IMEMS
National VMS System for The Philippines

May 2019

Bureau of Fisheries and Aquatic Resources

STRATEGIC PLAN – The blue-print

Fisheries and aquatic monitoring, management and control is an established and important objective for the government of The Philippines

➢ Critical source of economic benefit for the country: food source, produce exports, tourism, foreign currency and employment.

➢ Our strategy is to use technology to **actively** monitor the marine environment and ensure its long term sustainable and legal use.

➢ Within the next 5 to 10 years most motorised Philippine fishing and commercial vessels will be electronically tracked, monitored and managed.

STRATEGIC PLAN – Key Objectives

**The effective monitoring and control of the national fisheries and the marine environment.**

- ➢ Track and identify all vessels – from oceanic to municipal and artisanal
- ➢ Monitor vessel ownership, operators, crew
- ➢ Monitor vessel activities, status, fish catches & landings
- ➢ Automated detection and enforcement of illegal activities
- ➢ Monitor, model and understand aquatic environment dynamics
- ➢ Effective policy & regulation development and enforcement
- ➢ Compliance with all international, regional and local regulations now and in the future

STRATEGIC PLAN – Status

- ✓ System is in progress to be built – expected completion and activation is Q2 2020

- ✓ First regional Control Centre (RCC) is already installed and operational

- ✓ State of the art systems and functionality will empower exceptional fisheries monitoring, insight and control.

- ✓ System is designed to continue to grow to cover all Philippine fishing vessels.

IMEMS System Architecture

IMEMS SYSTEM
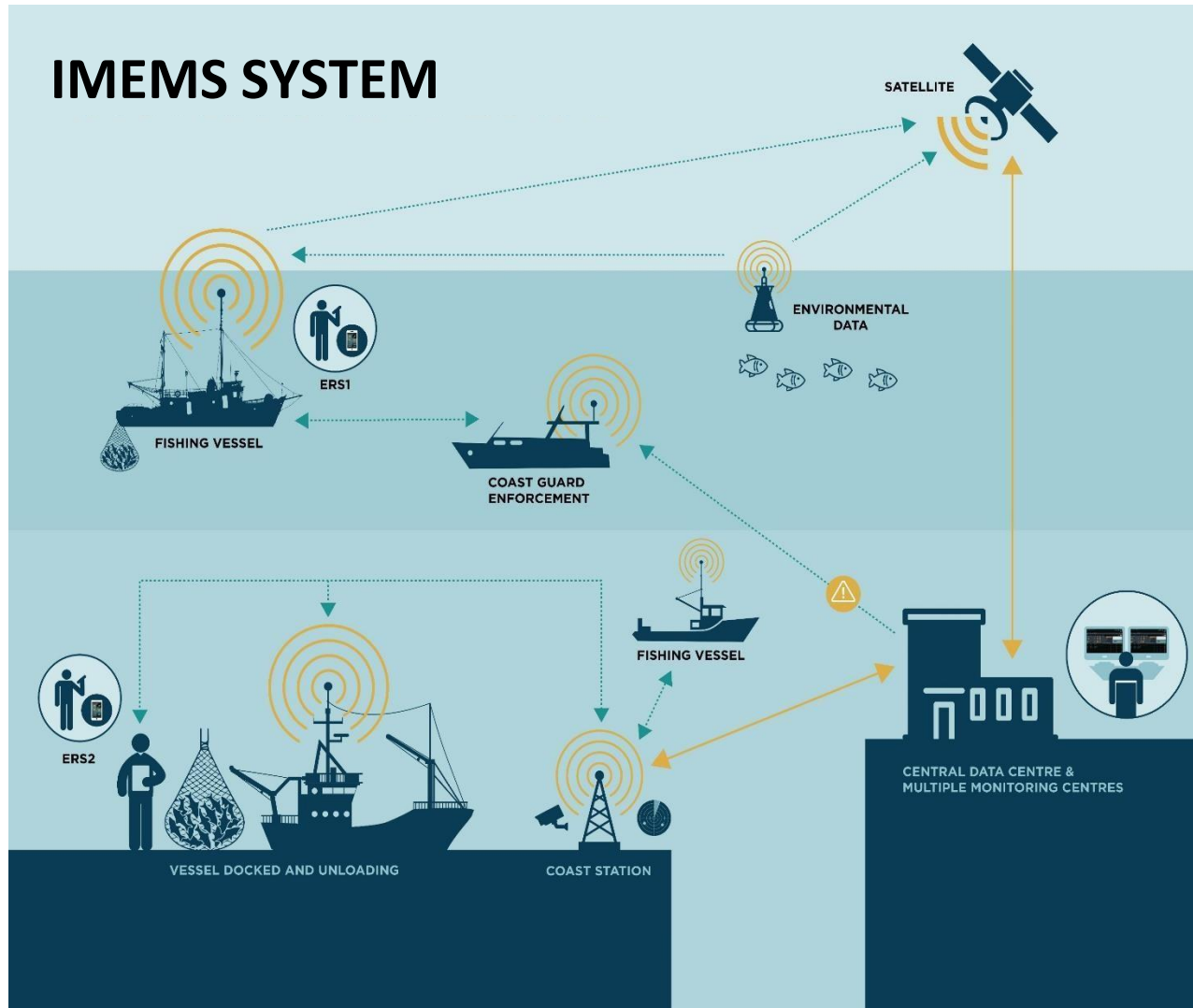
- ✓ Vessel transceivers transmit encrypted status reports.

- ✓ Multiple ERS devices allow effective and detailed catch reporting.

- ✓ Multiple satellite and terrestrial systems stream data into the monitoring system

- ✓ Central data centre aggregates and accumulates all data sources into a single operating data set

- ✓ Multiple operators access and use the system capabilities and data using a suite of powerful specialist tools

IMEMS Key Functionality

IMEMS SYSTEM
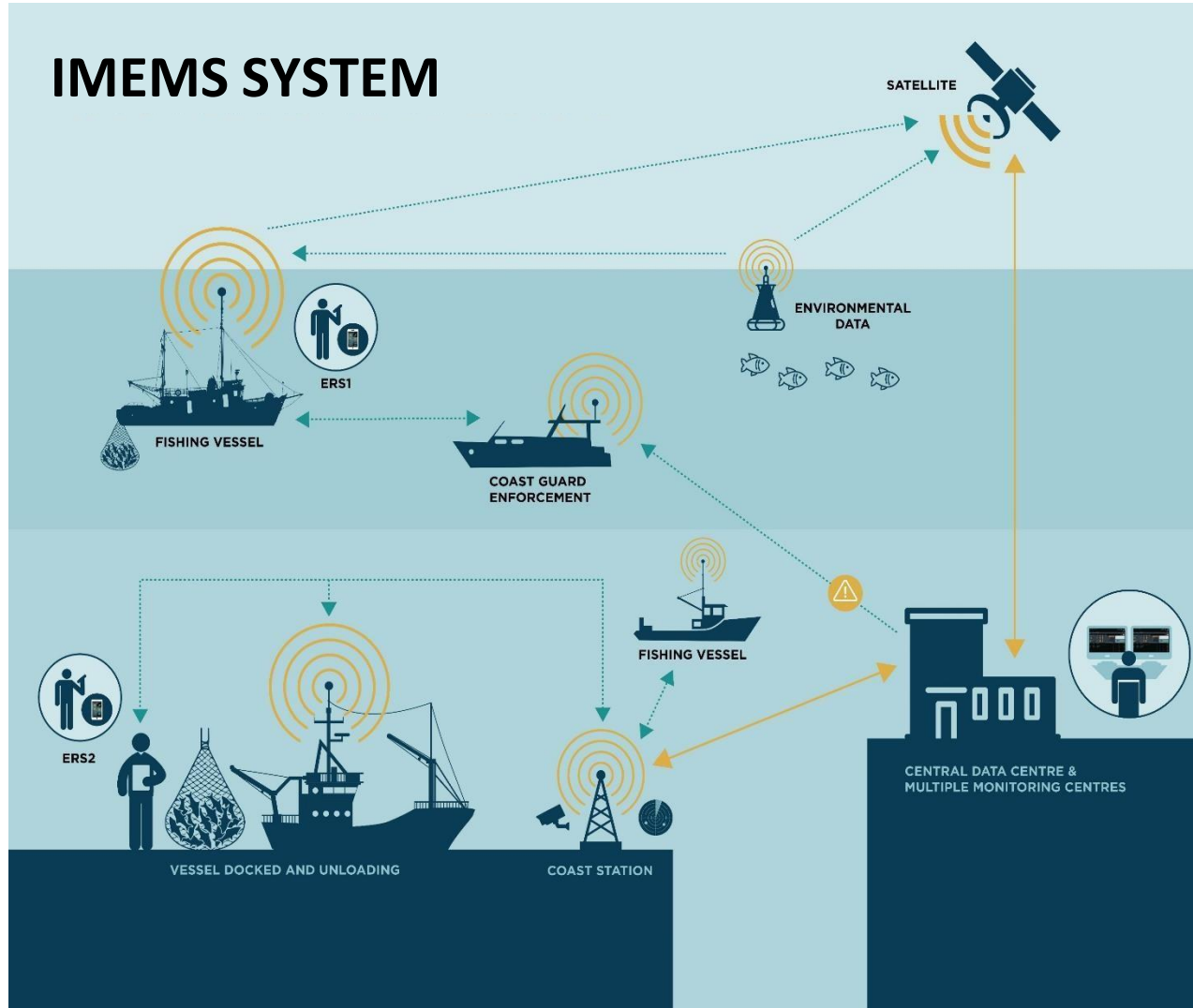
- ✓ Continuous tracking of all vessels globally with minimum once per hour updates

- ✓ Vessel ELOG with full vessel details, crew, ownership and all history.

- ✓ Electronic catch reporting, landing and auditing

- ✓ Integrated automated data analytics to detect IUUF and other illegal behaviour

- ✓ Integrated enforcement functionality

- ✓ Report analytics for aquatic modelling and vessel activities and productivity

VESSEL TRACKING
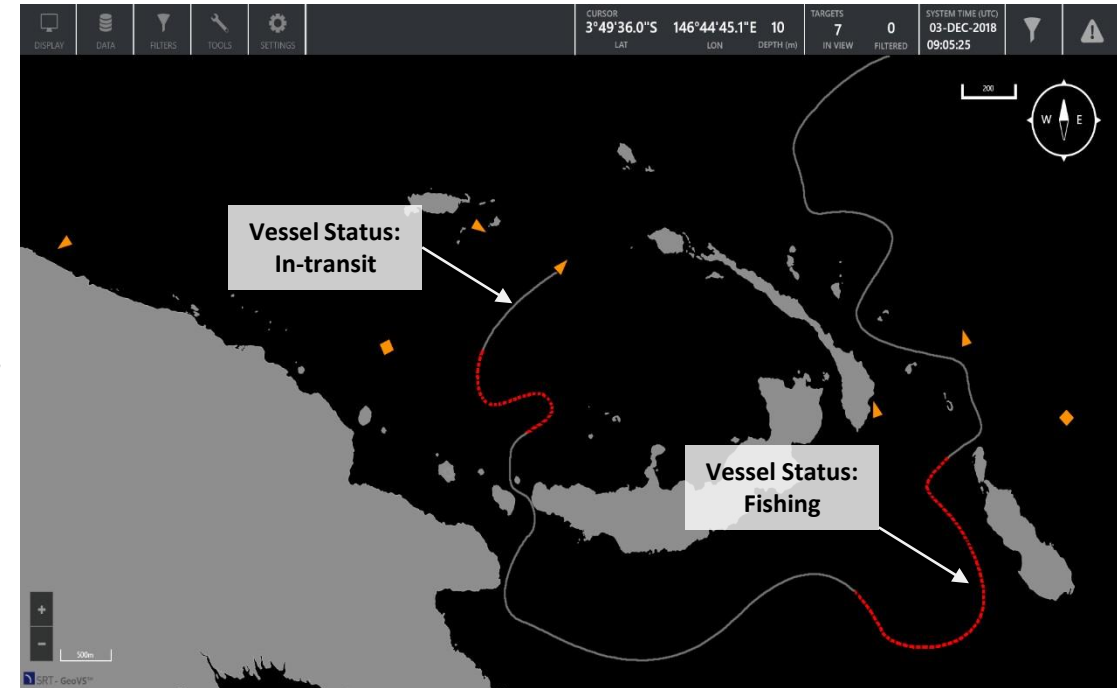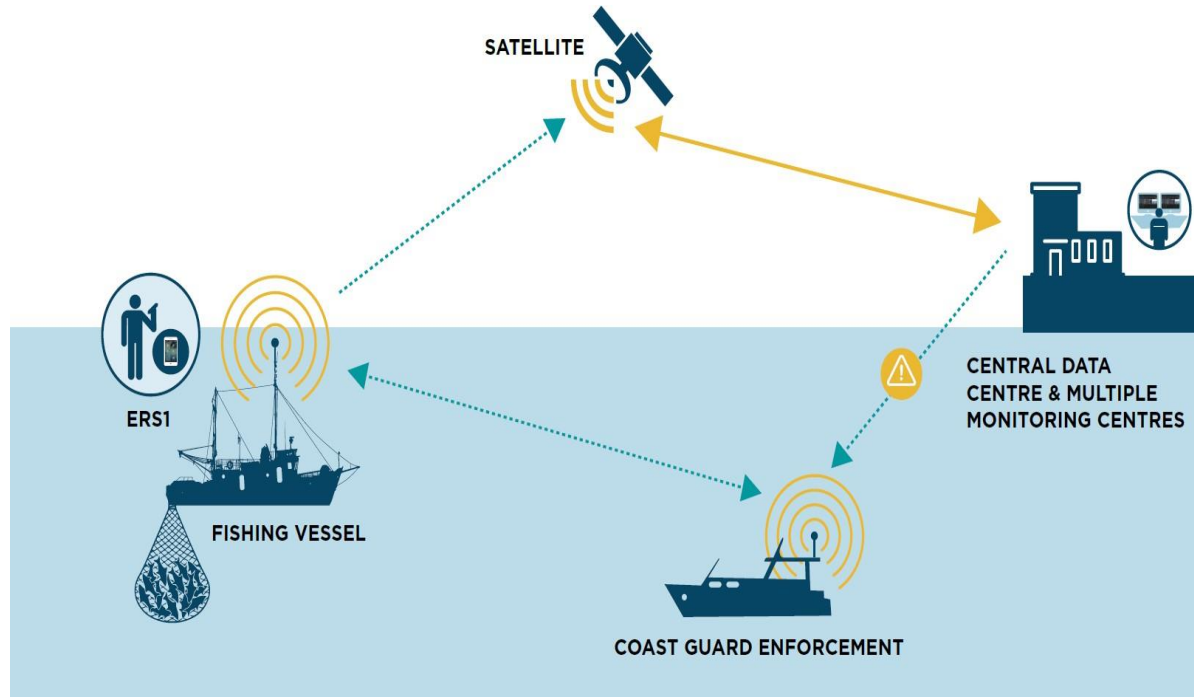
> Continuous tracking, identification & status. Port & Coastal areas continuous real time (once per 5 min update) via terrestrial sensors, high-seas better than once every 60 minutes via satellite. At sea real time enforcement tracking.

VESSEL TRACKING – VMS-100 Transceiver

The VMS-100 is a small, robust and flexible specialist fisheries monitoring VMS transceiver. Configurable for deployment on multiple vessel types with different levels of functionality according to requirements

- ✓ Dual terrestrial & satellite communication – with flexible satellite system selection

- ✓ Encrypted secure two way communication

- ✓ Ruggedized – water and weather proof

- ✓ Electronic and physical anti-tamper and anti-spoofing – with alerts

- ✓ Wireless and wired connectivity to ERS terminals.

- ✓ Integrated battery back up

Electronic Reporting System
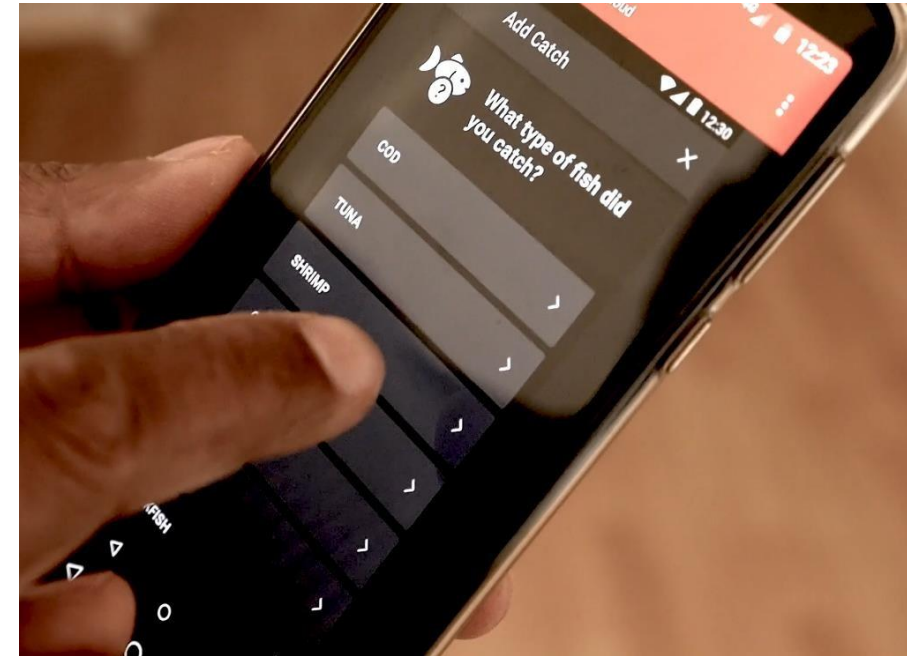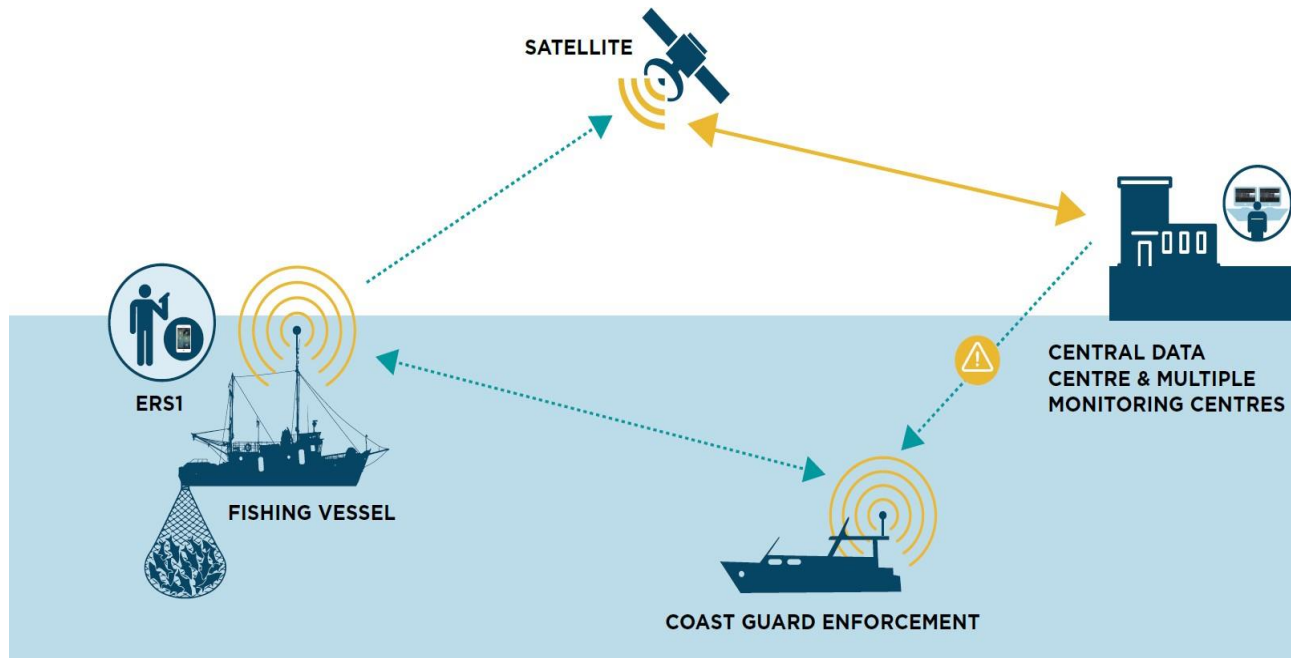
Electronic catch reporting and auditing is fully integrated within the system. ERS system enables robust, effective and efficient electronic catch reporting and auditing.

Electronic Reporting Systems

Type 1 – Simple Mode

Type 1 – Plus Mode
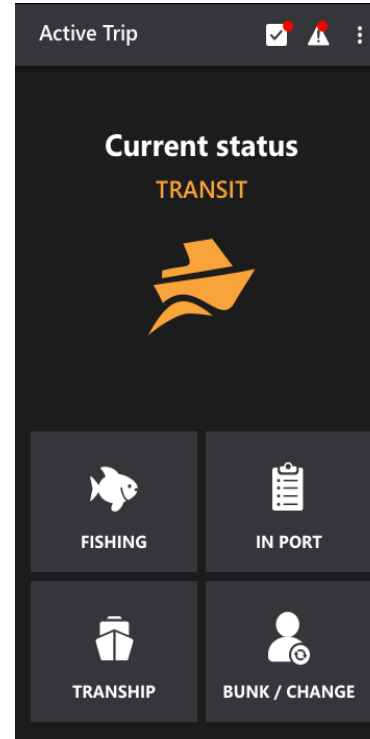
Type 2 – Authority Mode
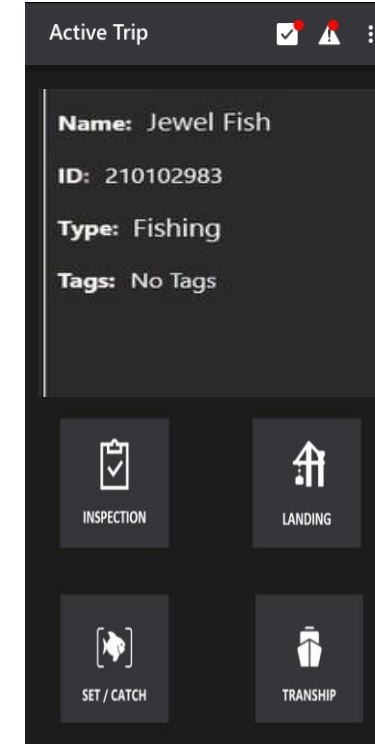
Fully compliant with WCPFC and EU Commission requirements.

Fishermen use onboard ERS devices connects to VMS-100 to enter catch reports in real time. Highly configurable and can enable very extensive information to be collected – even video and images. Data is automatically uploaded to system data centre. Enables high quality mass scale reporting & auditing.

ERS Type 11 - Key
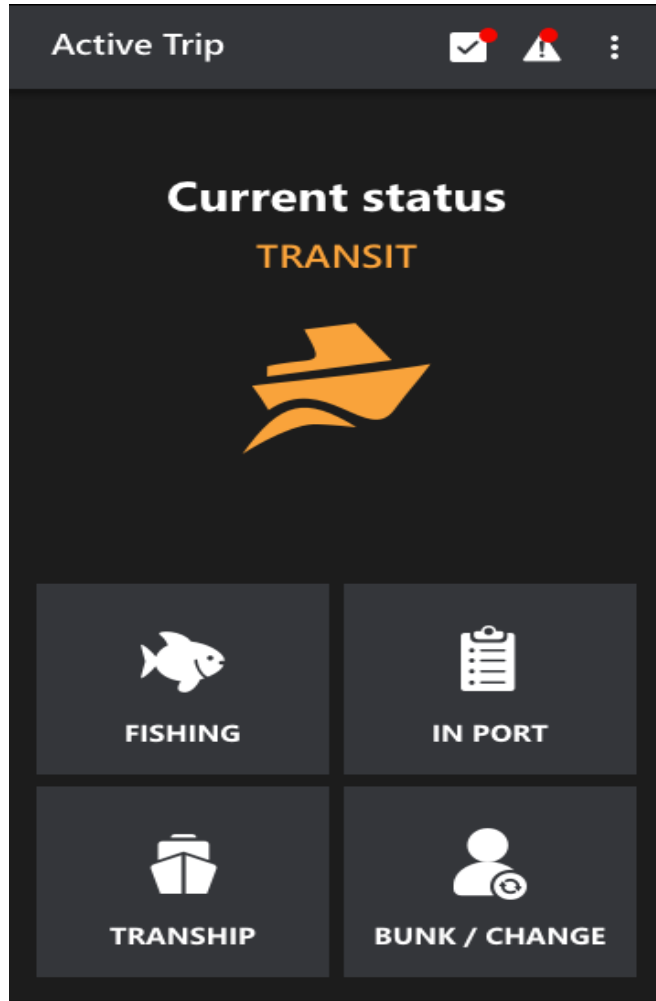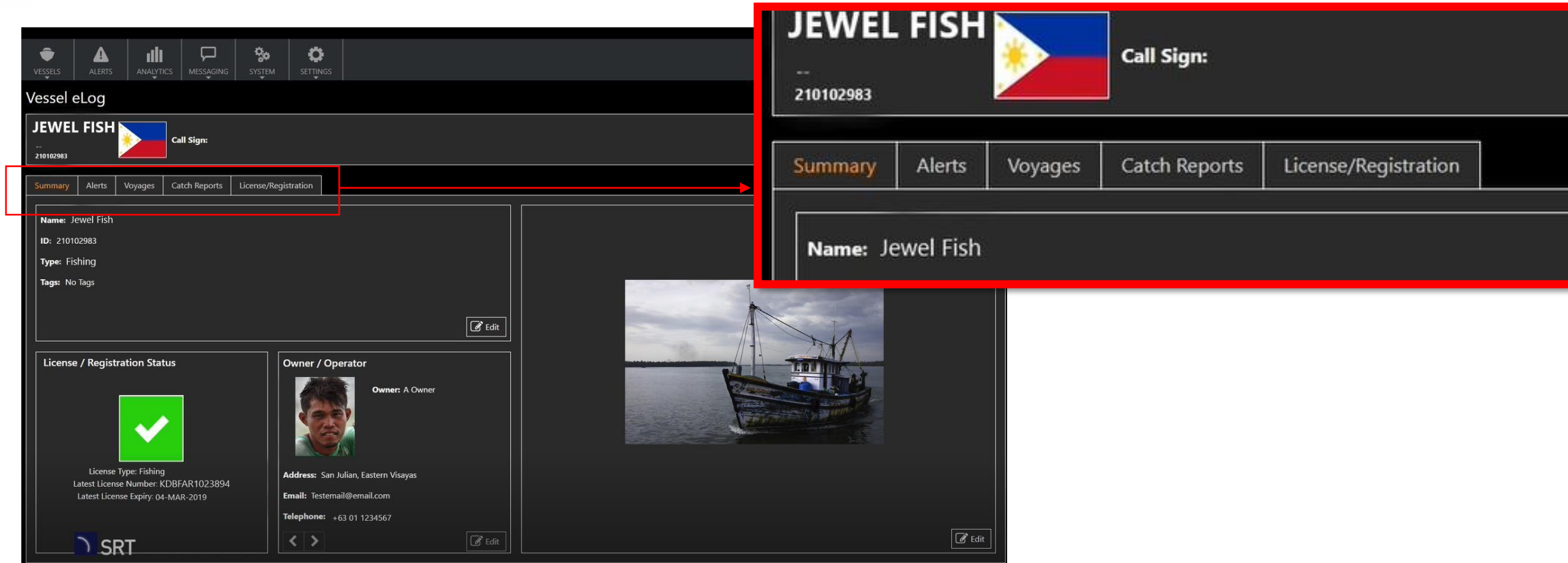
- ✓ Connectivity lock to VMS-100 transceiver (inputs only permitted when connected to correct transceiver)
- ✓ Configurable – multiple modes to collect different levels of data – simple or plus modes.
- ✓ Live vessel status reporting – in port, fishing, transit etc
- ✓ Detailed catch reporting options – species, live weight, catch position, date & time, landed weight.
- ✓ Transhipment logging
- ✓ Crew changes and bunkering
- ✓ Image and video
- ✓ SOS alert
- ✓ Text and email communication
- ✓ ELOG update requests
- ✓ Weather forecasts and reports

ERS Type 12 - Key
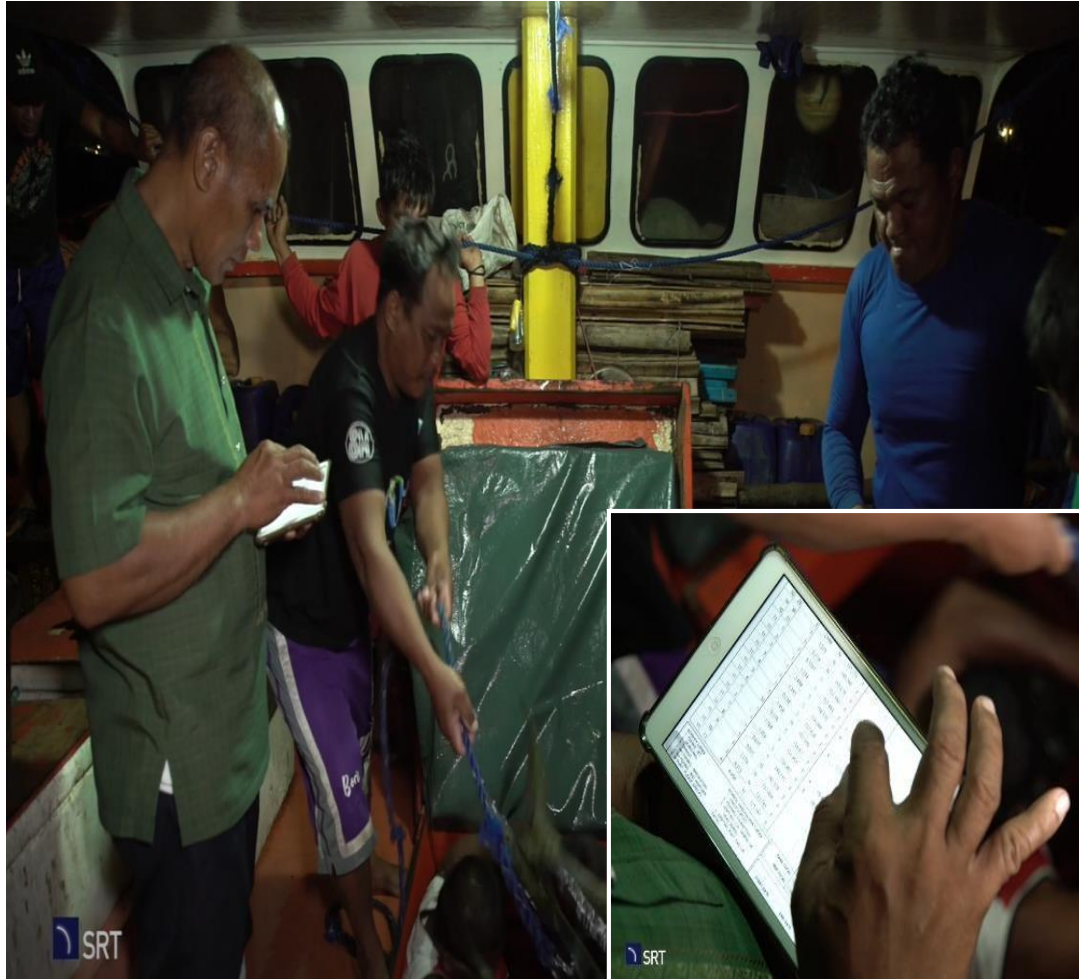
- ✓ Input of actual fish catches, landings, transhipments for auditing against fisherfolk inputs.

- ✓ Access to vessel vessel ELOG and vessel alert status and history.

- ✓ Detailed reporting and analysis of catches and landings.

- ✓ Messaging and communications.

VESSEL ELOG
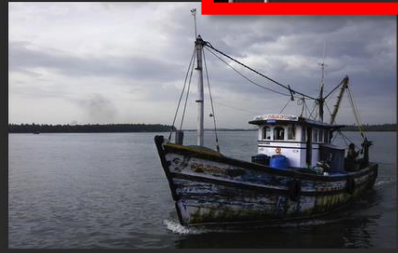
➢ System automatically maintains ELOG for every vessel – all information instantly available. Vessel details, ownership, crew, alerts, catch reports, enforcement actions and more.

➢ All ERS data automatically updated to vessel ELOG.
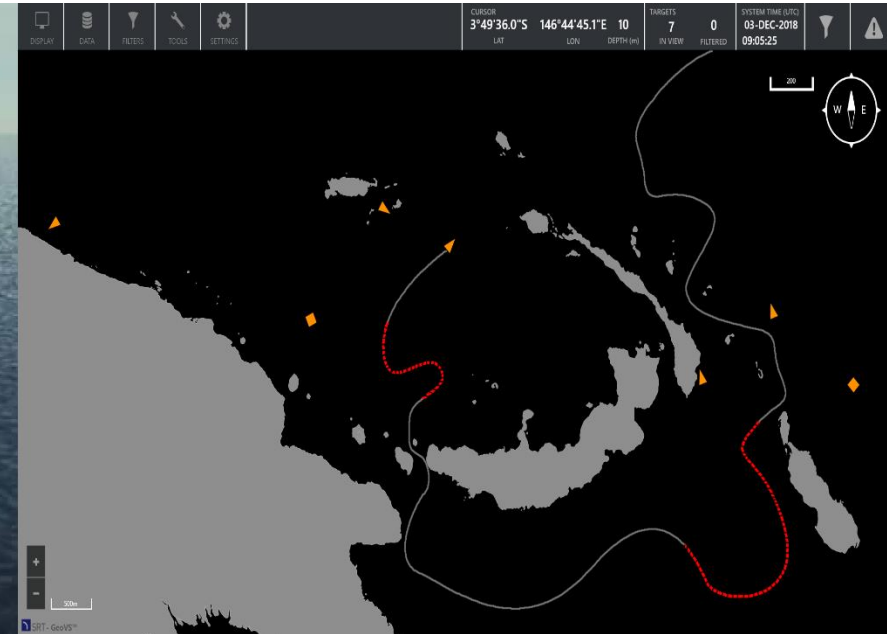
IMEMS OVERVIEW – Catch Reporting

➢ Detailed catch reports logged within vessel ELOG
➢ Detailed reports in the correct format can be easily produced.

SUMMARY

Sophisticated integrated national scale VMS system

✓ Single national integrated data set of high quality data from multiple sources for maximum quality

✓ Powerful integrated analytics engine enables automated detection of IUU

✓ Integrated enforcement systems enable effective management and control of fisheries

Serious about fisheries and environment management

THANK YOU

Integrated Marine Environment Monitoring System (IMEMS) Overview