ODISHA COMPUTER APPLICATION CENTRE

REQUEST FOR PROPOSAL

Enq.No.-OCAC-SASCI-CPMU-0001-2025-26001

Odisha Computer Application Centre (OCAC) invites Request for Proposal (RFP) for Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming. For details please visit websites www.ocac.in & www.odisha.gov.in.

The bid shall be submitted in electronic mode only in the portal **https://enivida.odisha.gov.in** latest by **02.02.2026, 12:00 P.M.** OCAC reserves the right to accept/reject any/ all bids without assigning any reason thereof.

General Manager(Admin), OCAC, Plot No.-N-1/7-D, Acharya Vihar, P.O.-RRL, Bhubaneswar-751013, Ph.-2567280/ 2567064/ 2567295

Request for Proposal (RFP) for Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming

RFP REF NO- OCAC-SASCI-CPMU-0001-2025-26001

ODISHA COMPUTER APPLICATION CENTRE

[TECHNICAL DIRECTORATE OF E&IT DEPARTMENT, GOVT. OF ODISHA]OCAC BUILDING, ACHARYA VIHAR SQUARE,

BHUBANESWAR, ODISHA, INDIA – 751013

WEB : www.ocac.in,

PH : 0674-2567295/2567283 FAX : 0674-2567842

Contents

1. Fact Sheet

Sl. #	Item	Description
1	Project Title	Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming
2	Name of Purchaser	Odisha Computer Application Centre
3	Contact Person, Address and Email	General Manager (Admin) Plot No. N-1/7-D, Acharya Vihar, RRL Post Office, Bhubaneswar, Odisha – 751013, gm_ocac@ocac.in
4	Date of Publication	02/01/2026 (www.enivida.odisha.gov.in)
5	Selection Method	Tenders for this contract will be assessed in accordance with **Quality-cum-Cost Based Selection (QCBS) procedure. (70% Weightage on Technical and 30% Weightage on Commercial Evaluation)** **Joint Venture or Sub-Contracting or Consortium is not allowed.**
6	Pre-bid Meeting	15/01/2026, 4 PM.
7	Last date and time for receipt of proposals from Bidders	02/02/2026, 12 PM in e-Nivida Portal (https://enivida.odisha.gov.in)
8	Opening of Technical Proposals	02/02/2026, 12.30 PM
9	Date and time for Technical Presentation (in VC mode)	To intimated latter
10	Opening of Commercial Bids	To intimated latter
11	Bid Validity Period	180 Days from the date of opening of commercial bid
12	Project Term	Development: 3 Months Operation & Support: 2 Years (extensible up to another 2 years based on requirement)
13	RFP Document Fees	₹ 11,200/- including 12% GST
14	Earnest Money Deposit	₹15,00,000/- (EMD exemption is allowed only for Startup Odisha firms

Sl. #	Item	Description
		only. However, exemption is not allowed to MSEs (those are not startups)

2. Notice Inviting Tender (RFP)

a. Odisha Computer Application Centre, Technical Directorate of E & IT Department invites proposals (valid for minimum 180 days from the date of opening of commercial bid) from the eligible, reputed, qualified System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming
b. Not more than one bid shall be submitted by one Bidder.
c. This 'Invitation to Bid' is non-transferable under any circumstances.
d. The bids must be submitted electronically at e-Nivida Portal.
e. OCAC reserves the right to reject any or all the Bids in whole or part, prior to signing of the Contract, without assigning any reasons.

3. Introduction

a. Odisha Computer Application Centre (OCAC), the Technical Directorate of Electronics & Information Technology (E&IT) Department, Government of Odisha, has evolved through years as a Centre of excellence in IT solutions and e-Governance. It has contributed significantly to the steady growth of IT in the state. It helps IT to reach the common citizen so as to narrow down the Digital Divide and widespread applications of IT in establishing a system where the citizens are receiving good governance in addition to ensuring speed of decisions from a transparent Government through an effective e-Governance System.
b. This RFP document for Selection of System Integrator for Development, Implementation, Operation & Maintenance Support (for two years) of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming

4. Instructions to the Bidders

4.1. Definitions

a. "FARD" means Fisheries and Animal Resources Development Department, Odisha.
b. "SI" means System Integrator: The firm responsible for development & implementation of the application.

c. "IA" means Implementing Agency: The firm responsible for development & implementation of the application.
d. "e-Nivida" means e-Procurement system of M/s RailTel adopted by OCAC
e. "OUAT" means Odisha University of Agriculture and Technology
f. "ICAR-CWA" means Indian Council of Agricultural Research - Central Institute for Women in Agriculture
g. "AI-Enabled IOT based" PMAS (Pond Monitoring and Advisory System) for fish farming
h. Other conditions as per Empanelment RFP & Agreement.

4.2. Bid Validity

The Bid must be valid for 180 days from the date of opening of commercial proposal. However, validity of the price bid of selected bidder will be for entire contract period as mentioned in the RFP and the extension period, if any.

4.3. Tenure of Contract

a. The Contract shall be in force for **Two (2) years and 3 months (with a provision to extend for another two years)** subject to adherence to timelines/time frame as per the Terms and Conditions of the Contract.
b. **Termination of the contract:** Notwithstanding the allocation of work during the Contract periodand/or tenure of Contract, OCAC, without prejudice or liability, reserves the right to terminate the contract.

4.4. Pre-Bid Meeting & Clarifications

4.4.1. Pre-bid Conference

a. OCAC shall hold a pre-bid meeting with the prospective bidders on **15/01/2026, 4 PM** at Conference Hall of OCAC

b. The Bidders will have to ensure that their queries for Pre-Bid meeting should reach to General Manager (Admin) only by email to gm.ocac@odisha.gov.in (with a copy to bid26001@odisha.gov.in on or before **13/01/2026, 5.30 PM**.

c. The queries should necessarily be submitted in the following format (Soft copy in MS Word or MS Excel file to be attached):

Sl#	*RFP Document Reference(s) (Section & Page Number(s))*	*Content of RFP requiring Clarification(s)*	*Points of clarification*

d. OCAC shall not be responsible for ensuring receipt of the bidders' queries. Any requests for clarifications post the indicated date and time may not be entertained by OCAC.

4.4.2. Responses to Pre-Bid Queries and Issue of Corrigendum

e. The Nodal Officer notified by the OCAC will endeavor to provide timely response to all queries. However, OCAC neither makes representation or warranty as to the completeness or accuracy of any response made in good faith, nor does OCAC undertake to answer all the queries that have been posed by the bidders.

f. At any time prior to the last date for receipt of bids, OCAC may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP Document by a corrigendum.

g. The Corrigendum (if any) & clarifications to the queries from all bidders will be posted on www.ocac.in and www.odisha.gov.in.

h. Any such corrigendum shall be deemed to be incorporated into this RFP.

i. In order to provide prospective Bidders reasonable time for taking the corrigendum into account, OCAC may, at its discretion, extend the last date for the receipt of Proposals.

4.5. Key Requirements of the Bid

4.5.1. Right to Terminate the Process

a. OCAC may terminate the RFP process at any time and without assigning any reason. OCAC makes no commitments, express or implied, that this process will result in a business transaction with anyone.
b. This RFP does not constitute an offer by OCAC. The bidder's participation in this process may result OCAC selecting the bidder to engage towards execution of the contract.

4.5.2. RFP Document Fees

a. RFP document can be downloaded from www.enivida.odisha.gov.in. The bidders are required to pay the document Fee of ₹11,200/- (including GST 12%) electronically through e-Nivida portal.
b. Proposals received without or with inadequate RFP Document fees shall be rejected.

4.5.3. Earnest Money Deposit

a. Bidders shall submit, along with their Bids, EMD of ₹15,00,000/- (Rupees Fifteen Lakh only), in the eNivida Portal.
b. EMD of all unsuccessful bidders would be refunded by OCAC within 60 days of the bidder being notified as being unsuccessful. The EMD, for the amount mentioned above, of successful bidder would be returned upon submission of Performance Bank Guarantee.
c. The EMD amount is interest free and will be refundable to the unsuccessful bidders without any accrued interest on it.
d. The bid / proposal submitted without EMD, mentioned above, will be summarily rejected.
e. The EMD may be forfeited:
    i. If a bidder withdraws its bid during the period of bid validity.
    ii. In case of a successful bidder, if the bidder fails to sign the contract in accordance with this RFP.
    iii. If found to have a record of poor performance such as having abandoned work, having been black-listed, having inordinately delayed completion and having faced Commercial failures etc.
    iv. The Bidder being found to have indulged in any suppression of facts, furnishing of fraudulent statement, misconduct, or other dishonest or other ethically improper activity, in relation to this RFP
    v. A Proposal contains deviations (except when provided in conformity with the RFP) conditional offers and partial offers.

4.5.4. Language

The Proposal should be filled by the Bidder in English language only.

4.5.5. Submission of Proposals

4.5.5.1. General Instruction to Bidders

a. The bidders should submit their responses as follows:
   I. Pre-qualification cum Technical Proposal
   II. Financial Proposal
b. The Response to Technical Proposal and Financial Proposal (as mentioned in previous paragraph) should be submitted through online mode in e-Nivida Portal.
c. Please Note that Prices should not be indicated in the Technical Proposal but should only be indicated in the financial proposal.
d. The proposal/ bid shall contain no interlineations or overwriting, except as necessary to correct errors made by the bidder itself. Any such corrections must be initiated by the person (or persons) who sign(s) the proposals.
e. In case of any discrepancy observed by OCAC in the contents of the uploaded bid documents due to improper scanning or not in readable format or verification of authenticity of the scanned documents, OCAC may ask the bidder for resubmission of such documents.

4.5.5.2. Instruction to Bidders for Online Bid Submission

e-Nivida is a complete process of e-Tendering, from publication of tenders online, inviting online bids, evaluation and award of contract using the system. The instructions given below are meant to assist the bidders in registering on e-Nivida Portal and submitting their bid online on the portal. More information useful for submitting online bids on the e-Nivida Portal may be obtained at: https://enivida.odisha.gov.in.

4.5.5.3. Guidelines for Registration

a. Bidders are required to enroll themselves on the eNivida Portal https://enivida.odisha.gov.in or click on the link “Bidder Enrolment” available on the home page by paying Registration Fees of ₹2,950/- inclusive of Applicable GST.
b. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
c. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication with the bidders.

d. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Only Class III Certificates with signing + encryption key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify/ nCode/ eMudhra etc.), with their profile.
e. Only valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
f. Bidder then logs in to the site through the secured log-in by entering their user ID /password and the password of the DSC / e-Token.
g. The scanned copies of all original documents should be uploaded in pdf format on e-tender portal.
h. After completion of registration payment, bidders need to send their acknowledgement copy on our help desk mail id: odishaenivida@gmail.com for activation of the account.

4.5.5.4. Searching for Tender Documents

a. There are various search options built in the e-tender Portal, to facilitate bidders to search active tenders by several parameters.
b. Once the bidders have selected the tenders they are interested in, then they can pay the Tender fee and processing fee (NOT REFUNDABLE) by net-banking / Debit / Credit card then you may download the required documents / tender schedules, Bid documents etc. Once you pay both fee tenders will be moved to the respective 'requested' Tab. This would enable the e- tender Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

4.5.5.5. Preparation of Bids

a. Bidders should take into account any corrigendum published on the tender document before submitting their bids.
b. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid.
c. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF formats. Bid Original documents may be scanned with 100 dpi with Colour option which helps in reducing size of the scanned document.
d. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such

standard documents (e.g. PAN card copy, GST, Annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Documents" available to them to upload such documents.

e. These documents may be directly submitted from the "My Documents" area while submitting a bid and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process. Already uploaded documents in this section will be displayed. Click "New" to upload new documents.

4.5.5.6. Submission of Bids

a. Bidder should log into the website well in advance for the submission of the bid so that it gets uploaded well in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
b. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document as a token of acceptance of the terms and conditions laid down by Department.
c. Bidder has to select the payment option as per the tender document to pay the tender fee / Tender Processing fee & EMD as applicable and enter details of the instrument.
d. In case of BG bidder should prepare the BG as per the instructions specified in the tender document. The BG in original should be posted/couriered/given in person to the concerned official before the Online Opening of Financial Bid. In case of non-receipt of BG amount in original by the said time, the uploaded bid will be summarily rejected.
e. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the yellow Colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.
f. The server time (which is displayed on the bidders' dashboard of eNinida Platform) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
g. The uploaded bid documents become readable only after the tender opening by the authorized bid openers.

h. Upon the successful and timely submission of bid click "Complete" (i.e. after Clicking "Submit" in the portal), the portal will give a successful Tender submission acknowledgement & a bid summary will be displayed with the unique id and date & time of submission of the bid with all other relevant details.
i. The tender summary has to be printed and kept as an acknowledgement of the submission of the tender. This acknowledgement may be used as an entry pass for any bid opening meetings.

4.5.5.7. Clarifications on using e-Nivida Portal

a. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
b. Any queries relating to the process of online bid submission or queries relating to e-tender Portal in general may be directed to the Helpdesk Support. Please feel free to contact e-Nivida Helpdesk (as given below) for any query related to e-tendering.
c. Phone No.: 011-49606060/ Nos. available at www.enivida.odisha.gov.in
Mail id: odishaenivida@gmail.com.

4.5.6. Late Bids

a. Bidder needs to submit the bids in electronic mode only, hence the date & time of submission of bids will be in sync with the date & time of the server of the e-Nivida portal. Bidders need to plan well in advance to submit the bids in due time.
b. The bids submitted physically or by telex/ telegram/ fax/ e-mail etc. shall not be considered. No correspondence will be entertained on this matter.
c. OCAC shall not be responsible for non-submission/delay in submission of bids due to any technical glitches in the eNivida portal. It is the responsibility of the bidder to ensure submission of bid much prior to the deadline and report the issues (If any) in the help desk for resolution, so as to avoid last minute rush.
d. OCAC reserves the right to modify and amend any of the above-stipulated condition / criterion depending upon project priorities vis-à-vis urgent commitments.

4.5.7. Evaluation Process

a. OCAC will constitute a Proposal Evaluation Committee to evaluate the responses of the bidders

b. The Proposal Evaluation Committee constituted by OCAC shall evaluate the responses to the RFP and all supporting documents / documentary evidence. Inability to submit requisite supporting documents / documentary evidence, may lead to rejection of the bid.
c. The decision of the Proposal Evaluation Committee in the evaluation of responses to the RFP shall be final. No correspondence will be entertained outside the process of negotiation/ discussion with the Committee.
d. The Proposal Evaluation Committee may ask for meetings with the Bidders to seek clarifications on their proposals, if required.
e. The Proposal Evaluation Committee reserves the right to reject any or all proposals on the basis of any deviations.
f. Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.

4.5.8. Tender Opening

The Proposals submitted up to 02/02/2026, 12 PM will be opened on 02/02/2025, 12.30 PM electronically by Proposal Evaluation Committee. The representatives of the bidders submitted the bids may request through email to gm.ocac@odisha.gov.in (with a copy to bid26001@odisha.gov.in) to share the VC link enclosing the identity card or a letter of authority from the tendering firms.

4.5.9. Tender Evaluation

a. Initial Bid scrutiny will be held and incomplete details as given below will be treated as nonresponsive if Proposals:
   i. are not submitted as specified in the RFP document.
   ii. are found with suppression of details.
   iii. with incomplete information, subjective, conditional offers and partial offers submitted.
   iv. submitted without the documents requested in the checklist.
   v. with lesser validity period.
b. All responsive Bids will be considered for further processing as below:

OCAC will prepare a list of responsive bidders, who comply with all the Terms and Conditions of the Tender. All eligible bids will be considered for further evaluation by a committee according to the Evaluation process defined in this RFP document. The decision of the Committee will be final in this regard.

5. Criteria for Evaluation

Tenders for this contract will be assessed in accordance with **Quality-cum-Cost Based Selection (QCBS) system with Technical and Financial ratio 70:30.**

The Proposal Evaluation Committee will carry out a detailed evaluation of the proposals, in order to determine whether the technical aspects are in accordance with the requirements set forth in the RFP Documents. To reach such a determination, the Proposal Evaluation Committee will examine and compare the technical aspect of the proposals based on information provided by the bidder, taking into account the following factors:

a. Overall completeness and compliance with the requirement
b. Proposed solution, work-plan and methodology to demonstrate that the bidder will achieve the performance standards within the time frame described in RFP documents
c. Any other relevant factors, if any, listed in RFP document or the OCAC deems necessary or prudent to take into consideration

To facilitate the technical proposal evaluation, the Technical criteria laid down along with the assigned weights have been presented in subsequent sections. The marking scheme presented here is an indication of the relative importance of the evaluation criteria. Bidders securing more than 70% marks in the technical evaluation will only be considered for further financial bid evaluation. Bids or Tenders which don't secure the minimum specified technical score will be considered technically non-responsive and hence disqualified from being considered for financial evaluation.

5.1. Pre-Qualification Criteria

Sl#	Category	Requirement	Compliance
a)	Legal	i) Registered under Companies Act,1956 or a partnership firm registered under the Indian Partnership Act, 1932 or Limited Liability Partnership Act,2008. ii) Company should be in operation for last five (5) years as on date of bid submission date	▪ Copy of Certificate of Incorporation/ Registration Or ▪ Copy of the work order or completion certificate as documentary proof of 5 years in operation

Sl#	Category	Requirement	Compliance
		iii) Registered with Goods and Services Tax Network (GSTN).	▪ Copy of GST Registration Certificate
b)	Turn Over	Average sales turnover of the Bidder from IT/ITeS/ESDM must be Rs. 12 Crores (For startup Odisha firms the turnover would be ₹10 Crore) in last three financial years ending on 31st March 2025.	Certificate from CA with Copy of audited Profit & Loss Statement OR Certificate from the Statutory Auditor. The certificate should clearly Startup Odisha Companies must submit required document for same.
c)	Net Worth	The net worth of the bidder in last three financial years ending on 31st March 2025 must be positive.	Certificate from the statutory auditor or Internal auditor
d)	Man power	The bidder must have at least 50 full time technical resources (with qualification of M.Tech/B.Tech/ MBA/MCA/MSC(IT)/ BSC(IT)) in its payroll as on March 2025.	Copy of the latest EPF deposit challan (any month within after June, 2025 with HR Declaration with qualification and experience.
e)	Certifications of bidder	The Bidder must have following certification • ISO 9001, • ISO 27001 • CMMI DEV- Level 3 or above (from CMMi) Institute published in CMMi website with validity.	Copy of certificate issued by accredited organizations.
f)	OEM Authorisation	The bidder must furnish bid-specific OEM authorisation. Besides, the quoted IoT with all the sensors should not be declared as End of Support including spares, software/firmware etc. at least coming 4 years from the date of submission of bid.	Authorisation & Declaration from OEM
g)	OEM of IoT Device capability	The OEM should have experience in supply of Minimum 400 Nos of IoT Device for any Government	Copy of the work order/ completion certificate as documentary proof.

Sl#	Category	Requirement	Compliance
		Department in last three years ending on 31st March 2025. The OEM must have electronics & IOT manufacturing in last 10 years	
h)	OEM of IoT Device Certification	OEM must have valid certification as below. ▪ ISO 9001, 20000, 27001, 14001, 45001, FCC, CE, ROHS, MAC, GMP, 14064-1 EPR, NABL IP68 certificate. ▪ BIS certificate for Power adaptor same OEM	Relevant copy of the certification
i)	e-Governance Experience	The bidder must have successfully executed similar e-Governance projects for a Government Department, Government Agency, or Public Sector Undertaking (PSU) in India within the last ten (10) years as of the bid submission date. The bidder shall meet any one of the following minimum project value criteria: a. At least one project with a value of ₹3 Crore or above, OR b. At least two projects, each with a value of ₹2 Crore or above, OR c. At least three projects, each with a value of ₹1 Crore or above. For Odisha-registered Startups, the minimum eligible project value shall be:	▪ Copy of the Work Order only Software ▪ Project completion/Phase Completion/UAT or go-live certificate.

Sl#	Category	Requirement	Compliance
		a) At least one project with a value of ₹2.4 Crore or above, OR b) At least two projects, each with a value of ₹1.6 Crore or above, OR c) At least three projects, each with a value of ₹80 Lakh or above. For the purpose of this requirement, a similar category e-Governance project shall include any one or more of the following: • Development and implementation of a software application, including mobile applications. • Deployment of IoT devices along with operational software developed by the bidder. • Supply and integration of hardware that is operated through software developed by the bidder. The total order value of each project shall be considered for evaluating eligibility.	
d)	IoT integration experience	The bidder should have successfully completed at least one application with integration of at least 100 IoT devices for any Government Department or Government Agency or PSU in India during last 10 years as on bid submission date	▪ Copy of the Work Order only Software ▪ Project completion/Phase Completion/UAT or go-live certificate.
e)	Consortium	Consortium bidding / sub-contracting is	

Sl#	Category	Requirement	Compliance
		not allowed	
f)	Existence in Odisha	The bidder must have a Centre operational in Odisha or submit a declaration to open an office in Odisha within a timeline of 3 months from the award of work.	Trade License/ Leased Agreement
g)	Black listing	The bidder must not be currently under declaration of ineligibility for corrupt and fraudulent practices or blacklisted/debarred by Central Government or any State Government Organization or Department or PSU in India	Self-declaration in this regard by the authorized signatory of the bidder on the company letterhead (as per template provided in this RFP document)
h)	Earnest Money Deposit	Rs. 15,00,000/- (Rupees Fifteen lakhs). Exempted for Start-up Odisha firms	In the shape of Bank Draft OR Bank Guarantee (in the format specified in this RFP).

5.2. Technical Evaluation Criteria

Technical proposals of those bidders will be opened and evaluated, who qualify the Pre-Qualification criteria. The Evaluation Committee will evaluate the Technical Proposals on the basis of technical evaluation criterion as provided below:

5.2.1 Organization Profile [15 Marks]

Sl#	Evaluation Criterion	Max Marks	Compliance
a)	Average sales turnover of the Bidder from IT/ITeS/ESDM business in last 3 years (2022-2023,2023-2024 & 2024-2025) ≥ ₹12 crores: 3 marks *[Additional 1 mark for each additional ₹1 crores subject to maximum of 10 marks]* ***For Startup***	10	Copy of audited Profit and Loss Statement **OR** Certificate from the Statutory / Internal Auditor If Startup - Startup Odisha Certificate

Sl#	Evaluation Criterion	Max Marks	Compliance
	≥ ₹10 crores: 3 marks *[Additional 1 mark for each additional ₹25 Lakhs subject to maximum of 10 marks]*		
b)	The bidder must have at least 50 full-time technical resources(BE/B.Tech/MCA/MSC(IT)/Diploma) in its payroll as on March 2025. ≥ 50 Resources: 3 Mark *[Additional 1 mark for each additional 10 resources subject to maximum 10 marks]*	10	Copy of the latest EPF deposit challan & HR Declaration with list
c)	Bidder's existence in Odisha Only an office/operation centre – 3 marks Development Centre with 25 resources – 5 marks	5	Leased agreement/GST Registration/Trade license with HR Declaration
d)	OEM's existence in Odisha OEM's Service Centre – 3 Marks OEM's Manufacturing Unit – 5 Marks	5	Leased agreement/GST Registration/Trade license with HR Declaration

5.2.2 Technical Strength [40 Marks]

Sl#	Evaluation Criterion	Max Marks	Compliance
a)	The bidder should have experience in implementation of similar e-Governance project for any Government Department/Government Agency/PSU/Autonomous body in India, in the last 5 years as on 31st March 2025. Order value more than ₹1 Crore shall be considered. (for startups order value should be more than ₹80 lakhs)	15	▪ Copy of the work order / Project completion / go-live certificate.

Sl#	Evaluation Criterion	Max Marks	Compliance
	[Each project will be awarded 5 marks] For the purpose of this requirement, a similar category e-Governance project shall include any one or more of the following: • Development and implementation of a software application, including mobile applications. • Deployment of IoT devices along with operational software developed by the bidder. • Supply and integration of hardware that is operated through software developed by the bidder. The total order value of each project shall be considered for evaluation		
b)	Bidders Experience in the implementation of IOT based project Each Project 5 marks	10	▪ Bidder must submit the documentary proof such as Copy of the work order or client certificate or website link etc.
c)	The quoted IoT devices must be supplied and installed for any Government/PSU/Autonomous body 400 devices – 3 marks	10	▪ Copy of Work order and documentary proof against Go-live

Sl#	Evaluation Criterion	Max Marks	Compliance
	For an additional 25 IOT devices – 1 mark each		
d)	Experience in implementation of projects in Animal Resource Development Sector (type of project covered under point a) with order value of at least Rs. 10 lakhs	5	▪ Copy of Work order and documentary proof against Go-live/implementation

5.2.3 Presentation & Technical documentation– Approach and Methodology [30 Marks]

Sl#	Evaluation Criterion	Max Marks	Compliance
a)	Approach and Methodology a) Understanding of Requirements and Fish Pond management Ecosystem – **10 marks** b) Proposed Solution and Its Components– **5 marks** c) AI/ML Methodology- **5 marks** d) Risk Identification & Mitigation Strategy – **5 marks** e) Innovation & Value Addition- **5 marks**	30	Quality of Technical Proposal and Presentation

All the bidders who secure a Technical Score of more than 70% will be declared as technically qualified.

a. The bidder with highest technical bid (H1) will be awarded 100% score.
b. Technical Scores for other than H1 bidders will be evaluated using the following formula:
c. Tn = {(Technical Bid score of the Bidder/ Highest technical evaluation marks * 100} % (Adjusted to two decimal places)
d. The commercial bids of only the technically qualified bidders will be opened for further processing.

5.3. Commercial Evaluation Criteria

a. The Commercial Bids of technically qualified bidders (i.e. Bidders with more than 70 marks in Technical Evaluation) will be opened on the prescribed date in the presence of bidder representatives.
b. Only fixed price financial bids indicating total prices for all the deliverables and services specified in this bid document will be considered.
c. Any conditional bid would be rejected.
d. Commercial bids whose value is less than 30% of the average bid price will be disqualified (the average price shall be computed by adding all commercial bid values of the technically qualified bidders' and dividing the same by number of qualified bidders).
e. Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the bidder does not accept the correction of error, its bid will be rejected".
f. If there is no price quoted for certain material or service, the bid shall be declared as disqualified.
g. In the event that there are 2 or more bidders having the same value in commercial bid, the bidder securing highest technical score will be adjudicated as "Best responsive bid" for award of the Project.
h. The bidder with lowest qualifying financial bid (L1) will be awarded 100% score. Financial score for other bidders will be evaluated using the following formula: Fn = {(Financial Bid of L1 / Financial Bid of Bidder) * 100} %.

5.4. Final Evaluation of Bid

The technical and financial evaluation scores secured by each bidder will be added using weightages of 70% and 30% respectively to compute composite score. The composite score will be computed as under:

$$Bn=0.70*Tn+0.30*Fn$$

The bidder securing highest composite score will be adjudicated as most responsive bidder for award of project.

6. Appointment of System Integrator

6.1. Signing of Contract

After OCAC notifies the successful bidders that its proposal has been accepted, OCAC shall issue purchase order and enter into a contract with the successful bidders taking into account the relevant clauses of RFP, pre-bid clarifications, Corrigenda, the proposal of the bidder in addition to other agreed clauses. Service Agreement (SA) would be signed for entire project period & value.

6.2. Performance Guarantee

a. The selected Bidders shall be required to furnish the minimum Performance Bank Guarantee of 3% of the total quoted cost in the form of an unconditional and irrevocable Bank Guarantee from a scheduled commercial bank in India in favor of "Odisha Computer Application Centre", Bhubaneswar. PBG should be valid for 90 days beyond the contract end date.
b. OCAC will require the selected bidder to provide a Performance Bank Guarantee (PBG), within 15 days from the date of notification of award.
c. The selected bidder shall be responsible for extending the validity date and claim period of the Performance Guarantee as and when it is due on account of non-completion of the service during the work order period.
d. In case the selected bidder fails to submit performance guarantee within the time stipulated, OCAC at its discretion may cancel the order placed on the selected bidder and/or initiate action, after giving prior written notice to rectify the same.
e. OCAC shall invoke the PBG in case the selected bidder fails to discharge their contractual obligations during the period or OCAC incurs any damages due to bidder's negligence in carrying out the project implementation as per the agreed terms & conditions.

6.3. Failure to Agree with the Terms and Conditions of the RFP

Failure of the successful bidder to agree with the Terms & Conditions of the RFP and the Proposal submitted by the successful bidder, despite the deviations submitted by the Bidder are adequately considered and mutually agreed, shall constitute sufficient grounds for the annulment of the award, in which event OCAC may award the contract to the next best value bidder or call for new proposals from the interested bidders. In such a case, the OCAC shall invoke the PBG of the most responsive bidder and/or initiate action.

6.4. Limitation of Liability

Except in cases of gross negligence or willful misconduct: -

a. neither party shall be liable to the other party for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier/ selected bidder to pay liquidated damages to the Purchaser; and
b. Maximum liability of the bidder for this project will be limited to the total value of the contract or the amount actually paid to the bidder whichever is lower and will not include any indirect or consequential clause or damage, loss or profit, data or revenue.

6.5. Indemnity

a. The System Integrator shall indemnify the Purchaser from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:
    - Any negligence or wrongful act or omission by the Solution Provider or any third party associated with Solution Provider in connection with or incidental to this Contract or;
    - Any breach of any of the terms of this Contract by the Solution Provider, the Solution Provider's Team or any third party
    - Any infringement of patent, trademark/copyright arising from the use of the supplied goods and related services or any party thereof
b. The Solution Provider shall also indemnify the Purchaser against any privilege, claim or assertion made by a third party with respect to right or interest in, service provided as mentioned in any Intellectual Property Rights and licenses.
c. All indemnification obligations shall be subject to the Limitation of Liability clause.

7. Scope of Work

7.1. Background & brief scope of work

Odisha has emerged as one of India's leading states in freshwater aquaculture, contributing significantly to fish production and supporting thousands of small and marginal farmers. Despite this growth, most fish farmers in Odisha still depend on manual observation methods to monitor pond conditions. Factors such as fluctuating temperatures, cyclonic rainfall patterns, prolonged summers, and irregular water exchange practices often lead to rapid

deterioration of water quality. Critical parameters like Dissolved Oxygen (DO), pH balance, and ammonia levels can shift within a matter of hours, creating conditions that lead to fish mortality, reduced growth, or disease outbreaks. These challenges become more severe during peak summer months and periods of erratic monsoon rainfall, which have historically caused major losses to the aquaculture community.

Manual monitoring is not only labor-intensive but also prone to delays, as farmers check pond conditions at irregular intervals. This often results in late detection of hazardous conditions such as oxygen depletion, ammonia accumulation, or pH imbalance. The lack of timely, scientific, data-driven insights means that many farmers resort to guesswork when deciding when to run aerators, when to exchange water, how much to feed, or how to respond to changing climatic conditions. As a result, operational inefficiencies persist, leading to unnecessary electricity costs, feed wastage, and preventable stress on fish stocks.

To overcome these long-standing challenges, OCAC, in collaboration with the Fisheries and Animal Resources Development Department, Government of Odisha, and ICAR-CIFA, has proposed an AI-enabled IoT-based Pond Monitoring and Advisory System. The initiative is designed to modernize aquaculture practices by offering real-time visibility into pond conditions, predictive insights, and scientifically driven advisories for farmers. This effort aligns with the State's objectives of promoting scientific fish farming, improving farmer incomes, reducing resource wastage, and strengthening climate resilience. The pilot deployment across 400 selected ponds will serve as a proof of concept, creating a scalable framework that can later be expanded statewide to support sustainable fisheries management and enhance the livelihoods of the aquaculture community.

7.2. Objectives

The primary objective of this project is to design, develop, deploy, and operationalize a comprehensive AI-enabled IoT-based system that monitors freshwater fish ponds in real time and assists farmers and officials in managing pond environments proactively. The system aims to provide continuous measurement of water quality parameters, predictive alerts based on advanced analytics, and AI-driven advisories that help maintain optimal living conditions for fish. The ultimate goal is to reduce fish mortality, improve growth rates, optimize feeding practices, lower operational costs, and enable the adoption of scientific and climate-resilient aquaculture practices across Odisha.

The project also seeks to bring transparency and efficiency to fisheries management by

establishing a centralized digital ecosystem where farm-level data from all 400 selected ponds can be analyzed and monitored in pilot phase (which will be extend further after successful pilot implementation). This will enable district and state-level authorities to receive insights on overall pond health, risk zones, emerging trends, and necessary interventions. The AI-powered advisory component will help both farmers and administrators make informed decisions, while the inclusion of Odia-based voice interfaces will ensure accessibility for all user groups.

The objective is to ensure long-term sustainability of the system by equipping field users, farmers, and fisheries officials with the necessary training and resources to operate and support the technology independently. The project emphasizes end-to-end reliability, cybersecurity, scalability, and compliance with government standards to ensure that the system functions continuously and efficiently throughout its lifecycle.

The selected System Integrator (SI) will be responsible for designing, developing, deploying, integrating, and maintaining the complete ecosystem, including two years of operations and maintenance from the date of Go-live.

The scope of work for the Selected Bidder during the period of contract/ engagement shall include:

- Preparation of Detailed Project Plan.
- Detailed System Study, System Requirement Specification for the fish pond management and associated AI based advisory.
- Leveraging latest technology areas for applicable use-cases of a future ready Application.
- Design, finalization, and Customization/Configuration of the proposed solution.
- Supply and installation of IoT devices for 400 ponds across the state
- Calibration of the IoT devices at least once a year
- Integration with existing 3rd party Applications
- Software Solution Testing
- Deployment & Configuration
- User Acceptance Testing (UAT)
- Go-Live of proposed software solution

- Training
- Application and associate IoT devices Support , Operation & Maintenance (O&M) for a period of 2 years.
- Deployment of Technical Support Unit.

7.3. Detailed Scope of Work

The System Integrator (SI) will be responsible for delivering a complete solution that includes the design, development, supply, installation, integration, commissioning, hosting, training, warranty, and maintenance of the AI-enabled IoT Pond Management System. The scope includes all IoT sensor hardware, communication components, field deployment activities, data analytics capabilities, centralized platform, mobile application, AI advisory engine, and operational support services necessary to ensure a fully functional, reliable, and secure system.

7.4. IoT System Design, Supply and Deployment

The SI must design the IoT architecture in a way that supports continuous real-time monitoring of pond conditions and ensures reliable data transmission from remote pond locations across Odisha. The system must include high-quality aquaculture-grade sensors capable of measuring **Dissolved Oxygen (DO)**, **pH**, and **Total Ammonia Nitrogen (TAN)**, along with other specified parameters where applicable. These sensors must be durable enough to remain submerged for extended periods, resist corrosion and biofouling, and maintain stable performance under varying environmental conditions. The bidder must ensure that all sensors supplied include appropriate calibration equipment and comply with standards required for aquaculture monitoring.

Each pond will be provided with the necessary data acquisition and communication hardware (as per the specifications in Section 4) to interface with the sensors. These units must be enclosed in weatherproof housings that can withstand heat, humidity, and rainfall. They must be capable of collecting sensor readings continuously, performing preliminary processing, storing data temporarily during network outages, and transmitting information securely to the central server.

The communication infrastructure connecting each pond to the centralized system must be designed to accommodate varying levels of mobile and internet connectivity across Odisha. The SI must evaluate and implement suitable communication protocols such as GSM, 4G, NB-IoT, etc., ensuring stable data transfer. The SI is responsible for arranging SIM cards, antennas,

communication modules, and signal boosters where necessary to ensure reliable operation even in remote pond locations.

The system shall focus solely on capturing accurate water-quality data from the installed sensors and securely transmitting this data to the central portal. Once the data reaches the backend, the AI engine will process it, generate insights, and send advisory messages or alerts directly to the farmer.

The SI must carry out installation at all 400 selected farms identified by the Directorate of Fisheries. Before large-scale deployment, the SI must provide a sample IoT unit for validation by ICAR-CIFA. Only after the validation report is approved can full deployment proceed.

7.5. Centralized Monitoring Platform and Web Application

The SI must develop a comprehensive web-based platform that acts as the central command center for the entire IoT system. This platform must collect, process, analyze, and display real-time data from all deployed ponds. The dashboard must present live values for all water quality parameters in an intuitive, user-friendly manner, using color-coded indicators to classify conditions as normal, warning, or critical. The system must refresh data automatically at frequent intervals to minimize latency and ensure timely updates for users.

The platform must include an advanced alerts and notification module. This module must generate immediate alerts whenever sensor readings cross configured thresholds, whenever communication failures occur, or whenever the AI advisory engine detects a risk of declining pond health. Alerts must be delivered through multiple channels, including dashboard pop-ups, mobile notifications, SMS, and email. The system must also allow users to acknowledge alerts and record corrective actions taken in response, thereby creating an audit trail.

The system will focus entirely on receiving real-time sensor data, analyzing it, and presenting insights to users through dashboards and alerts. The platform must authenticate users for access to system features and ensure that all data viewing, configuration activities, and advisory reviews are securely logged with timestamps and user details.

Administrators must be able to configure water-quality thresholds, sensor parameters, user roles, access permissions, and other system settings required for effective monitoring. The administrative module must also support onboarding of new ponds, assigning sensors to respective locations, and managing user accounts at the state and district levels.

A comprehensive reporting and analytics module shall be provided to generate daily, weekly, and monthly summaries of pond health, alert history, AI advisories, sensor performance, and

comparative trends across ponds and districts. The module must include visualizations such as time-series graphs, multi-parameter overlays, and comparison charts, with export to PDF, Excel and CSV.

7.6. Mobile Application

The SI must develop a mobile application that mirrors the core informational functionalities of the web platform but is optimized for use by field operatives and farmers. The mobile app must display real-time pond parameters and alerts. Push notifications must alert users immediately when critical conditions arise.

The mobile application must also display AI advisories, recommended actions, and explanations in simple language. It must support Odia and English interfaces. The app must allow QR-code-based linking of sensors to ponds, making onsite configuration easier. Since some ponds may have weak connectivity, the app must include offline functionality, caching recent data and synchronizing when the network is available. The mobile application will not perform remote control of pond devices and will be used strictly for monitoring, alerts, and advisory consumption.

7.7. AI Advisory and Decision Support Engine

The SI must build an AI-driven analytics engine capable of analyzing real-time sensor data, historical patterns, seasonal trends, and external weather inputs to generate actionable advisories for pond management. The advisory system must detect early warning signs of oxygen depletion, ammonia buildup, pH imbalance and other environmental changes. It must predict conditions that could lead to fish mortality or disease outbreaks, allowing farmers to take preventive measures.

The engine must support predictive modeling, such as estimating overnight DO depletion based on recent patterns or forecasting ammonia buildup influenced by feeding behavior. The AI engine must also include modules for feeding advisories, disease risk alerts, seasonal recommendations, and operational efficiency strategies. These advisories must be displayed through both the web and mobile platforms and supported through an Odia voice-enabled chatbot for accessibility.

7.8. Hosting, Security and Backend Infrastructure

The SI is responsible for configuring and managing secure backend infrastructure, preferably on the Odisha State Data Centre (OSDC). The infrastructure shall be provided by OCAC to the

bidder.

The SI must implement robust security measures including SSL encryption, secure password policies, protection against unauthorized access, encryption of data at rest and in transit, and adherence to OWASP guidelines.

7.9. Training and Capacity Building

The SI must conduct comprehensive training sessions for farmers, fisheries officials, field operators, and administrators. Training must include hands-on demonstrations at ponds, classroom sessions, video tutorials, user manuals, and periodic refresher modules. Training materials must be available in Odia and English.

7.10. Warranty, Support and AMC

The SI must provide 24 months warranty covering all software and hardware components. During this period, the SI must provide support for fault repairs, replacements, software updates, sensor recalibrations, and system monitoring. After the warranty period, the SI must provide AMC services that include server management, software enhancement, performance tuning, and continuous support as outlined in the detailed Scope of Work.

7.11. Technical Support Unit (TSU)

To ensure smooth execution, efficient monitoring, and effective inter-agency coordination during the implementation of the AI-enabled IoT-based Pond Monitoring and Advisory System, a dedicated Technical Support Unit (TSU) shall be deployed. The TSU will serve as the central coordination and technical facilitation body, supporting OCAC, the Directorate of Fisheries, and ICAR-CIFA in overseeing field activities, monitoring sensor deployment, validating performance, managing grievances, and ensuring timely reporting and project governance.

The TSU will act as the operational backbone of the project, ensuring that stakeholder expectations are aligned, technical standards are adhered to, and issues are escalated and resolved promptly. Its primary objectives are to:

- Provide continuous technical, administrative, and field-level support to OCAC and the Directorate of Fisheries for smooth project execution.
- Coordinate with ICAR-CIFA for sensor validation, calibration guidance, and technical recommendations.
- Monitor the deployment, performance, and reliability of IoT sensors across all sites.

- Facilitate communication between the implementing agencies, field units, and technical experts.
- Ensure timely reporting, documentation, and escalation of issues.
- Support decision-making through analytical insights, status tracking, and periodic reviews.

7.12. Design & Development

The SI shall design the solution architecture and specifications for meeting the requirements mentioned as part of this document.

a. In order to achieve the high level of stability and robustness of the application, the system development life cycle shall be carried out using the best industry practices and adopting the security constraints for access and control rights.

b. The system shall have a module exclusively to record the activities/ create the log of activities happening within the system / application to avoid any kind of irregularities within the system by any User / Application.

7.13. Project Coverage

The system will connect all layers of the fish farming value chain — from farmers and field-level staff to administrators, researchers, and policymakers — through a unified digital platform. It will enable real-time data exchange, service delivery, and decision support across multiple institutions and departments.

7.14. Stakeholders and Their Roles

Stakeholder	Role / Responsibility	Expected Benefits
Farmers	Primary users of the system. Register farmer, input data and receive AI generated advisories through mobile app, WhatsApp, or SMS.	Improved productivity, better disease management, timely access to government schemes, and enhanced income.
Field Staff (AHD & Veterinary Extension Workers)	Collect data from field visits, assist farmers in registration, validate information, and ensure accuracy of records.	Simplified field operations, automated monitoring, and improved service delivery.

District / Block Animal Husbandry Offices	Supervise implementation, track KPIs, manage AI advisories, and ensure data integrity at the field level.	Data-driven planning, faster reporting, and improved program performance.
Department of Fisheries & Animal Resources Development (F&ARD)	Nodal department for project execution and coordination with OCAC. Oversee integration with DBT, Krushak Odisha, and other schemes. Validate AI models and contribute scientific insights along with Research and Academic Institutions (OUAT, ICAR, etc.).	Real-time visibility of sector performance, streamlined governance, and effective policy monitoring.
Odisha Computer Application Centre (OCAC)	Technical implementing agency responsible for engaging the System Integrator, overseeing development, integration, and maintenance.	Establishment of a sustainable and scalable digital infrastructure for fish farming.
System Integrator (SI)	Design, develop, deploy, integrate, and maintain the AI-Based Pond Monitoring and Farmer Advisory Platform, ensuring data security, scalability, and system uptime.	Smooth project delivery, compliance with SLAs, and successful O&M.
Research and Academic Institutions (OUAT, ICAR, etc.)	Use the AI-Based Pond Monitoring and Farmer Advisory Platform database for research on genetics, nutrition, and disease epidemiology. Validate AI models and contribute scientific insights.	Access to high-quality data for academic and applied research; collaboration in policy innovation.

7.15. Functional and Technical Requirements

The functional requirements are categorized into core operational functions, analytical features, integration components, and supporting tools for field and administrative users.

IoT Sensor Specifications

7.15.1. TAN (Total Ammonia Nitrogen)

Parameter	Specification
Measurement Ion	NH_4^+ (Ammonium Ion)
Measurement Accuracy	±0.1
pH Operating Range	2.5 – 11 pH

Temperature Operating Range	0 – 60 °C
Active Component	Yes
Body Material	Imported Epoxy Resin
Salt Bridge Material	Separable Ring Grinding Mouth
Sensor Type	Ion Selective Electrode (ISE)
Connector Type	BNC – S7 / S8
Dimensions	Ø12 mm × 120 mm
IP protection	IP68

Mechanical & Electrical Features should be:

- High strength imported epoxy resin body
- Separable salt bridge design for easy maintenance
- BNC standard connector for universal compatibility
- Compact 12 mm diameter probe suitable for inline and portable systems
- Chemical-resistant body for harsh water environments

7.15.2. Dissolved Oxygen (DO) Level Sensor

Parameter	**Specification**
Measurement Range	0 – 20.0 ppm
Resolution	0.1 ppm
Accuracy	±0.2 ppm to ±1 count

DO Sensor Type	Amperometric Gold/Silver Membrane
Output Type	Analog Voltage
Signal Interface	BNC Connector
Power Supply	9V DC Battery
Electrolyte Solution	7.5% Potassium Chloride (KCl)
Temperature Compensation	External (using MCU & temperature sensor)
Operating Temperature	0 – 60 °C

Mechanical & Protection Features

- Oxygen-permeable replaceable membrane cap
- Gold/Silver electrode assembly
- BNC connector for noise-free analog transmission
- Protective membrane crown to avoid physical damage
- Designed for portable and inline water monitoring applications

7.15.3. pH Sensor Technical Specification

Electrical Specifications

Parameter	**Specification**
Module Power Supply	DC 9.0 V, 1 A
Output Signal Type	Analog Voltage
Output Voltage Range	0.5 V – 3.0 V
Power Indicator	LED Indicator
Internal Resistance	250 MΩ
Terminal Connection	BNC Plug

Performance Specifications

Parameter	Specification
pH Measurement Range	0 – 14 pH
Accuracy	±0.1 pH @ 24 °C
Response Time	< 1 Minute
Alkali Error	0.2 pH
Operating Temperature	0 – 60 °C
Calibration Temperature	24 °C (Room Temperature)

Mechanical & Connector Specifications

- Electrode Type: Industrial Glass pH Electrode
- Connector Type: Standard BNC Connector
- Cable Interface: 2-foot shielded patch cable

7.15.4. Communication & Cloud Interface

Supported Communication Modes

Mode	Specification
RS485	Modbus RTU & API-based
NB-IoT	Narrowband IoT wireless communication
4G/LTE	LTE-CAT-M, NB-IoT, GPRS via cellular network
Wi-Fi	Configured via Wi-Fi Manager with fallback AP mode
GSM	Configurable APN settings using SIM7000G module
GPS	Built-in GPS for Geolocation & IST Time stamping

Cloud Data & Protocol Support

Parameter	Specification
Upload Interval	150 seconds / Realtime
Protocol	HTTPS POST
Endpoint URL	Dynamic
Format	JSON (Content-Type: application/Json)

Timestamp Handling

Parameter	Specification
Source	GPS time via AT commands
Format	DD-MM-YYYY HH:MM (IST)
Usage	Synchronized across all readings for full traceability

Certifications of IoT Device

Certification	Standard/Agency
IP68 Rating	NABL
Compliance & Network	WPC, EPR, MAC
Quality Management System	ISO 9001, CMM3 certificate CMMI institute
Environmental Management System	ISO 14001
Safety & Emissions	FCC, CE
Hazardous Substances Restriction	ROHS

Additional Device Features

Parameter	Specification
Display language Support	3.4" graphical Colour LCD with 8-digit readout (English & Odia) to show availability of connectivity, sensor parameters, alarms, sensor calibration due status, helpdesk details
Offline Backup / Storage	SD card logging for data buffering in offline mode

7.15.5. Power Supply System

Parameter	Specification
Primary Power	AC adapter, solar-based module, or hybrid setup depending on pond location. **The IoT must comes with solar module**
Battery Backup	Rechargeable battery supporting minimum 24 hours operation; overcharge and deep discharge protection

7.15.6. Installation of IoTs

The bidder has to install the IoT devices at designated ponds identified by OCAC at various locations of the State through its experts/engineers. The bidder has to provide necessary accessories for the installation (such as mounting assemblies, enclosures, power cable etc.) without any additional cost. However, the respective farmer/organization shall provide the required power (where solar solution is not feasible).

7.15.7. Real-Time Data Capture

The system shall capture real-time water quality readings from the installed sensors. Each sensor must collect data at predefined intervals and ensure high accuracy and stability under field conditions. The bidder has to factor the connectivity (like SIM) charges on yearly basis.

7.15.8. Sensor Calibration & Self-Diagnostics

The system shall support:

- Initial calibration during installation
- Periodic and event-based recalibration (at least once in a year)
- Basic self-diagnostics (fault detection, sensor health indicators)

7.15.9. Central Monitoring Platform Requirements

The central platform must be capable of receiving, visualizing, and storing sensor data and must support monitoring by multiple stakeholders.

7.15.9.1. Real-Time Dashboard

The system shall provide:

- Live visualization of all parameters received from sensors
- Color-coded indicators for Normal / Warning / Critical levels
- Single-pond and multi-pond views
- Geo-tagged map-based monitoring

7.15.9.2. Alert Management

The platform shall:

- Generate alerts when any parameter crosses threshold limits
- Issue predictive alerts generated by the AI Advisory Engine
- Deliver notifications through web dashboard, SMS, mobile app, and email
- Maintain complete alert logs with timestamps and severity levels

7.15.9.3. User Authentication & Access Control

The platform must:

- Enforce secure login mechanisms
- Support role-based user access (State Admin, District Officer, Field Operator, Farmer, etc.)
- Log all user actions for audit purposes

7.15.9.4. Pond & Sensor Configuration

The system must allow authorized users to:

- Register new ponds or deactivate existing ones
- Assign sensors to ponds
- Set and modify threshold values
- Manage user roles and permissions

7.15.10. Mobile Application Functional Requirements

7.15.10.1. Real-Time Monitoring

The mobile app shall display:

- Current sensor readings
- Alert notifications
- AI advisories and recommended actions

7.15.11. Offline Capability

In low-connectivity rural areas, the app must:

- Display last-synced data
- Queue user acknowledgments for later sync

7.15.12. Multilingual Interface

The app must support:

- Odia
- English

7.15.13. Onsite Sensor Linking

The app shall allow:

- QR code scanning
- Photo-based documentation
- GPS tagging

7.15.14. AI Advisory Engine Requirements

7.15.14.1. Predictive Analysis

The AI engine must:

- Analyze historical and real-time sensor data
- Predict potential risks such as ammonia spikes, pH imbalance, etc.
- Generate early warnings for farmers

7.15.14.2. Advisory Messages

The engine must:

- Produce actionable advisories in simple language
- Allow farmers to receive messages in Odia and English
- Issue advisories based on environmental patterns, feeding trends, seasonal variations, and risk flags

7.15.14.3. Odia Voice Interaction

The system must support:

- Odia voice-based query and response
- Farmer-friendly conversational advisory assistance

7.15.15. Data Management and Storage Requirements

7.15.15.1. Secure Storage

All sensor readings must be stored in a secure central repository with:

- Proper indexing for time-series querying
- Versioning for configuration changes
- Backup and recovery mechanisms

7.15.15.2. Data Validation

The system must:

- Flag inconsistent or corrupted data
- Replace missing values with null markers
- Support integrity checks during ingestion

7.15.15.3. Data Retention

The platform must retain:

- Live data for real-time operations
- Historical data for analytics, audits, and advisory modeling

7.15.16. Reporting and Analytics Requirements

7.15.16.1. Standard Reports

, The system must support daily, weekly monthly, and annual reporting on:

- Pond health summaries
- Parameter-wise trends
- Alert history
- Advisory history
- Sensor performance

7.15.16.2. Advanced Analytics

The system must support:

- Multi-parameter correlation analyses
- Comparative analytics across ponds, districts, and time periods
- Custom report generation

7.15.16.3. Export Formats

Reports must be exportable to:

- PDF
- Excel
- CSV

7.15.16.4. Administrative Requirements

The platform must enable administrators to:

- Manage master data (ponds, sensors, districts)
- Monitor system health and activity
- Update configuration settings
- View all logs and audit trails
- Generate MIS reports

(All the reporting requirements are indicative in nature and will be finalized during the System Study phase. Besides, the bidder must develop any other report as required by the stakeholder's time to time based on the available input parameters during the project duration.

7.15.16.5. Performance Requirements

The system must meet the following functional performance benchmarks:

- Data transmission latency: within 5 seconds in normal conditions
- Sensor uptime: ≥ 95%
- Platform availability: ≥ 99%
- Mobile alert delivery: near real-time
- Data accuracy: within the tolerance limits of supplied sensors

7.16. Other Non-functional requirements

7.16.1. Requirement Study

The SI shall perform a detailed assessment of the solution requirements including finalization of the System Requirement Specifications (SRS) in consultation with OCAC/FARD/OUAT/ICAR-CIFA.

While doing so, System Integrator (SI) at least is expected to do following:

a. Consult with all stakeholders.
b. SI should study the requirement in details from the different stakeholders and their perspective.
c. Translate all the requirements mentioned in the document into System Requirements.
d. Follow standardized template for requirements capturing.
e. Maintain traceability matrix from SRS stage for the entire implementation.

7.16.2. Design & Development

The SI shall design the solution architecture and specifications for meeting the requirements mentioned as part of this document.

a. In order to achieve the high level of stability and robustness of the application, the system development life cycle shall be carried out using the best industry practices

and adopting the security constraints for access and control rights.

b. The system shall have a module exclusively to record the activities/ create the log of activities happening within the system / application to avoid any kind of irregularities within the system by any User / Application.

7.17. Integration Requirements

The system should support both push and pull of data to and from systems proposed to be integrated. It is required that a standard mechanism of data exchange should be built and implemented using an industry specified data exchange protocol through a secure channel. The SI will have to co-ordinate with the designated nodal agencies for integration and OCAC/FARD will facilitate this process. In addition, the solution should be designed in such a way that any future integration does not require any changes to the system.

The integration shall be made in two phases. The first phase must be completed before Go-live of data collection module and second phase shall be completed along with AI model/as per the requirement.

Phase	Category	Integration modules
Phase 1	Major	1. Social Protection Delivery Platform (SPDP) 2. Aadhaar Data Vault 3. Krushak Ordisha
Phase 1	Minor	4. Communication Channels (SMS, e-Mail, WhatsApp) 5. DBT Portal 6. State Dashboard
Phase 2	Major	7. GIS

7.17.1. Aadhaar Authentication Framework (UIDAI)

Real-time Aadhaar e-KYC for farmer registration; ensure compliance with UIDAI norms for data usage and privacy.

7.17.2. State DBT Portal

a. Link farmer profiles with eligibility for government schemes, subsidies, incentives; integration must support push/pull of farmer and benefit-disbursement status.

b. The system must support automated monthly data exchange with the State DBT Portal (DBT Odisha).

c. The system must support systematic extraction and submission of beneficiary and financial data, reduce manual effort and improve reporting accuracy.

d. The system must automatically compile scheme-related data at predefined monthly intervals with validation checks for completeness and correctness.

e. The system must include key metrics such as scheme code, reporting month/year, number of beneficiaries, Aadhaar authentication coverage, mobile linkage status, total expenditure, and Aadhaar-authenticated transaction statistics.

f. The system must accommodate additional data points as requested by the DBT Odisha Portal.

g. The system must maintain a historical log of all submissions, including timestamps, file versioning, and system-generated acknowledgments.

7.17.3. Social Protection Delivery Platform (SPDP)

a. Integrate the farmer details with the SPDP for automated, secure, bidirectional data exchange to strengthen coordination of social protection programs.

b. Use a secure API-based architecture to protect sensitive beneficiary data.

c. Periodically ingest datasets from SPDP who benefited from state or central schemes into a staging layer for controlled validation before loading into the live system.

d. Implement comprehensive logging for all integration activities, including API calls, data ingestion, eligibility tagging, and transmission status, with unique transaction IDs for auditing and error tracing.

e. Integration with the SPDP should enable real-time or batch-wise validation of socio-economic parameters for applicants.

7.17.4. Aadhaar Vault Integration

a. The system must be integrated with Aadhaar Data Vault (ADV) services of Odisha Aadhaar Authentication Framework (OAAF) to securely store Aadhaar numbers in a tokenized format.

b. The ADV must be used across both Web and Mobile platforms.

c. OCAC will provide the required API

7.17.5. State Dashboard / CM Dashboard

Provide REST API endpoints or data export facilities for top-level visualisations; feed alerts and KPIs to dashboard.

7.17.6. Communication Channels

a. WhatsApp Business API: Integration for sending advisories/alerts; two-way interaction for farmers to ask queries.

b. SMS Gateway: Integration with OCAC SMS gateway; templates in Odia and English; Unicode support for regional language.

c. e-Mail Integration: Use government SMTP service for vet/administrator reports, monthly summaries, alert notifications.

7.17.7. Krushak Odisha (farmer registry)

a. For validation of farmers

7.17.8. Geographic Information System (GIS)

a. Geo-tagging of farm locations for spatial analysis and service planning.

b. The app must enable users to capture photos and record precise geolocation data at the time of field visits, ensuring authenticity and traceability of verification/capturing activities.

7.18. Core System Components

a. Centralized Data Repository: A secure, cloud-hosted repository to store structured and unstructured data, including farmer records, health events, and advisory logs. The repository will support replication, failover, and disaster recovery.

b. Analytics & Visualization Engine: Offers geospatial analytics, performance dashboards, and KPI tracking for real-time monitoring, evaluation, and decision-making.

7.19. Testing

a. The SI shall provide the testing strategy including Test Cases and Conduct Testing of various components of the software developed / customized (e.g. including Unit Tests, System Integration Tests, Security Testing and User Acceptance Test).
b. The SI shall ensure deployment of necessary resources, tools, staging servers and related logistics during the testing phases.

7.19.1. Core Application Modules: Functional Testing

a. Farmer Registration

b. AI-enabled IoT-based Pond Monitoring, such as oxygen depletion, ammonia accumulation, or pH imbalance, feeding, exchange of water, Growth, and changing climatic conditions

c. Advisory & Communication System (WhatsApp, SMS, Email, Push Notifications)

d. Scheme Management and DBT Integration

e. AI Analytics Dashboards and Reporting Tools

7.19.2. Cross-Functional Aspects: Functional Testing

a. Verification of field-level data entry workflows, geo-tagging, and offline synchronization.

b. Validation of user roles, access permissions, and workflow-based approvals.

c. Testing of multilingual (Odia/English) user interface and accessibility compliance.

d. Validation of notifications, alerts, and advisory message delivery across channels.

e. Assessment of response times, navigation flow, and error handling.

7.19.3. Integration Testing: Functional Testing

Validation of interoperability between AI-enabled IoT-based Pond Monitoring and Farmer Advisory Platform:

a. Social Protection Delivery Platform (SPDP)

b. State DBT Portal

c. Aadhaar Authentication Framework

d. Krushak Odisha (farmer registry)

e. State Dashboard

f. Communication Gateways (SMS, WhatsApp, e-Mail)

g. Testing of data exchange integrity, synchronization frequency, and acknowledgment mechanisms through SPDP's Data Exchange Layer.

7.20. Third Party Audit

a. OCAC will engage a CERT-In empaneled firm for conducting security audit of the entire application before Go-Live of application and obtain the **safe-to-host** certification.
b. C-SOC will also conduct period vulnerability assessment.
c. The SI shall comply with the security audit observations of the application by CERT-In empanelled firm/ CSOC Odisha team including Periodic Cyber Security Audit as per OSDC Policy.
d. The audit shall be performed at least on the below mentioned aspects.
   - Functional Testing
   - Accessibility Testing
   - Application Security Audit
   - Vulnerability Testing
e. The audit shall be conducted before Go-Live and thereafter at least once a year.
f. The System Integrator (SI) shall comply to the security advisories / compliance requirements of the Odisha Cyber Security Centre without any additional financial implications.

7.21. UIDAI Compliance Audit

a. The System Integrator (SI) shall conduct an Aadhar Information Security Compliance Audit annually through a CERT-In–empaneled firm and submit the audit certificate by the end of January each year.
b. The audit shall be performed in-line to the latest UIDAI compliance checklist.

7.22. Other Audit

a. The System Integrator (SI) shall comply to the security advisories / compliance

requirements of the Odisha Cyber Security Centre without any additional financial implications.

b. The SI shall assist OCAC/User Department in complying with audits by State/Central Government authorities at no additional cost.

7.23. SSL Certification

The SI shall carry out and ensure the following:

a. Secure connection between Client and Server through Secure protocol HTTPS.
b. Encryption of Data during transmission from server to browser and vice versa.
c. Encryption key assigned to it by Certification Authority (CA) in form of a Certificate.
d. SSL Security in the application server.

7.24. Training

a. The SI shall provide training to the farmers and users identified by FARD/OCAC on a train to trainer model.
b. Refresher training should be provided to various stakeholders in VC mode.
c. The schedule / training calendar and the training material for imparting training shall be developed in consultation with FARD/OCAC.
d. Provide/coordinate training among various stakeholders on new services, enhancements etc. added in the application during O&M period.
e. Training infrastructures viz; computers, projectors, whiteboards, connectivity and space for training required for the training shall be provided by the FARD/OCAC.

7.25. Online Help / Reference

a. The training contents / user manuals must be made available to users in downloadable (PDF) format so that the users may refer / download it for their own personal reference as and when needed.
b. The downloadable training content should have proper indexing and internal references, mapped with key words, in order to allow any user to search and reach the desired content with the help of those key words.

c. All the training manuals must be in Odia language

7.26. UAT & Go-Live

After completion of the development work for application, OCAC/FARD will conduct technical reviews of development work performed as UAT.

The SI shall be responsible for:

a. Preparation and submission of test strategy, test cases and test results.
b. Demonstration of module-wise functionalities/ features to the OCAC/FARD in a staging environment.
c. Support OCAC/FARD or their representatives at the time of user acceptance testing.
d. Rectification of any issues/ bugs/ improvements/ enhancements/ up-gradations suggested (if any) during the UAT, without any additional cost.
e. Documenting the UAT results & ensure that all issues raised during UAT are closed and signed-off from respective authority.
f. Rectification in the new application for any issues/ bugs/ and improvements/ Enhancements / up-gradations suggested by OCAC/FARD (if any) during the UAT without any additional cost.
g. OCAC/FARD shall declare "Go-live" of the project
h. After Go-live, Application Support, Operation and Management will start from the date of Go-live.
    - UAT of the application (excluding the AI model) will be conducted for starting data collection.
    - UAT of the application with the AI model implemented will be carried out separately.

7.26.1. Business Continuity Planning

Currently, there is no Disaster Recovery (DR) or Business Continuity Plan (BCP) to address any disruption in implementation of the system. However, in future, if it is decided to go for DR / BCP, then the SI will suggest and support for an appropriate methodology in a cost-effective manner for this purpose. The IA shall share the DC, DR sizing and OCAC shall arrange necessary infrastructure in accordance with the sizing received.

7.26.2. Documentation

a. Undertake preparation of documents including that of infrastructure solution design and architecture, configuration files of the infrastructures, user manuals, Standard Operating Procedures, Information Security Management procedures as per acceptable standards.
b. Take sign-off on the deliverables (documents), including design documents, Standard Operating Procedures, Security Policy and Procedures from OCAC / OSDC Team and shall

make necessary changes before submitting the final version of the documents.

7.27. Operation & Management

The Application Support, Operations & Maintenance services need to be provided by the bidder with respect to Application Software & supporting IT Infrastructure Management (which is OSDC). However, server hardware maintenance is not scope of the bidder. OSDC will share bare metal server/VM with required OS only. Any other required software/tool shall be provided by the bidder.

Bidder must deploy the team with adequate manpower having expertise in database and application management & support for operation and management of entire application for a period of 2 years to carry out the above activities.

The bidder must give details of methodology for Application Support, operation and management with team structure with proposed profiles in technical bid. The Application Support, Operation and Management of the new application will be started from the date of Go-Live.

a. The Operation and Maintenance (O&M) support of the application shall commence upon successful Go-Live of the application (data collection module including integrations).
b. The Operation and Maintenance (O&M) support of the application shall commence upon successful Go-Live of the application (UAT & Go-Live of AI modules/functionalities).
c. The O&M engagement shall be for a period of three (3) years and subject to extension.

7.28. Bilingual Language Support

a. The Portal shall ensure bilingual language support across all newly developed modules. Interfaces such as dashboards, grievance windows, provisional publishing portals, and the mobile application shall offer seamless switching between Odia and English languages to cater to a linguistically diverse user base.
b. This should enhance inclusivity and allow both officials and citizens to interact with the system in their preferred language, fostering better understanding and adoption.

7.29. Project Technical Support Team

Considering the requirement of the project, the bidder /service provider must deploy dedicated team.

7.29.1. Scope of the Team:

a. Facilitating Development: Design, build, and enhance system functionalities.

b. Facilitating Customization: Implement changes as per department-specific requirements.
c. Facilitating MIS Reporting: Prepare and maintain Management Information System reports.
d. Facilitating Data Analysis: Analyze data to support decision-making and improve processes.

e. Provide support to different stakeholders

7.29.2. Other Requirements:

a. The team shall be deployed after Go-Live. And, depending upon the requirement, further extension of the team (in full or part) may be considered as per the rate discovered in the tender process.
b. The purpose of the team is to ensure delivery of the business changes/requirements of the AI Based CMFA Portal in a hassle-free and time-bound manner.
c. The Service Provider is required to engage a dedicated team and the department shall nominate a single point of contact who will coordinate with the team for the suggestions received from end users.
d. Required software licenses, network, computing infrastructure, etc for creation of development environment, testing environment and staging environment will be the responsibility of the bidder. The above environments for the team must be set-up by the bidder.
e. All the team members shall be available physically at Bhubaneswar as and when it is required for requirement gathering, review meetings and discussion.

7.29.3. Team Composition:

Sl#	Description	Minimum No of resources	Qualification and Experience
a)	Project Manager	1	B.E. / B.Tech./ MCA/ M.Tech/ M.E/ MSc IT from any recognized university/ institution in India with minimum 8 years of relevant experience and project management certification.
b)	System Architech	1	B.E. / B.Tech./ MCA/ M.Tech/ M.E/ MSc IT from any recognized university/ institution in India with minimum 5 years of relevant experience and OEM certification.

Sl#	Description	Minimum No of resources	Qualification and Experience
c)	Business Analysts	2	B.E. / B.Tech./ MCA/ M.Tech/ M.E/ MSc IT from any recognized university/ institution in India with minimum 2+ years of relevant experience.
d)	Data Analysts	1	B.E. / B.Tech./ MCA/ M.Tech/ M.E/ MSc IT from any recognized university/ institution in India with minimum 2+ years of experience in data analysis, visualization, and BI tools.
e)	Support Associates	2	Graduate from any recognized university/ institution in India with minimum 2+ years of experience.

8. Other clauses

8.1. Change Request Management

It may also be required to develop new software modules beyond the coverage of FRS/ SRS/ Scope document.

a. The activities that will be treated as enhancement services is mentioned below:
   - Functional changes in the application
   - Development of new module/sub-module/Form/Report in the developed system
   - Changes in the workflow or core application framework
   - Integration with any new system
   - Additional onsite resources in the project

b. The procedure for executing the change request is as follows:
   - Analysis: Analyses the changes suggested and submit an effort estimation including timeline to OCAC
   - Approval: OCAC shall do due diligence and provide approval on the effort and timeline suggested.
   - Incorporation: After receiving the approval from OCAC, team will incorporate the changes in the application.
   - On approval, deliver the services and raise the claim as per actual according to the Commercial Bid.

8.2. Exit Plan

a. Provide systematic exit plan and conduct proper knowledge transfer process to handover

operations to OCAC technical team at least three months before project closure.

b. OCAC will work closely with the SI during knowledge transfer of testing, staging and production environment.
c. All knowledge transfer should be documented and possibly recorded.
d. Ensure capacity building of the IT resource persons of OCAC on maintenance of software and infrastructure.

8.3. Deliverables & Timeline

Sl#	Milestone	Responsibility	Timeline	Deliverables
a)	Issuance of Work Order	OCAC	T	
b)	Submission of System Requirement Study document of the new application along with portal	Bidder	T + 15 Days	SRS Document
c)	Approval of SRS	OCAC	T + 7 Days = T1	Approval letter issued by OCAC
d)	Completion of design and development of the Portal and UAT	OCAC/Bidder	T + 60 Days =T2	UAT letter issued by OCAC
e)	Supply and Installation of IoT	OCAC/Bidder	L+60 days L- Letter issuance date on the list of farmers	Delivery Challan & Installation Report
f)	Training to the stakeholders	OCAC/Bidder	T2+30 Days	Attendance Report for offline training/ Recordings of the training program in case of online mode
g)	Go-Live	OCAC/Bidder	T3 + 15 days = T4	Go-Live letter issued by OCAC
h)	Development and implementation of AI models	Bidder	T4 + 2 Months = T5	UAT letter from OCAC

Sl#	Milestone	Responsibility	Timeline	Deliverables
i)	Complies with the vulnerability assessment report issued by Cert-In empaneled firm/C-SOC for Security Audit of the application	Bidder	Within 15 days from the reporting date	Compliance report
j)	Project Technical Support Team	Bidder	T4 + 7 Days	Monthly activity report
k)	Application Maintenance Support of the Portal (all modules including AI)	Bidder	2 Year from Go-Live	QPR

8.4. Service Level & Penalty

Sl #	Major Area	Parameter	Requirements	Penalty
1.	Customization & Implementation	Major milestone during development and implementation as per project timeline.	As per project timeline	0.1% of the respective component cost per day
2.	Response time for bug fixing	Time taken (after the request has been informed) to acknowledge problem	Within 24 hours from the time the bug is reported.	Rs. 500/- per hour delay
3.	Resolution Time (Only for Bug fixing)	Time taken by the service provider to fix the problem	Problems with severity within 48 hours from the time of reporting.	Rs. 500/- per hour delay
4.	Deployment of resources	Time taken by the service provider to deploy a resource	As per project timeline	Rs. 1,000/- per day delay per resource

5.	Issues in IOT Devices	Time taken by the service provider to resolve	• Within 100 KM from Bhubaneswar – 24 Hours • Between 100 KM to 400 KM from Bhubaneswar – 48 Hours • Beyond 400 KM from Bhubaneswar – 72 Hours	Rs. 1,000/- per day delay per IoT device

- Maximum penalty shall be capped at 10% of the component cost excluding GST.
- Penalty for the data-collection application and for the application with the AI model will be treated as separate components when calculating penalties.
- Penalty is not applicable for integration components.

8.5. Payment Terms

Sl#	Milestone	Deliverables	Payment Terms
a)	Completion of design and development of the Application with Portal.	• Approval SRS • UAT	80% of the cost of the application development
		Quarterly Report	20% of cost of application component after 3 months of Go-Live
b)	Design and development of AI models (Cost includes Data Collection, Preprocessing Support, model training & validation and integration with base platform)	UAT Report	60% of cost of AI Model
		Quarterly Report	40% of the cost of AI model after 3 months of Go-Live of AI model
c)	Cost of IoT device	Delivery Challan and Installation report	• 70% cost of IoT devices after supply and installation

Sl#	Milestone	Deliverables	Payment Terms
			• Balance 30% shall be paid after integration with the application and discovery of the device at the portal
d)	Cost of data connectivity (SIM Charges)	Declaration	• 100% of the yearly SIM recharge cost after submission of declaration/any other documentary evidences
e)	O&M of entire application.	Report	100% of the cost per quarter. However, O&M Cost of the application shall not be released if the compliance report of the Security audit is pending
f)	Resource Deployment	Activity report	100 % Resource cost equally divided by duration (quarter)
g)	3rd party integration	Report	100% of the Integration cost per component
h)	Training	Physical mode: Attendance Sheet along with brief about the training session Virtual mode : Training video recording	100% of the training cost per session.
i)	Google Maps Essential Subscription (Price Discovery)	Report	100% of the Integration cost per component
j)	Google Maps Essential Subscription recurring cost (Price Discovery)	Report	100% of the recurring cost to be calculated every quarter

9 Formats for Response

9.1. FORM 1: Cover Letter

(To be submitted on the Letter head of Bidder)

To

The General Manager (Admin),
Odisha Computer Application Centre,
N-1/7-D, Acharya Vihar, P.O. RRL, Bhubaneswar - 751013.

Sub: Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming, Odisha

Ref: RFP REF NO- OCAC-**-******

Sir,

I, the undersigned, offer to provide the services for the proposed assignment in respect to your Request for Proposal No. OCAC-SEGP-****, dated **** We hereby submit our proposal which includes the pre-qualification proposal, technical proposal and commercial proposal, sealed under separate envelopes. Our proposal will be valid for acceptance up to 180 Days from the date of opening of commercial proposal and I confirm that this proposal will remain binding upon us and may be accepted by you at any time before this expiry date.

All the information and statements made in our proposal are true and correct and I accept that any misinterpretation contained in it may lead to disqualification of our proposal. If negotiations are held during the period of validity of the proposal, I undertake to negotiate on the basis of proposal submitted by us. Our proposal is binding upon us and subject to the modifications resulting from contract negotiations.

I have examined all the information as provided in your Request for Proposal (RFP) and offer to undertake the service described in accordance with the conditions and requirements of the selection process. I agree to bear all costs incurred by us in connection with the preparation and submission of this proposal and to bear any further pre-contract costs. In case, any provisions of this RFP/Scope including of our technical and financial proposal are found to be deviated, then you shall have rights to reject our proposal. I confirm that, I have the authority to submit the proposal and to clarify any details on its behalf.

I understand you are not bound to accept any proposal you receive.

Yours faithfully,
Authorized Signatory with Date and Seal:
Name: Title: Address of Bidder:

9.2. FORM 2: Particulars of the Bidder

SL#	Information	Details
a.	Name and address of the bidding Company	
b.	Incorporation status: Public Ltd / Pvt. Ltd, etc.	
c.	Year of Establishment	
d.	Date of registration	
e.	Name, Address, Email & Mobile# of Contact Person	

9.3. FORM 3: Acceptance of Terms and Conditions

(To be submitted on the Letterhead of Bidder)

To

The General Manager (Admin),
Odisha Computer Application Centre,
N-1/7-D, Acharya Vihar P.O. RRL, Bhubaneswar - 751013.

Sub: Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming, Odisha

Ref: RFP REF NO- OCAC-**-******

Sir,

I have carefully and thoroughly gone through the Terms & Conditions along with scope of work contained in the RFP No. OCAC-SEGP-**** regarding "RFP for Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming.

I declare that all the provisions/clauses including scope of work of this RFP are acceptable to our company. I further certify that I am an authorized signatory of the company and I am, therefore, competent to make this declaration.

Authorized Signatory with Date and Seal:
Name: Title: Address of Bidder:

9.4. Self-Declaration: Not Blacklisted

(Company letter head)

To

The General Manager (Admin)
Odisha Computer Application Centre
N-1/7-D, Acharya Vihar P.O. - RRL, Bhubaneswar - 751013

Sub: Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming.
Ref: RFP REF NO- OCAC-**-******

Sir,

In response to the RFP No.: OCAC-SEGP-**** for RFP titled "Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming.in Odisha", as an owner/ partner/ Director of (organisation name) _____
I/ We hereby declare that presently our Company/ firm is not under declaration of ineligible for corrupt & fraudulent practices, and not under at the time of submission of Bid, or had work withdrawn, by any State/ Central government/ PSU.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our security may be forfeited in full and the tender if any to the extent accepted may be cancelled.

Thanking you,

Signature
(Authorised Signatory)
Seal:
Date: Place: Name of the Bidder:

9.5. Bidder's Authorization Certificate

To (Company letter head)

The General Manager (Admin)
Odisha Computer Application Centre
(Technical Directorate of E&IT Dept, Govt. of Odisha)
N-1/7-D, Acharya Vihar P.O. - RRL, Bhubaneswar - 751013

Sub: Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming

Ref: RFP REF NO- OCAC-**-******

Madam,

With reference to the RFP No.: OCAC-SEGP-****, Ms./Mr. <Name>, <Designation> is hereby authorized to attend meetings & submit pre-qualification, technical & commercial information as may be required by you in the course of processing the above said Bid. S/he is also authorized to attend meetings & submit technical & commercial information as may be required by you in the course of processing above said application. Her/his contact mobile number is _____ and Email id is_____. For the purpose of validation, his/ her verified signatures are as under.

Thanking you,

Signature Verified Signature by

(Authorised Signatory) Director/CEO

Seal:
Date: Place: Name of the Bidder:

9.6. Financial Bid

9.6.1. FORM FIN-1: Financial Bid Covering Letter

(To be submitted on the Letterhead of Bidder)

To

The General Manager (Admin),
Odisha Computer Application Centre,
N-1/7-D, Acharya Vihar P.O. RRL,
Bhubaneswar - 751013.

Sub: Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming.

Ref: RFP REF NO- OCAC-**-****

Madam,

I /We, the undersigned, offer to provide the service as System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming as per RFP No.: OCAC-SEGP-**** and our Technical and Financial Proposals. Our attached Financial Proposal is inclusive of all applicable taxes and duties.

1. PRICE AND VALIDITY

All the prices mentioned in our Tender are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of this Bid are valid for a period of 2 Years and 3 Months from the date of opening of the Bid.

We understand that the actual payment would be made as per the existing tax rates during the time of payment.

2. QUALIFYING DATA

We confirm having submitted the information as required by you in your RFP. In case you require any other further information/ documentary proof in this regard before/during evaluation of our Tender, we agree to furnish the same in time to your satisfaction.

3. BID PRICE

We declare that our Bid Price is for the entire scope of the work as specified in the Section-7. These prices are indicated in Commercial Bid attached with our bid as part of the Tender. In case there is substantial difference between the component wise price approved by OCAC and the price quoted by the bidder, OCAC will have the rights to ask the bidder to realign their cost without impacting the total bid price. We hereby agree to submit our offer accordingly.

4. PERFORMANCE BANK GUARANTEE

We hereby declare that in case the contract is awarded to us, we shall submit the Performance Bank Guarantee as specified in the clause 6.2 of this RFP document.

We understand you are not bound to accept any Proposal you receive.

We hereby declare that our Tender is made in good faith, without collusion or fraud and the information contained

in the Tender is true and correct to the best of our knowledge and belief.

We understand that our Tender is binding on us and that you are not bound to accept a Tender you receive.

Thanking you,

Signature

(Authorised Signatory)

Seal:

Date: Place: Name of the Bidder:

9.6.2. FORM FIN-2: Cost Summary (in Indian Rupees)

Sl#	Item	Unit	Unit Cost (Excl. Tax)	Qty	Total Cost (Excl. Tax)
a)	Base Platform Development with Dashboard	Lumpsum		1	
b)	IoT with 3 years warranty with installation and Yearly calibration	Nos		400	
c)	SIM cost for data transfer for 1000 IoT Devices	Years		2	
d)	Development of A1 model (Cost includes Data Collection, Preprocessing Support. Model training & validation and integration With base platform)	Models		2	
e)	Integration With Schemes	Nos		5	
f)	Operation & Management for 3 years	Years		2	
g)	Training and Capacity building	Lumpsum		1	
h)	EV SSL certificate for each year	No		3	
i)	Resource Deployment in TSU – Subject Matter Expert	Monthly Cost		1*24	
j)	Resource Deployment in TSU – Data Scientist	Monthly Cost		1*24	
k)	Resource Deployment in TSU – Support Associate	Monthly Cost		2*24	
l)	Conducting training at District level with 30 participants	Per session		30	
m)	Conducting training at State level with 100 participants			2	
n)	Conducting virtual training			5	
o)	Cost Discovery item – Man month effort for Software Developer (shall be utilized in case of Change Request in Future)	Man month cost		10	
p)	Google Maps Essential Subscription (Price Discovery)	Lumpsum		1	

Sl#	Item	Unit	Unit Cost (Excl. Tax)	Qty	Total Cost (Excl. Tax)
q)	Google Maps Essential Subscription recurring cost (Price Discovery)	Monthly Cost		12	
				Sub-Total Cost (Excl. Tax)	
				Grand-Total Cost	
Grand Total Cost(In Words):					

Note:

a. The bid price will be exclusive of all taxes and levies and shall be in Indian Rupees.
b. Errors & Rectification: Arithmetical errors will be rectified on the following basis: “If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail”.
c. Total Amount (Total Project cost) will be considered for commercial valuation.
d. Payment of Taxes and Duties shall be made as per actual during the time of billing.
e. Payment of cost of resources & integration shall be made as per actual during the time of billing.
f. The bidder shall be required to supply any additional IoT devices duringhe contract period at the same rate quoted for the initial 400 units.

9.7. Performance Security

To

The General Manager (Admin)
Odisha Computer Application Centre
N-1/7-D, Acharya Vihar P.O. - RRL, Bhubaneswar - 751013

Sub: Selection of System Integrator for Development, Implementation, Operation & Maintenance Support of AI-enabled IoT-based Pond Monitoring and Advisory System for Fish Farming.

Ref: RFP REF NO- OCAC-**-******

Whereas, <<name of the supplier and address>> (hereinafter called "the bidder") has undertaken, in pursuance of contract no. <Insert Contract No.> dated. <Date> to provide services for **** (hereinafter called "the beneficiary").

And whereas it has been stipulated by in the agreement that the bidder shall furnish you with a bank guarantee by a recognized bank for the sum specified therein as security for compliance with its obligations in accordance with the agreement;

And whereas we, <Name of Bank> a banking company incorporated and having its head /registered office at <Address of Registered Office> and having one of its office at <Address of Local Office> have agreed to give the supplier such a bank guarantee.

Now, therefore, we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of <<Cost of Service>> in (words) and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the agreement and without cavil or argument, any sum or sums within the limits of <<Cost of Service>> (in Words) 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 said debt from the bidder before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the agreement to be performed there under or of any of the agreement documents which may be made between you and the Bidder 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 <<<insert date>>

Notwithstanding anything contrary to any law for the time being in force or banking practice, this guarantee shall not be assignable or transferable by the beneficiary i.e OCAC. Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the Bank.

NOTHWITHSTANDING ANYTHING CONTAINED HEREIN:

i) Our liability under this bank guarantee shall not exceed <<amount>> (Amt. in words).
ii) This bank guarantee shall be valid up to <<insert date>>.
iii) It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this bank guarantee that we receive a valid written claim or demand for payment under this bank guarantee on or before <<insert date>> failing which our liability under the guarantee will automatically cease.

(Authorized Signatory of the Bank)
Seal:
Date:

9.8. Standard Contract Form

The GM(Admin), OCAC (herein after called the "Purchaser") which expression shall unless repugnant to the context thereof include his successors, administrator, heirs, assigns, of the one part, and (name of authorized signatory) of (name of the firm/company) (hereinafter called the "SI") which expression shall unless repugnant to the context thereof include his successors, administrator, heirs, assigns, of the other part……..