



SEAFDEC

Strengthening Regional Fisheries Governance and Technology Integration to Combat IUU Fishing in the Indo-Pacific

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Bangkok, Thailand – 18th March 2026



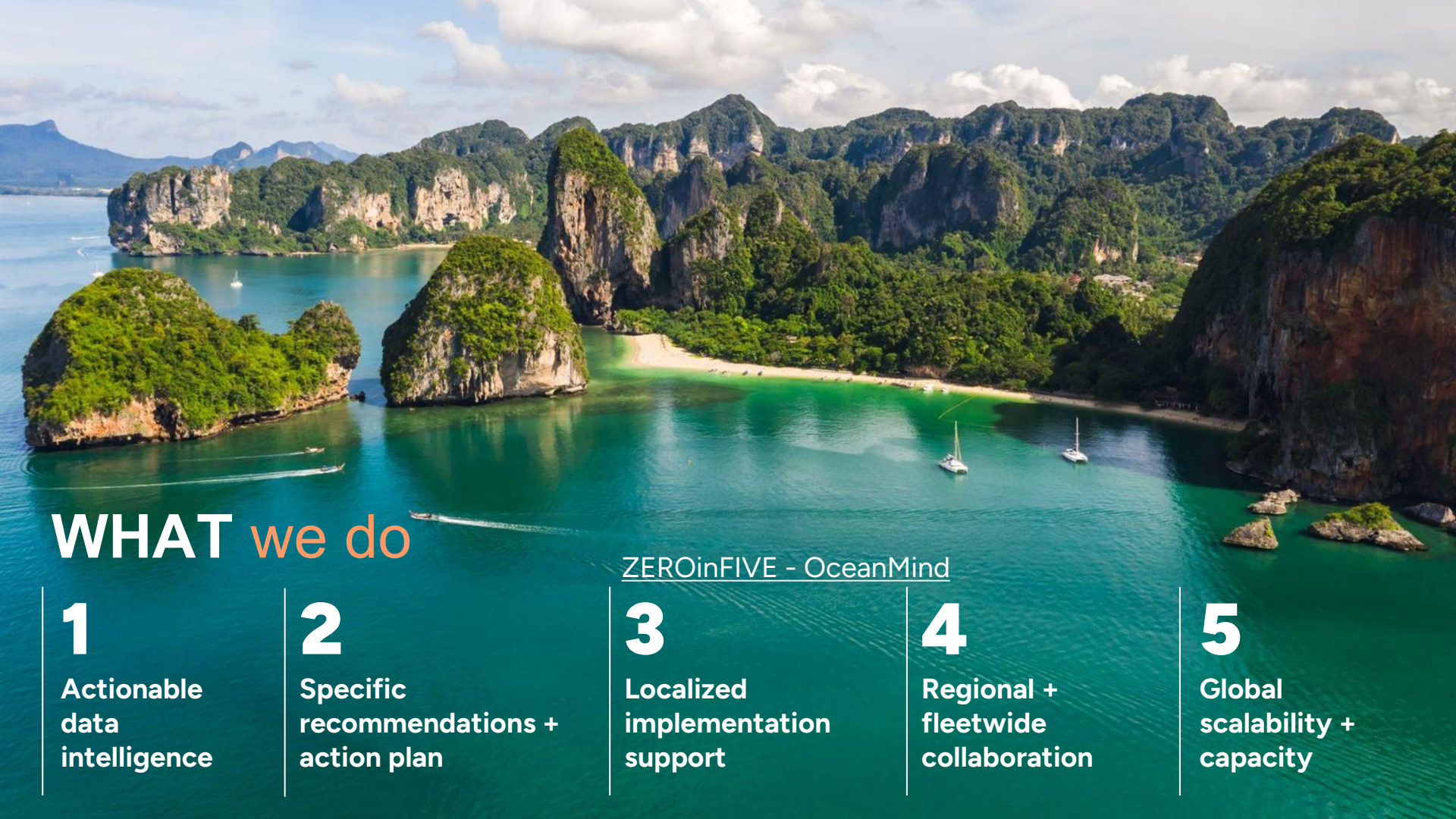
ABOUT **us**

A tech-enabled global change maker, using AI and data solutions to create a thriving equitable and sustainable future for all



Our Vision

A world where all human activity on the ocean is law abiding and sustainable.



WHAT we do

ZEROinFIVE - OceanMind

1

Actionable
data
intelligence

2

Specific
recommendations +
action plan

3

Localized
implementation
support

4

Regional +
fleetwide
collaboration

5

Global
scalability +
capacity

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Strengthening Regional Governance and Technology Integration to Fight IUU



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**PSMA Implementation
Cambodia – Fisheries Administration (FiA)**





PSMA IMPLEMENTATION

PSM Inspection system

- Before entry to port
- Inspection at port
- Offloading control

Traceability

- Electronic traceability system
- Electronic Port State Measures (e-PSM)
- Fisheries Single Window (FSW)
- Processing Statement Endorsement System (PSE)

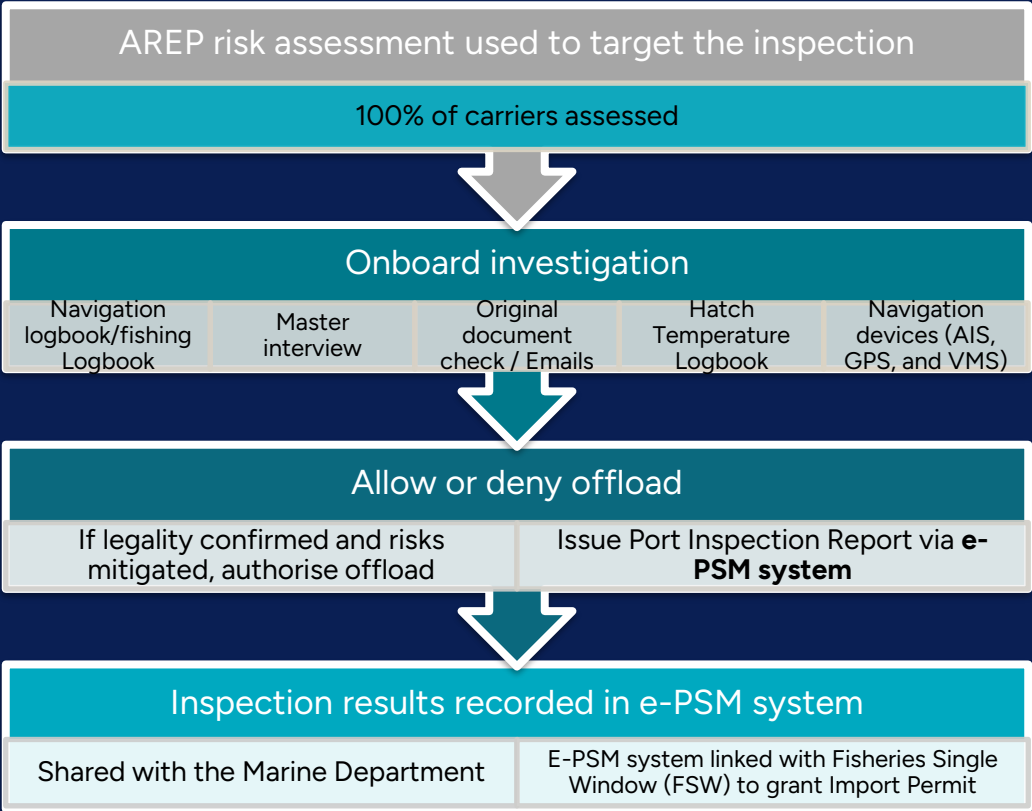
PSM Analysis Tool

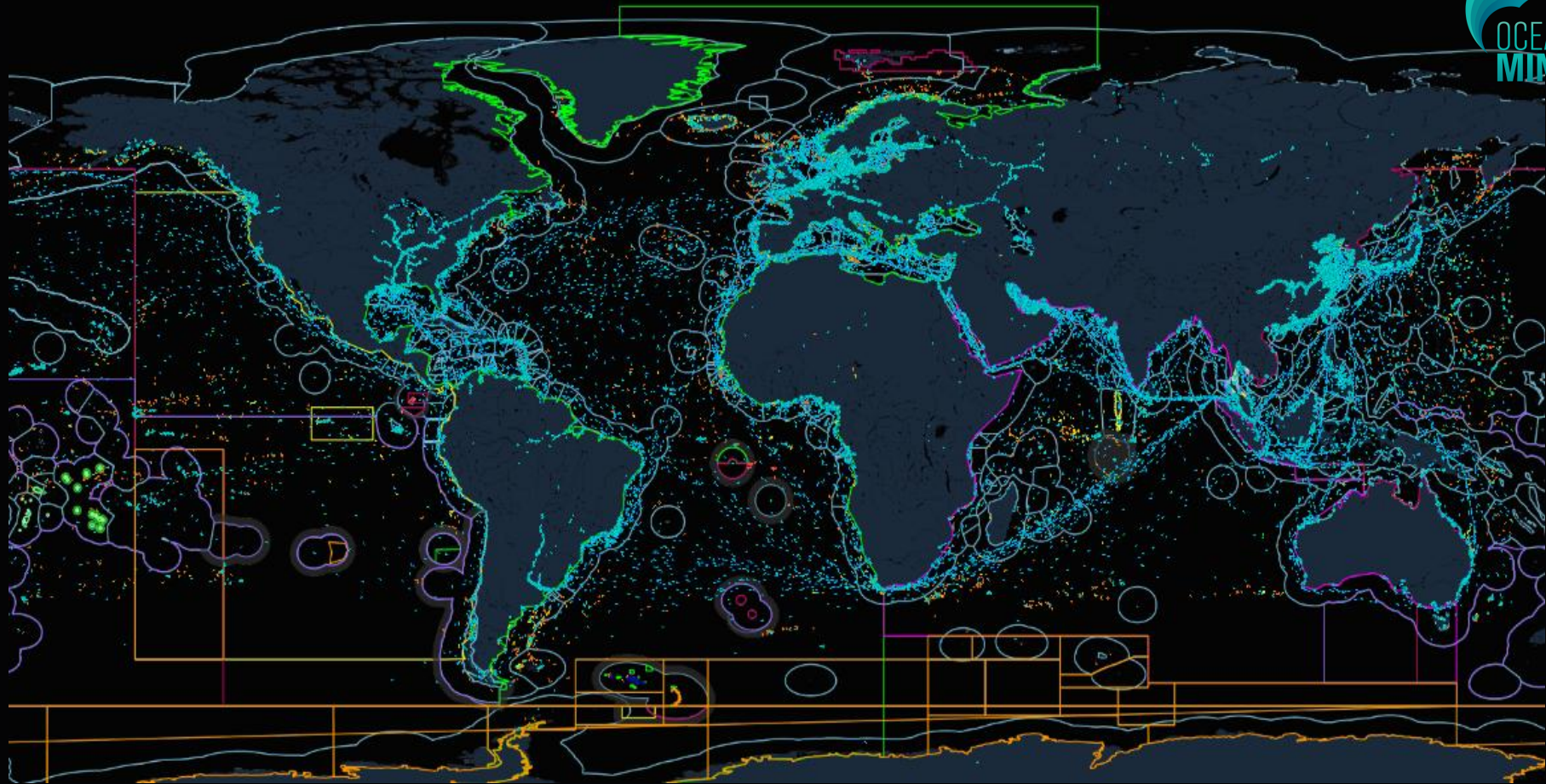
- National-level tool to assist implementation of PSMA through public-private partnerships



PSM INSPECTION

Analysis to Support Port Inspection





Value of coaching sessions

Our focus has been on aiding Cambodia Fisheries Administration with coaching sessions:

Understand and implement the process of the “investigative mind”

Improve knowledge on officer’s role in the PSMA cycle

Understand the types of data available

Interpret and question the available data and recognise inconsistencies in vessel identity information and interpret risks

Process risks associated with vessel behaviour and submitted AREP data

**What are the
INVESTIGATIVE
SKILLS that will
assist officers?**

**Key skills for an
Investigative
Mind:**

- **Active listening**
- **Questioning**
- **Analysing**
- **Interviewing**

- **Note-taking**
- **Summarising**
- **Reporting**



Why questions are
the most important
PSMA tool

PSMA as a “risk-based investigation” – the importance of asking questions

- Questions are important. Questions reduce uncertainty, prevent error, and justify actions.
- Turning questions into better inspections.
“If it isn’t asked, it isn’t checked.”
- Questions from the officers on the process allow us to identify any knowledge gaps that may come and help us provide more informed, practical training.

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PSMA Implementation
**Philippines – Bureau of Fisheries and Aquatic
Resources (DA-BFAR)**



Introduction

OceanMind

- Unbiased, independent monitoring, verification and validation.
- Capacity building and international cooperation.
- Work with governments and authorities, NGOs, seafood industry and academia.
- Support fisheries Monitoring, Control and Surveillance (MCS).
- Target Illegal, Unreported and Unregulated (IUU) fishing.





Background

The Philippines is one of the world's major seafood processing countries supplying product into the USA, EU, and Japanese markets. With both the Western and Central Pacific Fisheries Commission (WCPFC) and the Indian Ocean Tuna Commission (IOTC) facing IUU fishing, there is significant risk of both IUU and the resulting catch entering these markets.

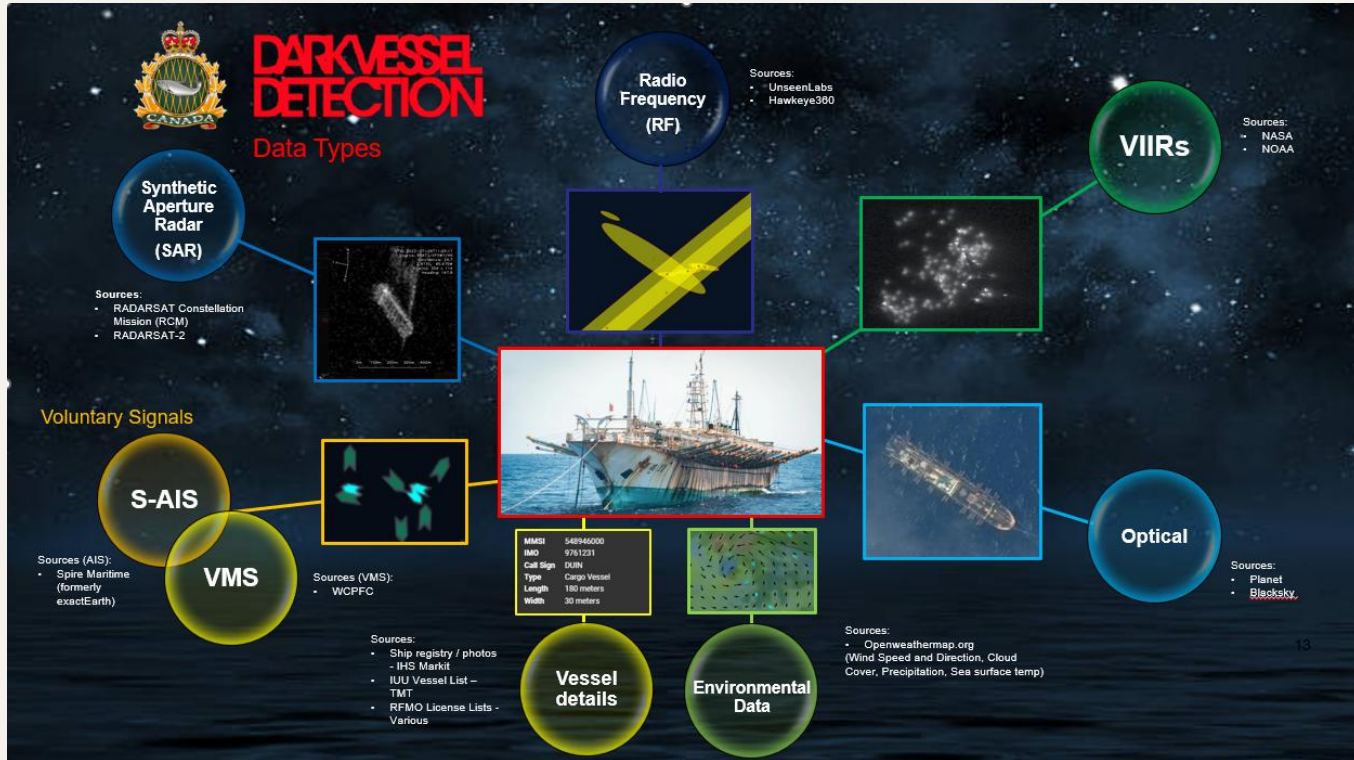
- Provide MCS data, tools and training to increase Marine Domain Awareness.
- Provide PSMA implementation support to have a long-lasting positive impact.
- Expand target inspections to maximize enforcement resources and assets.
- Support the officers to independently identify risks and disseminate risk assessments in the form of AREP reports for onboard inspections.
- To prohibit IUU catch from entering international supply chains.



Capacity Building

- 3 weeks of intensive training sessions on MCS, DVD and PSMART
 - 30 officers trained
- Follow up sessions on DVD, PSMART and QGIS

Dark Vessel Detection Tool (DVD)





Port State Measures Analysis Risk Tool (PSMART)



Concept for a national-level tool to assist implementation of PSMA through public-private partnerships



Online service to enable governments, seafood suppliers, processors and retailers quickly and easily understand the compliance risks of foreign-flagged vessel deliveries



Compliance risks identified using the pre-arrival AREP analysis

Outputs

- 34 AREPs created using PSMART
- 9 Intelligence Gathering reports
- Patrol support reporting
- DVD & PSMART used for all above
- Officer Training Self-Assessment



Impact



- 1 vessel refused entry in Davao
- Significant increase in officer capacity to process AREPs using multiple tools
- Incidence of requesting information from flag states due to enhanced AREP processing
- Delay of unloads due to AREP documentation request outstanding



Conclusion



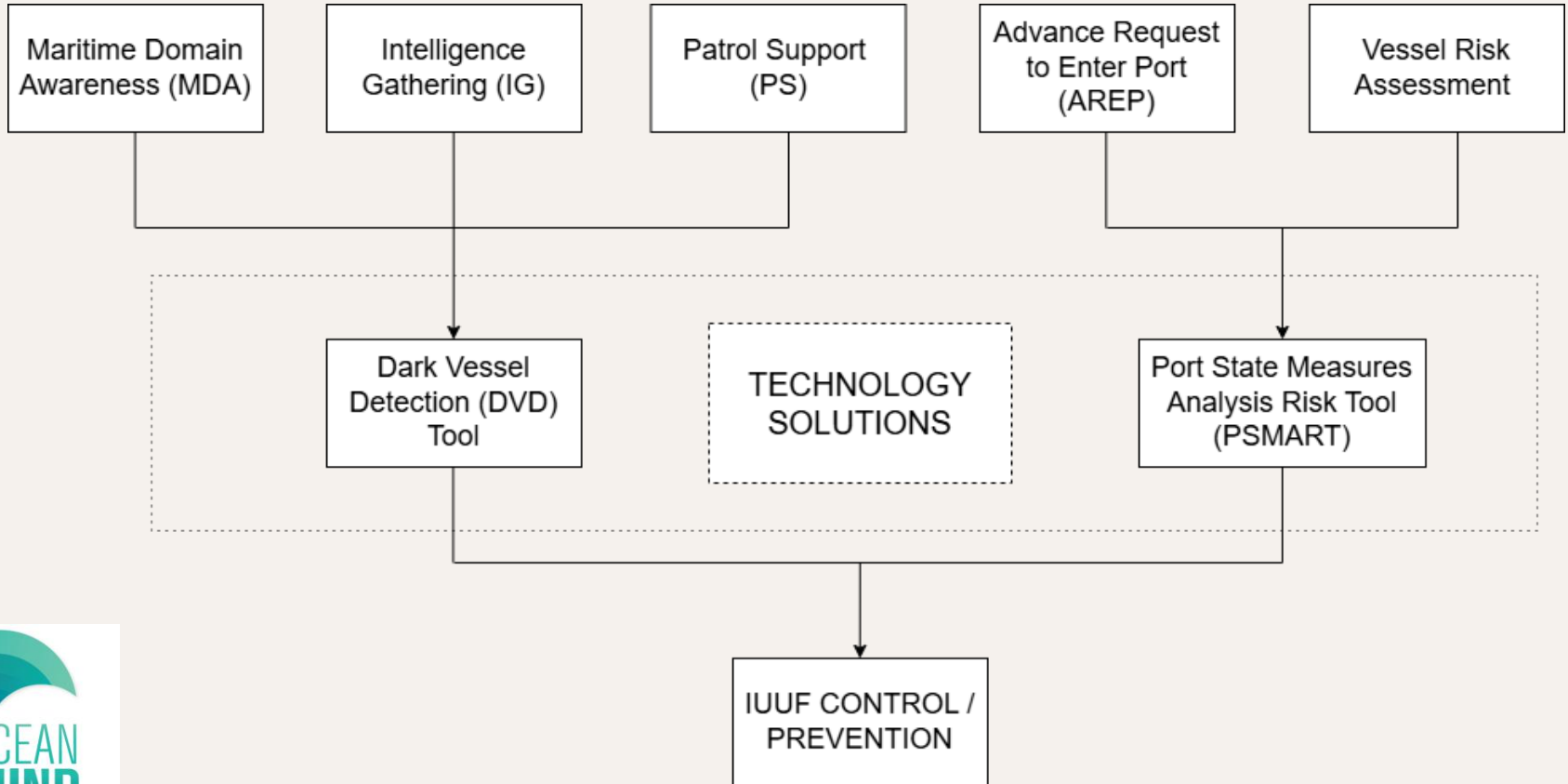
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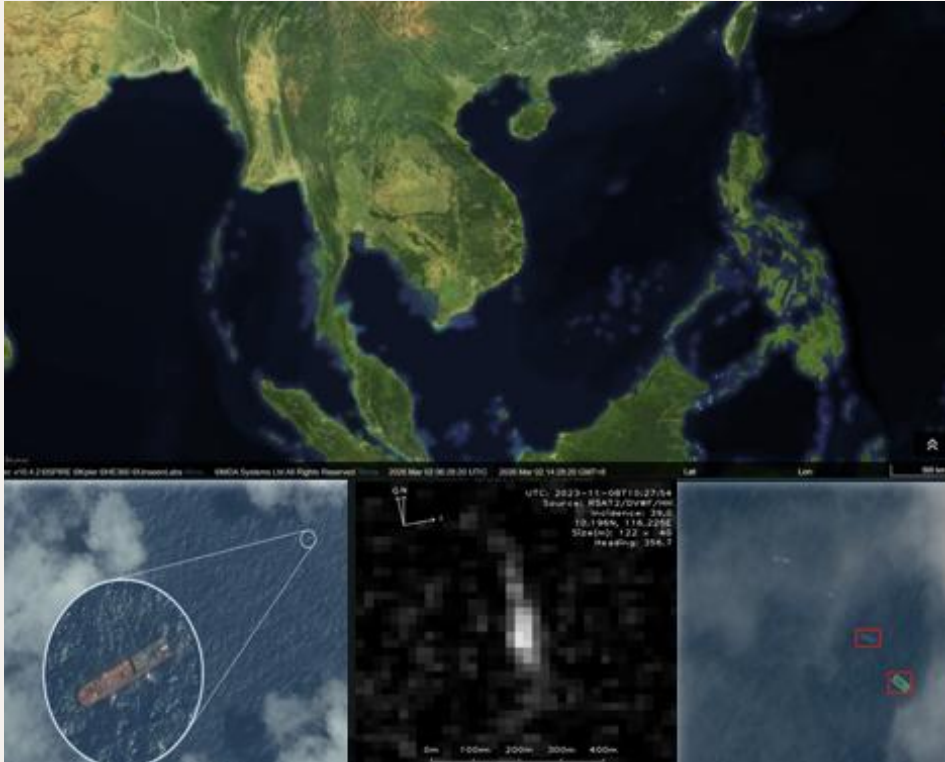
Technology Solutions Dark Vessel Detection and PSMART



TECHNOLOGY SOLUTIONS FOR FIGHTING IUUF: OVERVIEW



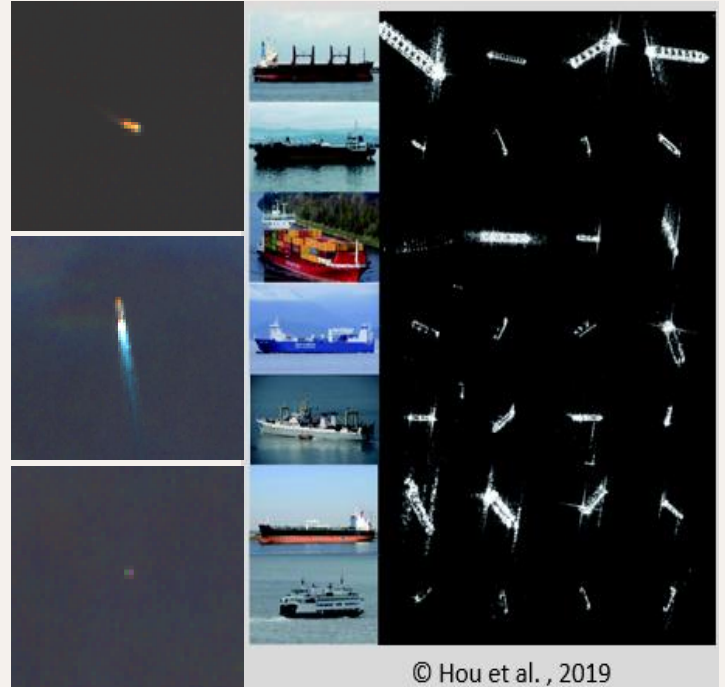
DARK VESSEL DETECTION (DVD) TOOL



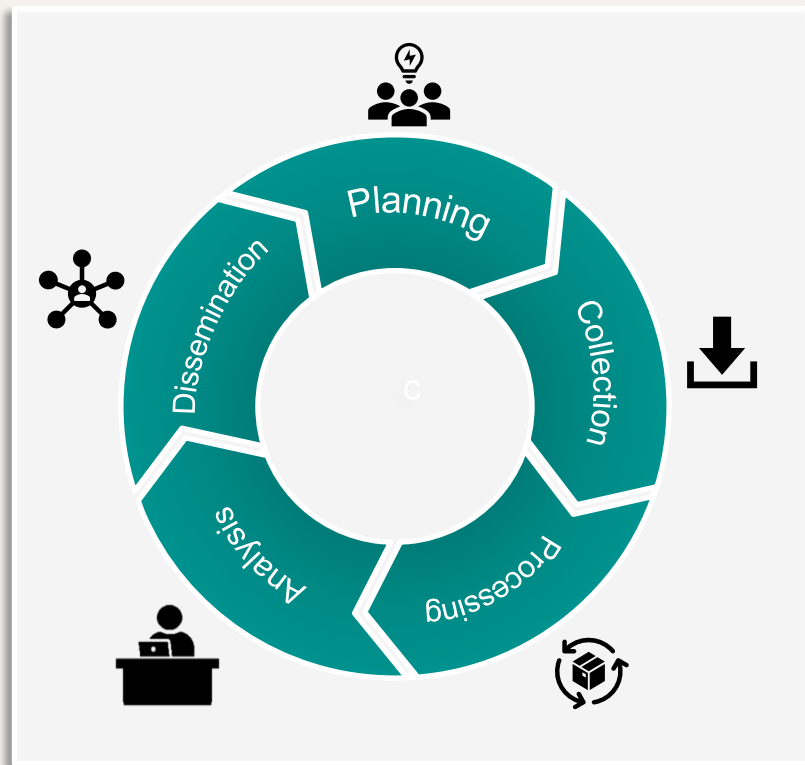
- Is a platform used to detect, identify, classify, and track vessels in near real time.
- Integrates commercial and Canadian government satellite assets, plus AIS and VMS (if available), to provide a comprehensive view of vessel activities.
- Helps enable intelligence-led enforcement and patrol operations.

DARK VESSEL DETECTION (DVD) TOOL

- Automatic correlation of all satellite detections (SAR, EO, VIIRS, RF) with AIS and VMS (if available) transmissions– dark targets highlighted automatically.
- Near real-time provision to data.
- Philippine Government (BFAR, PCG, NCWC) has access to this platform.



HOW DOES DVD SUPPORT THE FIGHT AGAINST IUUF?



- DVD is purpose-built to provide extensive satellite data in a platform that allows for rapid assessments of vessel behaviour and associated risks.
- The data in DVD can be used to identify “dark” vessels from above, assisting partner countries in investigating and enforcing against IUUF.
- This tool can enable MDA and IG analysis, to support partner countries.

PORT STATE MEASURES ANALYSIS Risk TOOL (PSMART)



Concept for a national-level tool to assist implementation of PSMA through public-private partnerships



Online service to enable governments, seafood suppliers, processors and retailers quickly and easily understand the compliance risks of foreign-flagged vessel deliveries



Compliance risks identified using the pre-arrival AREP analysis

PSMART USER GROUPS



Suppliers

Simplified way to enter information.

Incorporate other information on labour, health, and customs.

Update inputs to validate claims.



Port State Governments

Distribute automated indicators of non-compliance to authorities.

Inspectors can use risk profiling to target inspections.

Notification of arrivals that have not been declared.



Flag / Coastal State Governments

Method to securely communicate and receive additional information.

Must be aligned with PSMA information exchange mechanism.



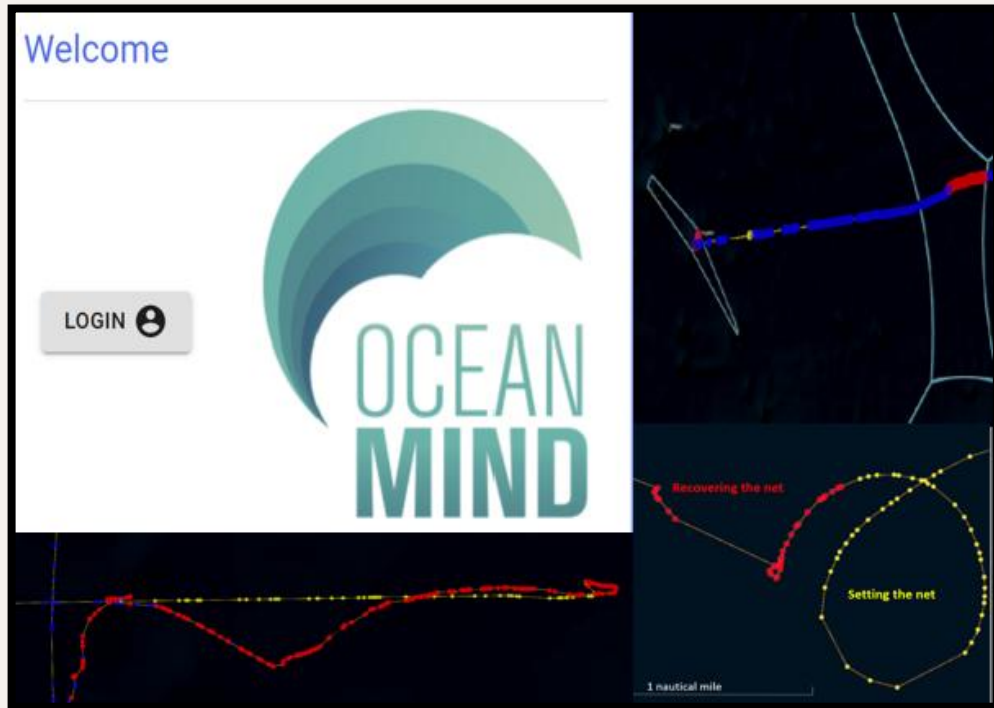
Receivers/Processors/Retailers

Receiver knows the risks.

Claims validated.

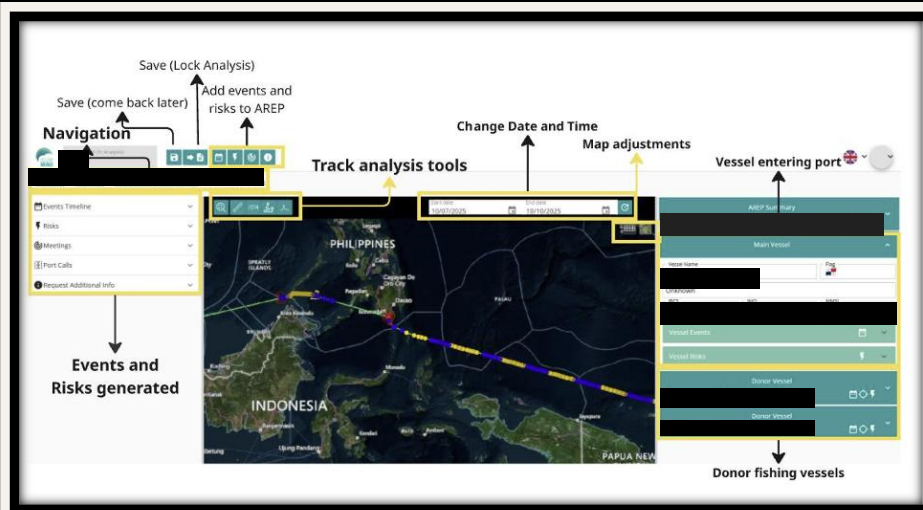
Access to the risk assessments provide 3rd party validation.

PORT STATE MEASURES ANALYSIS RISK TOOL (PSMART)



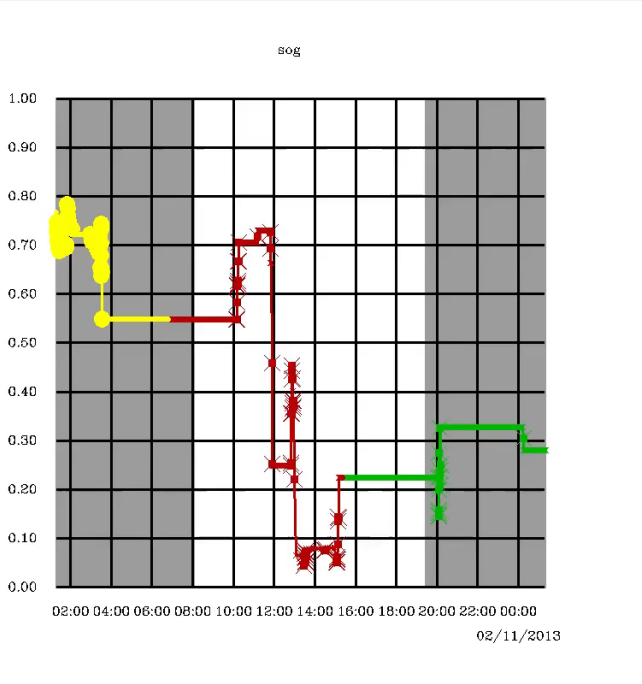
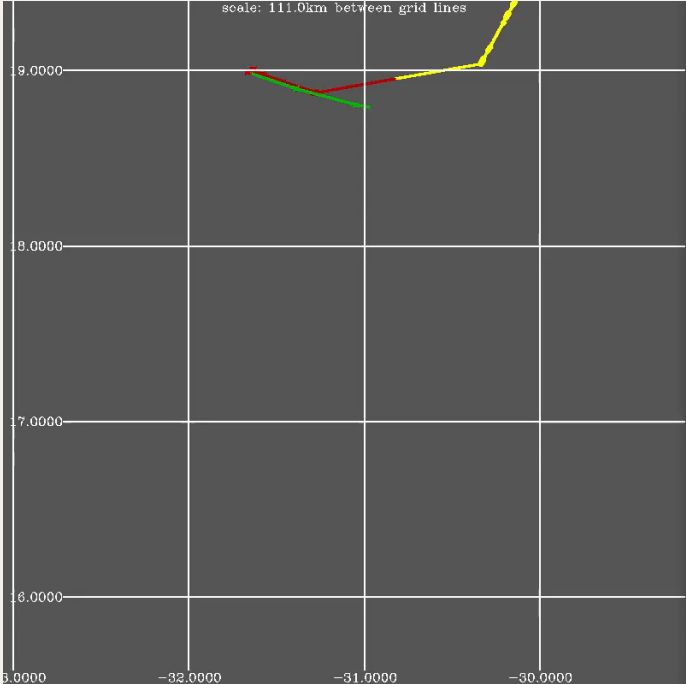
- PSMART is a reporting tool which aims to assist the partner countries to analyze and conduct risk assessment on Advanced Request to Enter Port (AREP).
- It automates vessel track analysis and identify vessel risks.

HOW DOES PSMART SUPPORT THE FIGHT AGAINST IUUF?



- PSMART is used to analyse port entry requests and review the vessel's activities before permission to enter port is granted.
- Government officers analyse and interpret the computational results of the system to produce risk assessments and analysis reports, which include a detailed analysis of vessel activity and history as well as investigation and inspection recommendations.

PSMART TECHNOLOGY – MACHINE LEARNING FOR RISK ASSESSMENT



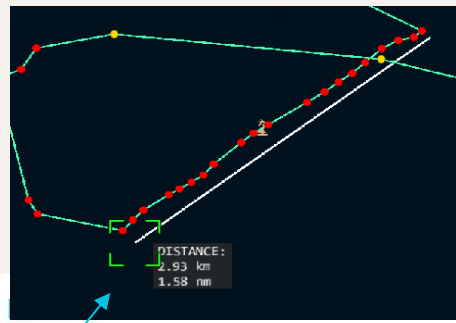
PSMART DEMONSTRATION

The screenshot displays the PSMART software interface. The central map shows a route through Southeast Asia, including Malaysia, Indonesia, Philippines, and Thailand. The interface includes several data panels:

- Events Timeline:** A list of events with dates and times, such as "27Jul2023 19:28:2" and "27Jul2023 14:56:2".
- Risks:** A panel showing selected risks, such as "From 30Jul2024 14:48 To 30Jul2024 18:49" and "From 26Jul2024 06:43 To 26Jul2024 07:39".
- Meetings:** A panel showing meeting details, including "Load tr", "Vess...", and "imo".
- Port Calls:** A table showing port calls with columns for "Port", "Start date", and "End date".

Port	Start date	End date
Tarava		
Tarava		
Busan		

PSMART DEMONSTRATION



Vessel tracks				
Vessel	Path	Points	Alerts	Speed graph

The main interface displays a map of the Pacific Ocean region, including South Korea, the Philippines, and parts of Southeast Asia. A yellow and blue track is visible on the map. The interface includes a left sidebar with navigation options like 'Events Timeline', 'Risks', 'Meetings', 'Port Calls', and 'Request Additional Info'. A top navigation bar shows '01/06/2023' and '26/07/2023'. On the right, there are panels for 'ARBP Summary' (0010-2023 OMT, 28Jul2023 13:21), 'Main Vessel' details (Vessel name, Type, ICS, IMO, MMSI), 'Vessel Events', 'Vessel Tracks', and 'Donor Vessel'. A speed graph at the bottom shows speed in knots over time, with a tooltip for 'Thursday, Jun 1, 07:32:12' showing '0.01 kn'.

Summary

Dark Vessel Detection (DVD) Platform

- Any vessel in your EEZ, but foreign flagged fishing vessels and carriers are of high importance.
- Can produce the following:
 - Intelligence Gathering Report
 - Situational Awareness
 - Patrol Support
 - Maritime Domain Awareness

Port State Measures Analysis Risk Tool (PSMART)

- Foreign flagged fishing, carrier or bunkering vessels wanting to enter your port.
- **AREP Reports and Risk Assessments** are the outputs generated with this tool.



Thank you
Questions

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