging the Authority to respond to any question or to provide any clarification.

37. <u>SUBMISSION OF TECHNICAL DOCUMENT:</u>
Specifications are basic essence of the product. The broad configuration / specification of the proposed purchase is given in the Special Conditions of the order (SCC) which is given as Annexure - I. It must be ensured that the offers are strictly as per our specifications as mentioned in the SCC. At the same time, it must also be kept in mind that merely copying our specifications in their quotation shall not make firms eligible for consideration. Technically unsuitable offers and offers not confirming to tender schedule shall be rejected.

The bidder is required to provide their comments item-by-item on the compliance sheet provided in the SCC. Wherever the specified parameter is required within a range, the calculated/ estimated value as per the vendor's design is to be provided in the "Remarks" column. Deviations/exceptions, if any, from the specifications to be recorded in the "Remarks" column.
Offer must contain all relevant technical details. Relevant preliminary drawings (if any) pertaining to the quoted designs, duly signed by the authorized official shall be sent along with the quotation. Wherever mentioned, documentary evidence has to be enclosed in the quotation. Any erasures / over writing shall be counter signed by the person who is signing the bid. Any interlineations, erasures or overwriting shall be valid only if the person or persons signing the bid sign them.

NIOT will not provide any test procedures. All the required tests as mentioned in the technical specification to be conducted within the quote price.

COMMERCIAL TERMS AND CONDITIONS

38. Price:

The price shall include but not limited to

a) Costs of goods / services covered in this order.

b) Taxes and duties

c) Transportation and packing cost

d) Cost of handling, documentation, freight, insurance from Supplier's ware house up to NIOT warehouse,

e) Charges for all testing

f) Cost of unloading, Installation, testing, commissioning and handing over of goods, at NIOT's site as set-forth in the order.

g)   Cost of Books, manuals, software as set-forth in the Order.

The Bidder shall indicate on the appropriate price schedule form, the unit prices and total bid prices of the goods he proposes to supply under the order strictly as per price bid format of tender.

39. Taxes and duties:

a. **GST:** GST should be inclusive in the basic price and the percentage should be as per HSN code as applicable.

b. Deductibles:

(a) **Deduction of Indian Income Tax Deduction at Source:**

TDS will be deducted as applicable for Supply under Sec 194Q and for service portion under Sec 194C. Valid Permanent Account Number (PAN) is mandatory.

(b) **Deduction of GST TDS**:

GST-TDS is deductible on supply of goods or Services in respect of Intra – State Supplies at the rate of 2% (CGST -1% and SGST – 1%) and also in the case of Inter-State supplies at the rate of 2%(IGST) from the payment made or credited to the supplier of taxable goods or services or both when the order value is above Rs.2,50,000/-.

40. Guaranteed time of delivery-specific performance of order;

The timely delivery including design, testing, optimization and supply in satisfactory condition is the critical requirement of the contract and the delivery schedule shall be as follows:

The entire scope of work to be completed **within 8 Months** from the date of issue of work order.

(a) Stage 1: Submission of Software Requirement Specification (SRS), Software Design Description (SDD) and Integrated Test Plan (ITP) documents for deepwater human submersible and ship-based Mission Control Centre (MCC) based on the Functional requirement document mentioned in Special Contract Conditions for which the bidder has quoted- **within 1 months** from the date of signing of Contract

(b) Stage 2: Software architecture for Human Submersible and Mission Control Centre shall be designed based on the design documents and tested with Test bed simulator for the subsystem modules (near real-time data generation) with full systems data and validate the operational sequence of NIOT requirement - within 3 months from the date of signing of Contract or **within 2 months** from the date of approval and acceptance of the design documents by NIOT authorized official whichever is earlier. Only after the successful completion of stage 2 to NIOT acceptance criteria, stage 3 will be initiated.

(c) Stage 3: Supply and installation of developed application software for the human submersible (Pilot PC, Co-pilot PC and six real - time targets) and Mission Control Centre (Console Pilot and Co-pilot PC) and integrated testing with subsystems/equipment as mentioned in the Special contract conditions-within 8months from the date of signing of Contract or **within 5 months** from the date of approval and acceptance of the Software architecture design with simulators by NIOT authorized official whichever is earlier.

41. <u>Extension of delivery period:</u> If the completion of systems / components is delayed for reasons of force majeure such as acts of God. Acts of Public enemy, acts of Government, fires, floods, epidemics, quarantine restrictions, illegal strikes and freight embargoes, the Supplier shall within three days from the date of such occurrence, give notice to NIOT in writing of his claim for extension of delivery period. NIOT on receipt of such notice may agree to extend the order delivery date as may be reasonable but without prejudice to other terms and conditions of the order. Unless the extended delivery period is agreed by NIOT in writing, supplier cannot claim the extension of delivery time as a matter of right. NIOT shall have the right to either cancel/extend the order validity/ levy LD as appropriate.

42. <u>Delay in Completion / Liquidated Damage (LD):</u> If the Supplier shall fail to deliver the entire systems as per the tender specification within the time specified in the order, NIOT shall recover from the Supplier as liquidated damages a sum of 0.5% of the particular activity price for each week of delay will be deducted. The total liquidated damages shall not exceed 5% (ten percent) of the specific activity price of the unit or units so delayed. Systems/components will be deemed to have been delivered only when all essential components parts are also delivered. If any essential components are not delivered on time, the entire system/components will be considered as delayed until such time the un-delivered parts are delivered and entire order obligations completed.

43. <u>Force Majeure:</u> 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 NIOT either in its sovereign or order capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify NIOT in writing of such conditions and the cause thereof. Unless otherwise directed by NIOT in writing, the Supplier shall continue to perform its obligations under the order as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

44. Performance Security: The successful bidders should deposit 5% of the Purchase Order value as Performance Security within 2 weeks from the date of issue of Purchase order. The performance security shall be in one of the following forms:
(1)   Insurance Surety Bonds,
(2)   Account Payee Demand Draft (drawn in favour of" The Director N.I.O.T", Chennai in INR or in equivalent foreign currency).
(3)   Fixed Deposit Receipt from any Commercial Bank.
(4)   Bank Guarantee from any of the Commercial Bank
(5)   Online payment in an acceptable form.
This   format   can   be   downloaded   from   the   link
https://www.niot.res.in/index.php/vendor/login.

The validity of the performance security is for 60 days beyond the completion of all order obligations of the supplier. Performance security shall be forfeited in the event of breach of order by the supplier in terms of the order. If Performance Security is not paid within the specified time, NIOT reserves its right to cancel the purchase order and forfeit the EMD bid security declaration submitted.

45. Payment:

S.No	Stages of the project	Amount Payable	Bank Guarantee for equivalent value in INR
1	Submission of Software Requirement Document (SRD), Software Design document (SDD) and Integrated Test plan (ITP) document for manned submersible and ship-based mission control centre based on the Functional requirement document mentioned in Special Contract Conditions (SCC) for which the bidder to quote	Payment of 10 % of the (BoQ S.No 1&2) or the amount quoted towards Acceptance of design documents of Software Requirement Document (SRD), Software Design document (SDD) and Integrated Test plan (ITP) for manned submersible and ship-based mission control centre, against the submission of approved design and test plan document within 30 days from the date of receipt in hard copy and soft copy and accepted by NIOT of the design and test plan document will be paid	110%

2	Supply and installation of developed and tested application software for the manned submersible (Pilot PC, Co-pilot PC and six real - time targets) and mission control center (console Pilot and Co-pilot PC) as mentioned in the Special contract conditions.	80% Payment of BOQ (S. No 1&2)will be made after development, testing, verification/ validation, review and acceptance of developed and tested application software for the manned submersible (Pilot PC, Co-pilot PC and six real - time targets) and mission control centre (console Pilot and Co-pilot PC) as mentioned in the Special contract conditions at NIOT within 30 days from the date of receipt of complete invoice along with the required test and verification documents, warranty certificate etc.	1.Balance payment will be released, except 10% towards warranty and technical support payment 2.Release of BG obtained at S. No 1
3	Standard warranty	The balance 10% of (S.No 1 & 2) will be paid after completion of the warranty period	If PBG for 10% is submitted as per NIOT format.90% payment will be released at S.no 2
4	Technical support of maintenance will commence of the completion of the warranty period.	Payment will be made on completion of each quarter on quarterly basis on each year for five years as per the rate quoted in the BOQ S.No 3,4,5,6,7.	

46. Performance Guarantee/ Warranty Bank Guarantee: As per the GoI guidelines **10%** of the item value to be retained towards warranty to ensure the performance of the equipment's/systems to avoid any defect due to material/ workmanship or any omission on the part of the order to rectify the same during the warranty period. If performance bank guarantee for 10% of the item value is submitted and valid till completion of the warranty period and acceptance then 100% payment will be released as per Clause no. 45. The warranty Bank Guarantee will be discharged after completion of the warranty period.

47. Warranty: The supplier warrants that the Goods supplied under this order are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials unless provided otherwise in the order. The supplier further warrants that all Goods supplied under this order shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by NIOT's Specifications) or from any act or omission of the supplier that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

The item supplied should be free from manufacturing defects. The warranty shall remain valid for **12 months** after the supply and acceptance of the all items or any portion thereof as the case may be, have been delivered to and accepted at the final

destination indicated in the order. The warranty certificate should be furnished in the prescribed format in your letterhead and can be downloaded from the website link **https://www.niot.res.in/index.php/vendor/login**. If the Vendors standard warranty is more than 12 months the same shall be extended to NIOT.NIOT shall promptly notify the supplier in writing of any claims arising under this warranty.

Upon receipt of such notice, the supplier shall, within three (3) months repair or replace the defective Goods or parts thereof, without cost to NIOT other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from ex-works or ex-factory or ex-showroom to the final destination. If the supplier, having been notified, fails to remedy the defect(s) within the period specified, NIOT may proceed to take such remedial action as may be necessary, at the supplier 's risk and expense and without prejudice to any other rights which NIOT may have against the supplier under the order. Also, such failure shall lead to suspension of vendor from participation as deem fit by NIOT.

48.Technical support of Maintenance
On completion of the standard warranty the technical support and maintenance shall be commenced and it will be in force for five years, during the technical support maintenance period, all updates and troubleshooting to be done and the software to be maintained for five years which should continuously work without any breakdown or software corrupt. Upon submission of technical maintenance report, payment will be paid on quarterly basis.

49.Insurance: The Goods supplied under the order shall be fully insured against all risk loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the NIT. If any such damage occurred the goods shall be replaced within in the order price immediately without waiting for the insurance claim. The cost of insurance shall be in the scope of the bidder.

50.Risk Purchase: If the Supplier fails to deliver the stores or any installment thereof within the period fixed for such delivery or at any time repudiates the Purchase Order before expiry of such period, NIOT is entitled to cancel the Purchase Order and source the remaining items/components from any parties the items/components which are not delivered, at the risk and cost of the defaulting Supplier. No payment shall be claimed for any part supplies made.

51.Termination of orde by NIOT:
a) The Order shall become effective from the date of Purchase Order and the Purchase Order shall automatically get terminated after successful completion of all order obligation and warranty obligation as per the terms of the order.
b)   Termination of the order due to breach of order by the Supplier
(ii)   Termination of order due to default,
(iii)   Termination of the order due to insolvency,
(iv)   Termination of the order for convenience.
If the termination of the order happens due to the above factors, [(i), (ii) &(iii)]
initially the written notice will be issued within 30 days to settle the issue on mutually agreed terms with mutual consent.

52. Indemnities:

The Supplier hereby agrees to indemnify and hold harmless NIOT and its Director, officers and employees, from and against any and all suits, losses, liabilities, damages, claims, settlements, costs and expenses, including reasonable attorneys' fees, based on or arising, directly or indirectly, from:

a) Breach of this Agreement by the Supplier

b) Not performing the Scope of Work or any other obligation under this Agreement or Tender in accordance with the provisions and schedules of this Agreement or the Tender

c) Violation or contravention of any Legislation on the part of the Supplier

d) Any negligence or willful misconduct of Supplier, which violates any provision of this Agreement

e) Infringement of any intellectual property belonging to any third party by the Supplier

f) Any breach of an agreement or misunderstanding between Supplier and any and all Third Parties due to which a liability arises on NIOT

g) Any claim that any representations or warranties contained herein are not true or any breach thereof

h) Any loss or damage caused by the Supplier to NIOT, its personnel or property

i) Any loss or damage caused by the Supplier to any and all Third Parties for which a claim against NIOT has arisen

j) Breach, expiry, cancellation, revocation or invalidity of any and all licenses, permits, authorizations and registrations which the Supplier is required to obtain, keep valid and comply with under any Legislation in order to perform its obligations hereunder.

k) Any obligation of the Supplier performed by NIOT under this Agreement or under any Legislation.

53. Arbitrations/Disputes:

In the event of any dispute, difference, interpretation or application relating to this agreement arises; the same shall be settled amicably by the parties. In case the dispute or differences could not be settled amicably, the same shall be referred for adjudication through Arbitration by an Arbitrator to be appointed by the Director, NIOT.

The Indian Arbitration shall be concluded in accordance with the provisions of Arbitration & Conciliation Act, 1996 or any statutory modifications or re-enactment thereof and the rules made there under and for the time being tin force shall apply to the arbitration proceedings. Venue of such arbitration shall be at Chennai in India. The language of arbitration proceedings shall be English. The Arbitrator shall make reasoned award (the "award"), which shall be final and binding on the parties. The cost of the arbitration shall be shared equally by the parties to the order. However, expenses incurred by each party in connection with the preparation, presentation etc., shall be borne by each party.

54. Eligible Bidders

54.1. This Invitation for Bids is open to all suppliers. However, only Class-I and Class-II local suppliers are eligible to participate in Domestic Tender.

54.2. Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids.

54.3. The bidders who have been temporarily suspended or removed from the list of registered suppliers by the purchaser or banned from Ministry/country wide procurement shall be ineligible for participation in the bidding process.

54.4. Bidders who fulfil the Eligibility Criteria mentioned in NIT will be considered for Technical Evaluation of bids.

55. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

56. Code of Integrity for Public Procurement

The purchaser requires that the bidders, suppliers and Suppliers observe the highest standard of ethics during the procurement and execution of such orders.

(a) Corrupt practice

The offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in order execution.

(b) Fraudulent practice

a misrepresentation or omission of facts in order to influence a procurement process or the execution of a Order.

(c) Collusive practice

means a scheme or arrangement between two or more bidders, with or without the knowledge of the purchaser, designed to establish bid prices at artificial, non-competitive levels.

(d) Coercive practice

means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a Order.

(e) Anticompetitive practice

any collusion, bid rigging or anti-competitive arrangement, or any other practice coming under the purview of the Competition Act, 2002, between two or more bidders, with or without the knowledge of the purchaser, that may impair the transparency, fairness and the progress of the procurement process or to establish bid prices at artificial, non-competitive levels 7

(f) Conflict of interest

participation by a bidding firm or any of its affiliates that are either involved in the consultancy Order to which this procurement is linked; or if they are part of more than one bid in the procurement; or if the bidding firm or their personnel have relationships or financial or business transactions with any official of purchaser who are directly or indirectly related to tender or execution process of Order; or improper use of information obtained by the (prospective) bidder from the purchaser with an intent to gain unfair advantage in the procurement process or for personal gain

(g) Obstructive practice

materially impede the purchaser's investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the purchaser's Entity's rights of audit or access to information

56.2. The Purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Order in question.

56.3. The bidders/suppliers should sign a declaration about abiding by the Code of Integrity for Public Procurement and submit it in the form along with bid documents. In case of any transgression of this code, the bidder is not only liable to be removed from the list of registered suppliers, but it would be liable for other punitive actions such as cancellation of orders, banning and blacklisting or action by Competition Commission of India, and so on.

57.Obligations for Proactive disclosures

b) The Purchaser as well as bidders, suppliers, Suppliers and consultants, are obliged under Code of Integrity for Public Procurement to sue-moto proactively declare any conflicts of interest (coming under the definition mentioned above – pre-existing or as and as soon as these arise at any stage) in any procurement process or execution of Order. Failure to do so would amount to violation of this code of integrity.

c) The bidder must declare, whether asked or not in a bid document, any previous transgressions of such a code of integrity with any entity in any country during the last three years or of being debarred by any other Procuring Entity. Failure to do so would amount to violation of this code of integrity

d) To encourage voluntary disclosures, such declarations would not mean automatic disqualification for the bidder making such declarations. The declared conflict of interest would be evaluated and mitigation steps, if possible, taken by the purchaser

58.Punitive Provisions

Without prejudice to and in addition to the rights of the Purchaser to other penal provisions as per the bid documents or Order, if the Purchaser comes to a conclusion that a (prospective) bidder/supplier, directly or through an agent, has violated this

code of integrity in competing for the Order or in executing a Order, the purchaser may take appropriate measures including one or more of the following:

a) If his bids are under consideration in any procurement:

i. Forfeiture or encashment of bid security;

ii. Calling off of any pre-order negotiations; and

iii. Rejection and exclusion of the bidder from the procurement process.

b) If a Order has already been awarded

i. Cancellation of the relevant Order and recovery of compensation for loss incurred by the Purchaser;

ii. Forfeiture or encashment of any other security or bond relating to the procurement;

iii. Recovery of payments including advance payments, if any, made by the purchaser along with interest thereon at the prevailing rate.

c) Provisions in addition to above:

i. Removal from the list of registered suppliers and banning/debarment of the bidder from participation in future procurements of the purchaser for a period not less than one year;

ii. In case of anti-competitive practices, information for further processing may be filed under a signature of the Joint Secretary level officer, with the Competition Commission of India;

iii. Initiation of suitable disciplinary or criminal proceedings against any individual or staff found responsible.

59. Amendment to Bidding Documents

In order to allow prospective bidders reasonable time to take the amendment into account while formulating their bids, the Purchaser, at its discretion, may extend the due date for the submission of bids and host the changes on the GeM website http://gem.gov.in of the purchaser.

60. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

60.1. To establish the goods' eligibility, the documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.

60.2. To establish the conformity of the goods and services to the specifications and schedule of requirements of the bidding document, the documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of:

A detailed description of the essential technical and performance characteristics of the goods;

A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the

goods during the warranty period following commencement of the use of the goods by the Purchaser in the Price- bid; and

An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

60.3. For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute these in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

61. Confidentiality

1. Information relating to the examination, evaluation, comparison, and post qualification of bids, and recommendation of Order award, shall not be disclosed to bidders or any other persons not officially concerned with such process until Award of the Order. However, decisions taken during process of tender evaluation shall be hosted on e-Tenders portal.

2. Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post qualification of the bids or Order award decisions may result in the rejection of its Bid.

62. Post qualification

62.1. In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the Order satisfactorily, in accordance with the criteria listed in the SCC.

62.2. The determination will take in to the Eligibility& Qualification criteria listed in the SCC of Tender document and it will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

62.3. An affirmative determination will be a prerequisite for award of the Order to the Bidder. A negative determination will result in rejection of the Bidder's bid.

63. Bidder's right to question rejection

A Bidder shall have the right to be heard in case he feels that a proper procurement process is not being followed and/or his tender has been rejected wrongly. Only a directly affected bidder can represent in this regard as under:

63.1 Only a bidder who has participated in the concerned procurement process i.e. pre- qualification, bidder registration or bidding, as the case may be, can make such representation.

63.2 In case pre-qualification bid has been evaluated before the bidding of Technical bids, an application for review in relation to the technical bid may be filed only by a bidder who has qualified in prequalification bid.

63.3 In case technical bid has been evaluated before the opening of the financial bid, an application for review in relation to the financial bid may be filed only by a bidder whose technical bid is found to be acceptable.

63.4 In case a Bidder feels aggrieved by the decision of the purchaser, he may then send his representation in writing to the Purchaser's address within 05 working days from the date of communication of the purchaser intimating the rejection for reconsideration of the decision by the purchaser.

63.5 Following decisions of the purchaser in accordance with the provision of internal guidelines shall not be subject to review:

a)   Determination of the need for procurement;

b)   Selection of the mode of procurement or bidding system;

c)   Choice of selection procedure;

d)   Provisions limiting participation of bidders in the procurement process;

e)   The decision to enter into negotiations with the L1 bidder;

f)   Cancellation of the procurement process except where it is intended to subsequently re-tender the same requirements;

Issues related to ambiguity in Order terms may not be taken up after a Order has been signed, all such issues should be highlighted before consummation of the Order by the vendor/Supplier; and

Complaints against specifications except under the premise that they are either vague or too specific so as to limit competition may be permissible.

64.Joint Venture, Consortium or Association

If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfilment of the provisions of the Order and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

65.Amalgamation/Acquisition etc:

In the event the Manufacturer/Supplier proposes for amalgamation, acquisition or sale its business to any firm during the Order period, the Buyer/Successor of the Principal Company are liable for execution of the Order and also fulfilment of orderual obligations i.e. supply, installation, commissioning, warranty, maintenance/replacement of spares accessories etc. You may confirm this condition while submitting the bid.

66.Authorization: The bidder is qualified only when he is the Indian original manufacturer or established dealer with original manufacturer's authorization letter to quote, sell and service the products offered along with agency agreement if any.

67.Applicability in Special Cases

a) Applicability to 'Make in India'

Bidders (manufacturer or principal of authorised representative) who have a valid/approved ongoing 'Make in India' agreement/ program and who while meeting all other criteria above, except for any or more of sub-criteria in Experience and Past Performance above, would also be considered to be qualified provided:

their foreign 'Make-in-India' associates meet all the criteria above without exemption, and

ii The Bidder submits appropriate documentary proof for a valid/approved ongoing 'Make in India' agreement/program.

iii the bidder (manufacturer or principal of authorised representative) furnishes along with the bid a legally enforceable undertaking jointly executed by himself and such foreign Manufacturer for satisfactory manufacture, Supply (and erection, commissioning if applicable) and performance of 'The Product' offered including all warranty obligations as per the general and special conditions of Order.

b) Authorized Representatives Bids of bidders quoting as authorized representative of a principal manufacturer would also be considered to be qualified, provided:

(i) their principal manufacturer meets all the criteria above without exemption, and

(ii) the principal manufacturer furnishes a legally enforceable tender-specific authorisation in the prescribed form assuring full guarantee and warranty obligations as per the general and special conditions of order and

(iii) the bidder himself should have been associated, as authorised representative of the same or other Principal Manufacturer for same set of services as in present bid (supply, installation, satisfactorily commissioning, after sales service as the case may be) for same or similar 'Product' for past three years ending on 'The Relevant Date'.

c)For Existing Successful Past Suppliers

In case the bidder (manufacturer or principal of authorised representative) who is a successful past supplier of 'The Product' in at least one of the recent past procurements, who do not meet any or more of requirements above, would also be considered to be qualified in view of their proven credentials, for the maximum quantity supplied by him in such recent past.

d)Joint Ventures and Holding Companies

Credentials of the partners of Joint ventures cannot (repeat cannot) be clubbed for the purpose of compliance of PQC in supply of Goods/Equipment, and each partner must comply with all the PQC criteria independently. However, for the purpose of qualifying the Financial Standing Criteria, the Financial Standing credentials of a Holding Company can be clubbed with only one of the fully owned subsidiary bidding company, with appropriate legal documents proving such ownership.

68.Conflict of Interest:

(1) An Applicant shall not have a conflict of interest that may affect the Selection Process or the Consultancy (the "Conflict of Interest"). Any Applicant found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the NIOT/ Authority shall forfeit and appropriate the Bid Security as mutually agreed genuine pre-estimated compensation and damages payable to the NIOT/Authority for, interalia, the

time, cost and effort of the NIOT/Authority including consideration of such Applicant's Proposal, without prejudice to any other right or remedy that may be available to the NIOT / Authority here under or otherwise.

(2) The NIOT/Authority requires that the Consultant provides professional, objective, and impartial advice and at all times hold the NIOT/Authority's interests paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Consultant shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the NIOT / Authority

3)An Applicant shall be deemed to have a Conflict of Interest affecting the Selection Process, if the applicant, its consortium member the "Member") or Associate (or any constituent thereof)and any other Applicant, its consortium member or Associate(or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Applicant, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 percent of the paid up and subscribed share capital of such Applicant, Member or Associate, as the case may be) in the other Applicant, its consortium member or Associate is less than 5% (five percent)of the subscribed and paid up equity share Capital thereof; provided further that this disqualification shall not apply to any owner ship by a bank, insurance company, pension fund or a public financial institution referred to in section 4A of the Companies Act, 1956. For the purposes of this Clause13.1(c)(i), in direct shareholding held through one or more intermediate persons shall be computed as follows:(aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person")shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and (bb) subject always to sub-clause (aa)above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of in direct shareholding of such person in the Subject Person shall be undertaken on approportionate basis; provided, however, that no such shareholding shall be reckoned under this sub- clause (bb) if the shareholding of such person in the intermediary is lessthan26%(twenty six percent) of the subscribed and paid up equity shareholding of such intermediary; or
(ii) A constituent of such Applicant is also a constituent of another Applicant; or
(iii) Such Applicant or its Associate receives or has received any direct or indirect subsidy or grant from any other Applicant or its Associate; or
(iv) Such Applicant as the same legal representative for purposes of this Application as any other Applicant; or
(v) Such Applicant has a relationship with another Applicant, directly or through common third parties, that puts them in a position to have access to each other's

'information about, or to influence the Application of either or each of the other Applicant; or

(vi)There is a conflict among this and other consulting assignments of the Applicant (including its personnel and Sub-consultant) and any subsidiaries or entities controlled by such Applicant or having common controlling shareholders. The duties of the Consultant will depend on the circumstances of each case. While providing consultancy services to the NIOT/ Authority for this particular assignment, the Consultant shall not take up any assignment that by its nature will result in conflict with the present assignment; or

(vii) A firm which has been engaged by the NIOT/Authority to provide goods or works or

Services for a project, and its Associates, will be disqualified from providing consulting services for the same project, conversely, a firm hired to provide consulting services for the preparation or implementation of a project, and its Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project.

69.Clarifications

Applicants requiring any clarification on the RFP may send their query by email to hvt@niot.res.in before the tender closing date. The Authority will post the reply to all such queries on the GeM Portal and NIOT Website. All bidders shall visit official GEM portal before uploading of their bid to take note of the changes / corrigendum issued.

The Authority reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this RFP shall be construed as obliging the Authority to respond to any question or to provide any clarification.

70.Preference to Make in India

As per DPIIT Order No. P-45021/2/2017-PP (BE-II) dated 16thSeptember 2020 issued by Ministry of Commerce, Class-I and Class-II Local suppliers are eligible to bid (as specified in Clause- 1.30.3)

I. Definitions of terms applicable to Make in India procurement policy of Govt of India: -

a) 'Local content 'means the amount of value added in India which shall be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

b) 'Class-I Local supplier' means a supplier provider whose product offered for procurement meets the local content of 50% and above.

c) 'Class-II Local supplier' means a supplier provider whose product offered for procurement meets the local content of 20% and above but less than 50%.

d) 'Non-Local supplier' means a supplier provider whose product offered for procurement meets the local content of less than 20%.

e) 'L1' means the lowest tender or lowest bid or the lowest quotation received in this tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

f) 'Margin of purchase preference 'means the maximum extent to which the price quoted by a local supplier may be above the L1 for the purpose of purchase preference.

II. Purchase preference: -
a) Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a Class-I local supplier, the order for full quantity will be awarded to L1.
b) If L1 bid is not from a Class-I local supplier, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the Class-I local suppliers, will be invited to match the L1 price for the remaining 50% quantity subject to the local supplier's quoted price falling within the margin of purchase preference, and order for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price. In case such lowest eligible Class-I local supplier fails to match the L1 price or accepts less than the offered quantity, the next higher Class-I local supplier within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and order shall be awarded accordingly. In case some quantity is still left uncovered on local suppliers, then such balance quantity may also be ordered on the L1 bidder.
c)In the procurements of goods or works, which are covered by para 3(b) or reference order and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
(i) Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a Class-I local supplier, the order will be awarded to L1.
(ii) If L1 is not from a Class-I local supplier, the lowest bidder among the Class-I local suppliers, will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference, and the order shall be awarded to such Class-I local supplier subject to matching the L1 price.
(iii) In case such lowest eligible Class-I local supplier fails to match the L1 price, the Class-I local supplier with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and order shall be awarded accordingly. In case none of the Class-I local suppliers within the margin of purchase preference matches the L1 price, then the order may be awarded to the L1 bidder.
(iv) Only Class-II Local suppliers are not eligible to get price preference in any procurement undertaken by procuring entities.

III. Applicability in tenders where order is to be awarded to multiple bidders: -
In tenders where order is awarded to multiple bidder's subject to matching of L 1 rates or otherwise, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

a) In case there is sufficient local capacity and competition for the item to be procured, as notified by the nodal Ministry, only Class I local suppliers shall be eligible to bid. As such, the multiple suppliers, who would be awarded the order, should be all and only 'Class I Local suppliers'.

b) In other cases , 'Class II local suppliers' and 'Non local suppliers' may also participate in the bidding process along with 'Class I Local suppliers' as per provisions of this Order. C) If 'Class I Local suppliers' qualify for award of order for at least 50% of the tendered quantity in any tender, the order may be awarded to all the qualified bidders

as per award criteria stipulated in the bid documents. However, in case 'Class I Local suppliers' do not qualify for award of order for at least 50% of the tendered quantity, purchase preference should be given to the 'Class I local supplier' over 'Class II local suppliers'/ 'Non local suppliers' provided that their quoted rate falls within 20% margin of purchase preference of the highest quoted bidder considered for award of order so as to ensure that the 'Class I Local suppliers' taken in totality are considered for award of order for at least 50% of the tendered quantity.

d) First purchase preference has to be given to the lowest quoting 'Class-I local supplier', whose quoted rates fall within 20% margin of purchase preference, subject to its meeting the prescribed criteria for award of order as also the constraint of maximum quantity that can be sourced from any single supplier. If the lowest quoting 'Class-I local supplier', does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity may be given to next higher 'Class-I local supplier', falling within 20% margin of purchase preference, and so on.

e) To avoid any ambiguity during bid evaluation process, the procuring entities may stipulate its own tender specific criteria for award of order amongst different bidders including the procedure for purchase preference to 'Class-I local supplier' within the broad policy guidelines stipulated in sub-paras above

IV. Minimum local content: -
The 'local content' requirement to categorize a supplier as 'Class-I local supplier' is minimum 50%. For 'Class-II local supplier', the 'local content' requirement is minimum 20%. Nodal Ministry/ Department may prescribe only a higherpercentage of minimum local content requirement to categorize a supplier as 'Class-I local supplier'! 'Class-II local supplier'. For the items, for which Nodal Ministry! Department has not prescribed higher minimum local content notification under the Order, it shall be 50% and 20% for 'Class-I local supplier'! 'Class-II local supplier' respectively.

V. Verification of Local content: -
 a. The 'Class-I local supplier'! 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier'! 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
b. In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'! 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
c. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

VI. Manufacture under license/ technology collaboration agreements with phased indigenization: -

While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.

VII. Classification of MSE'S: -

(i) Micro Enterprises: Where the investment in plant and machinery or equipment does not exceed 1 crore rupees and turnover does not exceed 5 crore rupees,

(ii) Small Enterprises: Where the investment in plant and machinery or equipment does not exceed 10 crore rupees and turnover does not exceed 50 crore rupees,

(iii) Medium Enterprises: Where the investment in plant and machinery or equipment does not exceed 50 crore rupees and turnover does not exceed 250 crore rupees

(iv) Retail & Whole sale traders: Any bidder who are retailer/ Traders claim EMD/ Bid security exemption shall refer Ministry OM 5/2(2)/2021-E/P&G/Policy dtd 02.07.2021 & 5/2(1)2020/E-P&G/Policy dtd 01.12.2020.

VIII. Price Preference to MSEs: -

a) Among the qualified bids, the lowest bid will be termed as L1, If L1 is class 1 local supplier the order will be awarded to L1.

b) In tender, participating Micro and Small Enterprises quoting price within price band of L1 + 15% shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply upto 25 percent of the total tendered value, The 25(twenty five)% quantity is to be distributed proportionally among these bidders, in case there are more than one MSME's within such price band.

c) In case the tendered quantity of goods cannot be split/ divided MSE quoted price within the band L1+15% may be awarded for full complete supply of total tendered value to MSE.

d) MSEs participating in the tender must submit valid &authorised copy of certificate of registration with any one of the above agencies. In case of bidders submitting DIC registration certificate shall attach original notarised copy of the DIC certificate.

e) The MSE's Bidder to note and ensure that nature of services and goods/items manufactured mentioned in MSE's certificate matches with the nature of the services and goods /items to be supplied as per Tender.

f) The registration certificate issued from any one of the above agencies must be valid as on Bid closing date of the tender. Bidder shall ensure validity of registration certificate in case bid closing date is extended.

g) The MSEs who have applied for registration or renewal of registration with any of the above agencies / bodies, but have not obtained the valid certificate as on close date of the tender, are not eligible for EMD exemption / preference.

h) Where any aggregator has been appointed by the Ministry of MSE, themselves quote on behalf of some MSE units, such offers will be considered as offer from MSE units and all such facilities would be extended to these aggregators also.

Section-I-Commercial Compliance Sheet

Sl. No	Particulars	Yes	No	Page Ref
1	Whether EMD for INR 1,84,000/- scanned and uploaded along with the technical document?			
1.	Whether Taxes and duties are shown separately in the quote. (Registration numbers for claiming the same to be strictly indicated)			
2.	Whether EMD is enclosed along with the Technical bid			
3.	Whether accepted to submit the order acceptance within Seven days from the date of order?			
4	Whether submission of Performance Security is acceptable?			
5.	Whether submission of Performance Guarantee/Warranty Bank Guarantee is acceptable?			
6.	Whether Quote is valid for **120 days** from the due date of tender or time specified in the tender document whichever is later?			
7.	Whether **payment terms** of the tender is complied with?			
8.	Whether price is **FOR** NIOT Chennai?			
9.	Whether the **authorization letter** exclusively for this tender, from the original manufacturers in India?			
10.	Whether **warranty period** and submission of warranty certificate in the prescribed format is acceptable?			
11.	Whether the **delivery period** is acceptable as per NIT?			
12.	Whether list of deliverables attached and comply as per tender?			
13.	Whether liquidated damage clause is acceptable in case of delayed supply?			
14.	Whether the tender is fully complying with tender specification/Adjustment if no, list out deviations very clearly along with the appropriate reason for the deviation?			
15.	Whether item-wise price is quoted as per price bid and quoted price is realistic?			
16.	Whether copy of duly signed (all pages) tender document along with Annexures (1-9) is uploaded along with the quotation.			

Section II Technical Compliance sheet (to be filled by the bidder)

Sl.No.	NIOT requirement	Compliance (Yes or No)
	I) General:	
1.	Software development and testing shall be compliant with IEEE/IEC 12207 standard for Software Development Life Cycle (SDLC)	
2.	Software Requirements Specifications (SRS), Software Design Description (SDD), Integrated Test Plan (ITP) documents shall be prepared in discussion with NIOT technical team.	
3.	Integrated software shall be designed based on the functional requirement document and developed using LabVIEW software with certified LabVIEW architect (CLA) for the human submersible. Software architecture design document shall be prepared.	
4.	The application software for submersible and MCC shall have user-friendly pop-up messages in the event of any warnings and alarms.	
5.	Logging of data, events, and errors to be stored with Date & Time stamp in standard file format such as txt / CSV for the essential and critical data during the data acquisition with different logging rate as per the NIOT requirement.	
6.	Generation of charts, graphs & trends for the vital parameters.	
7.	The Integrated software development shall be properly commented on and documented for understanding and easy trouble shooting.	
8.	User Configurable "*.ini" files for various depth operations according to the NIOT requirement.	
9.	The software shall be compatible with the latest version of LabVIEW and able to augment any modules as and when required. Prior to initiating software development, the vendor shall inform NIOT of the intended LabVIEW version and obtain formal approval.	
10.	The software shall include provisions for customizable auto-generated reports to support easy, efficient analysis and decision making.	
	II) Integrated software for the submersible:	
11.	Integrated software shall be developed using LabVIEW for both the console Pilot and Co-Pilot PCs for the human submersible, incorporating the following features: Integrated software shall be developed using LabVIEW for both the Pilot and Co-pilot PCs of the human submersible, incorporating the following features: • Integrated software with GUI for Control, Monitoring and Logging • TCP/IP communication • Master - Slave architecture • Serial modules for subsystems/equipment integration • Four Battery Managements Systems (Main and Auxiliary	

	batteries) • Four Insulation Resistance Measurements for PS Power Supply units • Two Human Support and Safety System (HSSS) • Redundant Inertial Navigation System (INS) • Redundant Depth Sensor • Video overlay and video handling systems • Primary Acoustic data telemetry and instant messages to MCC • Redundant Acoustic Data Telemetry • Navigational Joystick for vehicle maneuvering • Joystick control for Imaging system • Three Crew-Bio-vest • Auto depth and heading control algorithms (will be shared to successful bidder) • Integrated Navigation Display System to visualize the all subsystems • Time synchronization across systems • Warning and Alarm handling • Configuration settings • Watchdog timer implementation • Interlock Mechanism • Data Logging, Event and Error Logging with Date and Time Stamp • Trends and Plots for real – time monitoring • Apt arrangement • Logical Grouping of UI controls, Indicators and graphs in Multiple tab GUI • Customized Auto -Report Generation	
	III) Application software for Real time targets:	
12.	The application software shall be developed using LabVIEW for the real- time controllers Installed in IDE_P, IDE_S, PDE_P, PDE_S, PS_P, and PS_S with the following features: • The real-time controllers shall be configured in a server and multi-client architecture, networked via TCP/IP. Data acquisition time and data packet sizes shall be finalized in consultation with the selected bidder TCP/IP communication. • Serial modules for the subsystems/equipment's as per FRD • Input and output read/write module for real time data acquisition and control • Time synchronization across the modules • Data Logging, Event and Error Logging • Implementation of Interlock mechanism to ensure safe and reliable system performance	
	IV) Integrated software for the Mission control Centre in the ship	
13	Integrated software shall be developed using LabVIEW for the console Pilot and Co-Pilot PCs for the **Mission Control Centre** onboard the ship with the following features:	

	● Submersible Mission Control software with GUI for monitoring and control ● TCP/IP communication for data system interfacing and data exchanging ● Master-Slave Architecture for command and control hierarchy ● Primary Acoustic Data Telemetry ● Redundant Acoustic Data Telemetry ● Integrated Navigation Display System shall be provided to visualize the all subsystems in real time ● Support for Serial Communication modules to interface for with equipment (e.g GNSS and Iridium modem) ● Time synchronization across subsystems ● Configuration Setting Options ● Data Logging, Event and Error Logging with Date and Time Stamp ● TCP/IP communication Interface and GUI for Visitors Monitoring ● Trends and plots for monitoring ● Generation of charts, graphs & trends for the vital parameters ● Grouping of UI controls, indicators and graphs in Multiple tab GUI ● Customized Auto - Report generation for post mission analysis and documentation	
	V) Software Testing	
14	The developed integrated software shall undergo a comprehensive testing process to ensure complete verification and validation at all levels. The following test levels shall be performed ● Individual module testing with full code coverage to ensure functionality and robustness ● Individual subsystem testing with simulator ● Integrated testing of all subsystem modules with test bed simulator to ensure end to end requirement coverage ● Individual subsystem testing with actual hardware to validate hardware-software interface and integrity. ● Integrated testing with subsystems with actual hardware configuration for full system validation ● Independent verification and validation on the developed software to ensure compliance with specification ● User Acceptance Testing (UAT) as per Integrated test plan to confirm readiness for sea trial	
	VI) Software development and testing support:	
15	• A dedicated and experienced Team Leader (CLA), along with a minimum of 2-3 certified LabVIEW developers (CLA/CLD) , each possessing with a minimum of five years of experience in LabVIEW software development, must be exclusively assigned to the integrated software development from the beginning to the final integrated testing and validation.	

	• The subsystem software modules shall be developed at the bidder's location. However, testing of the software modules with the simulator, hardware, and integrated testing must be conducted on-site at NIOT. • Source codes, drivers, and libraries developed/acquired for all subsystems and integrated system should be handed over to NIOT. • The bidder should support the NIOT technical team until the project completion and optimization • Software development, testing and documentation should be completed within the period of eight months. • A separate quotation on a per-day basis shall also be submitted for any future software development activities (including new payload additions) or modifications to the developed software, including support to the NIOT technical team during sea trials. This quotation shall remain valid for a period of two years and may be utilized on a daily or weekly basis, depending on the requirement Annual maintenance contract for human submersible (Pilot PC, Co-pilot PC and six real - time targets) and mission control Centre (Console Pilot and Co-pilot PC) shall be provided for five years after completion of the software development and acceptance of NIOT as per the requirement.	
16	• NIOT shall provide the actual NI data acquisition systems and associated ,subsystems/equipment for both Individual and integrated testing. All testing activities shall be conducted at NIOT in the presence of the NIOT technical team • The developed software shall be submitted to NIOT for formal review and acceptance as part of the validation process.	

Section III Scope of supply

a) **Stage 1:** Submission of Software Requirement Specification (SRS), Software Design Description (SDD) and Integrated Test Plan (ITP) documents for deep water human submersible and ship-based Mission Control Centre (MCC) based on the Functional requirement document mentioned in Special Contract Conditions (SCC).

b) **Stage 2:** Software architecture for Deep Water Human Submersible and Mission Control Centre shall be designed based on the design documents and tested with test bed simulator for the subsystem modules (near real-time data generation) with full systems data and validate the operational sequence of NIOT requirement.

c) **Stage 3:** Supply and installation of developed application software for the human submersible (Pilot PC, Co-pilot PC and Six real - time targets) and ship-based Mission Control Centre (Console Pilot and Co-pilot PC) and integrated testing with subsystems/equipment as outlined in the special contract conditions.

Section IV Un Priced bid format

Price Not to be revealed by the bidder **(Quoted prices should be inclusive of all)**

S. No	Description of the items	Qty (Nos)	Unit Price	Total Price
1.	Submission of Software Requirement Specification, Software Design Description and Integrated Test Plan document for human submersible and MCC as per FRD mentioned in Special Contract Conditions (SCC).	1		
2.	Software architecture for Human Submersible and MCC shall be designed based on the design documents and tested with simulator subsystem data and validation as per NIOT requirement	1		
3.	Development, Installation and Integrated testing of application software for human submersible (Pilot and Co-Pilot PC and six real time targets and MCC (Pilot and Co-pilot PC) with subsystems as per SCC	1		
4.	Technical support and maintenance for the developed software for First year	1		
5.	Technical support and maintenance for the developed software for Second year	1		
6.	Technical support and maintenance for the developed software for Third year	1		
7.	Technical support and maintenance for the developed software for Fourth year	1		
8.	Technical support and maintenance for the developed software for Fifth year	1		
9.	Additional software development based on the future requirements if any, during the technical support and maintenance period, or per day basis.	1		
10.	GST as per HSN Code			

Note: 1. The bidders should not reveal their price, anywhere in the technical bid.

ANNEXURE-1

Bid Securing Declaration Form

<div align="right">

Date:
</div>

E-Tender No:

E-Tender Title:

To,

NATIONAL INSTITUTE OF OCEAN TECHNOLOGY

VELACHERY TAMBARAM MAIN ROAD,

NARAYANAPURAM, CHENNAI 600 100

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any order with you for a period of one year from the date of notification if I am/ We are in a breach of any obligation under the bid conditions, because I/We

a) Have withdrawn/modified /amended impairs or derogates from the tender, my /our Bid during the period of bid validity specified in the form of Bid: or

b) Having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the order, if required, or (ii) fail or refuse to furnish the performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder: or (ii0 thirty days after the expiration of the validity of my/our Bid.

Signed: (Insert signature of person whose name and capacity are shown)

In the capacity of   (insert legal capacity of person signing the Bid Security Declaration)

Name: (insert complete name of person signing the Bid Security Declaration)

Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Join Venture, the Bid Security Declaration must be in the name of all partners to the Joint Venture that submits the bid)

ANNEXURE-2

MANUFACTURERS' AUTHORIZATION FORM

The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated.

This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]
Date: [insert date (as day, month and year) of Bid Submission]
Tender No.: [insert number from Invitation for Bids]
To: [insert complete name and address of Purchaser]

WHEREAS
We [insert complete name of Manufacturer], who are official manufacturers of [insert type of goods manufactured], having factories at [insert full address of Manufacturer's factories], do hereby authorize [insert complete name of Bidder]to submit a bid the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Order.

We hereby extend our full guarantee and warranty in accordance with Clause 2.20 of the General Conditions of Order, with respect to the Goods offered by the above firm.
Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]
Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]
Title: [insert title]
Duly authorized to sign this Authorization on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____, _____ [insert date of signing]
*(Not required in case the bidder itself is the manufacturer)

ANNEXURE- 3

PERFORMANCE STATEMENT FORM

Details of similar equipment / systems supplied & installed during past 3 years in India & Abroad

Name of the Firm _____

Order Placed by (full address of Purchaser)

Order Number and date:

Description and Quantity of Ordered:

Equipment Value of Order:

Date of Completion of deliver as Per Order:

Date of actual Completion of Delivery:

Remarks Indicating reasons for late delivery, if Any:

Has the Equipment Been installed/ Working Satisfactory (Attach a Certificate from The purchaser / Consignee)

Name of Contact Person along with Telephone No., FAX No. and e-mail address

Signature and Seal of the manufacturer/Bidder …………………………….

Place:

Date:

ANNEXURE-4

Format for declaration by the Bidder for Code of Integrity & conflict of interest
(On the Letter Head of the Bidder)

No: _____ Date _____
To,

_____

_____

(Name & address of the Purchaser)

Sir,

With reference to your Tender No._____ dated _____ I/We hereby declare that we shall abide by the Code of Integrity for Public Procurement as mentioned under Para 1.3.0 of ITB of your Tender document and have no conflict of interest.

It is certified that we are not associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids / Tender. The details of any previous transgressions of the code of integrity with any entity in any country during the last three years or of being debarred by any other Procuring Entity are as under:

a

b

c

We undertake that we shall be liable for any punitive action in case of transgression/ contravention of this code.

Thanking you,

Yours sincerely,

Signature

(Name of the Authorized Signatory)

Company Seal

ANNEXURE-5

Certificate of Local Content
(To be enclosed along with Technical Bid)

Tender No. _____

We M/s. _____ (Name of Bidder) hereby certify that we meet the minimum Local content for the Goods and services offered vide our offer/bid No. _____ dated _____ as specified below:

- Class-I Local Supplier with local content of 50% and above
                                              OR
- Class-II Local Supplier with local content of 20% and above but less than 50%

(Tick appropriate category of Local Supplier)

We are not claiming the services such as transportation, insurance, installation, commissioning, training, after sales service (warranty or AMC/CMC support), consultancy and custom clearance including custom duty as local value addition.

We are aware that the false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (Govt of India) for which we or our successors can be debarred for up to two years as per Rule 151 (iii) of the General Finance Rules along with such other actions as may be permissible under law.

Signed: [insert signature of person whose name and capacity are shown]

In the capacity of [insert legal capacity of person signing the Bid Submission Form]

Name: [insert complete name of person signing the Bid Submission Form]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____, _____ [insert date of signing]

ANNEXURE-6
Certificate of Price break up of Local Content
(To be enclosed along with Price Bid)

Tender No. _____

We M/s. _____ (Name of Bidder) hereby certify that we meet the minimum Local content for the Goods and services offered vide our offer/bid No. _____ dated _____ as specified below:

- Class-I Local Supplier with local content of 50% and above

                                          OR

- Class-II Local Supplier with local content of 20% and above but less than 50%

(Tick appropriate category of Local Supplier)

Minimum Local content is _____ % as per Price break up given below:
Component of cost Imported product Domestic value addition to product In Foreign Currency US$ or specify In Rupees
Exchange Rate @ 1 US$ = Rs In Rupees Location of value addition Goods
i Material
ii Equipment
iii Total Quoted Price =
(X + Y)
X =
Y =
% Local Content = ($Y\over X$) x 100
We are not claiming the services such as transportation, insurance, installation, commissioning, training, after sales service (warranty or AMC/CMC support), consultancy and custom clearance including custom duty as local value addition. These costs should not be included in Y above.

We are aware that the false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (Govt of India) for which we or our successors can be debarred for up to two years as per Rule 151 (iii) of the General Finance Rules along with such other actions as may be permissible under law.

Signed: [insert signature of person whose name and capacity are shown]

In the capacity of [insert legal capacity of person signing the Bid Submission Form]

Name: [insert complete name of person signing the Bid Submission Form]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____, _____ [insert date of signing]

ANNEXURE- 7

Self-Certification

With reference to Clause No. 1.1.3 of this tender and GoI Ministry of Finance Order No.: F. No. 6/18/2019-PPD dated 23rd July, 2020 on "Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs)" & OM No. F. No. 18/37/2020-PPD dated 8thFebruary, 2021;

It is certified that

• 	We are not a bidder of a country which shares a land border with India.

OR

• 	We are a bidder of a country which shares a land border with India, however, we are eligible to bid in any procurement whether of goods or services as we are registered with the Competent Authority as specified in Ministry of Finance (GoI) Order No. 6/18/2019 – PPD dated 23rd July 2020. Copy of valid registration is attached.

• 	Tick as applicable
•
Place:
Date:
Authorised Signatory
Name:
Company Seal

Self-Certification under preference to Make in India order Certificate

In line with Government Public Procurement Order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020 issued by Ministry of Commerce and Industry and subsequent amendment of the order dt 16th September 2020 we hereby certify that we   M/s. ……………………………………. are local supplier meeting the requirement of minimum local content (i.e. amount of value addition) ………..% as defined in above orders for the item/s against Enquiry/Tender No …………………………… Details of location at which local value addition is made for the item/s are as follows ………..……………………… …………………………………………………………………..…………………………….

We also understand false declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for upto two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Signature of vendor with stamp

Annexure 9

Technical Specification and Special Conditions of Contract (SCC) for Development and testing of Integrated software for Deepwater Human Submersible

1.   INTRODUCTION

National Institute of Ocean Technology (NIOT) is involved in the development of reliable indigenous technologies to solve various engineering problems associated with the exploration of living and non-living resources in the Indian Ocean region. Under the Deep Ocean Mission program, NIOT is developing a 6000m depth-rated human-occupied submersible, MATSYA6000, for scientific exploration in the Indian oceans. NIOT is in the process of identifying an experienced firm for development and testing of Integrated software for deep water human submersible MATSYA6000. The software shall be used for data acquisition, monitoring, control and logging of the deep-water human submersible with various underwater subsystems/equipment/sensors. The software shall transmit the control commands and acquire the data required for operating the subsystems during the submersible operations. The integrated software shall meet the Functional Requirements Document (FRD) of the human submersible and shall comply with IEEE/IEC 12207 standard for Software Development Life Cycle (SDLC).

2. System overview

MATSYA6000 is a human-occupied submersible powered by an onboard battery system, designed to carry three persons to a depth of up to 6000 m for mission durations of 12 hrs. The submersible measures approximately 9 m in length, weighs around 25 t, and will be certified by DNV in compliance with international safety and performance standards. The MATSYA6000 is equipped with the following key subsystems:

- Main Battery Sources with Battery Management System (BMS)
- Auxiliary Battery Sources with Battery Management System (BMS)
- Human Support and Safety Systems (HSSS)
- Personnel Sphere Power and Control Systems with data acquisition system
- Imaging Data systems Enclosure (IDE) with data acquisition system
- Power Distribution systems Enclosure (PDE) with data acquisition system
- Navigation and positioning systems
- Propulsion system
- Under water imaging systems
- Primary and Redundant Acoustic Telemetry Systems
- Main ballast, Variable ballast and Trim system
- Scientific sensors
- Three Bio-vest for 3 crew members
- Manipulator Arms

3.   Prequalification:

3.1.   Technical

a)   The bidder or the corresponding **OEM** (if the bidder is not the OEM for control software development) must have designed and developed control software using LabVIEW for at least three projects within the last 10 years (up to 31.03.2025) for mission-critical applications in space, defense, or marine projects for an Indian

government organization(such as in the defense, space, or offshore sectors).Proof of execution document such as copies of project completion certificate or testimonials from the clients shall be submitted.

b)   OEM (National Instruments, India) authorization letter should be furnished for development of Control software for MATSYA6000.

c)   A Certified LabVIEW Architect (CLA) and 2-3 certified LabVIEW Developers (CLD), each with a minimum of five years of experience in LabVIEW software development, must be exclusively assigned to the software development process from the beginning to the completion. Valid CLA and CLD certificates for proposed software team shall be submitted.

Note:

Proof of execution/supply such as copies of delivery acceptance/completion certificate/ testimonials from past clients etc. should be submitted. Absence/ non-submission of documentary evidence as any of the above may lead to tender being non-respective/ invalid.

4.   Deliverable:

(a) Stage 1: Submission of Software Requirement Specification (SRS), Software Design Description (SDD) and Integrated Test Plan (ITP) documents for deep water human submersible and ship-based Mission Control Centre (MCC) based on the Functional requirement document mentioned in Special Contract Conditions (SCC).

(b) Stage 2: Software architecture for Deep Water Human Submersible and Mission Control Centre shall be designed based on the design documents and tested with test bed simulator for the subsystem modules (near real-time data generation) with full systems data and validate the operational sequence of NIOT requirement.

(c) Stage 3: Supply and installation of developed application software for the human submersible (Pilot PC, Co-pilot PC and Six real - time targets) and ship-based Mission Control Centre (Console Pilot and Co-pilot PC) and integrated testing with subsystems/equipment as outlined in the special contract conditions.

5.   Guaranteed time of delivery – specific performance of contract

The timely delivery including design, testing, optimization and supply in satisfactory condition is the critical requirement of the contract and the delivery schedule shall be as follows:

(a) Stage 1: Submission of Software Requirement Specification (SRS), Software Design Description (SDD) and Integrated Test Plan (ITP) documents for deepwater human submersible and ship based Mission Control Centre (MCC) based on the Functional requirement document mentioned in Special Contract Conditions for which the bidder has quoted- within 1 months from the date of signing of Contract

(b) Stage 2: Software architecture for Human Submersible and Mission Control Centre shall be designed based on the design documents and tested with Test bed simulator for the subsystem modules (near real-time data generation) with full systems data and validate the operational sequence of NIOT requirement - within 3 months from the date of signing of Contract or within 2 months from the date of approval and acceptance of the design documents by NIOT authorized official whichever is earlier. Only after the successful completion of stage 2 to NIOT acceptance criteria, stage 3 will be initiated.

(c) Stage 3: Supply and installation of developed application software for the human submersible (Pilot PC, Co-pilot PC and six real - time targets) and Mission Control Centre (Console Pilot and Co-pilot PC) and integrated testing with

subsystems/equipment as mentioned in the Special contract conditions-within 8months from the date of signing of Contract or within 5 months from the date of approval and acceptance of the Software architecture design with simulators by NIOT authorized official whichever is earlier.

5.1.   Extension of delivery period:

If the completion of systems / components is delayed for reasons of force majeure such as acts of God, Acts of Public enemy, acts of Government, fires, floods, epidemics, quarantine restrictions, illegal strikes and freight embargoes, the Contractor shall within three days from the date of such occurrence, give notice to NIOT in writing of his claim for extension of delivery period. NIOT on receipt of such notice may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the contract. Unless the extended delivery period is agreed by NIOT in writing, contractor cannot claim the extension of delivery time as a matter of right. NIOT shall have the right to either cancel/extend the order validity/ levy LD as appropriate.

6. CONTROL HARDWARE DESCRIPTION

The control and monitoring system for the human submersible was designed using National Instruments hardware supported by LabVIEW software by considering redundancy need and ease of data communication between human submersible and ship based Mission Control Centre. The underwater subsystems, equipment, and scientific sensors are separated and interfaced with the port and starboard side systems to obtain axis symmetry architecture to control and monitor the human submersible. The Personnel Sphere (PS) systems communicate with the control systems mounted inside the Imaging and Data System Enclosure (IDE) and Power Distribution System Enclosure (PDE) located in the exo-structure. The block diagram of the Human Submersible communication network is shown in Figure. 1.

The data acquisition systems (DAS) are designed using the NI (National instruments) cRIO real-time controllers with I/O modules and are distributed as shown in the Figure. 1. Two-panel computers (Pilot & Co-pilot PC) and data acquisition systems are used to perform the human submersible operation from the PS. Two panel computers are used in the ship based Mission Control Centre to establish wireless (acoustic) communication between the human submersible and the ship. This facilitates data telemetry, enable near real time monitoring, display the parameters on Pilot and Co-Pilot PC for various support operation. The integrated software shall be designed and developed using the NI LabVIEW software and loaded in all six RT-controllers and Panel computers.

Ethernet with TCP/IP protocol shall be used for data communication between the personnel sphere and the vehicle control system. Underwater imaging systems and scientific sensors are interfaced with both the port and starboard sides of the Imaging and Data System Enclosure (IDE). Meanwhile, the propulsion system and 148V LED lights are connected to the port and starboard sides of the Power Distribution System Enclosure (PDE).

The components and subsystems of the IDE and PDE will be controlled and monitored from the Personnel Sphere (PS) through the Ethernet link, ensuring real-time data access and control. Each subsystem is interfaced with real-time controllers, which are equipped with analog and digital input/output modules, as well as serial communication modules for enhanced data handling and control functionality. The specific details regarding the real-time controllers and I/O

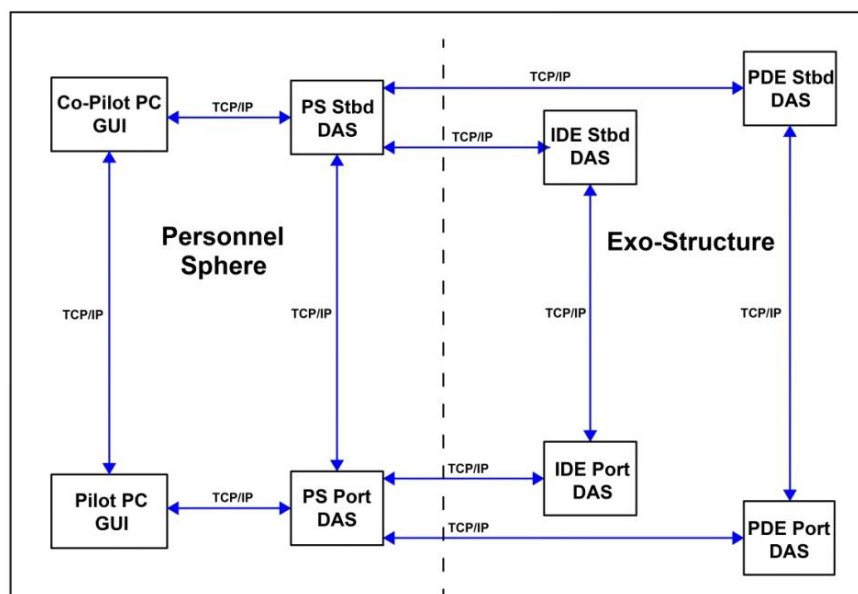modules will be provided to the successful bidder for further integration.)

Figure. 1 Block diagram of Human Submersible Communication Network

7. SOFTWARE DESCRIPTION

The Application software developed for Human submersible and MCC must be free from any bugs highly reliable, and fully capable of meeting all the operational requirements during real-time operations of the human submersible. The software shall meet the Functional Requirements Document of the human submersible and comply with IEEE/IEC 12207. Integrated software provides configuration-based workflow to monitor, control, and analyze subsystems/components in the human submersible. Integrated software is essential for operating the human submersible as per the mission requirement in shallow and deep waters. The data from the submersible shall be transmitted acoustically to the ship based Mission Control Centre for real-time monitoring of the submersible's critical parameters as illustrated in Figure. 2. Software modules of the subsystems such as Propulsion, Batteries, Underwater imaging, Navigation and Positioning, HSSS, Manipulators, Main ballast, Variable ballast and Trim system, Primary Acoustic telemetry, Redundant Acoustic telemetry, Scientific sensors, Bio vest for crew, INDS and system parameters, shall be integrated for submersible operations.

The Integrated software shall be tested and verified with the simulator software before integrating with the control hardware through a test plan covering all the operational scenarios in presence of NIOT Quality Assurance team. The integrated Mission control software shall be reviewed by NIOT team and dedicated software review committee. The end to end operations shall be carried out and the developed integrated software shall be deployed in all the six real time controllers, Pilot and Co-Pilot computers and deployed version number shall be assigned for software version management. The integrated software should be fine-tuned and optimized based on the suggestion provided by the NIOT and software review committee.
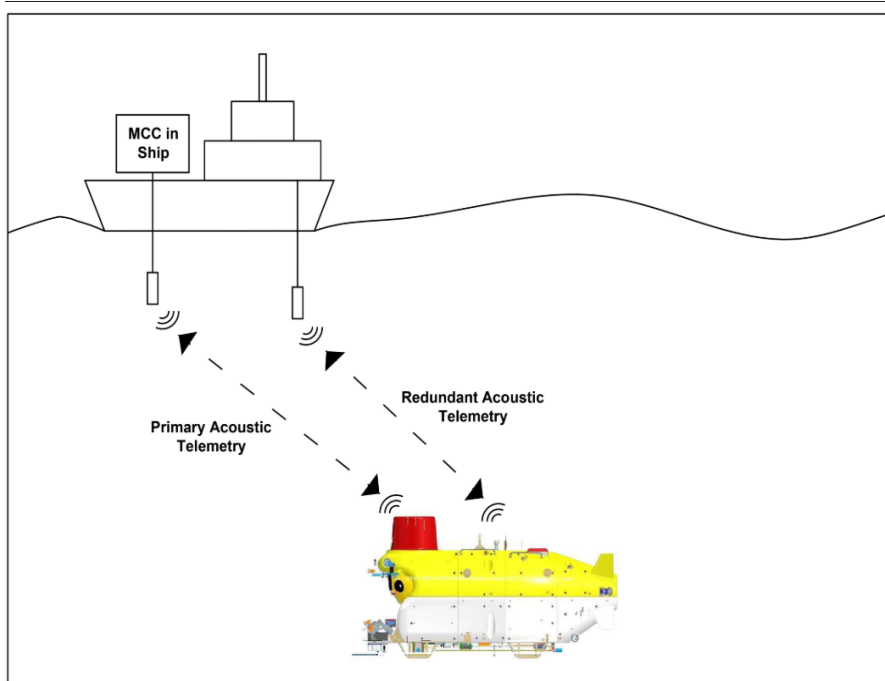
Figure. 2 Illustration of Data Telemetry between Human Submersible and Ship based MCC

7.1. Software development methodology

The software development methodology and the Vendor scope of work are given in below Figure. 3. The Integrated software shall provide the graphical user interface for all the subsystem modules to monitor and control the scientific sensors and payloads respectively during real-time operation and comply with the Functional Requirements of the submersible mission. Brief functional requirement of the human submersible is shown in Annexure A.

NIOT scope is to provide the Functional requirement document (FRD) with system and hardware description for human submersible and ship based Mission Control Centre and shall be shared to bidders with a non-disclosure agreement during the pre-bid meeting. NIOT shall provide the actual NI data acquisition systems (Hardware), subsystems/equipment for individual and integrated testing. Based on the FRD, the Software Requirements Specifications (SRS), Software Design Description (SDD), Software Verification, Integrated Test plan, and Validation documents are to be developed by vendor in discussion with NIOT. These documents shall comply with the IEEE/IEC 12207 standard, ensuring adherence to the complete Software Development Life Cycle (SDLC). The successful bidder should support the NIOT technical team throughout the duration of the project, including any new payload additions or resolving issues that may arise during the final stages of project completion.

The integrated software versions shall be systematically maintained using version control tools to ensure proper tracking, management, and documentation of all updates and changes throughout the development lifecycle.
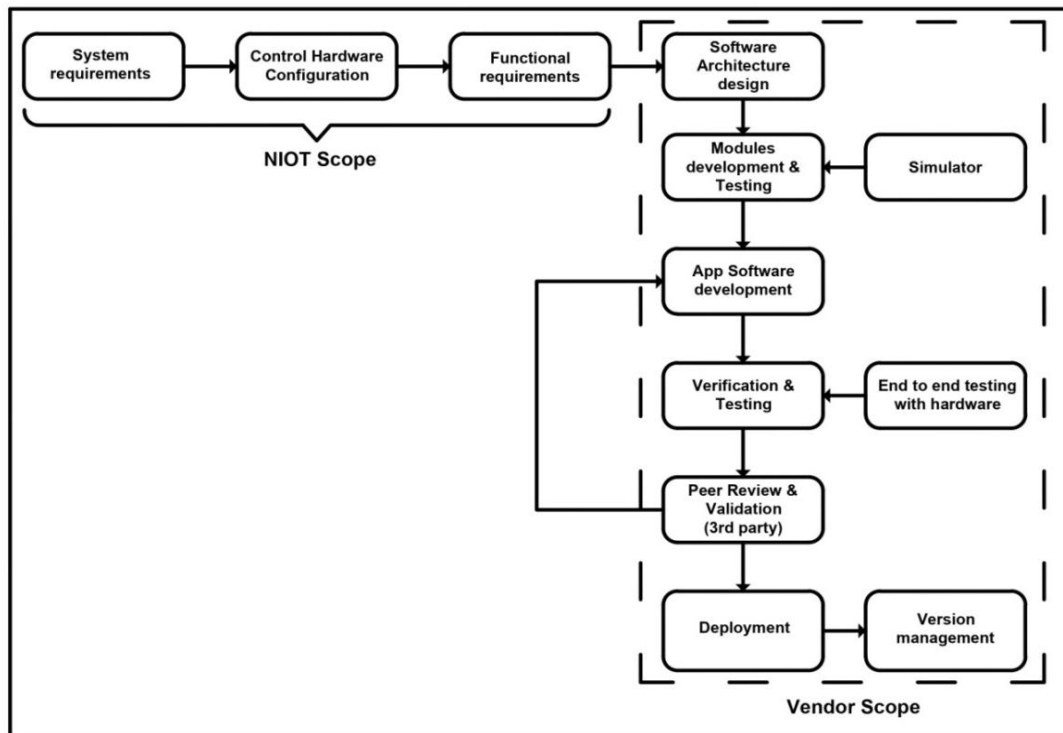
Figure.3 Road map of Integrated Software development methodology

8. SCOPE OF WORK

8.1. General

1. Software development and testing shall be compliant with IEEE/IEC 12207 standard for Software Development Life Cycle (SDLC).
2. Software Requirements Specifications (SRS), Software Design Description (SDD), Integrated Test Plan (ITP) documents shall be prepared in discussion with NIOT technical team.
3. Integrated software shall be designed based on the functional requirement document (FRD) and developed using LabVIEW software with certified LabVIEW architect (CLA) for the human submersible. Software architecture design document shall be prepared.
4. The application software for submersible and MCC shall have user-friendly pop-up messages in the event of any warnings and alarms.
5. Logging of data, events, and errors to be stored with Date & Time stamp in standard file format such as txt / CSV for the essential and critical data during the data acquisition with different logging rate as per the NIOT requirement.
6. Generation of charts, graphs & trends for the vital parameters.
7. The Integrated software development shall be properly commented on and documented for understanding and easy trouble shooting.
8. User Configurable "*.ini" files for various depth operations according to the NIOT requirement.
9. The software shall be compatible with the latest version of LabVIEW and able to augment any modules as and when required. Prior to initiating software development, the vendor shall inform NIOT of the intended LabVIEW version and obtain formal approval.
10. The software shall include provisions for customizable auto-generated reports to support easy, efficient analysis and decision making.

8.2. Integrated software for the submersible:

Integrated software shall be developed using LabVIEW for both the Pilot and Co-pilot PCs of the human submersible, incorporating the following features.

- Integrated software with GUI for Control, Monitoring and Logging
- TCP/IP communication
- Master - Slave architecture
- Serial modules for subsystems/equipment integration
  - Four Battery Managements Systems (Main and Auxiliary batteries)
  - Four Insulation Resistance Measurements for PS Power Supply units
  - Two Human Support and Safety System (HSSS)
  - Redundant Inertial Navigation System (INS)
  - Redundant Depth Sensor
  - Video overlay and video handling systems
  - Primary Acoustic data telemetry and instant messages to MCC
  - Redundant Acoustic Data Telemetry
  - Navigational Joystick for vehicle manoeuvring
  - Joystick control for Imaging system
  - Three Crew-Bio-vest
- Auto depth and heading control algorithms (will be shared to successful bidder)
- Integrated Navigation Display System to visualize the all subsystems
- Time synchronization across systems
- Warning and Alarm handling
- Configuration settings
- Watchdog timer implementation
- Interlock Mechanism
- Data Logging, Event and Error Logging with Date and Time Stamp
- Trends and Plots for real – time monitoring
- Apt arrangement
- Logical Grouping of UI controls, Indicators and graphs in Multiple tab GUI
- Customized Auto -Report Generation

8.3. Application software for Real Time targets:

The application software shall be developed using LabVIEW for the real-time controllers Installed in IDE_P, IDE_S, PDE_P, PDE_S, PS_P, and PS_S with the following features.

- The real-time controllers shall be configured in a server and multi-client architecture, networked via TCP/IP. Data acquisition time and data packet sizes shall be finalized in consultation with the selected bidder TCP/IP communication.
- Serial modules for the subsystems/equipments as per FRD
- Input and output read/write module for real time data acquisition and control
- Time synchronization across the modules
- Data Logging, Event and Error Logging
- Implementation of Interlock mechanism to ensure safe and reliable system performance

8.4. Integrated software for the Mission Control Centre (MCC) in the ship

Integrated software shall be developed using LabVIEW for the console Pilot and

Co-Pilot PCs for the **Mission Control Centre** onboard the ship with the following features:

- Submersible Mission Control software with GUI for monitoring and control
- TCP/IP communication for data system interfacing and data exchanging
- Master-Slave Architecture for command and control hierarchy
- Primary Acoustic Data Telemetry
- Redundant Acoustic Data Telemetry
- Integrated Navigation Display System shall be provided to visualize the all subsystems in real time
- Support for Serial Communication modules to interface for with equipment (e.g GNSS and Iridium modem)
- Time synchronization across subsystems
- Configuration Setting Options
- Data Logging, Event and Error Logging with Date and Time Stamp
- TCP/IP communication Interface and GUI for Visitors Monitoring
- Trends and plots for monitoring
- Generation of charts, graphs & trends for the vital parameters
- Grouping of UI controls, indicators and graphs in Multiple tab GUI
- Customized Auto - Report generation for post mission analysis and documentation.

8.5. Software Testing

The developed integrated software shall undergo a comprehensive testing process to ensure complete verification and validation at all levels. The following test levels shall be performed

- Individual module testing with full code coverage to ensure functionality and robustness
- Individual subsystem testing with simulator
- Integrated testing of all subsystem modules with test bed simulator to ensure end to end requirement coverage
- Individual subsystem testing with actual hardware to validate hardware-software interface and integrity.
- Integrated testing with subsystems with actual hardware configuration for full system validation
- Independent verification and validation on the developed software to ensure compliance with specification
- User Acceptance Testing (UAT) as per Integrated test plan to confirm readiness for sea trial

8.6. Software development and testing support:

1. A dedicated and experienced Team Leader (CLA), along with a minimum of 2-3 certified LabVIEW developers (CLA/CLD) , each possessing with a minimum of five years of experience in LabVIEW software development, must be exclusively assigned to the integrated software development from the beginning to the final integrated testing and validation.
2. The subsystem software modules shall be developed at the bidder's location. However, testing of the software modules with the simulator, hardware, and integrated testing must be conducted on-site at NIOT.
3. Source codes, drivers, and libraries developed/acquired for all subsystems and integrated system should be handed over to NIOT.
4. The bidder should support the NIOT technical team until the project completion and optimization

5. Software development, testing and documentation should be completed within the period of eight months.

6. A separate quotation on a per-day basis shall also be submitted for any future software development activities (including new payload additions) or modifications to the developed software, including support to the NIOT technical team during sea trials. This quotation shall remain valid for a period of two years and may be utilized on a daily or weekly basis, depending on the requirement.

7. Annual maintenance contract for human submersible (Pilot PC, Co-pilot PC and six real - time targets) and mission control Centre (Console Pilot and Co-pilot PC) shall be provided for five years after completion of the software development and acceptance of NIOT as per the requirement.

Note:

a) NIOT shall provide the actual NI data acquisition systems and associated subsystems/equipment for both Individual and integrated testing. All testing activities shall be conducted at NIOT in the presence of the NIOT technical team.

b) The developed software shall be submitted to NIOT for formal review and acceptance as part of the validation process.

Annexure-X

Functional requirement document (FRD) for human submersible is prepared and shall be shared to bidders with non-disclosure agreement during the pre-bid meeting.

A) Functional requirements of the Subsystem for human submersible

The functional requirements of the Subsystem for human submersible are described below with respect to operations.
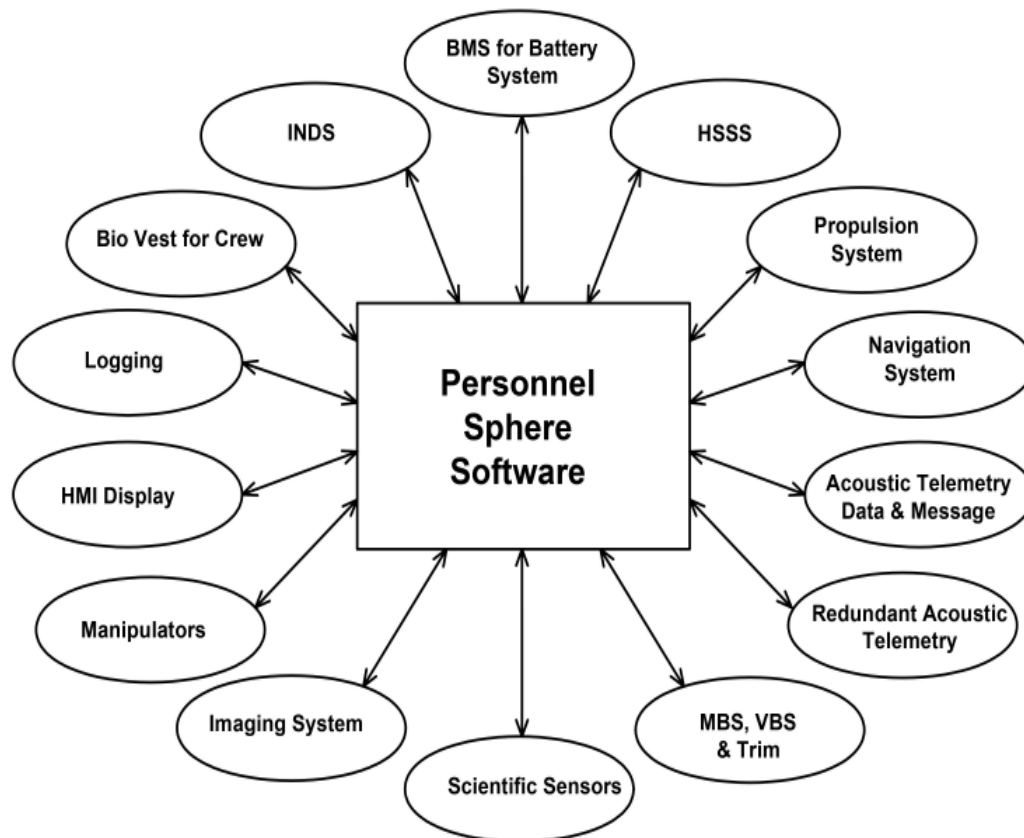

Figure.4 Functional requirement of the Subsystem for human submersible

1. Data acquisition and monitoring of two Main Battery Sources
2. Data acquisition and monitoring of two Auxiliary Battery Sources
3. Data acquisition and monitoring of two Human support and safety system
4. Acoustic telemetry control, command and status for Submersible
5. Generation of command for propulsion system with heading and depth control
6. Data acquisition and monitoring of Navigation and positioning system
7. Generation of control command and monitoring of Ballast and Trim system
8. Generation of command for Redundant acoustic telemetry
9. Generation of control command and monitoring of UW imaging system
10. Data acquisition and monitoring of Scientific sensors and payloads
11. Data acquisition and monitoring of Bio-vest for 3 crew members

12. Generation of command for INDS and graphical visualization software

13. Logging of data, event and error

14. Generation of Manipulator command

15. Master/slave selection module

16. Data generation in HMI Displays

17. Interlocks

18. Initialization module

19. Hard and switch control enable

B) Functional requirements of the Subsystem for MCC

The functional requirements of the Subsystem for MCC are described below with respect to operations.
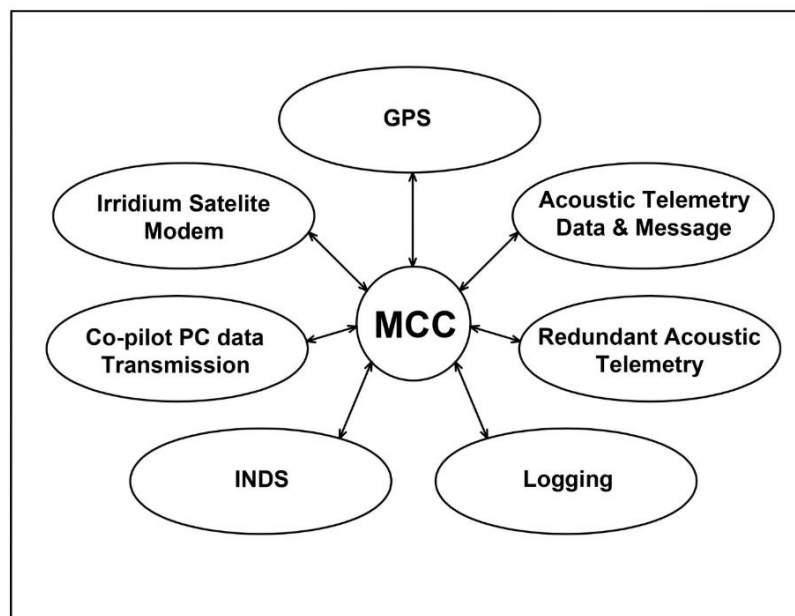

Figure.5 Functional requirement of the Subsystem for MCC

1. Acoustic telemetry and Monitoring in the ship system.
2. Generation of command and monitoring of redundant acoustic telemetry.
3. Generation of command for INDS and graphical visualization software.
4. Data acquisition and monitoring of Iridium Satellite MODEM
5. Data acquisition and monitoring of GPS system.
6. Logging of data, event and error.
7. Data transmission from Pilot PC to Co-Pilot PC.