भारतीय राष्ट्रीय महासागर सूचना सेवा केंद्र
पृथ्वी विज्ञान मंत्रालय, भारत सरकार
"ओशियन वैली", प्रगति नगर (बी. ओ), निज़ामपेट (एस. ओ), हैदराबाद - 500 090
दूरभाष सं. 040-2388 6002 / 23886074 फैक्स : 040-2389 2910 / 2389 5001
INDIAN NATIONAL CENTRE FOR OCEAN INFORMATION SERVICES
Ministry of Earth Sciences, Government of India
"Ocean Valley", Pragathi Nagar (BO), Nizampet (SO), Hyderabad - 500 090
Phone No.040-2388 6002/23886074 Fax: 040-2389 2910/2389 5001

इंकॉइस: क्रय: 77/2025
Ref. INCOIS: PUR: 77/2025

दिनांक: 10.04.2026
Date: 10. 04. 2026

सरकारी ई बाज़ार द्वारा निविदा सूचना आमंत्रण
Notice Inviting Tender through Government E Market Place (GeM)

भारतीय राष्ट्रीय महासागर सूचना सेवा केंद्र, हैदराबाद भारत सरकार के पृथ्वी विज्ञान मंत्रालय के अंतर्गत एक स्वायत्त निकाय है।
Indian National Centre for Ocean Information Services (INCOIS), Hyderabad is an autonomous body under Ministry of Earth Sciences, Government of India.

निम्न विवरणों के लिए पंजीकृत विक्रेताओं से निविदाओं/बोलियों को आमंत्रित किया जाता है। जीईएम की एक अधिप्राप्ति होने के नाते बोलियों को केवल सरकारी ई बाज़ार (जीईएम) http://gem.gov.in/ द्वारा ऑनलाइन से ही जमा किया जाए। एनआईटी का संक्षिप्त विवरण नीचे दिया जा रहा है।
Tenders/Bids are invited from registered vendors of GeM for the following items. Being a GeM procurement, the bids has to be submitted online through Government E- Market Place (GeM) http://gem.gov.in/ only. The brief details of NIT are appended below.

क्र. सं. Sl. No	कार्य का नाम Name of the Work	बोली संदर्भ सं. Bid Reference No.	बोली संख्या एवं दिनांक Bid Number and Date	बोली समाप्ति की तारीख और समय Bid end date and Time
(1)	टर्नकी समाधान में डिज़ाइन, विकास, आपूर्ति, स्थापना, परीक्षण और दो (02) संग्रहालय-स्तरीय इंटरैक्टिव भौतिक मॉडलों का कमीशनिंग शामिल है, जो INCOIS Ocean Information & Advisory Services को प्रदर्शित करते हैं, जिसमें एक वर्ष की ऑनसाइट वारंटी और दो वर्ष का CAMC शामिल है, निम्न स्थानों पर: i) INCOIS, हैदराबाद ii) G.P. बिड़ला पुरातात्विक, खगोलीय और वैज्ञानिक अनुसंधान संस्थान (GPBAASRI), हैदराबादTurnkey solutions include design, development, supply, installation, testing, and commissioning of two (02) museum-grade interactive physical models depicting INCOIS Ocean Information & Advisory Services, with one-year onsite warranty and two years of CAMC, at: i) INCOIS, Hyderabad ii) G.P. Birla Archaeological, Astronomical, and Scientific Research Institute (GPBAASRI), Hyderabad	इंकॉइस: क्रय: 77/2025 INCOIS:PUR: 77/2025	जीईएम/2026/बी/7434850 दिनांक: 10.04.2026 GEM/2026/B/7434850 dated 10.04.2026	04.05.2026 21:00:00

जीईएम की एक अधिप्राप्ति होने के नाते बोलियों को केवल जीईएम पोर्टल अर्थात बोली/आरए के खाने के माध्यम http://gem.gov.in/ द्वारा ऑनलाइन से ही जमा किया जाए। किसी भी प्रकार की सहायता के लिए कृपया जीईएम पोर्टल की हेल्प लाइन से संपर्क करें। निम्न

अधिकारियों से भी संपर्क किया जा सकता है: श्री वी सुब्रह्मण्यम (ईमेल: manyam@incois.gov.in; दूरभाष सं. 040 2388 6022)/ श्री दसारी प्रसाद (ईमेल: dasariprasad@incois.gov.in दूरभाष सं 040-2388 6082)

Being a GeM procurement, the bid has to be submitted online through the GeM portal i.e., http://gem.gov.in under the Bids/RAs column. For any assistance, please contact help line of GeM portal. The following officials may also be contacted: Mr. V. Subrahmanyam (email: manyam@incois.gov.in; Phone No. 040 2388 6022)/Mr. Dasari Prasad (email: dasariprasad@incois.gov.in Phone No. 040-2388 6082).

(V. Subrahmanyam)
(प्रशासनिक अधिकारी (क्रय)/ **Administrative Officer (Purchase)**
निविदा आमंत्रण प्राधिकारी, इंकॉइस/
Tender Inviting Authority, INCOIS

बिड संख्या/Bid Number: GEM/2026/B/7434850
दिनांक /Dated: 10-04-2026

बिड दस्तावेज़ / Bid Document

बिड विवरण/Bid Details	
बिड बंद होने की तारीख/समय /Bid End Date/Time	04-05-2026 21:00:00
बिड खुलने की तारीख/समय /Bid Opening Date/Time	04-05-2026 21:30:00
बिड पेशकश वैधता (बंद होने की तारीख से)/Bid Offer Validity (From End Date)	90 (Days)
मंत्रालय/राज्य का नाम/Ministry/State Name	Ministry Of Earth Sciences
विभाग का नाम/Department Name	Department Of Earth Sciences
संगठन का नाम/Organisation Name	Earth Sciences Secretariate
कार्यालय का नाम/Office Name	Indian National Centre For Ocean Information Servi
कुल मात्रा/Total Quantity	28
वस्तु श्रेणी /Item Category	Physical Models 1 , CAMC 2 , CAMC 3 , Any other Charges 4 , Any other Charges 5
GeMARPTS में खोजी गई स्ट्रिंग्स / Searched Strings used in GeMARPTS	Physical models, museum grade interactive physical models
GeMARPTS में खोजा गया परिणाम / Searched Result generated in GeMARPTS	**Searched String**: Physical models Physical Training Shoes (IAF), Lyophilizer, T - Shirt (Physical Training) (IAF), Solar Based Home Systems (Solar Power Packs): AC Models as per MNRE Specifications, Recirculating chiller, Solar Based Home Systems (Solar Power Packs): DC Models as per MNRE Specifications, Anatomy Structure Model (V3), Two Pan Laboratory Balance Analytical Chemical Physical as per IS 9440, Activity Based Educational Kits for Physics, Tool Kit of Physical Education and Sports Skill for L 3 - RM **Searched String**: museum grade interactive physical models Secondary Stage Physics Laboratory Kit (NCERT)
अधिसूचना के लिए चयनित प्रासंगिक श्रेणियाँ / Relevant Categories selected for notification	• Physical Training Shoes (IAF) • Anatomy Structure Model (V3) • Tool Kit of Physical Education and Sports Skill for L 3 - RM
बीओक्यू शीर्षक /BOQ Title	DESIGN DEVELOP AND INSTALLATION OF PHYSCIAL MODELS
बिडर का न्यूनतम औसत वार्षिक टर्नओवर (3 वर्षों का) /Minimum Average Annual Turnover of the bidder (For 3 Years)	100 Lakh (s)

बिड विवरण/Bid Details	
उन्हीं/समान सेवा के लिए अपेक्षित विगत अनुभव के वर्ष/Years of Past Experience Required for same/similar service	3 Year (s)
टर्नओवर के लिए एमएसई को छूट प्राप्त है / MSE Relaxation for Turnover	Yes | Partial | Turn over value - 50 (in lakhs)
टर्नओवर के लिए स्टार्टअप को छूट प्राप्त है / Startup Relaxation for Turnover	Yes | Partial | Turn over value - 50 (in lakhs)
विक्रेता से मांगे गए दस्तावेज़/Document required from seller	Experience Criteria,Bidder Turnover,Certificate (Requested in ATC),Additional Doc 1 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
क्या आप निविदाकारों द्वारा अपलोड किए गए दस्तावेज़ों को निविदा में भाग लेने वाले सभी निविदाकारों को दिखाना चाहते हैं? संदर्भ मेनू है/Do you want to show documents uploaded by bidders to all bidders participated in bid?	Yes (Documents submitted as part of a clarification or representation during the tender/bid process will also be displayed to other participated bidders after log in)
बिड लगाने की समय सीमा स्वतः नहीं बढ़ाने के लिए आवश्यक बिड की संख्या। / Minimum number of bids required to disable automatic bid extension	3
दिनों की संख्या, जिनके लिए बिड लगाने की समय-सीमा बढ़ाई जाएगी। / Number of days for which Bid would be auto-extended	7
ऑटो एक्सटेंशन अधिकतम कितनी बार किया जाना है। / Number of Auto Extension count	1
बिड से रिवर्स नीलामी सक्रिय किया/Bid to RA enabled	Yes
रिवर्स नीलामी योग्यता नियम/RA Qualification Rule	H1-Highest Priced Bid Elimination
बिड का प्रकार/Type of Bid	Two Packet Bid
प्राथमिक उत्पाद श्रेणी/Primary product category	Physical Models 1
तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय /Time allowed for Technical Clarifications during technical evaluation	3 Days
निरीक्षण आवश्यक (सूचीबद्ध निरीक्षण प्राधिकरण /जेम के साथ पूर्व पंजीकृत एजेंसियों द्वारा)/Inspection Required (By Empanelled Inspection Authority / Agencies pre-registered with GeM)	No
मूल्यांकन पद्धति/Evaluation Method	Total value wise evaluation
वित्तीय दस्तावेज की आवश्यकता है / Financial Document Required	Yes

बिड विवरण/Bid Details	
मध्यस्थता खंड/Arbitration Clause	Yes (Arbitration clause document) as per DoE OM No.F.1/2/2024-PPD dated 03.06.2024 Arbitration should not be routinely included in contracts
सुलह खंड/Mediation Clause	Yes (Mediation clause document) as per DoE OM No.F.1/2/2024-PPD dated 03.06.2024 mediation clause should not be routinely included in contracts and pre-litigation mediation can be taken up without any such clause also

ईएमडी विवरण/EMD Detail

एडवाईजरी बैंक/Advisory Bank	State Bank of India
ईएमडी राशि/EMD Amount	424000

ईपीबीजी विवरण /ePBG Detail

एडवाइजरी बैंक/Advisory Bank	State Bank of India
ईपीबीजी प्रतिशत (%)/ePBG Percentage(%)	5.00
ईपीबीजी की आवश्यक अवधि (माह) /Duration of ePBG required (Months).	26

(a). जेम की शर्तों के अनुसार ईएमडी छूट के इच्छुक बिडर को संबंधित केटेगरी के लिए बिड के साथ वैध समर्थित दस्तावेज़ प्रस्तुत करने है। एमएसई केटेगरी के अंतर्गत केवल वस्तुओं के लिए विनिर्माता तथा सेवाओं के लिए सेवा प्रदाता ईएमडी से छूट के पात्र हैं। व्यापारियों को इस नीति के दायरे से बाहर रखा गया है।/EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy.

(b).ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए। / EMD & Performance securityshould be in favour of Beneficiary, wherever it is applicable.

लाभार्थी /Beneficiary :
DIRECTOR INCOIS
Payable at Hyderabad Indian National Centre for Ocean Information Services, Ministry of Earth Sciences Govt of India
(Director Incois)

बोली विभाजन लागू नहीं किया गया/ Bid splitting not applied.

एमआईआई खरीद वरीयता / MII Purchase Preference

एमआईआई खरीद वरीयता / MII Purchase Preference	Yes
मेक इन इंडिया विक्रेताओं को खरीद में प्राथमिकता, यदि उनका मूल्य L1+X% तक की सीमा में है / Purchase Preference to MII sellers availabele upto price within L1+X%	20

मेक इन इंडिया खरीद में प्राथमिकता के लिए बिड की मात्रा का अधिकतम प्रतिशत / Maximum Percentage of Bid quantity for MII purchase preference	50
सार्वजनिक खरीद (मेक-इन-इंडिया को प्राथमिकता) आदेश 2017 के अनुसार केवल क्लास 1/क्लास 2 के स्थानीय आपूर्तिकर्ताओं को ही भागीदारी की अनुमति है दिनांक 16.09.2020 (समय-समय पर संशोधित एवं लागू) / Allow participation only from Class 1/Class 2 local suppliers as per the Public procurement(Preference to Make-in-india) order 2017 date 16.09.2020(as amended and applicable time to time)	Yes, in compliance with the MII ORDER : DPIIT Order(as amended and applicable time to time)

एमएसई खरीद वरीयता/MSE Purchase Preference

एमएसई खरीद वरीयता/MSE Purchase Preference	Yes
सूक्ष्म और लघु उद्यम मूल उपकरण निर्माताओं को खरीद में प्राथमिकता, यदि उनका मूल्य L1+X% तक की सीमा में हो / Purchase Preference to MSE OEMs available upto price within L1+X%	15
सूक्ष्म और लघु उद्यम को खरीद में प्राथमिकता के लिए बिड की मात्रा का अधिकतम प्रतिशत / Maximum Percentage of Bid quantity for MSE purchase preference	25

1. If the bidder is a Micro or Small Enterprise (MSE) as per latest orders issued by Ministry of MSME, the bidder shall be relaxed from the eligibility criteria of "Bidder Turnover" as defined above subject to meeting of quality and technical specifications. If the bidder itself is MSE OEM of the offered products, it would be relaxed from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. The bidder seeking Relaxation from Turnover, shall upload the supporting documents to prove his eligibility for Relaxation.
2. If the bidder is a DPIIT registered Startup, the bidder shall be relaxed from the the eligibility criteria of "Bidder Turnover" as defined above subject to their meeting of quality and technical specifications. If the bidder is DPIIT Registered OEM of the offered products, it would be relaxed from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. The bidder seeking Relaxation from Turnover shall upload the supporting documents to prove his eligibility for Relaxation.
3. The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated above in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
4. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM of the product offered in the bid {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts and delivery acceptance certificates like CRAC to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.
5. Preference to Make In India products (For bids < 200 Crore):Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local

content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020. Only Class-I and Class-II Local suppliers as per MII order dated 4.6.2020 will be eligible to bid. Non - Local suppliers as per MII order dated 04.06.2020 are not eligible to participate. However, eligible micro and small enterprises will be allowed to participate .The buyers are advised to refer the OM No.F.1/4/2021-PPD dated 18.05.2023.
OM_No.1_4_2021_PPD_dated_18.05.2023 for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017.

6. Purchase preference will be given to MSEs having valid Udyam Registration and whose credentials are validated online through Udyam Registration portal as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail themselves of the Purchase preference, the bidder must be the manufacturer / OEM of the offered product on GeM. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises and hence resellers offering products manufactured by some other OEM are not eligible for any purchase preference. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service and Buyer will decide eligibility for purchase preference based on documentary evidence submitted, while evaluating the bid. If L-1 is not an MSE and MSE Seller (s) has / have quoted price within L-1+ 15% (Selected by Buyer) of margin of purchase preference /price band defined in relevant policy, such MSE Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total quantity. The buyers are advised to refer the OM No. F.1/4/2021-PPD dated 18.05.2023 OM_No.1_4_2021_PPD_dated_18.05.2023 for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017. Benefits of MSE will be allowed only if seller is validated on-line in GeM profile as well as validated and approved by Buyer after evaluation of documents submitted.
7. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

8. Reverse Auction would be conducted amongst all the technically qualified bidders except the Highest quoting bidder. The technically qualified Highest Quoting bidder will not be allowed to participate in RA. However, H-1 will also be allowed to participate in RA in following cases:

i. If number of technically qualified bidders are only 2 or 3.
ii. If Buyer has chosen to split the bid amongst N sellers, and H1 bid is coming within N.
iii. In case Primary product of only one OEM is left in contention for participation in RA on elimination of H-1.
iv. If L-1 is non-MSE and H-1 is eligible MSE and H-1 price is coming within price band of 15% of Non-MSE L-1
v. If L-1 is non-MII and H-1 is eligible MII and H-1 price is coming within price band of 20% of Non-MII L-1

एक्सेल में अपलोड किए जाने की आवश्यकता /Excel Upload Required :

PRICE BID - 1775832887.xlsx

Pre Bid Detail(s)

मूल्य भिन्नता खंड दस्तावेज़/Pre-Bid Date and Time	प्री-बिड स्थान/Pre-Bid Venue
20-04-2026 11:00:00	AT INCOIS HYDERABAD HYBRID MODE

Physical Models 1

(क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक/Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively)

तकनीकी विशिष्टियाँ /Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Reddipalli Velangini Giridhar	500090,Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India, Ocean valley, Pragathi Nagar BO, Nizampet SO, Hyderabad - 50090 INDIA	2	150

CAMC 2

(क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक/Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively)

तकनीकी विशिष्टियाँ /Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Reddipalli Velangini Giridhar	500090,Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India, Ocean valley, Pragathi Nagar BO, Nizampet SO, Hyderabad - 50090 INDIA	12	365

CAMC 3

(क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक/Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively)

तकनीकी विशिष्टियाँ /Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

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परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Reddipalli Velangini Giridhar	500090,Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India, Ocean valley, Pragathi Nagar BO, Nizampet SO, Hyderabad - 50090 INDIA	12	365

Any Other Charges 4

(क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक/Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively)

तकनीकी विशिष्टियाँ /Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Reddipalli Velangini Giridhar	500090,Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India, Ocean valley, Pragathi Nagar BO, Nizampet SO, Hyderabad - 50090 INDIA	1	150

Any Other Charges 5

(क्रमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक/Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively)

तकनीकी विशिष्टियाँ /Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Reddipalli Velangini Giridhar	500090,Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India, Ocean valley, Pragathi Nagar BO, Nizampet SO, Hyderabad - 50090 INDIA	1	150

क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें/Buyer Added Bid Specific Terms and Conditions

1. **Generic**

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity up to 25% of the contracted quantity during the currency of the contract at the contracted rates. The delivery period of quantity shall commence from the last date of original delivery order and in cases where option clause is exercised during the extended delivery period the additional time shall commence from the last date of extended delivery period. The additional delivery time shall be (Increased quantity ÷ Original quantity) × Original delivery period (in days), subject to minimum of 30 days. If the original delivery period is less than 30 days, the additional time equals the original delivery period. The Purchaser may extend this calculated delivery duration up to the original delivery period while exercising the option clause. Bidders must comply with these terms.

2. **Buyer Added Bid Specific ATC**

Buyer Added text based ATC clauses

Turnkey solutions include design, development, supply, installation, testing, and co mmissioning of two (02) museum-grade interactive physical models depicting INCOI S Ocean Information & Advisory Services, with one-year onsite warranty and two ye ars of CAMC, at:

i) INCOIS, Hyderabad

ii) G.P. Birla Archaeological, Astronomical, and Scientific Research Institute (GPBAASRI), Hyderabad

Contract completion Period: The completion period for the entire DSITC work shall be five (05) months from the date of issuance of the Work Order/Purchase Order (PO).

Warranty/Period: 1 year onsite warranty from the date of installation, commissioning, testin g & acceptance of the systems

CAMC Period: 02 years of CAMC from the date of completion of the onsite warranty period

Payment terms:

a) Material Component :

· 90% of the Material component value shall be paid payment within 30 days after completion of the entire work viz.,**design, development, supply, installation, testing, and commissioni ng of two museum-grade interactive physical models at two locations as per clause 5 in general terms and conditions** and submission of Ink Signed Original Invoice, applicable Te st Certificate, Pre-shipment inspection/Q.C. passed certificate, Installation Report,1 year on site warranty undertaking from the date of acceptance.

· 10% will be paid

a) after successful completion of one year warranty period

b) or against submission of bank guarantee from a nationalized/scheduled bank for 110% for a period of 01 year 02 months.

a. **Service Components (CAMC):**

Payment will be released on a quarterly basis, against submission of an Ink-Signed Invoice in Tr

iplicate (Original, Duplicate, and Triplicate) and subject to satisfactory performance. The followi ng documents are to be submitted along with the Quarterly Invoice: -

a) Joint Log Report for the quarter.

b) Attendance details of Manpower deployed.

c) Tax Payment copies as applicable.

d) Proof of back-to-back support (wherever applicable).

3. **Buyer Added Bid Specific ATC**

   Buyer uploaded ATC document Click here to view the file.

4. **Service & Support**

   Escalation Matrix For Service Support : Bidder/OEM must provide Escalation Matrix of Telephone Numbers for Service Support.

अस्वीकरण/Disclaimer

The Additional Terms and Conditions (ATC) have been incorporated by the Buyer after approval of their Competent Authority. The Buyer ,is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any restriction arising in the bidding process due to these ATCs and including the modification of technical specifications and / or terms and conditions governing the bid.All representations / grievances pertaining to the ATC clauses shall be raised with the buyer organization directly and not with GeM.If any of the clause(s) is/are incorporated by the Buyer regarding the following, the bid & resultant contract shall be treated as null & void. Further, GeM reserves the right, at its sole discretion, to cancel the bid forthwith, without issuance of any prior notice or intimation :-

1. Publishing Custom / BOQ bids for items for which regular GeM categories are available (unless such Custom / BOQ item is bunched with the major regular product Category Item).
2. Mandating procurement of / from specific Brand / Make / Model / Manufacturer / Dealer except in case of Single Bid / Proprietary Article Certificate (PAC) Buying.
3. Inclusion of disqualification criteria related to suspension of seller / service provider, where such suspension period has already expired.
4. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
5. Publishing bids on GeM for procurement of works.
6. Procurement of Goods by creating a Service bid on GeM & vice-versa.
7. Seeking sample with bid or approval of samples during bid evaluation process. However, trial / sample, as the case may be, shall be permitted in cases where trial / sample are allowed as per approved and published procurement policy of the Buyers' controlling Ministry / Department / State / Public Sector Enterprises Headquarters. If there is any violation of trial / sample clause with regard to approved policy of the Buyers' Ministry / Department / State / Public Sector Enterprises Headquarters, then this is to be determined and redressed by the concerned Buyer Organisation only.
8. Seeking experience from specific organization / department / institute only or from foreign / export experience.
9. Creating bid for items from incorrect categories.
10. Reference of conditions published on any external site or reference to external documents/clauses.
11. Asking for any Tender fee / Bid Participation fee, as the case may be.
12. Buyer added ATC Clauses which are in contravention of clauses defined in bid detail section, including specifications, EMD Detail, ePBG Detail and MII and MSE Purchase Preference sections of the bid, unless otherwise allowed by the applicable GeM GTC.
13. Any ATC clause in contravention with GeM GTC Clause 4 (xiii) (h) will be invalid. In case of multiple L1 bidders against a service bid, the buyer shall place the Contract by selection of a bidder amongst the L-1 bidders through a Random Algorithm executed by GeM system.

14. In a category based bid, adding additional items, through buyer added, additional scope of work/ additional terms and conditions/or any other document. If buyer needs more items along with the main item, the same must be added through bunching category based items or by bunching custom catalogues or bunching a BoQ with the main category based item, the same must not be done through ATC or Scope of Work.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

All GeM Sellers/Service Providers shall ensure full compliance with all applicable labour laws, including the provisions, rules, schemes and guidelines under the four Labour Codes i.e. the Code on Wages, 2019; the Industrial Relations Code, 2020; the Occupational Safety, Health and Working Conditions Code, 2020; and the Code on Social Security, 2020 as and when notified and brought into force by the Government of India.

For all provisions of the Labour Codes that are pending operationalisation through rules, schemes or notifications, the corresponding provisions of the pre-existing labour enactments (such as The Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Payment of Bonus Act, 1965, The Equal Remuneration Act, 1976, The Payment of Gratuity Act, 1972, etc. and relevant State Rules) shall continue to remain applicable.

The Seller/ Service Providers shall, therefore, be responsible for ensuring compliance under:

- **All notified and enforceable provisions of the new Labour Codes as mentioned hereinabove; and**
- **All operative provisions of the erstwhile Labour Laws until their complete substitution.**

All obligations relating to wages, social security, safety, working conditions, industrial relations etc. and any other statutory requirements shall be strictly met by the Seller/ Service Provider. Any non-compliance shall constitute a breach of the contract and shall entitle the Buyer to take appropriate action in accordance with the contract and applicable law.

This Bid is governed by the General Terms and Conditions, conditions stipulated in Bid and Service Level Agreement specific to the Service, as the case may be, as provided in the Marketplace.

However, in case of Service, if any condition specified in General Terms and Conditions is contradicted by the conditions stipulated in Service Level Agreement specific to said Service, then it will over-ride the conditions in the General Terms and Conditions.

यह बिड सामान्य शर्तों के अंतर्गत भी शासित है /This Bid is also governed by the General Terms and Conditions

जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो।बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्रवाई का आधार होगा।/In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

---धन्यवाद/Thank You---

INCOIS:PUR: 77 /2025 10.04.2026

Request for the Proposal to provideTurnkey solutions include design, development, supply, installation, testing, and commissioning of two (02) museum-grade interactive physical models depicting INCOIS Ocean Information & Advisory Services,with one-year onsite warranty and two years of CAMC, at:

i) INCOIS, Hyderabad

ii) G.P. Birla Archaeological, Astronomical, and Scientific Research Institute (GPBAASRI), Hyderabad.

Dear Sirs,

On behalf of the Director, INCOIS, bids are invited under the "Two Bid System" (Part-I Techno-Commercial Bid and Part-II Commercial Bid)from vendors with appropriate registration, having adequate resources and setup for making museum-grade interactive physical models.

1.	**Name of the work**	**:**	**Turnkey solutions include design, development, supply, installation, testing, and commissioning of two (02) museum-grade interactive physical models depicting INCOIS Ocean Information & Advisory Services, with one-year onsite warranty and two years of CAMC, at:** **i) INCOIS, Hyderabad** **ii) G.P. Birla Archaeological, Astronomical, and Scientific Research Institute (GPBAASRI), Hyderabad**
2.	**BID Reference No.**	**:**	INCOIS:PUR: 77/2025 dated 06.03.2026
3.	**Earnest Money Deposit (EMD)**	**:**	Rs. 4,24,000/- (Rupees four lakh twenty four thousand only)
4.	**Last date for seeking clarifications**		April 18, 2026 – 11.00 am
5.	**Pre – Bid Meeting Hybrid Mode**	**:**	On April 20,2026, @ 11.00
6.	**Due date for Bid submission**	**:**	May 04, 2026 - 09.00 pm
7.	**Bid opening date**	**:**	May 04, 2026 – 09.30 pm

For GeM procurement, the bid must be submitted online through the GeM portal (https://gem.gov.in). For any assistance, please contact the GeM portal help line. The following officials may also be contacted Mr. V. Subrahmanyam (email: manyam@incois.gov.in; PhoneNo. 040 23886022)/Mr. Dasari Prasad (email: dasariprasad@incois.gov.in PhoneNo. 040-23886082)

Delivery/ Installation Locations (two) :

a) Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Govt. of India, "Ocean Valley", Survey No.342/3, Beside ALEAP, Near Pragathi Nagar, Opp. JNTU-Kukatpally, Hyderabad 500 090, Ph.No.040-2388 6000

b) G.P. Birla Archaeological, Astronomical, and Scientific Research Institute, Hyderabad.

Description of INCOIS Core Services

Background

The Indian National Centre for Ocean Information Services (INCOIS, Hyderabad) provides essential ocean-related data and services to the public, the scientific community, industry sectors, and government bodies across India and its neighbouring regions. These services are grounded in ongoing ocean observation and targeted scientific research. To enhance public understanding and disaster readiness, INCOIS engages in outreach activities, including open-house events, educational visits, skill-building workshops, and collaborations with academic institutions and community groups. Despite these efforts reaching a wide audience, current communication materials often fall short in terms of clarity, appeal, and accessibility. To address this gap, a dedicated team has been established to revise and enrich the outreach experience. One proposed enhancement is developing physical models that depict the various services INCOIS provides to the public and stakeholders.

Fig. 1. Pillars of the INCOIS Mission, illustrating two distinct classes of services. The orange stars highlight the INCOIS backend services (in-house components), and the green stars highlight the Front services.

We formulated an objectively filtered list of services (themes), primarily based on INCOIS's mission and its ongoing services and activities. Initially, two broad classes of services were identified in alignment with the contributing pillars of the INCOIS Mission Statement, as illustrated in Fig. 1. The first class, referred to as *backend services* (Theme 1), comprises in-house activities—largely backend research—undertaken at INCOIS that continuously support its operational services. The second class comprises front-end services, which are multifaceted in nature and encompass a wide range of activities, including the deployment of oceanographic instruments across the Indian Ocean, ocean modelling, the Tsunami Early Warning System, Potential Fishing Zone (PFZ) advisories, and related services. These front-end services were further categorized into three thematic groups: **Life at Sea, Blue Economy, and Maritime Safety**. These themes are formulated not only by including services, but also by ensuring that the models will attract a wide range of audiences. A detailed description of each of these themes (services) follows:

Life at Sea

The *Life at Sea* theme focuses on how the ocean supports human life, livelihoods, and ecosystems, and how INCOIS helps people live and work safely and sustainably in marine environments. Oceans influence weather, climate, food security, and biodiversity. Through continuous observation and scientific analysis, INCOIS monitors ocean conditions, including temperature, currents, waves, salinity, and biological productivity.

One of the most visible services under this theme is the *Potential Fishing Zone (PFZ) advisory*, which helps fishermen identify areas where fish are more likely to be abundant. By combining satellite observations of ocean colour,

temperature, and currents, INCOIS provides location-specific advisories that reduce fuel costs, save time, and improve catch efficiency. This directly benefits coastal fishing communities.

INCOIS also monitors marine ecosystems, harmful algal blooms, and changes in ocean productivity that affect fisheries and coastal livelihoods. Data from moored buoys, research vessels, satellites, and underwater instruments are fed into ocean models, which help scientists understand long-term changes in the marine environment.

Overall, *Life at Sea* services demonstrate how advanced ocean science translates into daily benefits for fishermen, coastal populations, and ecosystem conservation, making the invisible processes of the ocean understandable and useful to society.

Blue Economy

The *Blue Economy* theme represents the sustainable use of ocean resources for economic growth, improved livelihoods, and environmental protection. India's oceans support various activities, including shipping, fisheries, offshore energy, coastal tourism, and marine infrastructure. INCOIS plays a crucial role by providing scientific data and forecasts that enable informed decision-making for these sectors.

Ocean models and observations from INCOIS support offshore industries by providing essential information on currents, waves, and sea conditions for activities such as oil and gas operations, renewable energy planning, and undersea cable installations. Ports and coastal planners use INCOIS data to design resilient infrastructure that can withstand extreme ocean conditions and future sea-level rise.

INCOIS also contributes to climate services by monitoring long-term changes in sea level, ocean heat content, and circulation patterns. These insights enable policymakers and planners to understand the risks posed by climate change and to develop effective adaptation strategies.

By linking science, technology, and applications, the *Blue Economy* theme shows how oceans can be used responsibly for economic development while ensuring environmental sustainability. It highlights INCOIS's role as a bridge between scientific research and national development goals.

Maritime Safety

The *Maritime Safety* theme highlights INCOIS's role in protecting lives, ships, and coastal infrastructure from ocean-related hazards. The ocean can become dangerous due to cyclones, high waves, storm surges, strong currents, and tsunamis. INCOIS continuously monitors these hazards and provides timely warnings and advisories to decision-makers, emergency agencies, and the public.

A flagship service under this theme is the *Indian Tsunami Early Warning System*. When an undersea earthquake occurs, INCOIS rapidly analyses seismic data, sea-level observations from deep-ocean sensors, and numerical models to assess whether a tsunami has been generated. If required, alerts are issued within minutes to national and regional authorities, helping save lives through early evacuation and preparedness.

INCOIS also provides high-resolution forecasts of waves, winds, and ocean currents that support safe navigation for ships, ports, offshore installations, and coastal operations. These services help mariners avoid dangerous conditions and support port authorities in planning operations.

Through *Maritime Safety* services, INCOIS transforms complex ocean data into actionable information, ensuring that scientific knowledge directly contributes to disaster risk reduction and safer use of the ocean.

Figure A1: This illustration presents an integrated view of the core services provided by the Indian National Centre for Ocean Information Services (INCOIS). The services are grouped into four thematic areas. Life at Sea highlights how ocean observations and satellite data support fisheries, marine ecosystems, and coastal livelihoods through services such as Potential Fishing Zone (PFZ) advisories. Maritime Safety showcases hazard-monitoring and early-warning systems, including tsunami detection, wave forecasts, and emergency alerts, that help protect lives and coastal infrastructure. The Blue Economy illustrates the role of ocean information in supporting sustainable maritime activities, including shipping, ports, offshore energy, and coastal development. Underpinning all these services are Backend Services, which form the scientific and operational backbone of INCOIS. These include ocean observing systems, data collection and management, high-performance computing, and numerical ocean modelling. Together, these interconnected components demonstrate how INCOIS transforms ocean observations into reliable forecasts, advisories, and decision-support services for society.

Back-end Services

The *Backend Services* theme represents the invisible but essential foundation that supports all operational and public-facing services of INCOIS. While end users often see advisories, forecasts, and warnings, these products rely on a continuous chain of scientific and technical activities carried out behind the scenes.

Backend services include sustained ocean observations, data acquisition, quality control, data management, and advanced numerical modelling. INCOIS operates and coordinates a wide network of ocean observing systems, including satellites, moored buoys, coastal radars, Argo floats, tide gauges, and deep-ocean sensors. These instruments continuously measure ocean and atmospheric conditions, transmitting large volumes of data in near real-time.

This data is processed, validated, and assimilated into sophisticated ocean and coupled atmosphere–ocean models running on high-performance computing systems. Scientists analyse these outputs to understand ocean dynamics, detect anomalies, and improve forecast accuracy. Continuous research, model development, and system upgrades ensure that services remain reliable and scientifically robust.

In essence, backend services transform raw ocean measurements into reliable knowledge. They serve as the scientific engine powering early warnings, marine advisories, climate assessments, and decision-support tools delivered by INCOIS.

The bidders are advised to carefully read and formulate their technical proposal as instructed in the bid document.

Aerial Pictures of INCOIS

Aerial pics of the INCOIS main building (left) and ITCOO (sub-unit 1). Additional images will be shared with the successful bidder if required.

Index:

1. Introduction

The Indian National Centre for Ocean Information Services (INCOIS), an autonomous organization under the Ministry of Earth Sciences, Government of India, provides critical ocean information and advisory services, including Tsunami Early Warning, Storm Surge Forecasts, Potential Fishing Zone (PFZ) Advisories, Ocean State Forecasts, and Coral Bleaching / Marine Heatwave Alerts. These services are crucial for disaster risk reduction, maritime safety, sustainable fisheries, and the welfare of coastal communities.To enhance public awareness, scientific literacy, and disaster preparedness - especially among students, youth, and coastal communities - INCOIS proposes to deploy immersive outreach facilities at two locations in Hyderabad:

(a) **INCOIS Atal Bhavan (INCOIS hereafter)** - establishment of a state-of-the-art, interactive physical model showing selected INCOIS services on a turnkey basis, covering design, development, and integration of interactive elements and technical infrastructure, along with a 1-year warranty + 2 years CAMC.

(b) **G.P. Birla Archaeological, Astronomical, and Scientific Research Institute (GPBAASRI hereafter)** - establishment of a state-of-the-art physical model showing selected INCOIS services on a turnkey basis, covering design, development, and integration of interactive elements and technical infrastructure, along with a 1-year warranty + 2 years CAMC.

2. SCOPE OF WORK

2.1. The bidder shall design, develop, supply, and install physical models depicting various ocean information and advisory services of the Indian National Centre for Ocean Information Services (INCOIS), focusing on the three themes (sub-units) listed below and detailed as project specifications.

1) INCOIS Campus with Satellite Model
2) Life at Sea & Blue Economy
3) INCOIS Backend Services

At the **INCOIS** and **GPBAASRI**, these sub-units of the models shall be developed, integrated, and installed as a single state-of-the-art physical model with interactive themes (as explained in the technical details), featuring museum-grade quality and design, professional facility management considerations, and universal accessibilitystandards (one set at each location). The installed physical model shall showcase various INCOIS services through an integrated approach that combines physical infrastructure, environmental design, and interactive content (facilitated through light and sound). The bidder is fully responsible for delivering a turnkey physical model, utilizing high-quality materials and adhering strictly to the schedule.

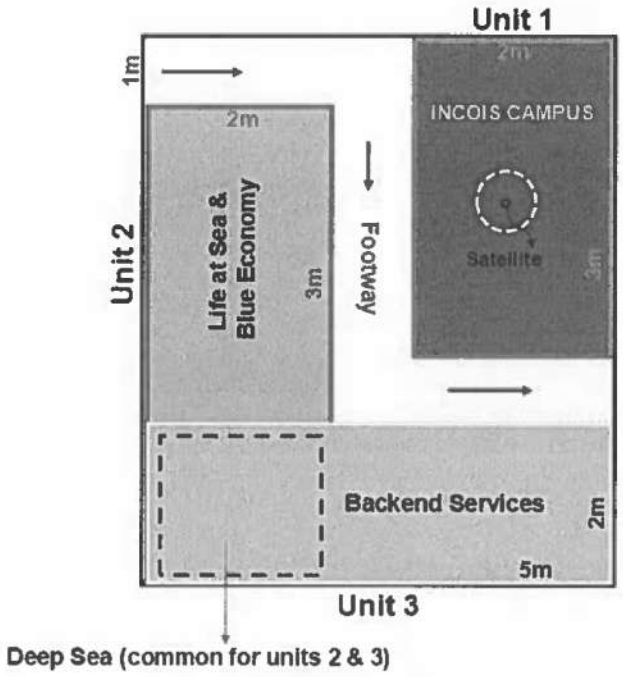

Figure 1: A prototype sketch of the assembled physical model at INCOIS & GPBAASRI (Top view).

A detailed list covering the entire scope of the project is provided below.

a) The bidder shall undertake end-to-end design, fabrication, supply, transportation, installation, testing and commissioning (SITC) of the complete physical model at both locations (1 set at each location), including all sub-units, common base/plinth, protective enclosure, suspended satellite model, lighting & interactivity, narration audio system, control electronics, cabling, programming for show sequences, documentation, training and spares kit. The bidder shall also provide Comprehensive AMC services for 2 years after completion of the 1-year onsite warranty.

b) The dimensions of the physical models are shown in the sketch provided above (FIGURE 1); however, these dimensions may be slightly adjusted, NOT more than the tolerance limit of ±5%, based on discussions between the assigned vendor and the INCOIS team during the design period.

2.2. **There shall be interactive elements** within and/or between the three sub-units (FIGURE 1), describing the workflow of INCOIS activities delivering services. The vendor will develop and incorporate these interactive elements into the physical model, using light and sound, in accordance with the details provided in the bid document. The interactive elements shall be finalized through discussions between the vendor and the INCOIS team during the design period. The details of these interactive elements are provided in the project specifications table.

2.3. **Demonstration & Future Upgrade Provision:** The proposed museum-grade physical model shall be delivered with an integrated show-control system supporting **two demonstration modes** (i) Auto mode, which runs pre-programmed demonstration sequences, and (ii) **Manual Mode,** which enables the demonstrator to control and override the sequence and individual features. The system shall be provided with an **editable show Program** (including multiple selectable demo scenes) and complete operator controls. In addition, the exhibit shall be made **AI-ready** by providing necessary provisions such as interface architecture (APIs), reserved space, power/LAN points, and required input/output connectivity so that an AI-based interactive layer can be integrated in the future without major rework or replacement of the core model and control system.

2.4. The vendor shall regularly communicate with the INCOIS team and incorporate their feedback throughout the design and development of the physical model, ensuring adherence to the bid document. Any deviation from the approved design/specifications shall require prior written approval of INCOIS. Unapproved deviations and/or repeated non-conformities may result in the rejection of deliverables, the imposition of penalties, and/or termination, as per the contract conditions.

2.5. The three physical sub-units (representing the three service themes) will be assembled as a single model (refer to FIGURE 1), one at INCOIS and the other at GPBAASRI, which will be showcased for visitors. Each complete set shall comprise three physical model units erected over a common base/plinth, with visual linkage to a suspended

satellite model. The exhibit shall convey an engaging storyline about INCOIS services, featuring synchronized lighting, safe 'dataflow' visual effects, and narration audio. The final deliverables shall include: (i) concept design, storyboards, scripts and renders, (ii) complete fabricated models and accessories, (iii) enclosures and safety provisions, (iv) complete electrical/control system, (v) site installation and commissioning, (vi) training, (vii) as-built drawings, and (viii) spares kit and manuals.

2.6. The bidder shall undertake end-to-end Turnkey SITC at both locations, including (but not limited to):

- Concept design and detailed design development, including storyboards, scripts, and 3D renders (plan/elevation/sections) for each sub-unit and the overall integrated model.
- Detailed shop drawings and fabrication drawings, including enclosure details, base/plinth construction, service access panels, and cable routing.
- Fabrication and finishing of all model components using museum-grade materials and finishes as specified in the RFP (and "equivalent or better" proposals with justification).
- Protective enclosure/showcase (toughened glass or approved equivalent), including locks, safe edges, and service access provisions.
- Suspended satellite model, including safe suspension hardware, anchors, and secondary safety support.
- Interactive systems, including:
  - synchronized lighting and sequencing,
  - safe "dataflow" visual effects between sub-units and satellite (preferably LED/light-pipe/fibre-optic based; any laser-based solution only if fully enclosed and certified eye-safe),
  - control electronics/panel, wiring, programming for show sequences, and interconnections.
- Narration/PA audio system suitable for museum/public environments, integrated with the show sequence, including commercial-grade speakers, amplifier, playback/control arrangement, volume control/limiter, and complete wiring/documentation.
- Packing, transport, transit insurance, delivery, installation, testing, and commissioning at INCOIS and GPBAASRI.
- Training and handover, including operating procedure, preventive maintenance schedule, and demonstration of operation and basic troubleshooting.
- Documentation deliverables, including as-built drawings, electrical schematics, block diagrams, show sequence logic, O&M manuals, and spares list/kit.

2.7. All major civil, interior, and building MEP works at INCOIS and GPBAASRI - including room interiors, false ceiling, flooring, general lighting, HVAC, acoustics treatment, power distribution upgrades, LAN cabling backbone, and any major civil modifications - shall be executed separately by the respective institution. The bidder shall not quote for major interior works and shall instead provide, as part of the Technical Bid, a complete set of interface requirements and drawings, including:

- total connected load (W/kW),
- number and location of power sockets, UPS requirement (if any), MCB ratings, earthing requirements,
- LAN/data points (if any),
- lighting requirements around the exhibit zone (ambient/accent), recommended lux levels, glare/reflection considerations,
- acoustic recommendations for narration clarity (speaker placement, echo control suggestions), and
- interface drawings showing all the above points referenced to the model footprint.

INCOIS/GPBAASRI will provide the designated points and execute building-side works. The bidder shall coordinate closely to ensure seamless integration. **Minor interfacing works strictly limited to the model installation, such as connecting power from the designated nearby panel, minor ceiling modifications required for satellite suspension, and other minor works essential for satisfactory installation/commissioning, shall be within the bidder's scope.**

2.8. The successful bidder shall first develop and submit complete 3D renders and drawings for the entire model (including cross-sections/elevations) and obtain written approvals from INCOIS. No fabrication shall commence until the design is frozen and approved in writing by INCOIS. The final fabrication shall

strictly adhere to the INCOIS-approved design package.

2.9. A footway for instructor demonstration is indicated in Figure 1. This footway is primarily designated for the instructor to stand in and explain the service themes to visitors. During detailed design, INCOIS and the bidder shall jointly review the project's feasibility and safety. If it is assessed to pose safety or operational risk, the footway shall be modified or removed with prior approval from INCOIS, without compromising the visitor experience.

2.10. INCOIS may conduct stage inspections at the successful bidder's facility during manufacturing on mutually agreed dates to review progress and verify materials/quality. A Factory Acceptance Test (FAT) and a Site Acceptance Test (SAT) shall be carried out to confirm conformance with the approved design, finish quality, safety, and the full functional performance of lighting/data-flow effects and audio sequences before final acceptance.

2.11. All design and development outputs - including 3D models/renders, drawings, scripts, show sequence logic, and other files created under this project- shall be transferred to INCOIS with full rights for future upgrades and reuse.

2.12. Completion Period: The completion period for the entire DSITC works shall be 05 Months from the date of issue of the work order/purchase order.

2.13. Bidders shall submit a detailed project schedule in the Technical Bid, covering design discussions, 3D rendering, approvals/design freeze, procurement, fabrication, FAT, dispatch, site installation, SAT, training, and handover, aligned to the overall completion requirement of **five (5) months** from the Date of Award of the contract

2.14. The entire installation shall be covered under a **1-year onsite warranty** from the date of Final Acceptance. During the warranty period, the bidder shall provide technical support and quarterly preventive maintenance.

2.15. After the warranty period, the bidder shall provide 2 years of Comprehensive AMC (CAMC) covering preventive maintenance, breakdown support, and replacement of worn/failed parts, as per the CAMC scope. CAMC payments shall be made quarterly, provided that service reports are submitted and satisfactory performance is demonstrated.

2.16. The vendor shall deliver the models to INCOIS and GPBAASRI and provide a basic on-site demonstration of the interactive elements and, if required, assembly/disassembly. Any part of the model found to be missing or defective must be rectified or replaced at no additional cost during the warranty period.

2.17. **Project Specifications**: A brief description of the physical models (sub-units)

a) Unit 1. INCOIS campus with Satellite model

- The physical model of the INCOIS main building and its campus (including the International Training Centre for Operational Oceanography - ITCOOcean), along with a hanging-satellite model. A communication system (via light/laser pulses and synchronized audio) between the satellite and other service sectors (here, other units) will be included. A computer-generated image of Unit 1 is provided below (FIGURE 2). The unit will be finalized during the design period through discussions between the selected vendor and the INCOIS team. **All line items of this unit, as listed in section 05 (list of deliverables), should be included in this unit.**

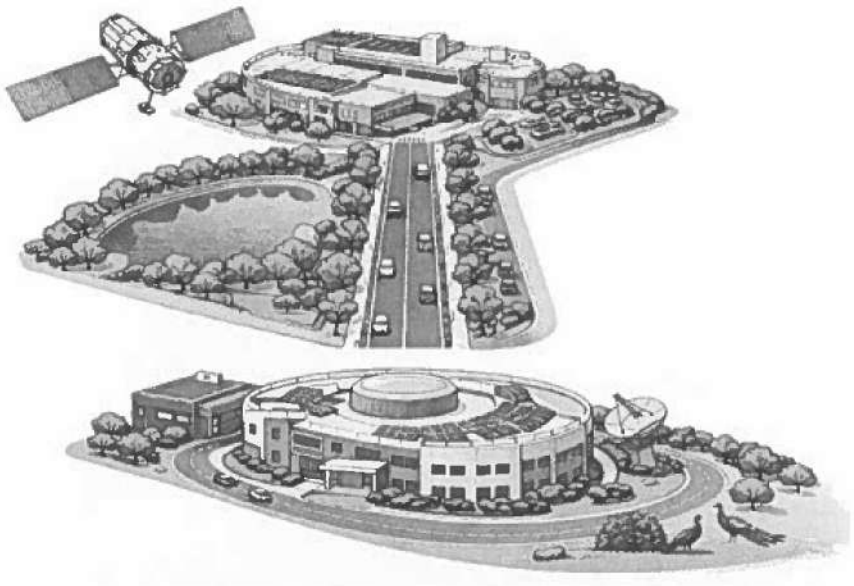

FIGURE 2: A computer-generated image of Sub-unit 1 representing the INCOIS campus and a satellite hanging. Aerial pics of the INCOIS campus are given in the brief Introduction (page 05). The model should be realistic and scaled as per the photographs and videos provided to the successful vendor.

b) **Unit 2.** Life at Sea &Blue Economy

Unit 2 will be a 3D tank model of the ocean, showcasing the port, ships, offshore drilling, windmills, transportation, and beach tourism, among other features (connecting the blue economy and INCOIS services) at the surface (FIGURE 3). This unit will also display fishing activity, coral reefs, bleaching effects, fishschools, and algal blooms in a vertical (side-view) format to showcase the Life at "Sea" theme. **All line items of this unit, as listed in section 05 (list of deliverables), should be included in this unit.**

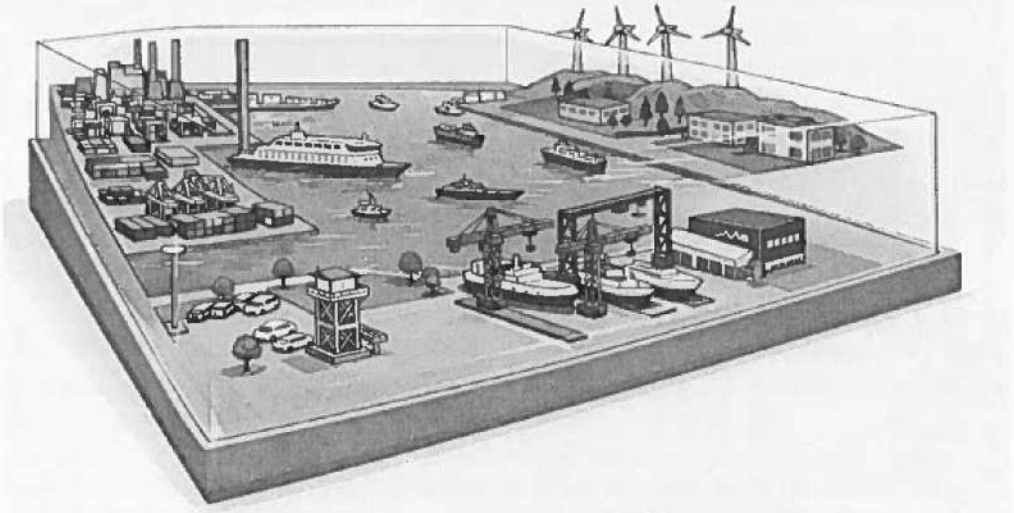

FIGURE 3: The sub-unit 2 showcases a port model at the surface. A subsurface view showcasing the "Life at Sea theme" will be part of this unit.

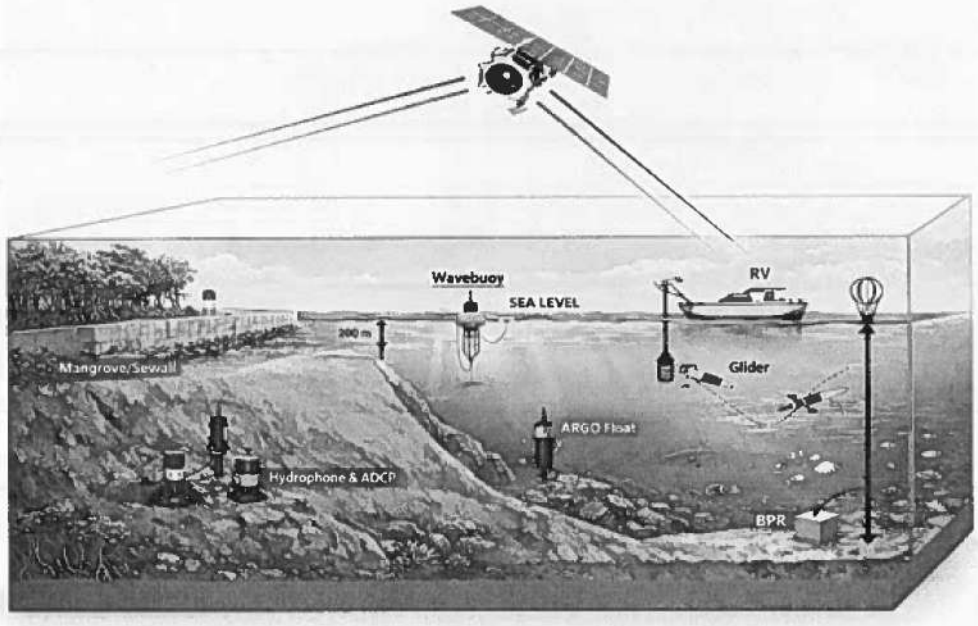

FIGURE 4: A schematic diagram ofsub-unit 3 depicting INCOIS back-end services. Note that the satellite is common for all three units.

c) **Unit 3.** INCOIS Backend Services

- This unit will be a continuation of Unit 2 (the deep-sea part will be common to subunits 2 and 3; see FIGURE 1), primarily showcasing INCOIS's ocean observational network, Data center, modelling activities, and the communication system that INCOIS has been implementing over the years. A 3-D cross-section of the ocean and various deployed instruments are the highlights of this unit. Unit 3 shall also feature a realistic ocean environment, including fish, coral reefs, and coastal ecosystems, presented in a visually appealing manner. (photo shown in FIGURE 4).**All line items of this unit, as listed in section 05 (list of deliverables), should be included in this unit.**

3. Technical Specifications

The following table summarizes the technical specifications of the proposed sub-units of the physical model. At the time of supply, the supplied models should meet or exceed the specifications listed below. More detailed technical specifications are provided below.

Parameter	Sub-Unit 1	Sub-Unit 2	Sub-Unit 3	Common / Applicable to All
Size / Overall Dimensions	INCOIS campus model: 1 x 2 x 3 m (H x W x L), ±5% tolerance	1 x 2 x 3 m (H x W x L), ±5% tolerance	1 x 2 x 5 m (H x W x L), ±5% tolerance	
One (01) suspended satellite model per set (common/applicable to all)	**One (01) suspended satellite model per set**, approx. **1.0 m (±5%)** overall size; lightweight museum-grade **FRP/ABS/ASA** construction with internal skeleton as required; premium durable finish. Satellite underside shall include a **matte/diffuser "receiver zone"** suitable for **projection-based non-physical uplink/data-link effects**. Provide a complete rated suspension system, including anchors, SS aircraft wire/rods, and **secondary safety wire.** Maintain an indicative clearance of minimum 0.9 m to 1.2 m between the enclosure top and the satellite bottom (final height to be frozen during the design stage with INCOIS approval). If satellite illumination is provided, any power wiring shall be **concealed along suspension hardware** and shall **not** be used as a visible data-link medium. Vendor shall propose satellite detailing and obtain INCOIS approval during the design freeze.			
Materials	Refer to Section 04. Bidder shall indicate the selected materials in the Technical Bid. Proposed materials shall match or exceed section 04; provide technical justification for any alternative material or finish.			
Automation & Enhancements	• LEDs & micro circuitry for lighting effects in buildings • **Data-link visual effects with** LED-based animated effects within sub-units; and projection-based non-physical uplink effect to the suspended satellite (as per RFP). • 3D printing (PLA or resin) for	• LEDs & micro circuitry for lighting effects in ships, coral reefs, and buildings • **Data-link visual effects with** LED-based animated effects within sub-units; and**projection-based non-physical uplink effect**to the suspended satellite (as per RFP). • Motor-based rotating windmills • 3D printing (PLA or resin) for custom	• LEDs & micro circuitry for lighting effects in ships, ocean instruments, and coastal structures • **Data-link visual effects with** LED-based animated effects within sub-units; and**projection-based non-physical uplink effect**to the suspended satellite (as per RFP). • 3D printing (PLA or resin) for custom facade details/sculptures • Vinyl stickers or	

	custom facade details/sculptures • Vinyl stickers and/or printed wraps for logos, signs, name boards • Commercial-grade audio system to play pre-recorded voice-over and enable live announcements (common audio system for entire set)	facade details/sculptures • Vinyl stickers or printed wraps for logos, signs, name boards • Commercial-grade audio system to play pre-recorded voice-over and enable live announcements (common audio system for entire set)	printed wraps for logos, signs, name boards • Commercial-grade audio system to play pre-recorded voice-over and enable live announcements (common audio system for entire set)	
Scale / Level of Detail (LOD)	The overall unit dimensions are as per sketch FIGURE 1. Vendor shall propose scaling for each component (e.g., INCOIS building, satellite) and obtain verification from INCOIS during final design.	The overall unit dimensions are as per sketch FIGURE 1. Vendor shall propose scaling for each component (e.g., port elements, fish schools, coral reefs, etc.) and obtain verification from INCOIS during final design.	The overall unit dimensions are as per sketch FIGURE 1. Vendor shall propose scaling for each component (e.g., ocean instruments, coastal features, ships, fish schools, etc.) and obtain verification from INCOIS during final design.	
Color / Finish	As per INCOIS photographs and further discussions during design finalization.	As per INCOIS photograph/video references and further discussions during design finalization.	As per INCOIS photograph/video/illustration references, match the realistic colours of the respective instruments/objects.	Base/plinth colour: grey (unless otherwise approved by INCOIS).
Wooden Base / Plinth	• Provide an optimum base height after optimizing the side-view for ergonomics and stability • Finish: grey color (as approved by INCOIS) • Construction: sturdy engineered wood/ply/MDF or equivalent with durable laminate/PU paint; termite-resistant and dimensionally stable • Concealed cable routing and service access for wiring/electronics; provision for ventilation to dissipate heat			
Toughened Glass Cover / Enclosure	• Entire model to be covered (except the satellite) inside a toughened glass enclosure • Polished edges; robust framing; lockable access for maintenance • Glass thickness and framing to be designed for safety and rigidity; avoid sharp edges			
Safety Chain / Barrier	• Provide a safety chain/barrier around the model to prevent touching and accidental impact • Stanchions/posts with chain/rope and adequate clearance all around			
Student Viewing Platform	• Surrounding the model, construct a viewing platform/step for younger students to view from a suitable height • Anti-skid surface; rounded edges; safe load capacity for group viewing • Provide handrail/guard as required based on platform height and site safety review			

a) **General Construction Requirements**

- The exhibit shall be suitable for continuous public display with commercial/museum duty construction.
- All visible surfaces shall be washable, scratch-resistant, and UV-stable (anti-yellowing).
- The structural design life of base/plinth and enclosure shall be a minimum of 7–10 years under indoor museum conditions.
- The exhibit shall be designed to withstand normal public environment conditions (dust, humidity fluctuations, routine cleaning) without warping, cracking, fading, or delamination.

b) **Minimum Material & Finish Requirements**

- No low-durability materials shall be used in final visible/exposed surfaces, such as paper, cardboard, sandpaper as a finished surface, loose flocking that sheds, weak hot-glue joints, or brittle thin plastics in structural applications.
- All model components shall be made using engineering-grade materials such as FRP/engineering plastics/acrylic/polycarbonate/metal/treated plywood/composites as applicable, ensuring durability and a premium finish.
- FRP/resin-based components (if used) shall be made with fire-retardant resin or equivalent fire-retardant system, supported by manufacturer data sheets/certifications.
- All paints/coatings shall be of premium industrial grade (e.g., epoxy primer + PU topcoat + UV clear coat or equivalent) with resistance to scratching, cleaning chemicals, and yellowing.
- Adhesives/bonding shall be structural-grade epoxy/acrylic adhesives or equivalent, supplemented with mechanical fasteners where necessary.
- All fasteners shall be corrosion-resistant (SS/316), and exposed hardware shall be minimal and aesthetically concealed.

c) **Plinth/Base and Ergonomics (Mandatory)**

The exhibit shall be mounted on a rigid base/plinth designed to avoid wobble and vibration. Recommended viewing ergonomics shall be ensured:

- Primary viewing plane/visual focus height from Finished Floor Level (FFL): 750–1000 mm
- Overall exhibit height (base + model + enclosure) shall be optimized for children and adults; typical overall top edge ~1050–1200 mm (site-specific finalization during design stage).

The plinth shall include:

- Lockable service access panels/doors
- Proper cable entry and concealed routing
- Industrial leveling feet and anti-vibration support for moving mechanisms

d) **Enclosure / Showcase Requirements (Safety + Anti-Tamper)**

- The model shall be enclosed with a tamper-proof, lockable transparent enclosure using toughened glass/laminated toughened glass (as proposed by the bidder with justification), suitable for public spaces.

The enclosure shall have:

- Polished edges/safe corners (no sharp edges)
- Secure locking mechanism
- Adequate internal ventilation or heat management for lighting/electronics
- Service access for maintenance (without dismantling the entire model)

Bidder shall specify enclosure material thickness, framing system, and safety provisions in the technical proposal. Equivalent/better solutions are permitted with justification.

e) **Electrical, Lighting, Controls - Minimum Standards**

- The exhibit should be designed with safe and serviceable electrical architecture.
- Mains input shall be 230V AC; internal circuits shall preferably operate on low-voltage DC (e.g., 12V/24V DC) via industrial-grade power supplies.

Electrical safety provisions should include:

- MCB/fuses as required for each circuit group
- Proper earthing/grounding with earthing terminal/bus

- FRLS copper wiring, ferrules, labeled/numbered wiring
- Cable ducts/trucking and strain relief
- Concealed wiring; no exposed live parts accessible to visitors

"Laser-like" effects shall be implemented using safe technologies (e.g., LED/fiber-optic) unless the bidder provides certified, enclosed, eye-safe arrangements compliant with applicable safety norms and approved by INCOIS.

LED lighting and drivers shall be commercial grade; the bidder shall provide:

- Expected LED life (target: ≥50,000 hours)
- Maintainability approach (module replacement)
- Control sequencing method (controller/PLC/microcontroller)

All control panels/SMPS/driver assemblies shall be in a lockable service compartment with clear labeling and a schematic.

f) Moving/Animated Elements (If Any) – Reliability Requirements

Any moving elements (windmills, barriers, rotating parts, etc.) shall use industrial-grade motors/gear mechanisms designed for long-life and quiet operation.

Mechanical design should include:

- Limit protections where applicable (limit switches/stop controls)
- Robust bearings/couplings
- Easy access for replacement without dismantling major structures

Moving parts shall not create pinch points accessible to visitors and must be fully enclosed or protected.

g) Hanging Elements (Satellite / Suspended Components) - Safety Requirements

- All suspended elements shall be mounted using rated fixtures/anchors and shall include secondary safety support (secondary safety wire/chain).
- The bidder shall submit load rating details and installation methodology for approval.

h) Narration Audio System

- Distributed narration/PA system suitable for indoor public exhibit spaces, optimized for clear speech intelligibility.
- Commercial-grade speakers (ceiling/wall as appropriate) and a Class-D amplifier with DSP/EQ preferred.
- Solid-state audio playback/controller integrated with show sequences (autorun and/or push-button/trigger start).
- Volume limiter to prevent tampering; overload protection.
- Minimum I/O: 1 wireless handheld microphone (for educator/demo) and at least one auxiliary input.
- All cables concealed; FRLS wires; proper earthing and protection.
- SAT shall include an intelligibility and synchronization test with the show sequence.

i) Data-Link Visual Effect Between Enclosed Sub-Units and Suspended Satellite (non-Physical Link):

- The datalink/communication between the enclosed sub-units and the suspended satellite shall be represented using non-contact, non-physical visual effects, i.e., without any visible cable/pipe/light-pipe/fibre element between the enclosure and the satellite for the purpose of the effect.
  - The preferred approach is projection-based animated visuals (e.g., gobo projection/short-throw projection) onto designated "uplink zones" and satellite receiver surfaces/diffusers, synchronized with the show-control system.
  - Use of haze/fog to visualize beams is not permitted.
  - If any laser-based device is proposed, it shall be Class-1, fully enclosed, eye-safe, and subject to INCOIS approval with compliance documentation.

j) Weight, Load Distribution, and Slab Capacity

- Bidder shall submit detailed weight calculations for each sub-unit, enclosure, common base, and total assembled system for each location.

- Bidder shall submit a load distribution drawing indicating the base contact layout and bearing pattern, demonstrating the absence of concentrated point loads.
- Base shall be designed to distribute load uniformly over the footprint using continuous skids/plates/frames; point legs (if any) shall use suitable base plates and distribution members.
- Bidder shall specify the recommended minimum slab capacity (kN/m²) for installation and any special handling/rigging requirements.
- Final installation shall be subject to INCOIS verification/approval based on submitted calculations and site constraints.

k) Design freeze and Pre-fabrication signoff

- Final master layout of Units 1–3 with common base and satellite placement, including visitor viewing sides and maintenance access.
- Final overall dimensions (L/W/H) and tolerances for each unit and base; module split plan for transport.
- Final storyboard/show sequence timeline (in seconds), including lighting cues, data-flow effects, and narration.
- Final narration script and audio track plan (languages, duration, triggers).
- Lighting plan (ambient/accent/feature), routing of data-flow optics, and control logic.
- Electrical single line diagram (SLD), load schedule, panel layout, earthing plan, and protection scheme.
- Enclosure design (glass/acrylic), thickness, framing, locks, service access, ventilation/heat management.
- Base construction drawings: frame type, cladding, service doors, cable routing, and leveling provisions.
- Safety plan: sharp edge control, pinch point elimination, suspended satellite anchors (primary + secondary safety).
- Finish samples: paint/texture samples and one miniature quality sample for finish approval.
- Packing, transport, and installation method statement, including lifting points and tools.

l) Maintainability, Spares & Training (Mandatory)

- Design shall be maintenance-friendly with service access for electronics, lighting, and critical components.

Successful Bidder shall supply a spares kit (minimum recommended):

- LED modules/strips, drivers/power supplies (minimum 1 set each type used)
- Fuses/MCBs (as applicable)
- Any special connectors/adapters
- Touch-up paint/finish kit (where feasible)

Successful Bidder shall provide:

- Operation & Maintenance (O&M) Manual
- Preventive maintenance schedule
- Troubleshooting guide
- Wiring diagram, block diagram, and as-built documentation
- Training/demo session for nominated staff at each site

m) Documentation & Data Sheets

The bidder shall submit data sheets/technical literature for all major materials and electrical items, including:

- Enclosure material specification
- Fire-retardant resin/paint/coating data (where applicable)
- Electrical safety components
- Power supplies/drivers/controllers
- Provide a complete set of drawings (GA, base, enclosure, electrical SLD, wiring, load schedule), maintenance manual, spare parts list, and cleaning SOP.

All materials shall be compliant with applicable safety norms and shall not emit harmful fumes in indoor conditions (low-VOC/safe indoor materials preferred).

n) Quality Assurance, FAT/SAT, and Acceptance

The project shall be executed with clear stage-gates:

- Design & storyboard approval
- Prototype/sample approval
- Factory inspection / Factory Acceptance Test (FAT) before dispatch
- Site installation and Site Acceptance Test (SAT)

FAT/SAT shall include, at a minimum:

- Visual and dimensional conformity with approved design
- Functionality of all lighting/interactive sequences/audio cues
- Safety checks (earthing, protection devices, enclosure locks, suspended safety)
- Maintainability checks (access panels, labeling, spares provided)
- Bidder shall conduct SAT after installation at each location. SAT shall include a full show sequence run, narration audio checks, safety verification, and restoration demonstration after power cycling.
- Submission of as-built drawings, O&M manuals, source/Program backup, and completion of training. Documentation for a complete set of drawings (GA, base, enclosure, electrical SLD, wiring, load schedule), maintenance manual, spare parts list, and cleaning SOP.

Final Acceptance shall be granted only after successful SAT, submission of complete documentation, and rectification of **Line Items.**

o) Equivalence Clause

- Wherever preferred materials or methods are described, bidders may propose "equivalent or better" alternatives, provided they meet or exceed the minimum quality, safety, durability, and maintainability requirements.
- Any alternative material/system shall be supported by data sheets and written justification. Final acceptance of alternatives rests with INCOIS.

p) DEMONSTRATION MODES, SHOW CONTROL, AND AI-READY PROVISIONING

Note: Auto Mode and Manual Mode are mandatory in the base scope. The AI layer is not to be implemented in Phase-1; only AI-ready provisions and interfaces are mandatory to enable future upgrade without rework.

q) DEMONSTRATION MODES AND SHOW CONTROL SYSTEM (MANDATORY - PHASE 1)

i. **Objective:** The physical model (all sub-units, satellite link effects, lighting, moving elements, and narration audio) shall be delivered with an integrated show-control system supporting two demonstration modes: (a) Auto Mode (programmed demonstration) and (b) Manual Mode (demonstrator-controlled). The system shall be robust, safe, user-friendly, and suitable for repetitive daily demonstrations in a museum/outreach environment.

ii. **Auto Mode (Programmed Demonstration)**

- Provide a minimum of 1 or 2 pre-programmed shows/scenes (2-5 minutes each) with user selection from the operator interface.
- Each show shall execute a synchronized sequence of effects (lighting zones, safe dataflow/beam effects, motors where applicable, and narration audio) end-to-end automatically.
- The show program shall be editable by INCOIS through a GUI-based show editor (or equivalent user-friendly method) to modify sequence order, timings, triggers, audio track selection, and effect intensity without dependency on the bidder after handover.
- Auto Mode shall support Start/Pause/Resume/Stop, optional loop operation, and safe reset behavior on power restoration.

iii. **Manual Mode (Demonstrator Controlled)**

- Manual Mode shall provide the demonstrator complete control through an operator console (touch HMI/tablet/keypad panel) to independently enable/disable and control the major feature groups (lighting zones, dataflow/beam effects, rotating elements, and audio tracks).
- Manual override shall take priority over Auto Mode at any time. One-touch Return-to-Auto shall be provided.
- Provide a Master Stop/Emergency Stop function that immediately disables dataflow/beam effects and moving parts and returns the model to a safe state.

iv. **Controller, Interface, and Safety**

- Supply a central controller (PLC/industrial controller/microcontroller-based system as appropriate) with adequate I/O and expansion capacity to control all effects and future additions.
- All drivers, power supplies, wiring, protections (MCBs/fuses), earthing, cable management, and lockable control cabinet required for safe operation shall be included.
- Dataflow/beam effects shall preferably be implemented using safe technologies (LED light-pipe/fibre-optic). If any laser-based device is proposed, it shall be fully enclosed, Class-1 eye-safe, and provided with interlocks/enable controls and compliance documentation, subject to INCOIS approval.
- Provide system status indication, fault indication, and safe recovery after power interruption.

v. **Deliverables, Training, and Documentation**

- Operator manual for Auto/Manual modes and Admin manual for show editing.
- Editable project/configuration files, backup/restore procedure, and event logs.
- As-built wiring diagrams, I/O list, block diagram, and control logic description.
- Hands-on training for nominated INCOIS staff (minimum 1 day operator training + 1 day maintenance training).

vi. **AI-READY PROVISIONING AND FUTURE UPGRADABILITY (PROVISION ONLY - PHASE 1)**

The bidder shall provide only the provisions required to integrate an AI-based interactive layer in the future (voice/text guidance, visitor Q&A, and AI-triggered show control). Full AI software commissioning is not in the Phase-1 base scope unless procured separately by INCOIS as an optional upgrade. The exhibit shall be delivered with an AI-ready architecture so that future integration can be done without rework of the physical model or core show-control system.

Mandatory AI-Ready Provisions (to be included in Phase-1 base scope)

- Reserved mounting space inside the control cabinet (with ventilation) for a future edge compute unit/mini-PC, along with cable routing and service access.
- Provision of dedicated power points(s) and surge-protected supply inside the cabinet for the future compute unit and peripherals.
- Provision of one LAN point (Cat-6) and one spare Ethernet switch port inside the cabinet for future AI connectivity; support offline/local operation.
- Provision of audio interface points: (a) microphone input provision (terminal/USB provision) and (b) line-in/line-out connection to integrate AI voice output with the exhibit audio system.
- Provision of at least two spare USB ports (or USB extensions) for future peripherals such as camera/depth sensor, RFID/QR reader, or external touch display.
- Documented external control interface for show-control (REST API and/or MQTT or equivalent), enabling a future AI layer to trigger a selected show, trigger feature groups, pause/stop, and read system status. Provide API documentation and test procedure.
- Cybersecurity and access control: operator/admin login, password-protected configuration, and local configuration backup.

vii. **Data Privacy and Approvals**

No visitor's personal data shall be collected or stored by default. Any future use of microphones/cameras/sensors for AI interaction or analytics shall be enabled only after explicit written approval by INCOIS and shall follow INCOIS data/privacy instructions. The Phase-1 AI-ready provisions shall be implemented in a manner that does not require any visitor data capture.

Acceptance Tests (Phase-1)

- Demonstrate Auto Mode execution of (1-2) shows and Manual Mode control/override.
- Demonstrate show editability: modify one show sequence and re-run successfully.
- Demonstrate availability of AI-ready interface: API/MQTT trigger and status read using a test client (without AI software).

4. Recommended Material Palette (Guidance)

Note: The following materials are preferred/recommended for achieving museum- and commercial-grade quality. Bidders may propose equivalent or better materials/systems with supporting data sheets and justification.

S. No	Model Component / Subsystem	Recommended Premium Materials (Preferred)	Minimum Specs / Notes (Durability + Museum Use)
1	Main plinth / base (structure)	Powder-coated MS box frame (40×40×2 mm) or Aluminum extrusion frame	Rigid, vibration-free; anti-rust coating; designed for public area loads
2	Plinth cladding / panels	BWP / Marine plywood 18 mm with HPL/laminate or powder-coated sheet metal skins	Termite/moisture resistant; cleanable; no swelling/warping
3	Plinth access door & service panels	SS hinges/locks, cam locks, service hatches	Lockable; quick maintenance access; tamper-resistant
4	Leveling / mobility	Industrial leveling feet + neoprene pads (optional concealed castors only if needed)	Stable; no rocking; vibration isolation for motors
5	Display enclosure (best option)	Low-iron laminated toughened glass (e.g., 6+6 / 8+8) with aluminum/SS framing	Best scratch resistance + clarity; safest; polished edges
6	Display enclosure (alternate)	Cast acrylic (PMMA) 10–12 mm, UV-stabilized	Lighter but scratches; specify scratch-resistant coating if possible
7	Dust / heat management in enclosure	Silicone gaskets, concealed vents, optional quiet fans	Prevent dust ingress + heat build-up from LEDs
8	Sub-base deck / internal platform	Marine ply / aluminum honeycomb / composite board	Stiff, lightweight, dimensionally stable
9	Terrain / landform shaping	CNC-carved high-density rigid PU foam (80–120 kg/m³) + epoxy seal skin	Strong + lightweight; must be sealed before painting
10	Hard shell for high-abuse zones	FRP (fiberglass) with fire-retardant resin + internal armature	Preferred for edges, corners, protrusions; crack-resistant
11	General model body (non-structural)	ABS/ASA sheets, FRP skins, engineering plastics	Avoid brittle low-grade acrylic for structural parts
12	Fine details (small parts)	SLS nylon (tough) / SLA tough resin / cast polyurethane resin	Prefer impact-resistant materials; pin joints for strength
13	Buildings massing (campus/port/labs)	ABS/ASA, FRP, PVC foam board only for non-critical interiors	Outdoor-looking finishes must be sealed; avoid warping
14	Windows / transparent parts	Cast acrylic (UV-stable), polycarbonate (impact zones)	Clear + non-yellowing; polished edges
15	Water bodies / ocean surface	Acrylic base + sculpted texture + UV-stable clear coat	Anti-yellowing mandatory; glossy finish durable
16	Underwater volume / cross-section walls	Thick cast acrylic / polycarbonate panels + sealed joints	Must not craze/crack; easy cleaning
17	Ships / vessels / aircraft / helis	Cast polyurethane resin / FRP with internal metal pinning	Durable under vibration; fine rails in metal rods
18	Satellite (hanging model)	FRP shell / thermoformed ABS + aluminum skeleton	Lightweight + stiff; edges rounded; durable paint
19	Satellite suspension / safety	SS aircraft wire + rated anchors + secondary safety wire	Must be load-rated; safety redundancy mandatory. Power wiring for satellite model shall be concealed along the suspension hardware.
20	Buoys / instruments / sensors (ARGO, gliders, BPR, GNSS etc.)	SLS nylon / SLA tough resin / machined Delrin/Al	Small parts should not snap; use metal pins/rods
21	Cables / undersea observatory line	Flexible polyurethane cable + strain relief	Concealed routing; mechanically protected
22	Vegetation / landscaping	Miniature trees (PVC/nylon) + sealed bases; grass via textured paint or premium turf mat	Avoid loose flocking that sheds; use sealed finishes
23	Roads / markings /	Textured epoxy/PU paint layers;	Avoid paper/sandpaper as final finish

	textures	embedded markings; printed + laminated inserts	(wear/dust)
24	Signage / nameboards / logos	UV printed vinyl on acrylic/ABS + clear laminate	Scratch/UV resistant; bilingual if required
25	Lighting (general)	Industrial LED modules (24V DC), aluminum profiles, diffusers	Low heat, long life; easy replacement modules
26	Data pulse / communication effect (within sub units only)	Fiber-optic PMMA side glow strands or edge-lit acrylic light guides driven by LEDs (preferred)	For visualizing internal communication pathways within each subunit, Eye-safe; durable; no exposed lasers. Use 24V DC LED drivers. Haze/fog is not permitted.
27	Non-physical data-link visual effect between sub-units and suspended satellite (no physical link)	Projection-based animated effect (preferred): compact LED gobo projector / short-throw projector aimed at designated "uplink zones" and satellite receiver surface; frosted diffuser film/patch on satellite underside for better visibility	No visible cable/pipe/light-pipe/fibre link between enclosure and satellite. Do not rely on haze/fog. Effect shall be eye-safe, maintainable and clearly visible under approved exhibit lighting. Any laser-based proposal, if unavoidable, must be fully enclosed and Class 1 eye-safe, subject to INCOIS approval.
28	Drivers / power supplies	Industrial SMPS (DIN rail) + surge protection	Stable voltage; serviceable; spares available
29	Control system	PLC / microcontroller in lockable panel with terminals	Program backup; labelled wiring; safe isolation
30	AI-ready provisioning (future upgrade readiness - base scope provision only)	Reserved space in control cabinet + mounting provision for compact industrial mini-PC; spare power outlet/UPS-backed socket; spare Ethernet (RJ45) and USB extension ports; provision for microphone (mount point + cable route) and optional camera/sensor mount	Provide expansion headroom: minimum 20% spare I/O and spare DIN rail space; labelled terminations; blanking plates/cable glands for future additions. Provide documented control interfaces (API/MQTT/serial) for future AI layer integration without replacement of core controller.
31	Electrical protection	MCBs, fuses, earthing busbar, FRLS wiring	Electrical safety for public space; proper grounding
32	Cable management	Cable ducts, ferrules, numbered sleeves, strain relief	Maintenance-friendly, neat, modular connectors
33	Moving elements (windmills, barriers, seawall etc.)	Metal gear servos / steppers + gearbox + sealed bearings	Quiet, low RPM; limit switches; easy service access
34	Audio system (PA)	Commercial speakers + Class-D amplifier + volume limiter	Must withstand public use; clear narration
35	Paint system (all visible parts)	Epoxy primer + 2K PU automotive top coat + UV clear coat	Scratch resistant; washable; anti-yellowing
36	Adhesives/bonding	Structural epoxy, acrylic adhesives, mechanical fasteners	Avoid brittle hot glue for permanent joints
37	Fasteners	SS / zinc-coated fasteners; thread-lock where needed	Anti-rust; vibration-resistant
38	Cleaning / protective coatings	Anti-scratch / anti-fingerprint film (optional), protective clear coats	Helps long-term maintenance and aesthetics

5. List of Deliverables

Installed physical models depicting various ocean information and advisory services of the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad. The models should be built as three sub-units and assembled into a single unit (model), with one set at INCOIS and the other at GPBAASRI, Hyderabad. **A detailed list of line items for each sub-unit, along with the interactive elements, is listed below.**

S. No.	ITEMS	Total
Sub-unit 1	**Physical model of the INCOIS campus and satellite model**	2

	Subcomponents: • The main building (SynOPS clearly shown) • A model mini digital screen (showing a beach) • ITCOO building + ICT/HPC building • Dish antenna/Data receiver • Roads, Trees, and Loans (designed as image FIGURE 2) • Parking area • Lake • Satellite model (Hanging) • Security gates • Working lab	
Sub-unit 2	**Physical model depicting INCOIS services supporting Blue Economy & Life at Sea** Subcomponents: • 3D model of the ocean • Port model at surface (ships, offshore drilling, windmills, lighthouse, harbor channel, port and starboard hand buoys (Buoyage system), Breakwaters (as image shown in FIGURE 3). • A building with a name board "Disaster Management Authority (DMA)" • Fishing boat (seiner) • Port signal station. • Oil tanker berths - leading to oil tank farm and refinery. • Bulk Cargo Terminal • Other jetties/wharves/piers, cranes, and warehouses. • Naval berths, Fishing harbor • Wind turbines on a hill and a six-lane highway close to the port. • Shore radar station, water sports – parasailing, water scooter, scuba diver, fish such as shark and dolphin, • One Dornier propeller aircraft and one helicopter on patrol, etc. • Coast Guard, Navy Ship, and Customs Boat patrolling • Container Terminal: Container Yard, Loading and Unloading, Intermodal transport by Road, Rail, the equipment related to this function, and container scanning. • Deep ocean fishing, • Mariculture illustration • Corals, Fishes • Seafloor and other realistic elements in the ocean environment.	2
	The number of each object (ship, windmill, instrument, etc.) and its distribution (into sub-units 2 & 3) will be finalized during the design stage. Also, note that the distribution of sub-surface objects (ocean instruments, ships, fish, corals) can be done in Units 2 and 3 as per the space availability.	
Sub-unit 3	**Physical model depicting INCOIS backend services supporting research and operations** Subcomponents: • Research Vessel + AWS, cargo vessel, passenger ship • Ocean Gliders (4 numbers), • ARGO (7 numbers), • Wave rider buoy (2), • Drifters (3) • Underwater cable observatory (1) • Small islands (Andaman & Nicobar) • Bathymetry structure showing the plate boundary • GNSS over the nearby coast • Tsunami Buoy (1), • INCOIS regional centre (coastal) • Observational testbed (open ocean) • Mangroves,	2

	• Seawall • HF Radar (1) • Tide gauge + GNSS (2) • Mooring (open ocean, RAMA) • Corals, Fishes • Seafloor and other realistic elements in the ocean environment.	
Interactive elements	• Include integrated LED or laser light elements (preferably low-power laser diodes or narrow-beam LEDs) to depict data transmission pathways, i.e., beam lines connecting ocean data collection (backend service) and the satellite to the building's data receiving station. • Real-time ocean monitoring representation: LED data flow effect moving from sensors to INCOIS, and a model of a mini digital screen in Unit 1 displaying ocean forecasts (to highlight ocean modelling) and data services. • Ocean Currents/wave Simulation (ocean state forecast): swirling blue arrows in the water surface (Unit 3), indicating current and/or wave direction. • **Navigation & Maritime Safety** arrows showing optimal ship routes connecting small ships. LED-lit buoys marking safe navigation paths. • **Lighthouse with Rotating Light**: • **Port & Harbor Safety**: Raising and lowering barriers at the harbour entrance to control ship movement. • **Sea-Level Rise Simulation (Rising Water Mechanism & Coastal Impact):**For example, by slowly lowering the seawall, an effect of long-term sea-level rise can be illustrated. • **Potential Fishing Zone Representation**: Fishing boats positioned in productive fishing zones (fish school beneath the sea surface, green light around representing Chlorophyll, etc.). A continuous laser-based communication connecting PFZ, satellite, INCOIS, and the Samudra mobile APP (a fisherman holding a mobile at the harbor). • **Climate-change-related services**: Coral reefs are shown in the following way: - A colorful coral reef - Red light surrounding the colorful reef to indicate marine heat waves - Coral reef becomes white/grey • **Tsunami early warning system**: A red light-based earthquake demonstration at the seabed (below islands). GNSS sensor blinks. This signal was passed to INCOIS via satellite. SyNOPS lab blinking. HPC blinks (model). First bulletin (sound - alert). A few secondslater, a yellow light blinked in the tsunami sensor (bottom pressure recorder). A wave-like light pattern (LED) from the earthquake source to the coast (amplified). Followed by the cable observatory and the tide gauge blinking. Then, the signals from all sensors reach SYNOPS via satellite. Finally, a tsunami warning alert was received at the coastal station (the DMA building is shownin Unit 2). The entire light-based workflow will also include audio description. • **Oil Spill**: An oily, glossy coloration on one side of the ship indicates an oil spill. • **SARAT**: A wrecked boat near the coast (unit 2): A red point source away from the wrecked boat (where actual wrecking happened) and probability zones around the point showing the probable position of the boat. An audio description of the event and SARAT (Search and Rescue Aid Tool). **Note**: All theinteractive demonstrations would be accompanied by an audio explanation, synchronized with light movements. The audio script	

	will be provided by INCOIS to the successful bidder.	

➢ **Documentation Deliverables:**

Sl. No.	Documentation	Description
1	Technical documentation	3D rendering and any other documentation
2	SOPs	Hardware & software and operation manuals if any.
3	Installation reports	If any
4	Maintenance logs	Preventive & corrective maintenance instructions.

➢ **Training Deliverables :**

Sl. No.	Training Area	Description
1	Safety & handling	Model safety & protection.
2	Training materials	Manuals, video tutorials, quick guides (if any)

➢ **IPR Deliverables :**

Sl. No.	IPR Requirement	Description
1	Ownership transfer	All rights to INCOIS for all physical models & any software.
2	BOM	Bill of Materials.
3	Licenses transfer	If any

➢ **Installation, Commissioning & Testing Deliverables :**

Sl. No.	Deliverable	Description
1	Physical Model installation	Deployment, mounting, calibration.
2	Physical model setup	Installation and testing
3	Joint Acceptance Testing	Final verification with INCOIS.

➢ **Warranty &CAMC Deliverables :**

Sl. No.	Deliverable	Description
1	1-Year Warranty	Full onsite support, repairs, and PM.
2	2-Year CAMC	Post-warranty support, updates, and calibration.
3	Reporting	Quarterly CAMC reports.

6. Comprehensive Annual Maintenance Contract (CAMC)

- Upon expiry of the warranty period, the successful bidder shall provide Comprehensive Annual Maintenance Contract (CAMC) services for an additional two (02) years, ensuring continued performance and reliability of the systems.
- The CAMC shall include both preventive and corrective maintenance, with the following scope:
- Regular preventive maintenance, calibration, and performance checks to maintain optimal functionality of the models.
- Software updates, patches, and content compatibility upgrades (if applicable).
- Repair or replacement of defective parts/components/parts (consumable/non-consumable)from time to time at no additional cost to INCOIS.
- Submission of quarterly maintenance and performance reports to INCOIS.
- Availability of technical support (remote and onsite) during official working hours, and during special events or demonstrations as notified in advance.
- The successful bidder shall ensure uninterrupted operation of the system and maintain a minimum uptime of 98% during both warranty and AMC periods.

- The CAMC charges (beyond the 1-year warranty) shall be quoted year-wise in the financial bid and shall remain fixed for the duration of the contract.
- Any relocation, reinstallation, or content reconfiguration required by INCOIS during the CAMC period shall be supported by the successful bidder under mutually agreed terms.
- The successful bidder should provide 04 preventive maintenance visits per year.
- The successful bidder should provide breakdown visits whenever such events occur

7. ELIGIBILITY CRITERIA

a) The Bidders must be a Company registered under the Indian Companies Act 1956/Companies Act, 2013 or firms registered under any applicable Indian statute (Partnership Act, LLP Act, etc.). Registration certificate to be submitted. Proofs for the company's registration, PAN, and GST certificates to be submitted.

b) The bidder should provide a profile of their company, including its infrastructure and the availability of technical manpower.

c) Product catalogues/data sheets of the items offered. Make and model for the line items to be submitted.

d) The bidder should have an average annual financial turn over of Rs. 1.06 Cr or more during the last three years ending March 31, 2025.Proof of turnover issued by the Chartered Accountant to be submitted.

e) Bidders should have past experience in a similar nature of work (interactive, physical model development projects executed for scientific/ industrial or educational visualization),out of which:

   a) one work of value Rs. 1.70Cr or
   b) two works of value Rs. 1.06Cr or
   c) three works of value Rs. 84.96 lakhs.

   At least one similar work must be carried out with any central government, state government, PSUs, or other Govt Bodies. Client certificates / Work Completion Certificate / Experience certificate/ photographs along with the P.O no. as a reference to be enclosed in this regard.

f) The bidder must have at least **one** previous work experience of making a **Marine Physical Model**. For this bid, a Marine Physical Model shall mean:

   i) Scientifically accurate, three-dimensional, scale-represented Coral Reef Ecosystem Model OR
   ii. Offshore Wind Farm or
   iii. Oil Rig Model OR
   iv. Submarine/Deep-Sea Exploration Model OR
   v. Mangrove Ecosystem Model OR a
   vi. Port model and its surrounding ocean environment, constructed from a real bathymetric and hydrographic perspective, and designed to depict marine life, blue economy, coastal geometry, and the vertical structure of the ocean for educational and outreach purposes.

g) Self-declaration that the bidder is not debarred by MoESor its institutions as on the date of bid submission

h) Earnest Money Deposit (EMD): As per clause 09 of the General Terms and Conditions under section 16.

i) The bidder should provide a solvency certificate

j) Escalation matrix with full contact details, for the resolution of reported issues during the contract period.

k) **Startups: In order to promote Make in India and startups, the prior turnover for all startups shall be relaxed partially, subject to their meeting of quality, technical specifications, and bid conditions as per the** bid. The bidder who intends to participate as a "start-up" company should enclose the certificate towards startup enterprise registration/recognition issued by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce& Industry. Applicable certificate should be enclosed.

l) Bidder's offer is liable to be rejected if they don't upload any of the certificates/ documents sought in the Bid document, ATC, and corrigendum, if any.

8. Selection Criteria

Only those bidders who meet all Eligibility/Qualification Criteria in section 7 of the bid document shall be considered for "Technical Evaluation".

Methodology

Technical Evaluation & Scoring Matrix: Technical Evaluation Marking Criteria and information to be covered by the bidder in the **"Technical Presentation"** and **"Demonstration"** are listed below.

Sl	Description	Compliance status Yes / No	Page number against the Proof attached	Remarks/ Deviations, if any	Maximum marks
1	**Relevant experience andcredentials (Total 30 marks)** • Similar interactive physical model/museum exhibit works executed in the last 5 years (count, value, and similarity to scope; turnkey SITC with fabrication, finishing, lighting/electronics/automation/audio). (15) • Experience with Government/PSU/Autonomous bodies/educational institutions (completion certificates/performance letters). (5) • Quality systems/standards (ISO certifications or documented internal QA/QC procedures for exhibit fabrication). (5) • Client satisfactory/performance certificates and evidence of timely completion (where available (5)				**30**
2	**Design, Storyboard, and Communication Quality (Total 25 marks)** • Understanding of INCOIS services and accurate mapping into a clear visitor narrative (storyline, learning outcomes, interpretive text strategy). (10) • Storyboard clarity and visitor flow across sub-units (logical sequencing, readability, child-friendly interpretation, bilingual approach if proposed). (8) • Visual realism and finish approach (scale strategy, textures, colour matching, signage/labels, premium paint/coating system). (4) • Safety and accessibility considerations embedded in design (anti-tamper, rounded edges, safe viewing heights, maintenance access). (3)				**25**
3	**Technical Solution, Materials, and Build Quality (Total 30 marks)**				

	• Materials and enclosure/base approach vs recommended material palette (Section 04) with data sheets and justification for equivalents; durability, UV resistance, anti-yellowing, museum-grade finishes. (10 marks) • Show control solution: Auto Mode and Manual Mode; editability of show scripts; safe data-link visual effects (prefer LED or non-contact, non-physical visual effects without any visible cable/pipe etc. between satellite & enclosure and eye safe, maintainable solutions); and integrated audio/PA architecture (8 marks). • Engineering robustness: common base design, load distribution/no point loads, modular electronics, service access, spares strategy, heat management for drivers/LEDs. (5 marks) • AI-ready provisions and future upgradability: provision of documented control interfaces/APIs (e.g., REST/MQTT) to trigger shows/effects; reserved space/power/LAN and I/O ports for future AI/kiosk/mic/sensor integration; upgrade pathway, backup/restore, and basic privacy/security/fallback provisions. (7 marks)				**30**
4	**Project Execution and Support Plan (Total 15 marks)** • Project schedule feasibility and resource deployment plan (design freeze milestones, fabrication plan, packaging, dispatch, installation, and commissioning). (4 marks) • Risk mitigation plan (safety, logistics/transport, site constraints, dependency on interior works and interfaces, contingency). (5 marks) • Warranty/AMC service support plan (response time, escalation matrix, preventive maintenance schedule, spares availability). (3 marks). • Compliance readiness:				**15**

	completeness of technical submission, interface requirements (power/LAN/lighting), and handover deliverables. (3 marks)				
				Total	**100**

- Technical Evaluation will be carried out by a duly constituted evaluation committee of INCOIS.
- The **"Qualified Bidders"** need to showcase a **"Technical Presentation"** to the evaluation committee of INCOIS on a specified date after closing of the bid.
- The **"Technical Presentation"** should outline the project plan, approach, methodology, architecture, material specifications prepared based on the Bid document, past relevant experience in port/marine/any physical model development projects, etc.
- The **decision of the Evaluation Committee** shall be **final and binding** on all bidders.
- The Committee reserves the right to:
    - **Seek clarifications** or additional information from any bidder on submitted proposals.
    - **Conduct meetings, presentations, or demonstrations** to assess the technical merit and feasibility of the proposed solution.
    - **Verify the authenticity** of any document, claim, or credential submitted by the bidder.
    - **Request additional supporting documents** or clarifications during evaluation, to which bidders must respond **promptly and fully**.
- Failure to provide requested clarifications or supporting documentation within the prescribed timeframe may result in **disqualification** of the bid.
- The evaluation committee will assign a Technical Score (T) from the "Technical Proposal and Presentation" of the bidder based on the criteria and marks (total 100) specified in the "Technical Evaluation & Scoring Matrix."
- **The bidder should get a qualifying technical score of 70 or more out of 100 in the technical bid evaluation process to be qualified for commercial evaluation/opening of financial bid.**
    - In addition, a bidder must score **at least 50% of the marks at each major criterion** listed in rows of the Technical Evaluation & Scoring Matrix (Sl. No. 1 – 4).
    - **Bidders failing to achieve these sub-minimum scores shall be treated as technically non-responsive, even if their overall technical score is 70 or above.**
- Bid of only those bidders who achieve the above technical qualification thresholds shall be considered.
- Part II Commercial shall be evaluated considering the Price quoted for all services, including applicable GST

9. **Contents of the Bid:**

Thequoteshouldbesubmittedintwobidformat.
(i)Technical Bid and (ii)Commercial Bid

A complete technical documentation package should cover (Part I & Part II) a detailed solution architecture: end-to-end model architecture, interactive element integration, proposed technologies, and frameworks.

- **Material and hardware Integration Plan:** Proposed materials, design, hardware configuration mapping to the bid list, and methodology for integration. A comprehensive list of all materials is provided in Annexure C. Bidders should specify their selection of materials in their technical bid. The material proposed by the bidder should match or be superior to the materials indicated in Annexure C, accompanied by proper justifications.
- **Software Licensing Requirements (if any):** List of all software licenses required for deployment,compliance with SBOM & cybersecurity guidelines as per RFP.
- **Team Structure & Technical Capabilities:** List of key personnel to be assigned to the project (like Solution Architect, design and 3D rendering, Electrical and sound Designers, etc.), Roles, experience, and relevant project portfolios, availability of specialized manpower for device calibration, scientific content development, etc.
- **Compliance Statements:** Compliance with all technical, content, hardware, warranty &CAMC requirements (Table 9.01).

- **Interior work documentation (if required for the physical model installation):** Interior implementation scope (lighting, platform, roof, electrical, networking, signage, mounting, etc.), layouts, material specifications, installation requirements, and technical dependencies to be provided.
- **Project Execution Plan:** Detailed timeline for 5-month delivery. Milestones for Model design & finalization, Model development, Delivery & installation, Interior design & implementation (as required), Integration & Testing, Acceptance & Training, Risk Management & Contingency plans.

- **Previous Experience & Relevant Work Credentials:** Demonstration of past physical model/museum development projects, executed similar physical models for scientific, training, or educational purposes. Proof of completion is to be provided through relevant copies of PO, Work orders, Client Completion certificates, Client-side contact details, etc.
  - Duly filled-in Technical Compliance Statement given at Table 1 below
  - Duly filled-in un-priced bid given at Table-2 below (Commercial Bid)
  - Duly filled-in and signed bid-security declaration form

NOTE:

The documentary proof attached should be legible and relevant

Offers without (i) the copy of relevant POs without the work completion certificate, (ii) Client Certificate without Signature, Date, and Contact details of the client-side signatory, (iii) duly filled-in Technical Compliance Statement, (iv) duly filled-in un-priced bid, will not be considered for further evaluation.

Part/conditional/incomplete bids will not be accepted.

9.01 Table 1 - Technical Compliance Statement

a) General :

S No	Description	Compliance status Yes / No	Page number against the Proof attached.	Remarks/ Deviations, if any
1.	Name of the Bidder			
2.	The bidder is a 1) Registered Indian under Indian Company Act 1956 / 2) Proprietary /3) OEM/(s) /4) System Integrator/5) Others			
3.	Bidder Address and contact details like E Mail , Phone etc.,			
4.	MSE / NSIC certificate details if any Registration/ License from the Government: GST Registration No. PAN Number			
5.	Bank details of the firm:			
6.	Single Point of Contact : Name E-Mail Ph No.			
7.	Product catalogues/data sheets for the items offered. Make and model for the line items to be submitted.			
8.	The bidder should provide a list of clients and their contact details, and the installation/commissioning reports			
9.	The Bidder should provide solvency certificate			
10.	The bidder should have an average annual financial turn over of Rs. 1.06 Cr or more during the last three years ending March 31, 2025.Proof of turnover issued by the chartered accountant to be submitted Financial year | Details of Turnover (in INR) | Details of Net worth			

S No	Description	Compliance status Yes / No	Page number against the Proof attached.	Remarks/ Deviations, if any
	<table><tr><td></td><td></td><td>(in INR)</td></tr><tr><td>2024-25</td><td></td><td></td></tr><tr><td>2023-24</td><td></td><td></td></tr><tr><td>2022-23</td><td></td><td></td></tr></table>			
11.	Bidders should have past experience in a similar nature of work and should submit proof of past physical models or Museum model development projects executed for scientific/industrial or educational visualization. Out of which one work of value Rs. 1.70 Cr, or two works of value Rs. 1.06 Cr, or three works of value Rs. 84.96 lakhs. At least one similar work must be carried out with any central government, state government, PSUs, or other Govt Bodies. Client certificates / Work Completion Certificate / Experience certificate/ photographs along with the P.O no. as a reference to be enclosed in this regard. <table><tr><td>Sl.No.</td><td>Contract Order details</td><td>Scope of work</td><td>Period of contract</td><td>Contract Value (in INR)</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>			
12.	Earnest Money Deposit (EMD) : As per clause 9 of the General Terms and Conditions under section 16.			
13.	Escalation matrix with full contact details, for the resolution of reported issues during contract period.			
14.	**Start-ups**: To promote Make in India and startups, the prior turnover requirement for all startups shall be partially relaxed, subject to their meeting quality, technical specifications, and bid conditions as per the bid. The bidder who intends to participate as a "start-up" company should enclose the certificate towards startup enterprise registration/recognition issued by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry. Applicable certificate should be enclosed.			
15.	**The technical proposal**. The Technical Bid shall include a complete technical documentation package comprising detailed solution architecture, proposed model design, integration plan, team structure & technical capabilities, compliance statements, interior work design/implementation details (if any), and project execution plan. The proposal should be on par with or superior (with proper justification) to the technical specifications included in this bid document. The technical proposal would serve as the benchmark for the Technical Evaluation Scoring Matrix outlined **in Section08 (Selection Criteria)**in this bid document.			
16.	The bidder should have experience in at least one previous work involving a **Marine Physical Model**. For this bid, a Marine Physical Model shall mean a scientifically accurate, three-dimensional, scale-represented Coral Reef Ecosystem Model OR Offshore Wind Farm or Oil Rig Model OR Submarine/Deep-Sea Exploration Model OR Mangrove Ecosystem Model OR a Port model and its surrounding ocean environment, constructed from a real bathymetric and hydrographic perspective, and designed to depict marine life, blue economy, coastal geometry, and the vertical structure of the ocean for educational and outreach purposes. Proof of completion is to be provided through relevant copies of POs, Work orders, Client			

S No	Description	Compliance status Yes / No	Page number against the Proof attached.	Remarks/ Deviations, if any
	Completion certificates, Client-side technical contact details, etc.			
17.	Compliance with the Scope of the Work, Technical Specifications, and General Terms and Conditions of this bid. Signature and stamp on all the pages of the bid document, including addendum, if any, issued by INCOIS, to be submitted. The bidder should also give a self-declaration certificate for acceptance of all terms & conditions of the bid document.			
18.	Compliance with the material specifications provided in Section 04. The bidder should specify their proposed materials.			
19.	Draft storyboard describing interactive elements displaying INCOIS services as outlined in this bid document. The bidder will explain the storyboard, tools used, and the workflow during the technical presentation.			

Instructions: Bidder shall fill the 'Compliance' columns and mark 'Complies / Deviates / NA'. For each row, upload supporting documents (datasheets/certificates/drawings/test reports). An unfilled or partially filled compliance matrix may be treated as non-responsive.

Table 2: Compliance Statement – 2 (un-priced bid)

NOTE:

- Bidder has to quote for all the components given in the Price bid. Hence, please indicate as Yes or No in the table given below.

9.02 Table - 2- Price Bid format

S.No	Description	Unit	Qty	Please confirm whether prices are quoted in a commercial bid or not. (Yes / No) Pleasedonotmention/quoteprices here fails which the bid will be rejected
1	Turnkey design, SITC of complete museum-grade interactive physical model set (Sub-unit 1 + Sub-unit 2 + Sub-unit 3 + common base/plinth + enclosure + suspended satellite + interactivity + safe data-flow effects + narration audio system + control electronics + packing/transport/transit insurance + installation/testing/commissioning + training + documentation + spares kit) with 1-Year onsite warranty as per the details mentioned in the Bid (1 set at INCOIS, 1 set at GPBAASRI)	Sets	02	
2	Comprehensive AMC 1st year (after completion of 1 year onsite warranty) for quarterly preventive and breakdown maintenance, including parts/consumables as per CAMC scope as per the details mentioned in the Bid	Months	12	
3	Comprehensive AMC 2nd year (after completion of 1st year CAMC) for quarterly preventive and breakdown maintenance, including parts/consumables as per CAMC scope, as per the details mentioned in the Bid	Months	12	

10. **Warranty Clause**

The entire installation shall be covered under a **1-year onsite warranty** from the date of Final Acceptance. During the warranty period, the successful bidder shall provide technical support and quarterly preventive maintenance.

- Any reported and unresolved problem within 72 hours will be considered an instance. During the one-year warranty period, eight such instances will result in the invocation of the PBG Warranty service failure. During warranty, the bidder shall attend to and rectify complaints within the response time specified in the bid/contract. In case of failure, INCOIS may get the same rectified through other agencies at the bidder's risk and cost, recoverable from pending bills/performance security, without prejudice to other remedies.

11. **Delivery Timelines:**

The project is to be designed and executed within a five-month period.

a) **Installation:**

- The successful bidder shall be responsible for completing the installation, integration, and commissioning of the proposed physical model at INCOIS and GPBAASRI.
- Installation shall include the setup, configuration, and verification of the interactive elements and supporting infrastructure, including lighting, display systems, power connections, and light-and-sound-based interactive systems.
- All model units shall be installed, configured, and tested to ensure compatibility, optimal performance, and security compliance.
- The successful bidder shall perform a joint acceptance test with INCOIS officials to verify system readiness, including content loading (microcircuits and lighting), user interaction verification, and model synchronization (for multi-units or networked systems).
- The bidder should provide detailed installation and configuration documentation.

b) Training:

- The successful bidder shall provide comprehensive training & documentation to INCOIS staff covering model **setup and operation,** as well as **the usage and maintenance of the interactive elements**.
- Training shall include:
  - System startup and shutdown procedures.
  - Basic troubleshooting and first-level maintenance.
  - Safety and handling guidelines for the equipment.
  - Backup and restoration procedures for model configurations and content.
  - The bidder shall supply complete training manuals (both digital and printed), video tutorials (if any), and quick start guides.
  - Training/demonstration sessions shall be conducted **onsite at INCOIS and GPBAASRI** and optionally recorded for future reference.

Intellectual Property Rights (IPR)

- All physical models, hardware configurations, interactive environments, design assets, training materials, documentation, and any other deliverables developed under this project shall be the exclusive property of INCOIS.
- The bidder shall transfer full ownership rights of all developed content, media, and supporting applications to INCOIS upon successful completion of the project.
- Any intellectual property, algorithms, or frameworks developed specifically for INCOIS as part of this project shall not be reused, resold, or shared with third parties without explicit written consent from INCOIS.
- INCOIS shall have perpetual, irrevocable rights to modify, reproduce, distribute, and deploy the developed environment/content on any platform.
- The bidder shall ensure that the developed content does not infringe upon any third-party intellectual property rights, and shall indemnify INCOIS against any claims, damages, or liabilities arising from such infringement.

12. General Terms and Conditions:

Point No.	Details
1.	Validity of Offers: Bid should have a validity period of 90 days from the bid closing date
2.	The bidder should specifically state GST, if any, as an extra, along with the rate at which it is chargeable; failing which, the quoted prices will be deemed to be inclusive of such levies. If a particular bidder is not registered under the GST Act, the prices quoted by him will be treated as net and inclusive of all taxes and statutory levies and that any future claims made by him for reimbursement of those levies on account of retrospective registration under the GST Act will under no circumstances be entertained by the INCOIS and that liability for payment of these levies will be wholly and exclusively that of the bidder quoting against our bid
3.	*** Acceptance of the order:** The Successful bidder shall formally accept the Purchase order within 10 days from the date of issue of the PO/Order. If the acceptance communication is not received within 10 days, the PO will be deemed accepted and binding on the successful bidder.
4.	**Contract completion Period:** The completion period for the entire DSITC work shall be five (05) months from the date of issuance of the Work Order/Purchase Order (PO).
5.	**Warranty/Period:** 1 year onsite warranty from the date of installation, commissioning, testing & acceptance of the systems.
6.	**CAMC Period:** 02 years of CAMC from the date of completion of the onsite warranty period
7.	**Payment terms:** **a) Material Component :** • 90% of the Material component value shall be paid payment within 30 days after completion of the entire work viz.,**design, development, supply, installation, testing, and commissioning of two museum-grade interactive physical models at two locations as per clause 5 in general terms and conditions** and submission of Ink Signed Original Invoice, applicable Test Certificate, Pre-shipment inspection/Q.C. passed certificate, Installation Report,1 year on site warranty undertaking from the date of acceptance. • 10% will be paid a) after successful completion of one year warranty period b) or against submission of bank guarantee from a nationalized/scheduled bank for 110% for a period of 01 year 02 months. **b. Service Components (CAMC):** Payment will be released on a quarterly basis, against submission of an Ink-Signed Invoice in Triplicate (Original, Duplicate, and Triplicate) and subject to satisfactory performance. The following documents are to be submitted along with the Quarterly Invoice: - a) Joint Log Report for the quarter. b) Attendance details of Manpower deployed. c) Tax Payment copies as applicable. d) Proof of back-to-back support (wherever applicable).
8.	**Earnest Money Deposit (EMD):** Bid Security (BS) Rs. 4,24,000/- (Rupees four lakhs twenty four thousand only) has to be submitted as per the following form/ options: 1. Demand Draft 2. Insurance Security Bond 3. e-Bank Guarantee 4. Fixed Deposit in favour of the Director, INCOIS, payable at Hyderabad with validity for a period of 45 days beyond the bid validity period. 5. Online payment through NEFT/RTGS as per the Bank details given below: **Name of the Bank: SBI, HAL Campus** **Branch: HAL Campus**

	Account Name: Director, INCOIS **Account No.10442322840** **IFSC Code: SBIN0001676** The scanned copy of the same is to be uploaded to the GeM Portal while submitting the bid. Bank Guarantee should be sent by the issuing banker directly to the office of INCOIS, Hyderabad. The original DDs/Financial instruments, if any, should reach INCOIS within 5 working days of Bid opening; failing which, the bid may be treated as incomplete & may lead to its rejection by the buyer without making any reference to the bidder.
9.	**Performance Bank Guarantee:** Successful bidder has to submit 5% of the contract value for a period of 26 Months, within 15 days of acceptance of the contract towards Performance Guarantee as per the following form/ options: a) Demand Draft b) Insurance Security Bond c) e-Bank Guarantee d) Fixed Deposit Receipt in favor of the Director, INCOIS, payable at Hyderabad e) Online payment through NEFT/RTGS as per the Bank details given below: **Name of the Bank: SBI, HAL Campus** **Branch: HAL Campus** **Account Name: Director, INCOIS** **Account No.10442322840** **IFSC Code: SBIN0001676** **Performance Guarantee is liable to be invoked in the event of** a. Non-execution contract during validity period of the contract b. If the service of the successful bidder is found to be unsatisfactory and fails to adhere to our bid terms and conditions c. Any unilateral revision/decision made by the successful bidder during the validity period of the contract.
10.	Bidder shall provide a single point of contact (SPOC) and escalation matrix (name/phone/email) for coordination during execution and warranty period.
11.	The bidder should provide a list of clients and their contact details, and the installation/commissioning reports.
12.	Successful Bidders must provide Factory Acceptance Test (FAT) and Site Acceptance Test (SAT) certificates for the approved design, finish quality, safety, and full functional performance of lighting/ dataflow effects and audio sequences.
13.	The bids submitted without EMD (as per clause 08 under the General terms and conditions) will be summarily rejected, and no further communication in this regard will be entertained.
14.	Proof for the fulfilment of the eligibility criteria should be submitted along with the bid.
15.	The bidder must submit a technical compliance statement for all the specifications, along with the detailed data sheets/ catalogues. Relevant remarks can be provided in the compliance statement if required. Quotations without technical compliance and data sheets/catalogues will not be considered.
16.	**Startups:** To promote Make in India and startups, the prior turnover requirement for all startups shall be partially relaxed, subject to their meeting the quality, technical specifications, and bid conditions as per the bid. The bidder who intends to participate as a "start-up" company should enclose the certificate towards startup enterprise registration/recognition issued by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry. Applicable certificate should be enclosed.
17.	The successful bidder has to submit the Service Legal Agreement in the prescribed format on Indian non-judicial stamp paper worth Rs. 200/-, duly signed by an authorized signatory, within 21 days of the acceptance of the order
18.	Please note that any falsification/suppression of information may result in disqualification.
19.	Bidders should fill out and submit the technical compliance sheet along with supporting documents
20.	If any loss or damage is caused to INCOIS/GPBAASRI property by workmen deployed by the successful bidder, the cost of the same will be recovered from the successful bidder.
21.	**Liquidated Damages:**, if the Successful Bidder fails to deliver any or all of the Goods or fails to perform the

	incidental Works/ Services(e.g. installation, commissioning or operator training) within the time frame(s) incorporated in the contract, the Procuring Entity shall, without prejudice to other rights and remedies available to the Procuring Entity under the contract, deduct from the contract price, as agreed liquidated damages, but not as a penalty, a sum equivalent to the ½% percent (or any other percentage if prescribed in the contract) of the delivered price (including elements of GST & freight) of the delayed Goods and/ or incidental Works/ Services for each week of delay or part thereof until actual delivery or performance, subject to a maximum deduction of the 10% (or any other percentage if prescribed in the contract) of the delayed Goods' or incidental Works/ Services' contract price(s).
22.	***Force Majeure Clause:*** On the occurrence of any unforeseen event, beyond the control of either Party, directly interfering with the delivery of Services arising during the currency of the contract, such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the affected Party shall, within a week(7 days) from the commencement thereof, notify the same in writing to the other Party with reasonable evidence thereof. Unless otherwise directed by the Procuring Entity in writing, the contractor shall continue to perform its obligations under the contract as far as reasonably practicable and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. If the force majeure condition(s) mentioned above be in force for 90 days or more at any time, either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days' notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other, save and except those which had occurred under any other clause of this contract before such termination.
23.	The Contractor shall ensure the safety and security of all workforce employed for this work and equipment provided by him under the Contractor until all the works entrusted are completed in all respects and taken over by INCOIS. In the event of damages except under the force majeure clause, ie, fire, wind, rain, floods, or through any hazards, pilferage, other natural calamities, etc., the Contractor shall make good the damaged works and restore the same to the original condition without any additional cost.
24.	The Bids shall be uploaded only after being signed by a duly authorized officer of the firm that is bidding for the bidsystem
25.	If any Bidder withdraws their bid after the price bid is opened, within the validity period, or makes any modifications to the terms and conditions of the bid, the EMD will be forfeited.
26.	Director, INCOIS reserves the right to terminate the contract either wholly or in part with one month's notice, and the bidder shall not have any claim whatsoever on this account.
27.	The acceptance of the bid will solely rest with the Director, INCOIS, who does not bind himself to accept the lowest or any other bid. No reasons will be furnished for acceptance or rejection of any bid.
28.	In case of any unresolved dispute or difference arising at any time between this Institute and the firm holding the contract, such disputes shall be resolved in accordance with the Arbitration and Conciliation Act, 1996, and shall be held at Hyderabad, Telangana, India only. Further, this contract is subject solely to Indian law. The arbitration process shall commence within 30days of a dispute notice, and the decision of the Arbitrator(s) shall be final and binding on both parties.

13. Technical Clarifications through GeM Portal only:

If the bidder requires clarification on any point in this document, it may be submitted through the GeM Portal only, and replies will be furnished by INCOIS GeM Portal.

If any correspondence/Clarifications are received outside GeM despite the above clear instructions, INCOIS will ignore them.

Declaration

I, _____ son/daughter of _____ aged _____years and residing at _____ _____ _____State and sole proprietor /managing partner /director of _____, after having read and understood the bid document No..... dated..... floated by the Institute, hereby undertake that I agree to and shall abide by the terms and conditions prescribed in the said bid document for engagement of service provider for **Turnkey solutions include design, development, supply, installation, testing, and commissioning of two museum-grade interactive physical models depicting INCOIS Ocean Information & Advisory Services at INCOIS and G.P. Birla Archaeological, Astronomical, and Scientific Research Institute (GPBAASRI), with one-year onsite warranty and two years of CAMC**

Signature of the Bidders/Authorised Signatory & date

Name OFFICE SEAL, Address

Note: The bidder /Bidders has to sign & stamp on all pages of bid document and upload the same

BANKGUARANTEEFORMATFORBIDSECURITY: **Annexure-I**

Whereas.....[1] (hereinafter called "the Bidder") has submitted its bid dated ..... (date of submission of bid) for the supply of .....(name and /or description of the goods)(herein after called "theBid").

KNOW ALL PEOPLE by these presents that WE .....(name of bank) of .....(name of country), having our registered office at .....(address of bank) (hereinafter called "the Bank"), are bound unto.....(name of Purchaser) (hereinafter called "the Purchaser") in the sum of _____for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this_____day of__20_____.

THE CONDITIONS of this obligation are:

1. If the Bidder Withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or

2. If the Bidder,having been notified of the acceptance of its bid by the Purchaser during the period of bid validity:

   (a) fails or refuses to execute the Contract Form if required; or

   (b) fails or refuses to furnish the performance security, in accordance with the instruction to Bidders.

We undertake to pay the Purchaser upto the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand ,provided that in its demand the Purchaser will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and Including 45days after the period of bid validity i.e, up to..... And any demand in respect thereof should reach the bank not later than this date.

(Signature of the Bank)

Name of the Bidder

ANNEXURE-II

Bank Guarantee Format for Performance Security

To

The Director
Indian National Centre for Ocean Information Services (INCOIS)
Oceanvally, Pragathi Nagar (BO), Nizampet (SO)
Pragathi Nagar
Hyderabad-500 090

Whereas..... (name and address of the contractor) (hereinafter called "the contractor") has undertaken, in pursuance of contract no ..... date..... to supply ..... (Description of goods and Works/ Services) (hereinafter called "the contract").

And whereas you have stipulated it in the said contract that the contractor shall furnish you with a bank guarantee by a Commercial bank for the sum specified therein as security for compliance with its obligations as perthe contract.

And, whereas we have agreed to give the contractor such a bank guarantee.

Now Therefore we hereby affirm that we are guarantors and responsible to you, on behalf of the contractor, up to a total of .....(amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the contractor to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the sail debt from the contractor before presenting us with demand.We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall be valid until the .....day of .....20.....

Our.....branch at.....*(Name & Address of the .....*(branch) is liable to pay the guaranteed amount depending on the filing of a claim and any part thereof under this Bank Guarantee only and only if you serve upon us at our .....* branch a written claim or demand and received by us at our .....* branch on or before Dt..... Otherwise, the bank shall be discharged of all liabilities under this guarantee after that.

(Signature of the authorized officer of the Bank)

.....
.....
Name and designation of the officer
.....
Seal, name & address of the Bank and address of Branch

*Preferably at the headquarters of the authority competent to sanction the expenditure for the procurement of goods or at the concerned district headquarters or the state headquarters.