
13TH MEETING OF THE SPRFMO SCIENTIFIC COMMITTEE

Wellington, New Zealand, 8 to 13 September 2025

SC 13 – Inf 01

API-first Electronic Monitoring Data Reporting and Ingestion: Information paper on cost containment and implementation approach

Secretariat

The SC is invited to:

- *Note that an Application Programming Interface (API)-first approach would reduce Secretariat costs by minimising its manual intake and validation work.*
- *Note that the Secretariat would ingest Electronic Monitoring (EM) data routinely; EM Records (video) would remain with Members and CNCPs/EM Providers and would be supplied only on request for audits or investigations.*
- *Note that early automated validation at the API layer improves data quality and timeliness, lowering downstream rework.*
- *Note that a staged approach to building an API would keep initial investment low and scales only when policy requires*
- *Provide views and any guidance on these matters*

1. Introduction

This paper responds to a request from the co-chair of the Working Group on Electronic Monitoring Standards (WGEMS) on the Secretariat taking an Application Programming Interface (API)-first approach for EM data reporting and ingestion. The approach focuses the Secretariat on receiving structured EM Data (not routine video), validating it automatically, and publishing authorised outputs. This would address Secretariat cost drivers highlighted by the Secretariat-commissioned desk study, *SPRFMO Electronic Monitoring: Best Practice and Cost Drivers*, with particular reference to Section 3 (“Resourcing Implications for SPRFMO”): reducing manual handling effort and avoiding default custody of high-volume video. Indicative modelling shows the potential to make meaningful reductions in Secretariat operating hours under moderate to high API adoption (see Table 1).

2. Purpose and Scope

The purpose of this paper is to set out the Secretariat’s implementation approach and the cost-containment opportunity from adopting API-based reporting early in the EM programme. The paper is informative and non-prescriptive; it is intended to guide the WGEMS as programme design progresses.

3. Indicative cost impact for the Secretariat

Desk study context (indicative): implementation effort ≈ 4,720 hours; ongoing Secretariat operations ≈ 1,520 hours/year. Under an API-first model, most savings arise from reduced manual receipt/validation/dissemination and from not routinely transferring or storing video. Table 1 illustrates Secretariat operating-hour impacts under different API adoption scenarios (assumptions: 55% of operating time is manual handling; APIs cut that portion by ~70% for adopters).

**Table 1.** Indicative Secretariat operating-hour impacts under different API adoption scenarios.

API Adoption Scenario	Hours Saved / Year	FTE ¹ saved / Year	Residual Sec Ops Hours / Year	FTE saved / Year
Baseline: 0% Members/Providers using API	0	0	1,520	0.87
50% Members/Providers using API	293	0.17	1,227	0.64
75% Members/Providers using API	439	0.25	1,081	0.62
100% Members/Providers using API	585	0.33	935	0.53

Notes: Calculations assume 55% of operating time is manual receipt/validation/dissemination and that APIs reduce that portion by ~70% for adopters. Actual outcomes will vary by Member readiness, provider capability, and data volumes.

Implementation effort and costs can also be reduced through a staged build (e.g., prioritising core EM Data ingestion and validation first), which the Secretariat estimates could lower initial build/testing hours by approximately 20–30% compared with an all-at-once approach. These figures are indicative and would be refined during pilots.

4. Operating model (Secretariat scope)

- Submission: Members/EM Providers submit EM Data (JSON) via secure APIs aligned to agreed EM Data Standards; acknowledgements and validation feedback are automated.
- Validation: Schema and business-rule checks at the API boundary; referential integrity to existing registers; full audit logging.
- Storage and analytics: Store EM Data and produce authorised aggregate outputs and dashboards.
- EM Records (video): Not routinely held by the Secretariat; requested case-by-case for audits/investigations to avoid unnecessary and high transfer and storage costs.
- Dissemination: Where authorised, provide API-based access to aggregates and extracts to reduce repeat manual processing.

5. Transitional arrangements

- File-to-API gateway to accept Excel/CSV uploads that are transformed and validated through the same API pipeline.
- Implementation support: testing, sample payloads, and guidance for Members/Providers.
- Phased onboarding: prioritise early adopters; expand progressively as readiness improves.

6. Conclusion

Adopting API-based EM reporting and ingestion early offers a practical pathway to contain Secretariat costs while improving data quality and timeliness. The Secretariat is already in the process of implementing an API-based approach with the Transhipments module which aims to address the ever high-velocity data ingestion challenges. This offers a window of opportunity to extend the technology to EM hence leveraging the experience across systems.

¹ FTE per year approximated as: 2080 – (6 weeks annual leave – 11 NZ public holidays)