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Proposal for the SIOFA Vessel Monitoring System (VMS) Pilot Phase

SIOFA Secretariat

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Abstract
Following the endorsement of the 13th Meeting of the Parties to SIOFA (MoP13) to undertake a pilot phase for the SIOFA VMS prior to its entry into operation, this proposal outlines the objectives, scope, and practical arrangements for its implementation. The pilot phase is intended to test the technical and procedural aspects of the system, ensure compatibility with current CMMs and policies, ensure CCPs' and the Secretariat's capacity to transmit and receive VMS position reports, respectively, and provide an opportunity to refine operational modalities for the receipt and processing of VMS position reports. It will also allow for the identification and resolution of operational challenges. The outcomes of the pilot ensure that the system is fit for purpose before its full entry into operation.

Recommendations (for proposals and working papers only)
• Review and endorse the proposal for the SIOFA VMS Pilot Phase

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Proposal for the SIOFA Vessel Monitoring System (VMS) Pilot Phase

1. Objectives of the Pilot Phase

The pilot phase of the SIOFA VMS aims to ensure CCPs and Secretariat readiness for the entry into operation of the SIOFA VMS, in particular as regards the transmission (CCPs) and receipt (Secretariat) of VMS position reports. In line with this aim, the objectives of the pilot phase are as follows:

1. Commissioning and post-deployment testing of the SIOFA VMS
2. Facilitate CCPs' initial setup and successful transmission of VMS position reports to the SIOFA VMS
3. Verify compatibility of the various data formats expected by the SIOFA VMS, particularly for CCPs transmitting position reports pursuant to paragraph 6(b) of CMM 16 (2023) on Vessel Monitoring System (i.e. simultaneously by the vessel to its FMC and the Secretariat)
4. Identify any additional infrastructure requirements
5. Develop the Secretariat's technical and operational capacity to receive, manage, and analyze VMS position reports effectively
6. Develop the Secretariat's capacity to provide technical support to CCPs when the SIOFA VMS becomes fully operational
7. Identify and address any unforeseen technical, confidentiality, security, or policy risks prior to the entry into operation of the SIOFA VMS

2. Scope and duration of the Pilot Phase

The pilot phase will run for a period of six (6) months, followed by reporting to CC10 and MoP13. The scope of the pilot phase will align with the scope as defined by paragraph 3 of CMM 16 (2023) on Vessel Monitoring System.[1]

Participation of CCPs in the pilot phase is essential as it will ensure that individual CCPs are ready for the entry into operation of the SIOFA VMS, and that both of the reporting modalities specified in paragraph 6 of CMM 16 (2023) are effectively tested.

Nevertheless, to minimize the burden of the pilot phase, CCPs may opt to include their entire fleet, or only a portion thereof, noting that once the SIOFA VMS enters into operation CCPs will have to ensure that all vessels flying their flag that are within the scope of paragraph 3 of CMM 16 (2023) must report VMS position reports automatically while they are operating in the Agreement to the Secretariat via their FMC or simultaneous to both their FMC and the Secretariat.

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[1] "The SIOFA VMS shall apply to all fishing vessels flying the flag of a Contracting Party, cooperating non-Contracting Party or participating fishing entity (CCP) that are entered onto the SIOFA Record of Authorised Vessels and operating in the Agreement Area, as defined in Article 3 of the Agreement."

3. Activities and Outputs

Table 1: Pilot Phase Activities and Expected Outputs for the SIOFA VMS

Objectives	Activity(ies)	Expected Outputs
Commissioning and post-deployment testing of the SIOFA VMS	• Finalize system configuration and deployment; • Conduct functionality tests against the agreed technical specifications; • Document system performance and error logs and report to the service provider, with the aim of resolving them in accordance with agreed service delivery terms	• SIOFA VMS platform fully deployed and operating up to agreed specifications; • System test reports and issue tracking logs;
Facilitate CCPs' initial setup and successful transmission of VMS position reports to the SIOFA VMS	• Provide data submission guidelines (with the technical support of the service provider); • Test real-time and batch position reports submissions from CCPs	• Successful VMS position reports received from pilot CCPs under the various expected scenarios
Verify compatibility of the various data formats expected by the SIOFA VMS, particularly for CCPs transmitting data pursuant to paragraph 6(b) of CMM 16 (2023) on Vessel Monitoring System	• Comprehensive review of the processing capacity of the VMS system against VMS position reports received from CCPs	• List of format-specific issues, if any, resolved
Identify any additional infrastructure requirements	• Identify needs related to analytics, redundancy, confidentiality and security; • Draft procurement or upgrade plan, with estimated costs for approval by MoP13	• Infrastructure needs included in the end-of-pilot evaluation report. • Additional costs, if any, are included in the draft 2027 budget

Objectives	Activity(ies)	Expected Outputs
Develop the Secretariat's technical and operational capacity to receive, manage, and analyze VMS position reports effectively	• Train Secretariat staff on the use of the VMS interface; • Develop Standard Operating Procedures (SOPs) for position reports processing	• Secretariat staff trained • SOPs developed and validated
Develop the Secretariat's capacity to provide technical support to CCPs when the SIOFA VMS becomes fully operational	• Train Secretariat staff on the • Develop SOPs for technical assistance and incident response	• Secretariat staff trained • SOPs developed and validated
Identify and address any unforeseen technical, confidentiality, security, or policy risks prior to the entry into operation of the SIOFA VMS	• Monitor and record issues during the VMS pilot phase • Develop and compile recommendations based on observed issues	• Observation log capturing technical, confidentiality, security, and policy issues encountered during the pilot. • Formal risk report summarizing observed issues and proposed mitigation measures

4. Methodology

The pilot phase will be implemented in a staged approach to ensure systematic testing, troubleshooting and readiness assessment before the SIOFA VMS enters into operation.

Stage 1 – Preparation and Setup

- Implement necessary internal infrastructure modifications in anticipation of the acquisition of the SIOFA VMS
- Complete Secretariat system acquisition and configuration in collaboration with the selected service provider.
- Conduct Secretariat trainings and relevant capacity building
- Confirm participation of CCPs and their selected vessels
- Provide CCPs with technical guidelines and configuration instructions for position report submission.

Stage 2 – Connectivity and Format Verification

- CCPs transmit initial test position reports (both real-time and batch submissions) to verify connectivity.
- Secretariat reviews incoming reports for compliance with required data formats and reporting standards
- Identify and resolve formatting or transmission errors in coordination with CCPs and the service provider.

Stage 3 – Live Position Report Transmission Trials

- Selected vessels transmit operational position reports over an agreed period to be determined by the VMS WG.
- Secretariat verifies completeness, timeliness, and accuracy of received position reports.
- Performance metrics (e.g., delivery time, success rate) documented for each CCP.
- Conduct security and confidentiality checks in line with agreed policies.

Stage 4 – Feedback

- Collect feedback from CCPs on their experience and challenges during the pilot.
- Conduct final Secretariat staff training and finalize Standard Operating Procedures (SOPs) for position report management and technical support.

Stage 5 – Review and Reporting

- Secretariat prepares a consolidated pilot report, including technical performance results, identified risks, and any additional infrastructure or procedural requirements.
- End-of-pilot report submitted to the VMS WG for review, with recommendations for adjustments before the operational launch, to be reviewed by CC10 and approved by the MoP13.

Table 2: Proposed Timelines for the Pilot Phase of the SIOFA VMS

Stage	TaskID	Task	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26
Stage 1 – Preparation and Setup	1	Infrastructure modifications	█	█	█					
	2	System acquisition & config	█	█						
	3	Secretariat training				█	█			
	4	Confirm CCP participation		█	█	█				
	5	Provide guidelines to CCPs			█	█	█			
Stage 2 – Connectivity & Format Verification	6	CCPs transmit initial test data					█			
	7	Secretariat reviews reports					█			
	8	Resolve formatting/transmission errors.						█	█	█
Stage 3 – Live Position Reports Transmission Trials	9	Selected vessels transmit data						█	█	
	10	Verify completeness & accuracy.						█	█	
	11	Document performance metrics						█	█	
	12	Security & confidentiality checks						█	█	
Stage 4 – Feedback	13	Collect feedback from CCPs							█	
	14	Final Secretariat training & SOPs							█	
Stage 5 – Review & Reporting	15	Prepare consolidated end-of-pilot report							█	
	16	Submit report to WG and MoP.								█

5. Roles and Coordination

The SIOFA Secretariat will be the lead implementor of the project, with the support of the selected Service provider and the participation of CCPs. The VMS WG will have oversight responsibility for the implementation of the project.

Within the Secretariat, the Compliance Officer will be the project manager for the pilot phase, supported by the Data Officer. He will have the responsibility for:

- Implementing the activities foreseen by this project proposal
- Informing the Executive Secretary of any administrative and budgetary matters that relate to the implementation of the project, and that may impact the outcome of the project
- Being the lead contact point between the Service Provider and the Secretariat. And
- Providing periodic updates on the progress of the pilot phase to the VMS WG, including via the WG Chair.

The Data Officer will support the Compliance Officer with matters relating to data management and IT support throughout the process.

CCPs shall be responsible for the transmission of position reports from their FMC and/or vessels to the SIOFA VMS, including the necessary configurations required for their national VMS and/or ALCs deployed on vessels flying their flag. For this purpose, the Secretariat shall contact the VMS Point of Contact designated by the CCP pursuant to paragraph 11 of CMM 16 (2023).

The pilot phase of the VMS is not expected to incur any resource or financial requirements beyond those already covered by the grant supporting the establishment of the SIOFA VMS and the 2026 budget approved by MoP12.

6. Risk Management

This risk management aims to identify potential challenges that could hinder the successful implementation of the pilot phase of the SIOFA VMS and to propose mitigation measures that reduce their likelihood or impact. Risks have been assessed in terms of probability and potential consequences for project objectives, timelines, and resources. The key risk categories are *Technical risks, Operational risks* and *Institutional risks*.

Mitigation measures have been developed for each identified risk, prioritising proactive actions to prevent risks from occurring and contingency plans to address them if they arise. The Secretariat is responsible for monitoring risk trends and escalating critical issues to the SIOFA Working Group and Meeting of Parties as appropriate.

This systematic approach will ensure that the VMS pilot phase remains on track, with identified risks addressed in a timely and coordinated manner, thereby increasing the likelihood of a smooth transition to full operational deployment.

The risks below are ranked from high to low, based on a risk matrix combining likelihood (probability) and potential impact. This approach will allow the Secretariat to prioritize resources and attention on the most critical risks that could affect the successful implementation of the pilot phase of the SIOFA VMS, while ensuring that contingency measures are in place for lower-priority risks. By systematically assessing both the probability of occurrence and the severity of consequences, the Secretariat can focus on proactive mitigation and timely response, thereby increasing the likelihood of a smooth transition to full operational deployment.

Table 2: Identified Risks, Probability, Impact, Risk Priority, and Mitigation Measures for the SIOFA VMS Pilot Phase

Risk	Probability	Impact	Risk Priority	Mitigation
Technical incompatibilities between SIOFA VMS and CCP systems	Medium	High	High	Conduct compatibility checks during the pilot phase, and provide technical support to CCPs
Pilot phase incurs delays.	Medium	Low	Medium–High	Plan project timeline carefully, monitor progress regularly, and solicit MoP13 approval for delayed entry into operation if needed.
Policy misalignment (CMM, Confidentiality, and Security)	Low	Medium-High	Medium–High	Continuous review of CMMs, if necessary, identify any modifications required and flag them to propose changes to MoP13 in line with the ROP, and ensure the draft ISSP aligns with the VMS.
Limited participation in the voluntary pilot phase.	Medium	Medium	Medium	Engage CCPs early, provide clear guidance and benefits of participation, and offer technical support where possible.
Change of personnel at the Secretariat or position reclassification and restructuring during the pilot phase	Low	Medium	Low-Medium	Maintain detailed documentation and handover notes, and ensure cross-training of staff.

7. Monitoring and Evaluation

The purpose of the Monitoring and Evaluation (M&E) process is to provide a systematic and evidence-based approach to track the progress of the pilot phase of the VMS, assess whether its stated objectives are being achieved, assess performance against predefined output indicators, and identify areas for improvement. This will ensure that lessons learned during the pilot phase are applied to optimize the system's effectiveness, functionality, and readiness prior to the entry into operation of the SIOFA VMS. The M&E Report will provide the SIOFA VMS WG and the Meeting of Parties with an evidence-based assessment of the SIOFA VMS's readiness prior to its entry into operation. It will be included as part of the end-of-pilot evaluation report.

Progress reporting will be conducted systematically to the VMS WG through its Chair. The Secretariat will provide periodic updates to the VMS WG Chair, with the frequency and format to be agreed upon between the Secretariat and the Chair. These updates will detail performance against objectives, highlight significant findings, and offer targeted recommendations. Upon conclusion of the pilot phase, an end-of-pilot evaluation report will be submitted, presenting an overall assessment of the system's readiness for full deployment, documenting lessons learned, and proposing an improvement plan to address any identified gaps.

Data Collection Methods

Data for the M&E will be gathered through a combination of automated and manual processes. The VMS platform will generate system logs automatically, providing continuous technical performance data. Structured test scenarios will produce formal test reports, ensuring that the system is assessed under controlled conditions. Feedback from CCPs and the Secretariat will also be collected, enabling qualitative input on user experience. In addition, a simple incident tracking spreadsheet will be maintained to log issues, resolutions, and response times throughout the pilot phase.

Evaluation Criteria

The pilot phase will be assessed against the following evaluation criteria:

- **Effectiveness** – the extent to which the pilot achieved its stated objectives.
- **Efficiency** – whether activities were delivered on schedule and within the allocated resources.
- **Sustainability** – the readiness of the system for ongoing operation and long-term support.
- **Scalability** – the feasibility of expanding the pilot to full-scale deployment across all CCPs, therefore allowing the entry into operation of the SIOFA VMS.

Table 3:M&E Framework Table

Objective	Output	Indicators	Means of Verification	Responsible
Commissioning and post-deployment testing of the SIOFA VMS System	• SIOFA VMS platform fully deployed and operating up to agreed specifications; • System test reports and issue tracking logs;	• Percentage of VMS system functions tested and verified as operational	• Acceptance Certificate or similar document	• SIOFA Secretariat • VMS Service Provider
Facilitate CCPs' initial setup and successful transmission of VMS position reports to the SIOFA VMS	• Successful VMS position reports received from pilot CCPs under the various expected scenarios	• Percentage of VMS position reports received successfully across all expected scenarios	• Technical test results	• SIOFA Secretariat • VMS Service Provider • CCPs
Verify compatibility of the various data formats expected by the SIOFA VMS, particularly for CCPs transmitting data pursuant to paragraph 6(b) of CMM 16 (2023) on Vessel Monitoring System	• List of format-specific issues, if any, resolved	• Number of format-specific data issues identified versus number resolved within pilot timeline	• Technical test results	• SIOFA Secretariat • VMS Service Provider • CCPs
Identify any additional Infrastructure requirements	• Infrastructure needs included in the end-of-pilot evaluation report. • Additional costs, if any, are included in the draft 2027 budget	• Documented infrastructure requirements and recommendations in the End of pilot evaluation report (Yes/No) • Number and estimated value of additional cost items incorporated into the draft 2027 budget	• End of pilot evaluation report • Draft 2027 budget document with line items clearly indicating additional costs related to the project	• SIOFA Secretariat • VMS Service Provider

Objective	Output	Indicators	Means of Verification	Responsible
Develop the Secretariat's technical and operational capacity to receive, manage, and analyze VMS position reports effectively	• Secretariat staff trained • SOPs developed	• Number of Secretariat staff trained • Standard Operating Procedures finalized	• Mission report/ Training Certificates • Finalized SoPs	• SIOFA Secretariat • VMS Service Provider
Develop the Secretariat's capacity to provide technical support to CCPs when the SIOFA VMS becomes fully operational	• Secretariat staff trained • SOPs developed	• Number of Secretariat staff trained • Standard Operating Procedures finalized	• Mission report/ Training Certificates • Finalized SoPs	• SIOFA Secretariat • VMS Service Provider
Identify and address any unforeseen technical, confidentiality, security, or policy risks prior to the entry into operation of the SIOFA VMS	• Observation log capturing technical, confidentiality, security, and policy issues encountered during the pilot. • Formal risk report summarizing observed issues and proposed mitigation measures	• Observation log completed • Risk report finalized and included in the end of pilot evaluation report	• End of pilot evaluation report	• SIOFA Secretariat

8. Conclusion

The pilot phase of the SIOFA VMS will ensure that both the Secretariat and participating CCPs are fully prepared for the system's entry into operation. Through systematic testing, monitoring, and evaluation, the pilot will verify technical functionality, data compatibility, and operational readiness while identifying and addressing any unforeseen technical, security, confidentiality, or policy issues. Regular reporting will ensure that lessons learned during the pilot phase inform the final operational procedures and support long-term sustainability.

The pilot phase will provide a controlled environment to validate system performance, strengthen institutional capacity, and ensure that the SIOFA VMS can be deployed reliably and efficiently. The findings and recommendations from this phase will form the basis for a smooth and fully informed transition to full operational deployment, enhancing compliance monitoring and contributing to the sustainable management of fisheries under SIOFA.