Ocean Outcomes × NKUST

EXECUTIVE SUMMARY

Electronic Monitoring (EM) Observer Training Workshop Series

Satlink Horus • IM Monitor • ZuniREM

March – April 2026 | National Kaohsiung University of Science and Technology (NKUST)

	Satlink Horus	IM Monitor	ZuniREM (Zunibal)
Dates	March 7–8, 2026	April 18–19, 2026	April 25–26, 2026
Vendor	Satlink (Spain)	Integrated Monitoring (U.S.A.)	Zunibal (Spain)
Delivery	Hybrid (Zoom + In-person)	Hybrid (Google Meet + In-person)	Hybrid (Google Meet + In-person)

1. Introduction

Between March and April 2026, Ocean Outcomes and the Department of Fisheries Technology and Management at National Kaohsiung University of Science and Technology (NKUST) co-organized a series of three Electronic Monitoring (EM) training workshops. Each workshop introduced participants to a different EM platform deployed across the Taiwan-based distant-water longline fishing fleet, with training led by the respective technology vendors. The workshops collectively aimed to build a qualified, multi-system EM reviewer community capable of conducting accurate and efficient fisheries monitoring data review across multiple vessel programs.

All three workshops were held at NKUST in Kaohsiung and followed a hybrid delivery model, combining remote presentations for local online participants by vendor specialists with in-person hands-on practice sessions. Participants came from a broad cross-section of stakeholders including government agencies, academic institutions, fishing companies, and research centers.

2. Workshop Series Overview

Workshop 1 — Satlink Horus (March 7–8, 2026)

The first workshop introduced participants to the Satlink Horus platform, a cloud-based Remote Electronic Monitoring (REM) system deployed aboard two longline vessels, both assigned to project P0119 CH02. Training was led by Satlink's technical team from Spain and covered the full observer review workflow, including the Horus Dashboard for vessel status monitoring, the fishing trip analysis list, Fishing Profile (FP) shortcut configuration for event annotation, the integrated analysis interface combining video footage, GPS track, and speed data graphs, variable-speed video playback controls, and the video request system for retrieving historical onboard footage. Participants gained competency in all functions required to independently conduct EM data review for the two target vessels.

Figure 1 — Group practice session with participants working on individual laptops while Satlink trainers provide guidance.

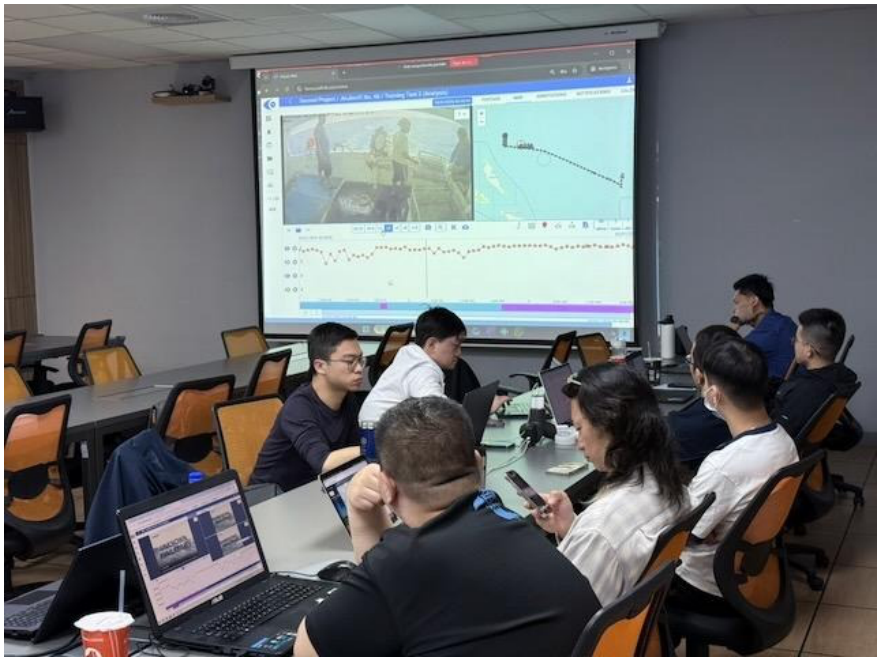

Figure 2 — Group training session with the Satlink Horus analysis interface projected on screen for collaborative review.

Workshop 2 — IM Monitor (April 18–19, 2026)

The second workshop introduced the Integrated Monitoring (IM) Monitor web-based platform, deployed large scale LL fishing vessel. Building on a foundational IM training conducted in 2025, this session adopted a distinctive peer-led instructional model: experienced NKUST student reviewers who had previously conducted EM data review delivered Chinese-language guidance to newer participants alongside the IM technical team. The peer-instruction format improved accessibility and knowledge transfer across the reviewer community.

Figure 3 — Participants during the opening training session, with experienced reviewers and new observers engaged in discussion.

Figure 4 — The IM Monitor web interface showing multi-camera footage from participating, with the trip timeline and Setting event annotation panel visible.

Workshop 3 — ZuniREM (April 25–26, 2026)

The third workshop introduced Zunibal's ZuniREM platform, deployed aboard large scale LL fishing vessel. Zunibal's training team delivered the two-day curriculum remotely via Google Meet while participants attended in person at NKUST. Day 1 focused on system fundamentals, covering software installation, the working environment interface (Timeline, Video window, Map window, Annotations panel), project management (importing encrypted files, multi-drive consolidation), and visualization tools (speed timelines, GPS map navigation, keyboard shortcuts). Day 2 advanced to annotation and data intelligence, including the hierarchical annotation system for longliner operations (trips/Maraes, sets/Lances, catch and bycatch events), multimedia extraction, the measurement tool for camera calibration and direct footage measurements, Excel-based regulatory data export, and an introduction to Zunibal's AI-assisted species identification capabilities.

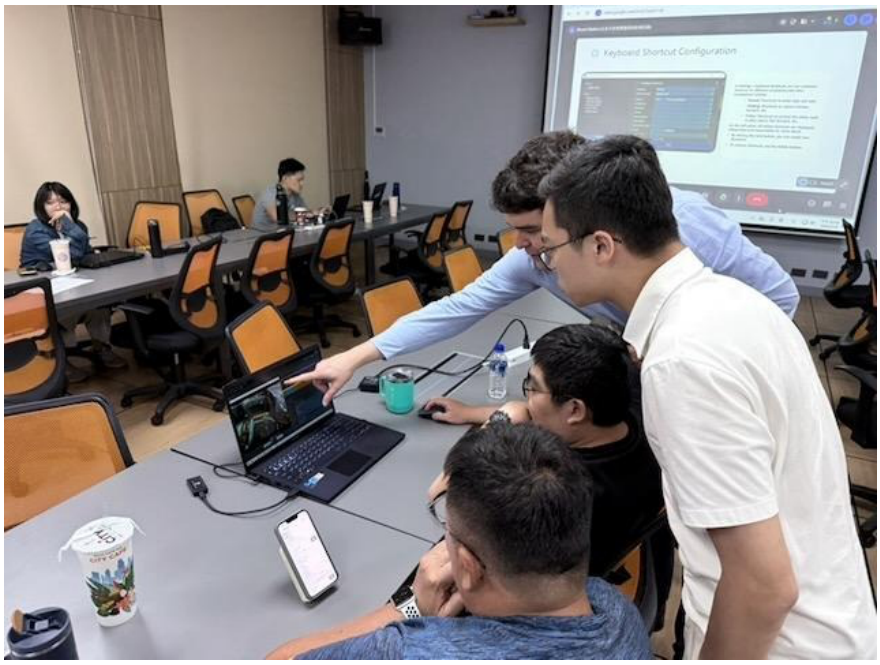

Figure 5 — Zunibal trainer's one on one session with observers.

Figure 6 — A Zunibal trainer working directly with participants on annotation configuration, demonstrating the platform on a participant's laptop.

3. Cross-Cutting Themes

Across all three workshops, several themes emerged that reflect the current state and direction of EM capacity building in Taiwan's distant-water fishing sector:

- AI integration as a growing capability: ZuniREM platforms incorporate AI-assisted species identification, representing a significant shift toward automated review support that can reduce reviewer workload and improve data accuracy over time.
- Diverse multi-stakeholder participation: Across the three workshops, participants were drawn from government agencies (Fisheries Agency, Coast Guard Administration), academic institutions (NKUST, National Taiwan Ocean University, National Cheng Kung University, Fu Jen Catholic University), fishing companies (Lung Soon Fishery, Fong Chun Formosa Fishery), conservation organizations, and research centers — reflecting broad sector-wide engagement with EM programs.
- Peer-led knowledge transfer: The IM workshop's use of experienced NKUST student reviewers as peer instructors proved an effective model for scaling EM training within the existing reviewer community, and may serve as a template for future onboarding as the program grows.
- Regulatory alignment: Training across all three platforms addressed data standards and interoperability requirements relevant to international fisheries management bodies including WCPFC and SPC, ensuring that EM data collected will meet reporting obligations.

4. Conclusion & Next Steps

The three-workshop series represents a significant step forward in building Taiwan's EM reviewer capacity across multiple vessel programs and technology platforms. By training observers on Satlink Horus, IM Monitor, and ZuniREM within a single season, Ocean Outcomes and NKUST have established a diverse and capable cohort of reviewers ready to support active EM programs on participated fishing vessels to increase their observer coverage.

Going forward, Ocean Outcomes and NKUST will coordinate ongoing technical support with each vendor to address operational questions arising during active review. The peer-instruction model developed for the IM workshop, and the hybrid delivery format used across all three sessions, provide scalable frameworks for future EM training as additional vessels and platforms are brought into the monitoring program.