



Bureau of Fisheries and Aquatic Resources

IMEMS

National VMS System for The
Philippines

May 2019

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.

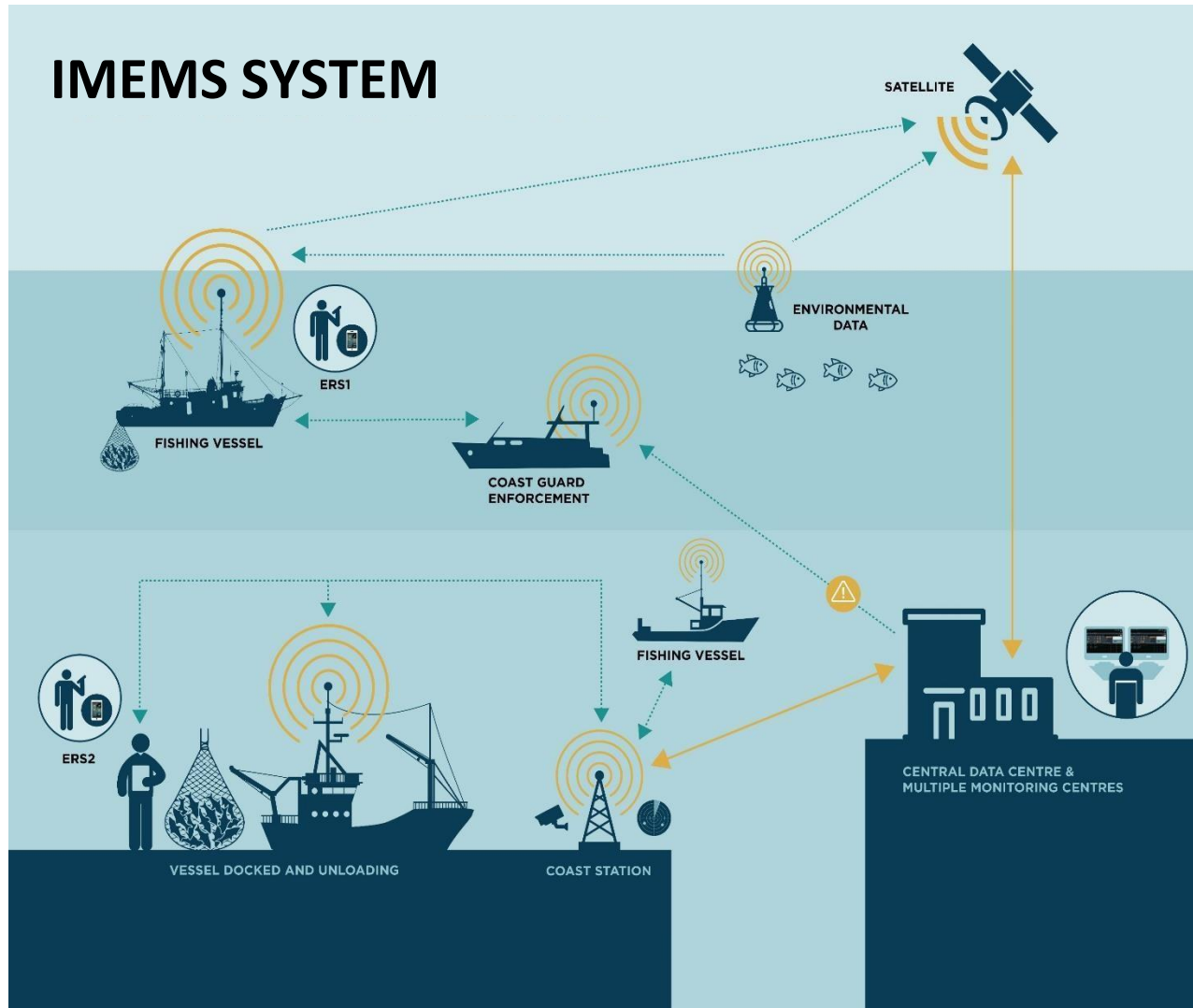
- Track and identify all vessels – from oceanic to municipal and artisanal
- Monitor vessel ownership, operators, crew
- Monitor vessel activities, status, fish catches & landings
- Automated detection and enforcement of illegal activities
- Monitor, model and understand aquatic environment dynamics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

STRATEGIC PLAN – Status

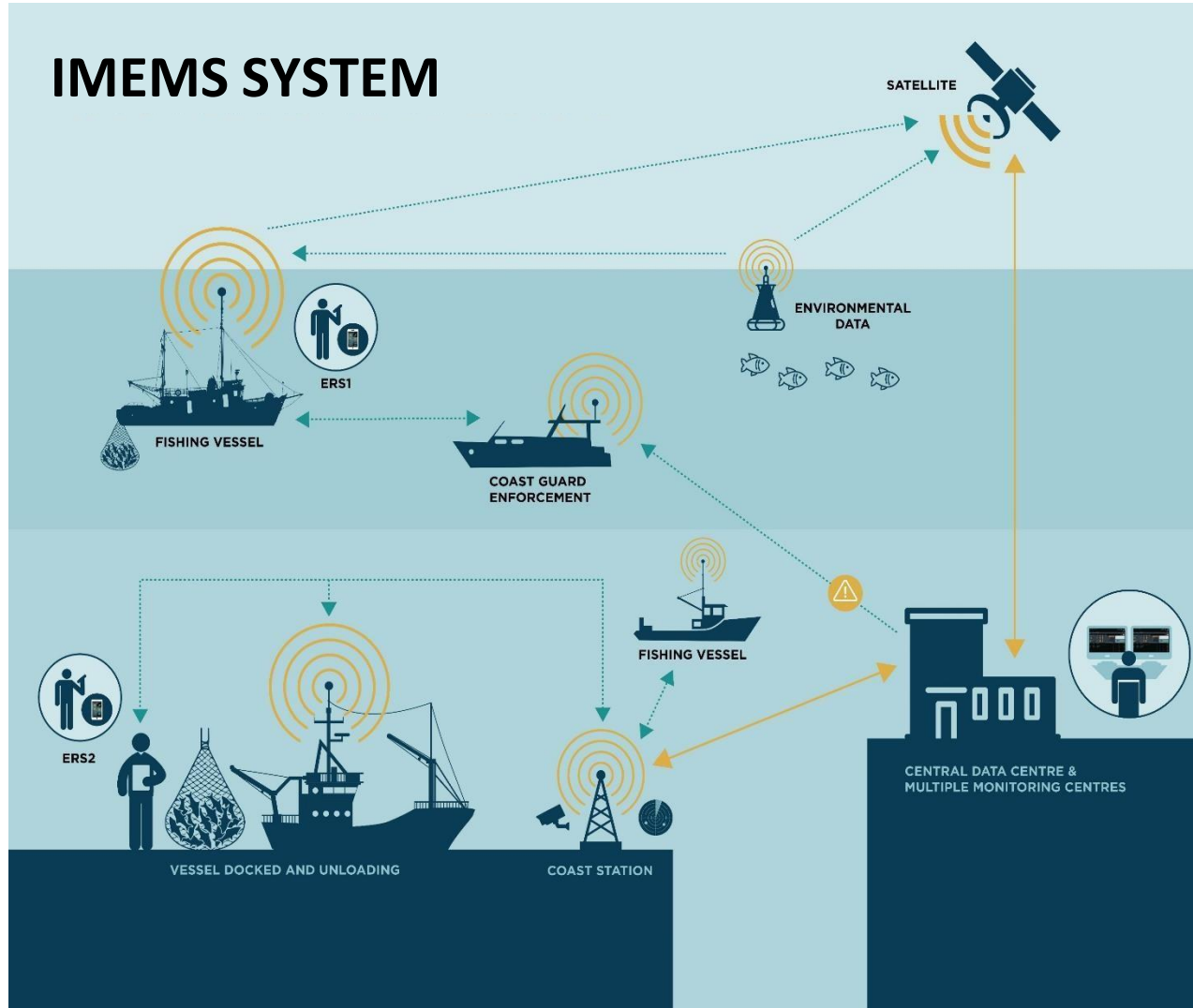


- ✓ System is in progress to be built – expected completion and activation is Q2 2020
- ✓ First regional Control Centre (RCC) is already installed and operational
- ✓ State of the art systems and functionality will empower exceptional fisheries monitoring, insight and control.
- ✓ System is designed to continue to grow to cover all Philippine fishing vessels.

IMEMS System Architecture

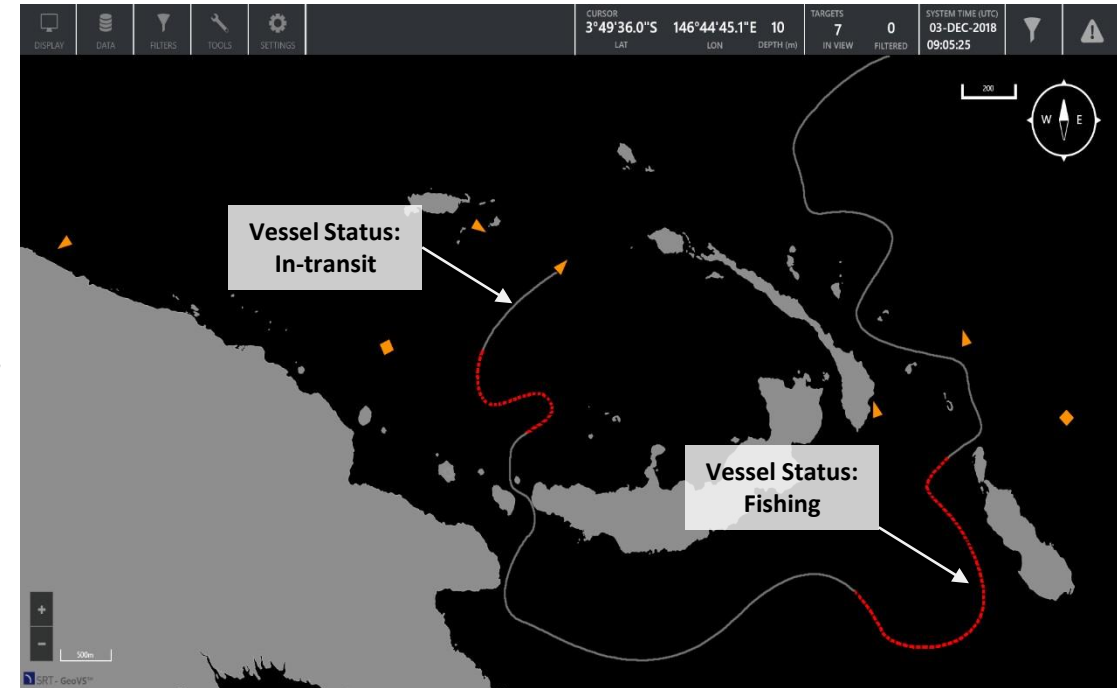
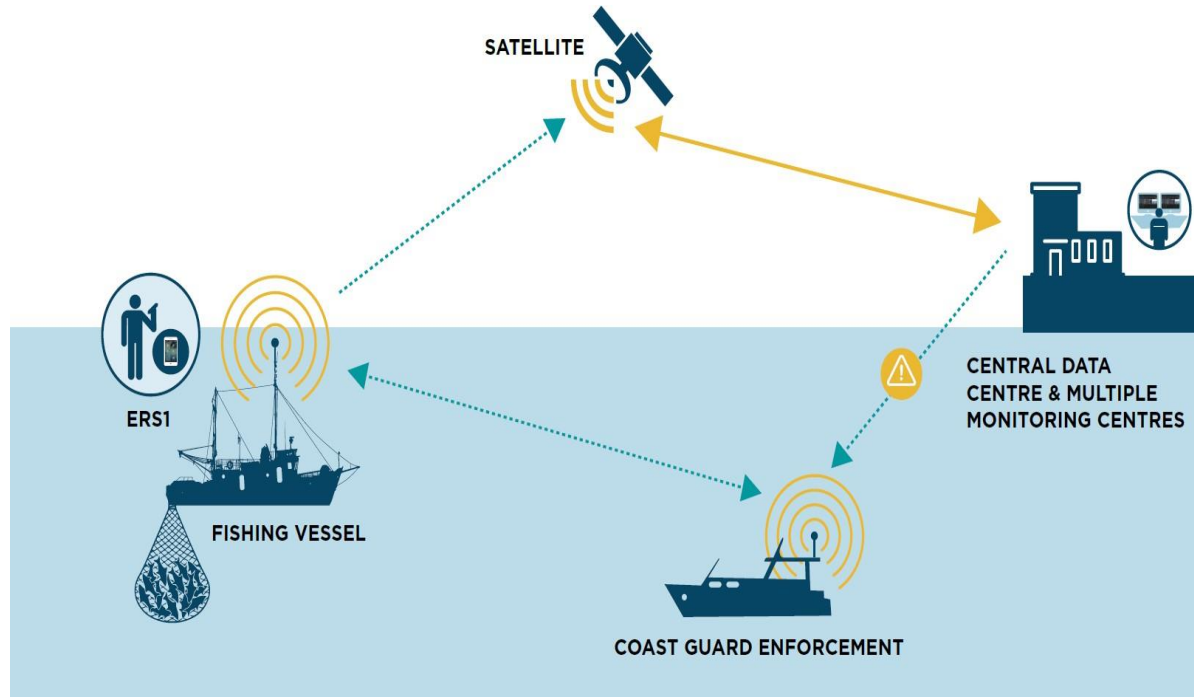


- ✓ Vessel transceivers transmit encrypted status reports.
- ✓ Multiple ERS devices allow effective and detailed catch reporting.
- ✓ Multiple satellite and terrestrial systems stream data into the monitoring system
- ✓ Central data centre aggregates and accumulates all data sources into a single operating data set
- ✓ Multiple operators access and use the system capabilities and data using a suite of powerful specialist tools



- ✓ 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.

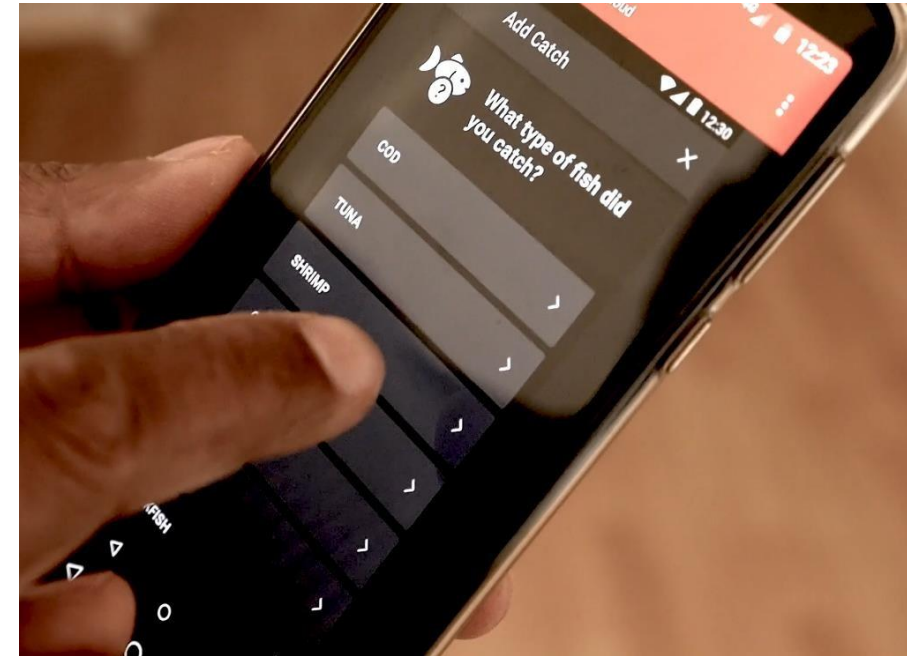
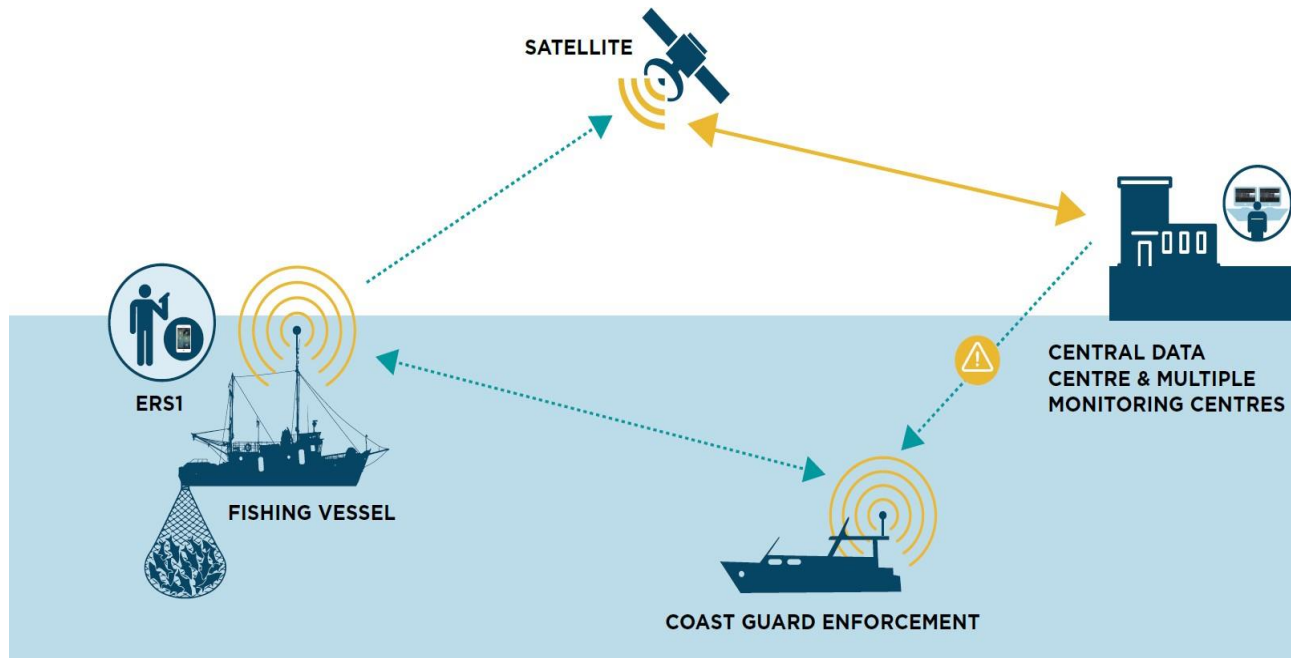
VESSEL TRACKING – VMS-100 Transceiver



- ✓ 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

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

Electronic Reporting System



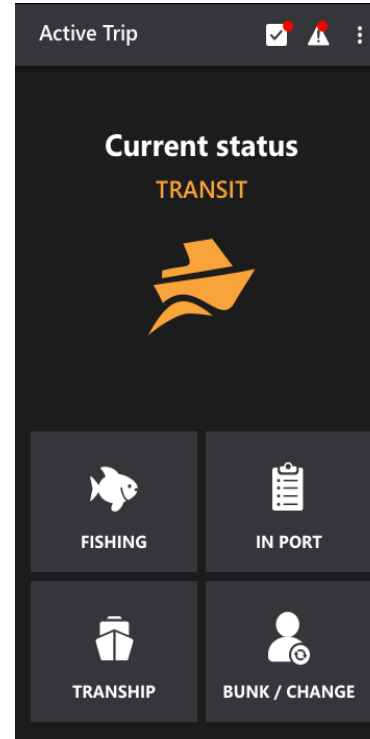
Electronic catch reporting and auditing is fully integrated within the system. ERS system enables robust, effective and efficient electronic catch reporting and auditing.

Electronic Reporting Systems

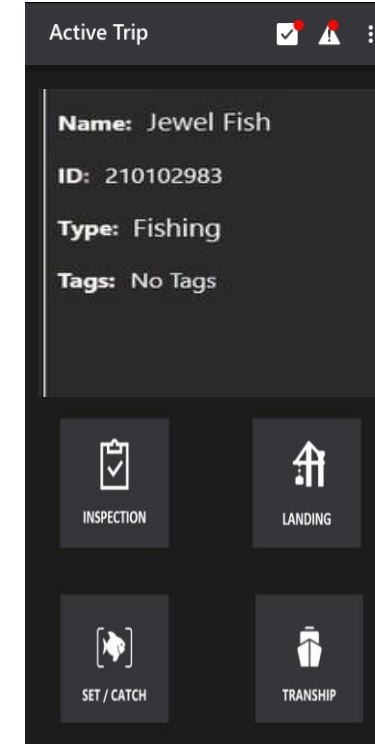
Type 1 – Simple Mode



Type 1 – Plus Mode



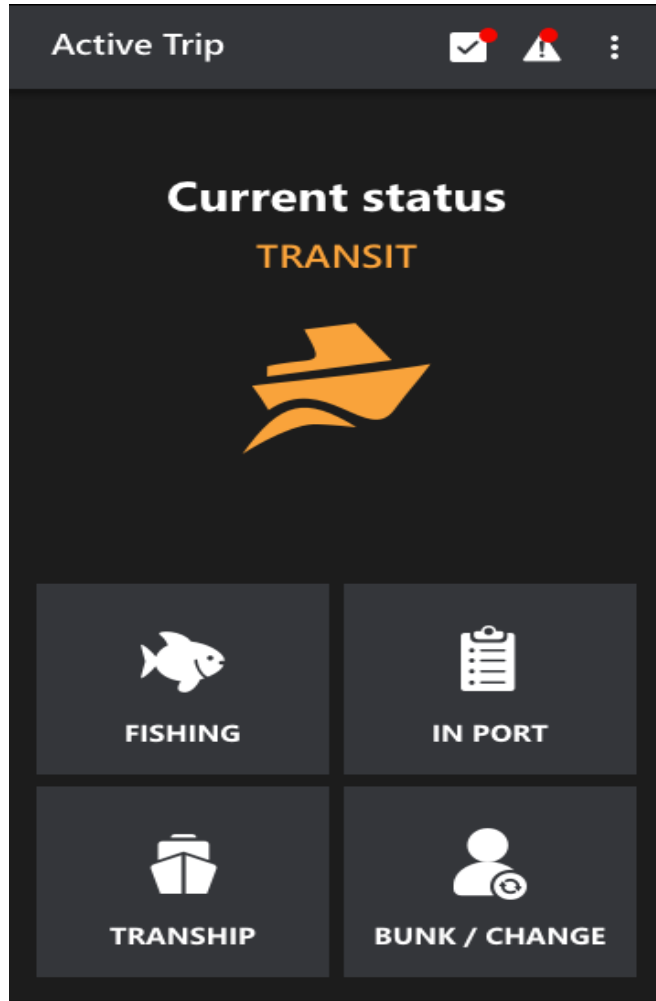
Type 2 – Authority Mode



**Fully compliant
with WCPFC and
EU Commission
requirements.**

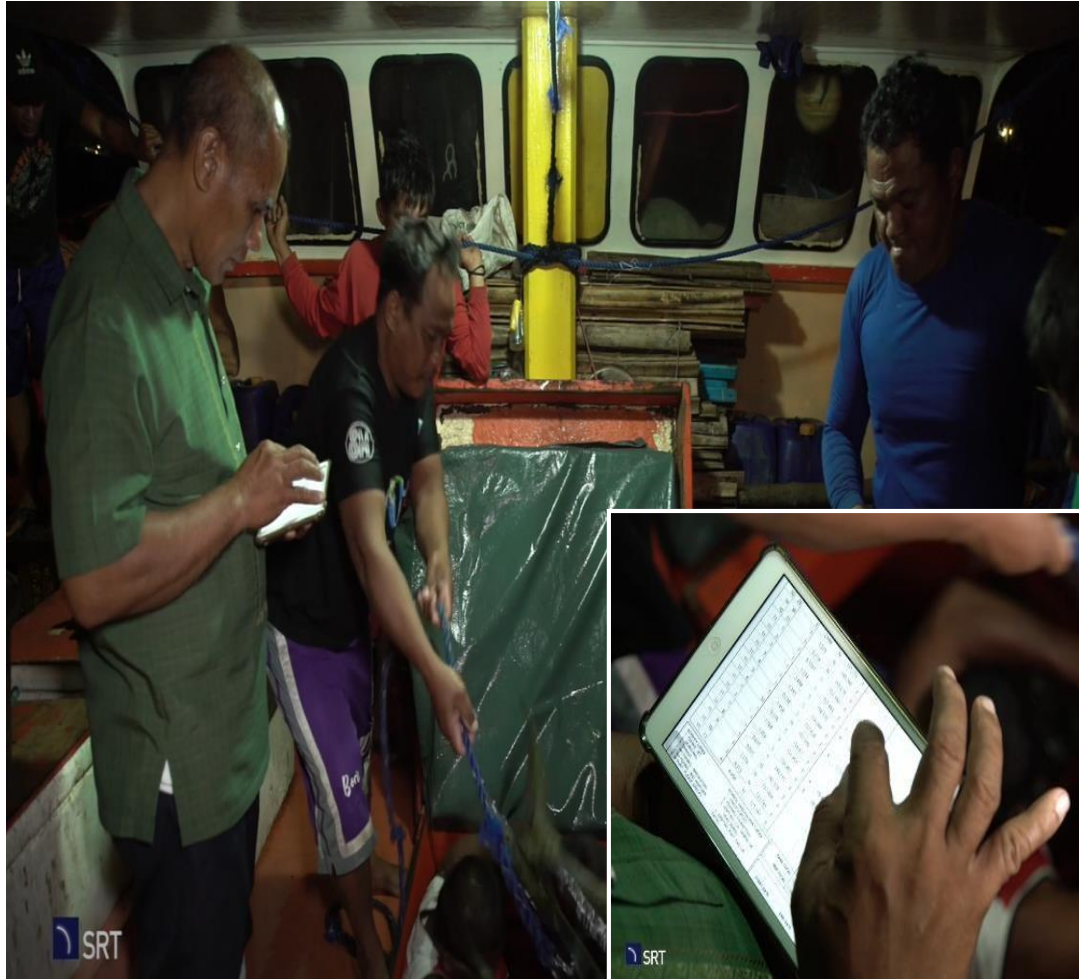
Fishermen use onboard ERS devices connects to VMS-100 to enter catch reports in real time. Highly configurable and can enable very extensive information to be collected – even video and images. Data is automatically uploaded to system data centre. Enables high quality mass scale reporting & auditing.

ERS Type 11 - Key



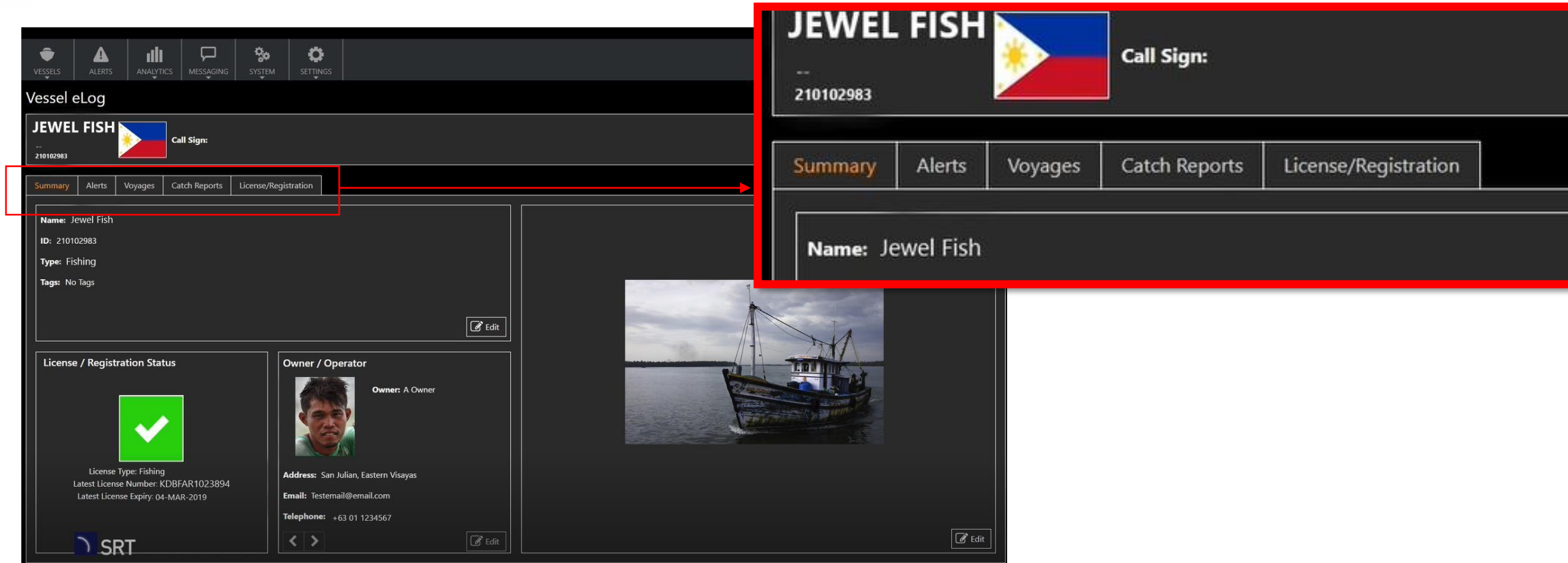
- ✓ Connectivity lock to VMS-100 transceiver (inputs only permitted when connected to correct transceiver)
- ✓ Configurable – multiple modes to collect different levels of data – simple or plus modes.
- ✓ Live vessel status reporting – in port, fishing, transit etc
- ✓ Detailed catch reporting options – species, live weight, catch position, date & time, landed weight.
- ✓ Transshipment 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




Vessel eLog

JEWEL FISH  Call Sign: 210102983


Summary Alerts Voyages Catch Reports License/Registration

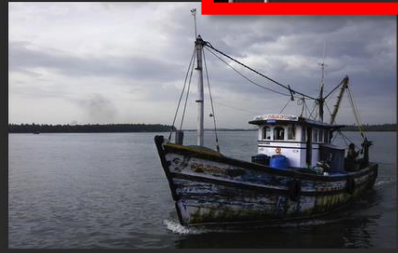
Name: Jewel Fish
ID: 210102983
Type: Fishing
Tags: No Tags

License / Registration Status


License Type: Fishing
Latest License Number: KDBFAR1023894
Latest License Expiry: 04-MAR-2019

Owner / Operator


 **Owner:** A Owner
Address: San Julian, Eastern Visayas
Email: Testemail@email.com
Telephone: +63 01 1234567



- 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

Vessel eLog

JEWEL FISH  Call Sign: ZPH82983

Summary Alerts Voyages **Catch Reports** License/Registration

Catch Reports

Catch ID	Date	Catch Method	Catch Species	Weight (KG)	Version
PH010285	18-DEC-2018	PS	SKIPJACK TUNA	23.5	1.0
PH011951	07-DEC-2018	PS	YELLOW FIN TUNA	20.1	1.0
PH010324	04-DEC-2018	PS	SKIPJACK TUNA	22.4	1.0
PH009987	03-DEC-2018	PS	SKIPJACK TUNA	25.2	1.0
PH009902	30-NOV-2018	PS	SKIPJACK TUNA	22.6	1.0
PH008453	24-NOV-2018	PS	YELLOW FIN TUNA	19.5	1.0

Catch ID: PH012341

Details

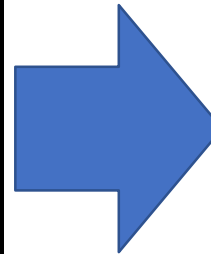
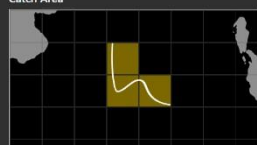
Leave Port Date: 10-DEC-2018
Enter Port Date: 10-DEC-2018
Catch Method: PS
Upload Port:
Upload Officer:

Catch Species

Species	Product Code	Live Weight (KG)	Landed Weight (KG)
SKI	110	23.5	23.5

Total Live Weight(KG): 0 Total Landed Weight(KG): 0

Catch Area



Catch Summary Report

Catch Summary Report

NAME OF VESSEL: ALPINE PINK

NAME OF FISHING COMPANY: PHILIPPINE FISHING CORPORATION

COUNTRY OF REGISTRATION: PHILIPPINES

REGISTRATION NUMBER IN COUNTRY OF REGISTRATION: UNLDC12076

TRA VESSEL REGISTRATION NUMBER: 00-000010

UNIQUE VESSEL IDENTIFICATION (UVE): 0000000000

INTERNATIONAL RADIO CALLSIGN: 0000

FISHING PERMIT OR LICENSE NUMBER: 0000000000

NAME OF AGENT IN PORT OF UNLOADING: 0000000000

PORT OF DEPARTURE: 0000000000

DATE AND TIME OF DEPARTURE: 2018-10-27 00:00

AMOUNT OF FISH ONBOARD AT START OF TRIP: 0

YEAR: 2018

TRIP NO. THIS YEAR: 72

PLACE OF UNLOADING: 0000000000

GENERAL LATITUDE: 0000000000

DATE AND TIME OF ARRIVAL IN PORT: 2018-11-11 15:00

PORT OF FISH ONBOARD AFTER UNLOADING: 0

MONTH	DAY	ACTIVITY CODE	START UTC OR SET POSITION		LATITUDE	LONGITUDE	SCHOOL START	END	RETAINED CATCH (METRIC TONNES)				OTHER SPECIES		WELL NUMBERS		DISCARDS		OTHER SPECIES				
			DOMMM	MM					N	DOMMM	MM	W	SKIPJACK	Small	Large	Small	Large	NAME	METRIC TONNES	NAME	METRIC TONNES	NAME	METRIC TONNES
10	27	6	6.084	N	125.187	E																	
10	28	3	4.036	N	130.278	E																	
10	29	3	2.598	N	135.239	E																	
10	30	3	1.528	N	140.280	E																	
10	31	3	0.719	N	150.678	E																	
11	1	2	0.3333	S	152.380	E																	
11	2	1	1.234	S	157.489	E	1	07:22	18:57	399.3													
11	3	1	2.496	S	156.370	E	4	14:45	21:17	239.8	2.5	1.7	1.3	MAHI MA 1.3	P3 S3 P1 S1								
11	3	2	1.392	S	154.289	E																	
11	4	1	0.238	S	157.828	E	4	12:33	17:17	198.8	5.5				P1 S1								
11	5	5	1.458	N	157.109	E																	
11	6	10	0.156	S	156.67	E																	
11	7	1	1.564	S	151.953	E	4	09:45	11:57	40.2					S3								
11	7	1	1.769	S	150.987	E	4	08:32	16:18	322.4	12.9	3.9		2.1	P3 S3 S1	YFT	1.3	1	LOGGERHE	2			
11	7	7	0.635	S	149.235	E																	
11	8	3	0.025	N	142.378	E																	
11	9	3	2.739	N	137.009	E																	
11	10	3	4.373	N	131.745	E																	
11	11	6	6.084	N	125.187	E																	
PAGE TOTAL: 1200.5									20.9	5.6	1.3	2.1	1.3										
TRIP TOTAL: 1200.5									20.9	5.6	1.3	2.1	1.3										
UNLOADINGS TO CANNERY, COLD STORAGE, CARRIER OR OTHER VESSEL																							
START DATE		END DATE		CANNERY OR VESSEL AND DESTINATION		INTL RADIO CALL SIGN		SKIPJACK		YELLOWFIN		BIGEYE		MIXED		OTHERS		REJECTS					
NAME OF CAPTAIN												SIGNATURE OF CAPTAIN										DATE	

ACTIVITY CODES
1. FISHING SET
2. SEARCHING
3. TRANSIT
4. NO FISHING - BREAKDOWN
5. NO FISHING - BAD WEATHER
6. IN PORT - PLEASE SPECIFY
7. NET CLEANING SET
8. DEPLOYING OR RETREIVING RAFTS, FAD OR PAYAO
9. UNASSOCIATED
10. FEEDING ON BATFISH
11. DRIFTING LOG, DEBRIS OR DEAD ANIMAL
12. DRIFTING RAFT, FAD OR PAYAO
13. ANCHORED RAFT, FAD OR PAYAO
14. LIVE WHALE
15. LIVE WHALE SHARK

SCHOOL ASSOCIATION CODES
1. UNASSOCIATED
2. FEEDING ON BATFISH
3. DRIFTING LOG, DEBRIS OR DEAD ANIMAL
4. DRIFTING RAFT, FAD OR PAYAO
5. ANCHORED RAFT, FAD OR PAYAO
6. LIVE WHALE
7. LIVE WHALE SHARK

TUNA DISCARD CODES
1. FISH DAMAGED / UNFIT FOR CONSUMPTION
2. VESSEL FULLY LOADED
3. GEAR FAILURE
4. OTHER REASON (SPECIFY)

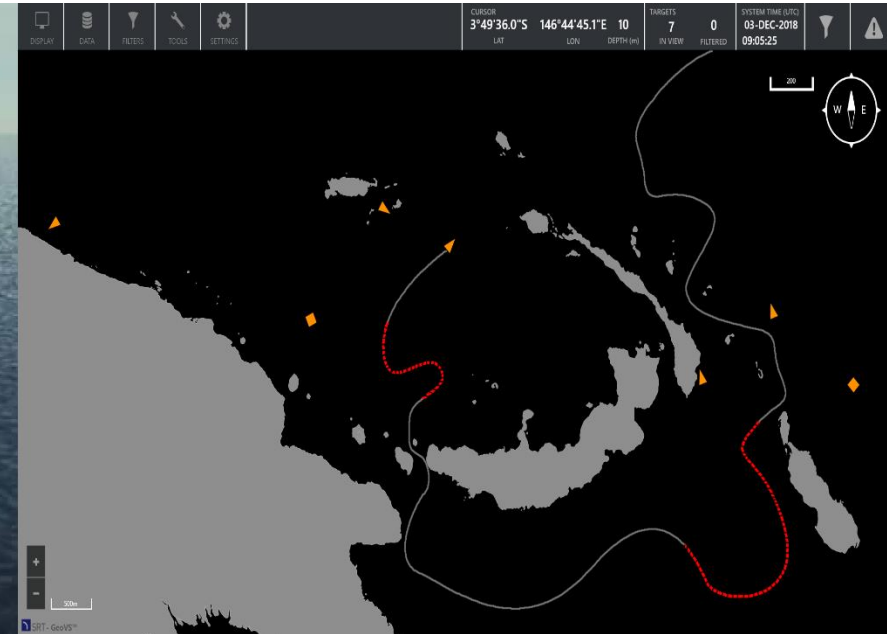
- Detailed catch reports logged within vessel ELOG
- Detailed reports in the correct format can be easily produced.



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