

REQUEST FOR QUOTATION (RFQ)

FOR SERVICES

Project Title:	Considerations for a Regional Database of Annotated Images for Artificial Intelligence in Fisheries E-Monitoring
Nature of the services	Technical evaluation of current AI technology in electronic monitoring in Pacific Islands region longline fisheries.
Location:	Global
Date of issue:	1/03/2024
Closing Date:	21/03/2024
SPC Reference:	RFQ24-6214

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Part 1: INTRODUCTION

1.1 About the Pacific Community (SPC)

The Pacific Community (SPC) is the principal scientific and technical organisation of the Pacific region, established by treaty in 1947 with the signing of the *Agreement Establishing the South Pacific Commission* (the Canberra Agreement).

Our unique organisation covers more than 20 sectors and is renowned for knowledge and innovation in such areas as fisheries science, public health surveillance, geoscience and conservation of plant genetic resources for food security.

For more information about SPC and the work that we do, please visit our website: <https://www.spc.int/>.

1.2 SPC's procurement activities

SPC's procurement activities are guided by the principles of high ethical standards, value for money, open competition and social and environmental responsibility and are carried out under our Procurement Policy.

For further information or enquiries about SPC's procurement activities, please visit the procurement pages on our website: <https://www.spc.int/procurement> or email: procurement@spc.int

1.3 SPC's Request for Quotation (RFQ) Process

At SPC, procurement valued at more than EUR 2,000 and less than or equal to EUR 45,000 requires an evaluation of at least three quotations to determine the offer that provides the best value for money through a Request for Quotation (RFQ) process.

This RFQ sets out SPC's requirements for a project and it asks you, as a bidder, to respond in writing in a prescribed format with pricing and other required information.

Your participation confirms your acceptance of SPC's conditions of participation in the RFQ process.

Part 2: INSTRUCTIONS TO BIDDERS

2.1 Background

SPC invites you to submit a quotation to deliver the services as specified in [Part 3](#).

SPC has compiled these instructions to guide prospective bidders and to ensure that all bidders are given equal and fair consideration. Please read the instructions carefully before submitting your bid. For your quotation to be considered, it is important that you provide all the prescribed information by the closing date and in the format specified.

2.2 Submission Instructions

You must **submit your quotation and all supporting documents** in English and as an attachment to an email sent to maloh@spc.int and with the subject line of your email as follows: **Submission RFQ24-6214**. The email should also be copied to rfq@spc.int.

The supporting documents expected in this RFQ are:

- [The Conflict-of-Interest Declaration form](#) completed
- Provide a technical engagement proposal form, CV of staff engaged in the consultancy, cover letter, work-plan on how deliverables will be achieved on time.

Your submission must be clear, concise and complete and should only include a quotation and information that is necessary to respond effectively to this RFQ. Please note that you may be marked down or excluded from the procurement exercise if your submission contains any ambiguities or lacks clarity.

Bids will be evaluated on the basis of information received by **4.00 pm UTC+11hours** on **25/03/2024**.

2.3 Evaluation & Contract Award

Each quotation validly received will be assessed against the evaluation criteria matrix set out in [Part 4](#). Any changes in the evaluation criteria will result in the RFQ process being re-issued.

SPC may award the contract once it has determined that a bidder has met the prescribed requirements and the bidder's proposal has been determined to be substantially responsive to the RFQ documents, provide the best value for money (highest cumulative score) and best serve the interests of SPC.

In the event of a bid being accepted, procurement will take place under SPC's [General Terms and Conditions of Contract](#) and depending on the value or nature of the procurement, the award will be made by issuing a purchase order or a signed and dated contract, or both.

2.4 Key Contacts

Please contact SPC should you have any doubt as to what is required or if we can help answer any questions that you may have.

Malo Hosken will be your primary point of contact for this RFQ and can be contacted at maloh@spc.int. You should copy any communications into rfq@spc.int.

Details will be kept of any communications between SPC and bidders. This assists SPC to ensure transparency of the procurement process. While SPC prefers written communication in the RFQ process, at any point where there is phone call or other conversation, SPC expects to keep a file note of the exchange, with all forms of communication with prospective bidders to be retained as source documents for the procurement of the services.

2.5 Key Dates

Please see the proposed procurement timetable in the table below. This timetable is intended as a guide only and while SPC does not intend to depart from the timetable, it reserves the right to do so at any stage.

STAGE	DATE
RFQ sent to potential vendors	1/03/2024
RFQ Closing Date	25/03/2024
Award of Contract	28/03/2024
Commencement of Contract	28/03/2024
Conclusion of Contract	31/09/2024

2.6 Legal and compliance

Confidentiality: Unless otherwise agreed by SPC in advance or where the contents of the RFQ are already in the public domain when shared with the bidder, bidders shall at all times treat the contents of the RFQ and any related documents as confidential. SPC will also treat the information it receives from the bidders as confidential.

Conflict of interest: Bidders must take all necessary measures to prevent any situation of conflict of interest. You must notify SPC in writing as soon as possible of any situation that could constitute a conflict of interest during the RFQ process. If you have any familial connection with SPC staff, this must be declared, and approval will then be sought for you to engage in the RFQ process. **In support of your response to this RFQ, you must submit to SPC [the Conflict-of-Interest Declaration form](#) available on our procurement page website: <https://spc.int/procurement>.**

Breach of this requirement can result in SPC terminating any contract with a successful bidder.

Currency, validity, duties, taxes: Unless specifically otherwise requested, all proposals should be in EURO and must be net of any direct or indirect taxes and duties, and shall remain valid for 120 days from the closing date. The successful bidder is bound by their proposal for a further 60 days following notification they are the preferred bidder so that the contract may be awarded. No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted at any time during this period.

No offer of contract or invitation to contract: This RFQ is not an offer to contract or an invitation by SPC to enter into a contract with you.

Privacy: The bidder is to comply with the requirements of applicable legislation and regulatory requirements in force for the use of personal data that is disclosed for the purposes of this RFQ. SPC will handle any personal information it receives under the RFQ in line with its [Privacy Policy](#), and the [Guidelines for handling personal information of bidders and grantees](#).

Warranty, representation, assurance, undertaking: The bidder acknowledges and agrees that no person has any authority to give any warranty, representation, assurance or undertaking on behalf of SPC in connection with any contract which may (or may not) follow on from this RFQ process.

2.7 Complaints process

Bidders that consider they were not treated fairly during any SPC procurement process may lodge a protest. The protest should be addressed to complaints@spc.int. The bidder must provide the following information: (1) full contact details; (2) details of the relevant procurement; (3) reasons for the protest, including how the alleged behaviour negatively impacted the bidder; (4) copies of any documents supporting grounds for protest; (5) the relief that is sought.

Part 3: TERMS OF REFERENCE

A. Background/context

Trials of Electronic Monitoring (EM) systems on tuna longline fishing vessels have been conducted in the Pacific Islands Countries and Territories since 2014. EM systems produce EM records, analysed by EM analysts. Analysts manually review footage, identifying catch events and species details. To accelerate this, some EM and ICT service providers and NGOs have developed (at project level) Artificial Intelligence (AI) systems that utilise annotated images databases for automated catch event detection and species identification, helping EM analysts produce more and better-quality EM data. This relatively new advancement in EM offers significant long-term opportunities for regional stakeholders in both the development of the technology and its application.

A key component of a regional EM program could be a regional database of annotated images, which would be hosted and maintained by the Pacific Community (SPC) on behalf of member countries. Annotations would be carried out using cloud-based software by a network of qualified annotators primarily from national fisheries agencies in the Pacific, with support from staff from regional organisations. A key objective of this project is to assess needs for the active participation of PICTs in the development of these new tools in a manner that will offer long term employment opportunities and build local expertise-for PICTs.

Another key objective is to propose governance arrangements for the management of data throughout the data life cycle, development of AI models and use of AI generated products. Consideration should be given to legal and regulatory frameworks, data ownership, intellectual property, licensing and ethical concerns in the development and use of AI models and the data they both utilise and produce.

To ensure opportunities and challenges are thoroughly considered an initial two-step approach is proposed.

- 1. Research and Development

Determine the scope of using annotated images and AI models to analyse EM records. Conduct a comprehensive examination of existing AI and ML databases, tools, and annotation practices.

Investigate what databases of annotated images, AI technology are already in use and what are the best long-term options for PICTs.

- 2. Stakeholder Engagement

Consult and engage with key national and regional fisheries officials, particularly EM practitioners, as a basis for assessing needs and opportunities. The engagement will include a regional workshop to present findings to participants from SPC member countries and territories and regional organisations.

The outcome from this workshop would be to secure regional input regarding the feasibility of such an initiative. The workshop would also provide input to key considerations in the design of a pilot project to fully test the concept.

B. Purpose, objectives, scope of services

This consultancy will deliver primarily on phase 1 of the project (32 days). For phase 2, eight days of consultancy will be attributed to prepare (2 days), facilitate a results and consultative workshop (2 days) and to write up outcomes (1 day). Three days would be attributed to preparing a proposal for a pilot project.

Scope of Work:

The consultant is expected to perform the following tasks:

1. Technology Assessment:

Investigate existing AI and ML systems, databases of annotated images, and annotation tools. What is the scope for using AI in fisheries monitoring? What is it achieving? What are anticipated advancements? What are the roadblocks?

For this work it is expected the consultant team will engage with PICTs, SPC, FFA, PNA, WCPFC and vendors for Electronic Monitoring, annotation software, data warehousing, computer vision, AI and ML products and relevant subject matter experts. A list of primary contacts is provided in the Annex.

Evaluate the integration of these systems with other fisheries monitoring data systems and sources. Identify missing elements in existing solutions and assess their suitability for Pacific Island Countries and Territories. Investigate what existing databases from national observer programs there may be (fisheries observers have taken pictures of specimens and these are available in several databases at SPC) and how the contents could be used for populating the regional database.

Investigate which systems are open source and those that are proprietary and what are advantages and disadvantages of each system in this regard.

Investigate which approach would provide the best long-term benefits (including allowing PICTs to be at the centre of this development for improved fisheries monitoring in the Pacific). Critically evaluate the pros and cons of using existing systems and solutions or if developing a native regional database of annotated images would be more efficient.

The consultant's proposal shall include a detailed stakeholder engagement plan outlining methods for consultation (e.g., surveys, virtual meetings) to accommodate different time zones and technological capabilities.

2. Privacy and Ownership Considerations:

Examine mechanisms to address privacy and ownership matters related to the process of collecting images, annotating them, and applying them to AI and ML technology.

Provide recommendations for safeguarding data and ensuring legal compliance with national and regional legislation.

Examine the current and future legislation matters for using AI systems.

3. Skill Requirements and Capacity Sharing:

In an effort to establish a regional network of skilled and qualified annotators, describe skills required for image annotation in the context of fisheries monitoring.

Identify training and capacity-sharing needs for individuals in Pacific Island Countries and Territories.

Incorporate a preliminary resourcing and capacity assessment to understand training and development needs. Also assess how the role of EM Analysts will be impacted and how it may need to evolve with the uptake of AI and ML tools.

Describe the relationship to the Pacific Islands Regional Fisheries Observer (PIRFO.ORG) program, in particular the standardization of training and assessment and established data quality control processes.

4. Cost-Benefit Analysis:

Broadly assess the cost and benefits of existing solutions and compare against an estimate of long-term costs and benefits (in particular employment generation in PICTs) associated with implementing a regional database of annotated images for use in AI and ML technology.

5. Legal and Privacy Implications:

Investigate the legal and privacy implications of AI and ML technology and provide recommendations for future resources needed to manage this aspect of AI for EM.

6. Consultative Workshop:

Prepare with SPC and FFA and co-facilitate a workshop with delegates from member countries and regional organizations and select technical experts to present the findings and recommendations. Write up the outcomes of this consultation.

7. Pilot Project Planning:

If there is regional support for the initiative, provide an outline of requirements and funding mechanisms for a pilot project.

Deliverables:

The consultant is expected to deliver the following:

- A comprehensive report detailing the findings of the tasks outlined in the scope of work above, with recommendations clearly and succinctly articulated.
- A plan for co-facilitating a consultative workshop.
- A comprehensive plan for a potential pilot project, including budget estimates.

C. Timelines

- The project is funded for 40 working days. With 32 days for information gathering and report writing. Another 8 days for: workshop preparation (2 days), facilitation and outcomes writing (3 days) and planning a pilot project needs (3 days).

D. Reporting and contracting arrangements.

- The consultant team will report to SPC FAME staff Malo Hosken maloh@spc.int and Leontine Baje leontineb@spc.int. Regular briefing meetings will be held to understand the progress of the work.
- The Contractor will be invited to work with SPC and FFA during the preparation of consultative workshop.
- Scheduling of these events will be negotiated in the contract.
- The Contractor's duty station can be anywhere. While no field work is planned, travel is expected to a country in the Pacific to attend the results workshop.
- All information produced by the contractor for this project will be fully owned by SPC.

E. Skills and qualifications

- The successful consultant will demonstrate proven sense of cultural sensitivity and demonstrated engagement, ensuring the project aligns with the social and cultural fabric of the Pacific region.
- The successful consultant will hold tertiary qualifications in a discipline relevant to the scope of work, along with the following relevant experience:
 - Extensive experience with images annotation and Artificial Intelligence systems development.
 - Extensive experience with data systems
- Thorough understanding of fisheries monitoring, in particular e-technologies.
 - Advanced Level (minimum 5 years applied experience)
 - Experience in fisheries monitoring implementation and administration.
 - Experience and knowledge in providing training and capacity sharing.
 - Experience with emerging e-technologies for fisheries monitoring
 - Experience in assessment of needs and competencies.
 - Broad experience and involvement in Pacific national and regional fisheries.
 - Understanding of the precautionary principal, and social and environmental sustainability.
- Strong appreciation of the work of the Pacific Community (SPC), the Western and Central Pacific Fisheries Commission (WCPFC), the Forum Fisheries Agency (FFA), and the Parties to the Nauru Agreement (PNA).

F. Scope of Bid Price and Schedule of Payments

As specified above (2.6), bids must be provided in EUROS. However, SPC and the successful bidder will finalise the terms of the contract, including invoicing currency.

Payment is scheduled in three instalments based on three milestones in services procurement.

SPC is not able to support travel planned by the contractor to meet with any stakeholders. However, shall the consultant be in countries where stakeholders are present, face to face consultations can happen.

SPC will support the consultant (1 person) to travel (economy) to where the results presentation workshop will be held (potentially NZ) and will consider providing per diems for up to a maximum of 2 or 3 days depending on budgeting. These details can be negotiated in the contract.

Milestone/deliverables	Deadline	% payment
A comprehensive report detailing the findings of the tasks outlined in the scope of work.	31/05/24	20
A plan for co-facilitating a results and consultative workshop.	14/06/24	40
A comprehensive report on workshop outcomes and identified pathways for further work (potential pilot project outline).	10/08/24	40
TOTAL		

G. Annexes to the Terms of Reference

This webpage list the regional work done to date with regards to EM process standards. <https://oceanfish.spc.int/en/meetingsworkshops/dcc/514-dcc-e-monitoring-standards>

Refer to the link to the FFA EM LL Policy. In the SPPs, under SSP2b, point b, notes “EM Analysts will analyse EM Records in accordance with the regional Longline EM Minimum Data Field Standards, Instructions and Protocols”.

Whilst there has yet to be an adoption on this Data Field standards, the interim is this one <https://pacificcommunity.github.io/tufman2-json-standard/longline-EM/>

The online regional fisheries database TUFMAN2 is hosted and maintained by SPC on behalf of member countries. TUFMAN2 can integrate EM data using this JSON formatted standard.

The following sections lists names of entities that the contractor may consider contacting. This is a non-guiding and non-exhaustive reference list.

Pacific Islands Countries and Territories: Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna.

Regional organisations:

The Pacific Community (SPC)

The Pacific Islands Fisheries Forum Agency (FFA)

The Parties to the Nauru Agreement (PNA)

The Western and Central Pacific Fisheries Commission (WCPFC)

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Countries with existing EM programs:

Australia

New Zealand

China

Chinese Taipei

Federated States of Micronesia

Republic of Fiji

Republic of the Marshal Islands

Republic of Vanuatu

EM SERVICES PROVIDERS

Archipelago Marine Research, LTD

Integrated Monitoring

Saltwater inc.

Satlink

TeemFish

COMPUTER VISION PROVIDERS/PRACTIONERS/RESEARCHERS

Ai.Fish

CVision AI

Kitware

Lynker Analytics

National Taiwan Ocean University
OnDeck Fisheries AI
productOps
Wageningen University & Research
The Nature Conservancy (fishnet.ai)

CLOUD COMPUTING PROVIDERS

Amazon Web Services
Dropbox
Google Drive
IceDrive
IDrive
Microsoft OneDrive
pCloud
Sync.com

ANNOTATION PLATFORMS

CVAT
Dataloop
Hive Data
Img Lab
Labelimg
Labelbox
LabelMe
Playment
Scale AI
SuperAnnotate
Supervise.ly
VoTT

Part 4: PROPOSAL EVALUATION MATRIX

4.1 Competency Requirements & Score Weight

The evaluation matrix below reflects the obtainable score specified for each evaluation criterion (technical requirement) which indicates the relative significance or weight of the items in the overall evaluation process.

Evaluation criteria	Score Weight (%)	Points obtainable
Mandatory requirements		
Registration and Financial Standing - Proof of registration Qualifications and Experience: - Minimum years of relevant experience - Past successful projects in a similar domain		Mandatory requirements. Bidders will be disqualified if any of the requirements are not met
Technical requirements		
Technical Expertise and Methodology <ul style="list-style-type: none"> ○ Experience with data systems, cloud computing, system architecture, image annotation and AI/ML development (Expert Level: minimum 7 years). ○ Understanding of fisheries monitoring, e-technologies, and data systems in the Pacific region. ○ Familiarity with relevant organizations like SPC, FFA, WCPFC, and PNA. ○ Proposed methodology for each task, including timeline, deliverables, and resource efficiency. ○ Plan for stakeholder engagement and communication throughout the project ○ Experience managing similar projects 	40%	280
Collaboration and Capacity Sharing <ul style="list-style-type: none"> ○ Strategies for engaging with diverse stakeholders, including Pacific Island communities and organizations. ○ Commitment to building local capacity in AI, image annotation, and fisheries monitoring through training and knowledge sharing initiatives. ○ Alignment with Pacific priorities, such as promoting regional ownership, data sovereignty, and equitable access to technology. ○ Plan for ensuring project alignment with the social and cultural fabric of the Pacific region. 	30%	210
Innovation and Adaptability	30%	210

<ul style="list-style-type: none"> ○ Proposed use of emerging AI/ML tools and approaches relevant to fisheries monitoring. ○ Ability to adapt to unexpected challenges or changing project requirements while staying within scope and budget. ○ Potential for future applications of the project's outcomes beyond the immediate scope of work. ○ Demonstrated commitment to continuous learning and improvement. 		
Total technical score	100%	700
<i>(Minimum qualifying score)</i>		<i>(490)</i>
Financial proposal		300
Total score		1000