

Assessing Risk to Inform Port Entry and Inspection Decisions

SEAFDEC Port State Measures Training
Bangkok, Thailand | September/ October 2026

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Overview

Learning Objectives

- Reinforce the importance of port control and some key PSM principles
- Understand what ‘risk’ is and which factors may indicate a (foreign) vessel is a higher IUU risk
- Understand how we can use public data sources to cross-check vessel information on port entry requests
- Understand how to use risk matrices to identify “riskier” vessels and better target port inspection efforts

Recap: Port State Measures Objective

- Ports are the gateway for fish to enter markets

What is our main objective in applying port State measures?

- To try to prevent IUU* fish (from foreign vessels) entering markets through our ports

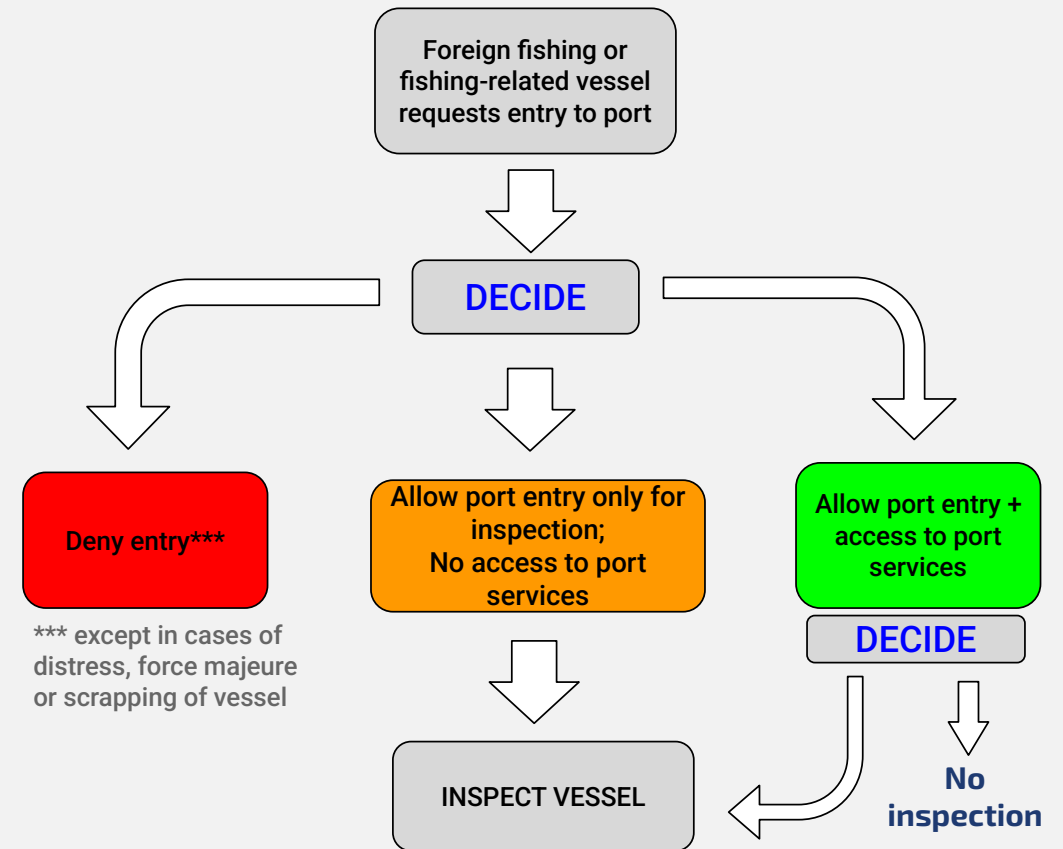
**IUU - Illegal, Unreported & Unregulated*



Port State Measures Framework

PSMs provide a framework to make informed decisions about:

- 1. Whether we let the vessel enter port
- 2. Whether we let the vessel use port services
E.g. unload or tranship fish
- 3. Whether we inspect the vessel?



Prioritizing Inspections

The PSMA and RFMO PSMs provide guidance on which foreign fishing vessels to prioritize for inspection.

- Prioritizing is important because a port State often has limited resources, so generally cannot inspect every vessel

PSMA Prioritization Guidance

- Vessels that have previously been denied entry or port use (in accordance with PSMA)
- Vessels that other relevant Parties, States, or RFMOs, requested be inspected, especially where requests are supported by evidence of IUU fishing activity
- Other vessels for which there are clear grounds for suspecting IUU fishing or fishing-related activities



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Port State Measures & Risk Assessment

What is Risk?

A **risk** is something that's uncertain:
It may have a positive or negative impact.

For PSMs we're concerned with **negative risks**

Specifically, we're interested in:

- ***Assessing the risk of a vessel being directly or indirectly involved in non-compliant or IUU fishing activity and delivering IUU fish to port.***

Why:

We want to identify these vessels, limit their port entry/ use, and ultimately stop any IUU fish being offloaded at port and getting to markets.



Risk Example

Example

- A vessel's VMS is not functioning for a day and the last known vessel position was next to a closed fishing area
- We don't know where the vessel was and what it was doing while the VMS was off

=> RISK IS:

The vessel could have conducted fishing in a closed area and caught fish illegally, i.e. IUU fish

- Next => investigate further (pre port entry/ in port)



Scales of Risk

We can consider risk at different scales:

- **A single vessel**

OR

- **A fleet or group of vessels**

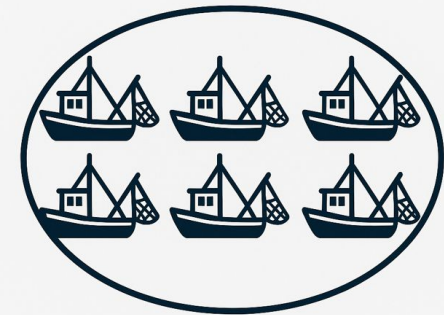
A particular fleet may be known to be more frequently associated with IUU fishing e.g:

- Fleets flying flags of convenience
- Vessels owned by a person that is associated with illegal fishing

Single Vessel



Fleet



Risk Indicators

QUESTION

- What kinds of factors **COULD** indicate a vessel has a higher risk of being involved with or carrying IUU fish and should be investigated further?

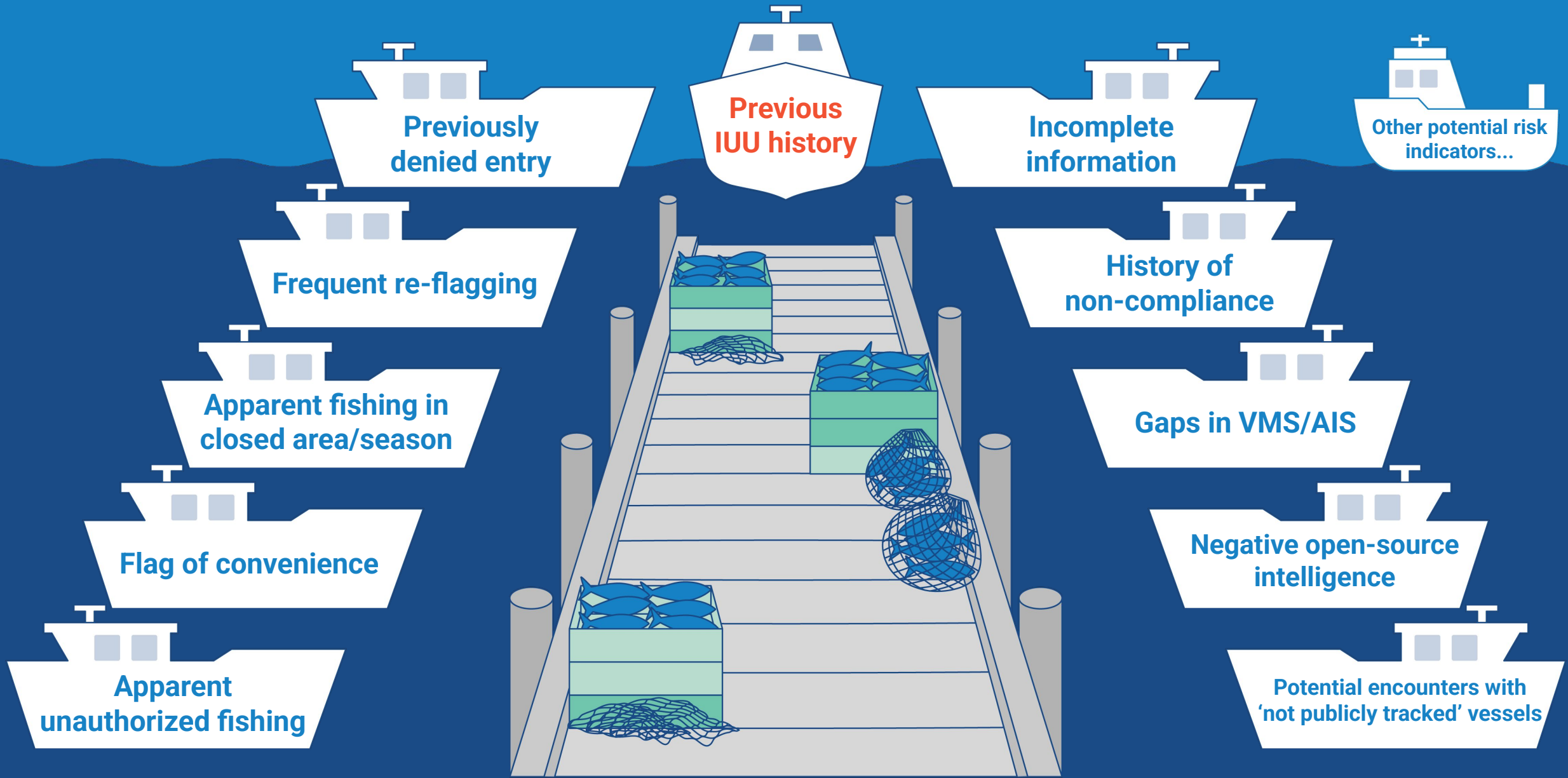
What Factors may Indicate a Vessel is a Higher IUU Risk?

- Examples that could indicate vessels have a higher IUU risk:
 - Discrepancies in vessel identifiers from different data sources
 - IUU-listed now or in the past, and/or interacting with IUU-listed vessels
 - Part of a company/ owner with IUU/ non-compliance history
 - History of past non-compliance in general
 - Re-flagging frequently/ flags of convenience
 - Not having the required licenses and/or domestic/ regional/ international authorisations/ permits
 - No or insufficient catch/effort allocations or allowances for species in area
 - Lack of bycatch mitigation devices (if required)
 - New vessel in port from a different flag / vessel type / then has previously been encountered

What Factors may Indicate a Vessel is a Higher IUU Risk?

- Examples that could indicate vessels have a higher IUU risk (*continued*):
 - VMS failures (if VMS required)
 - Gaps in AIS transmission (if broadcasting AIS)
 - Potential fishing activity in areas where fishing is not permitted
 - Apparent fishing during closed seasons
 - Fishing beyond the EEZ if not permitted
 - Non-authorized gear types being used
 - Indications of at-sea transshipments (if prohibited) or transshipping with other high-risk vessels

What Factors may Indicate a Vessel is a Higher IUU Risk?



Here are some **characteristics** that may indicate the vessel is a higher risk

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Using Port Entry Requests to Assess IUU Risk

The Advance Request for Port Entry (ARPE)

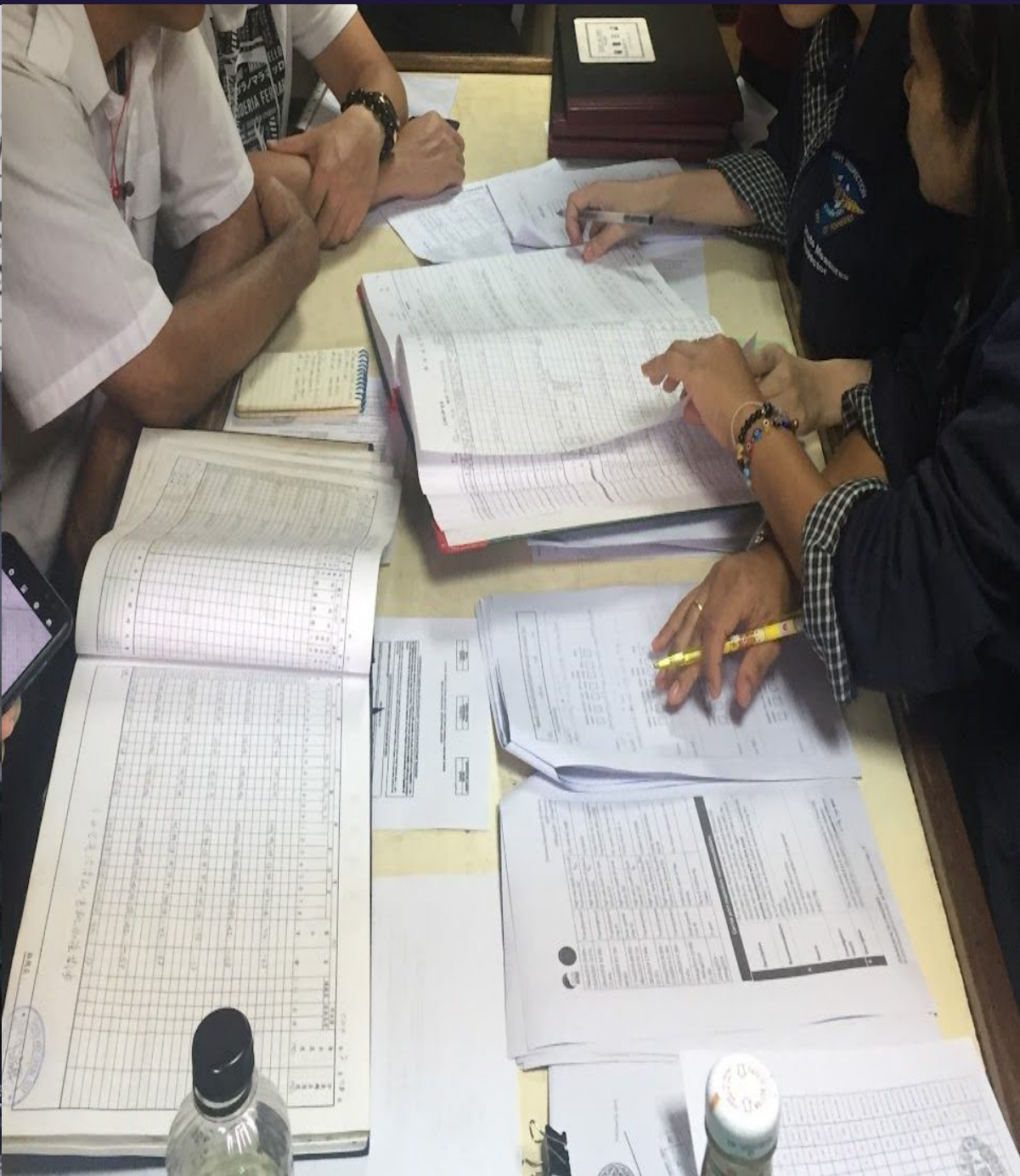
PSMA ARPE (minimum standard)

ANNEX A

Information to be provided in advance by vessels requesting port entry

1. Intended port of call									
2. Port State									
3. Estimated date and time of arrival									
4. Purpose(s)									
5. Port and date of last port call									
6. Name of the vessel									
7. Flag State									
8. Type of vessel									
9. International Radio Call Sign									
10. Vessel contact information									
11. Vessel owner(s)									
12. Certificate of registry ID									
13. IMO ship ID, if available									
14. External ID, if available									
15. RFMO ID, if applicable									
16. VMS	No	Yes: National	Yes: RFMO(s)	Type:					
17. Vessel dimensions		Length		Beam		Draft			
18. Vessel master name and nationality									

19. Relevant fishing authorization(s)								
<i>Identifier</i>	<i>Issued by</i>		<i>Validity</i>		<i>Fishing area(s)</i>	<i>Species</i>	<i>Gear</i>	
20. Relevant transshipment authorization(s)								
<i>Identifier</i>			<i>Issued by</i>			<i>Validity</i>		
<i>Identifier</i>			<i>Issued by</i>			<i>Validity</i>		
21. Transshipment information concerning donor vessels								
<i>Date</i>	<i>Location</i>	<i>Name</i>	<i>Flag State</i>	<i>ID number</i>	<i>Species</i>	<i>Product form</i>	<i>Catch area</i>	<i>Quantity</i>
22. Total catch onboard						23. Catch to be offloaded		
<i>Species</i>		<i>Product form</i>		<i>Catch area</i>	<i>Quantity</i>		<i>Quantity</i>	



Port Entry Request Assessment

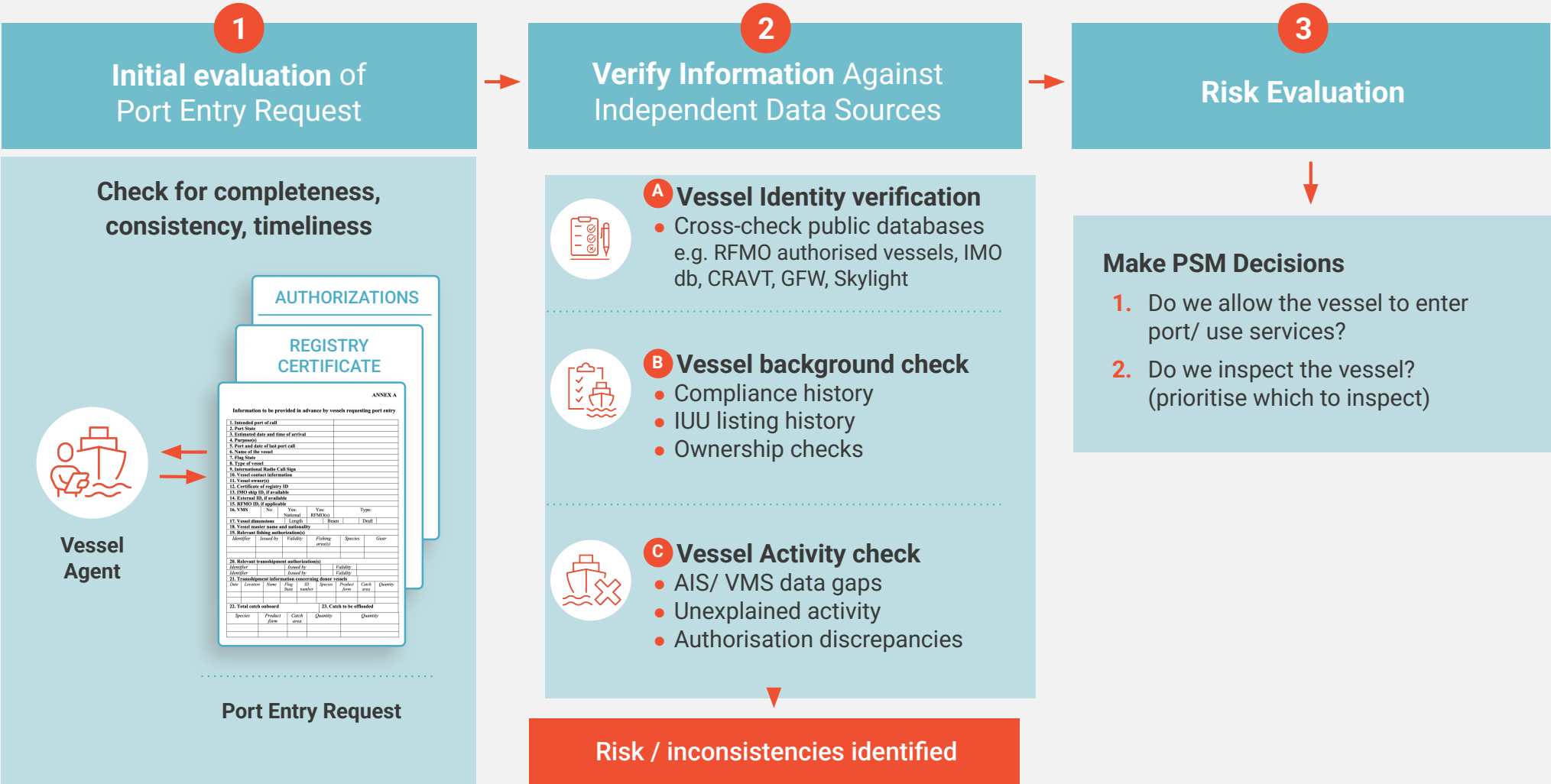
- We could follow this 3-step process

1. Initial evaluation of ARPE/ AREP

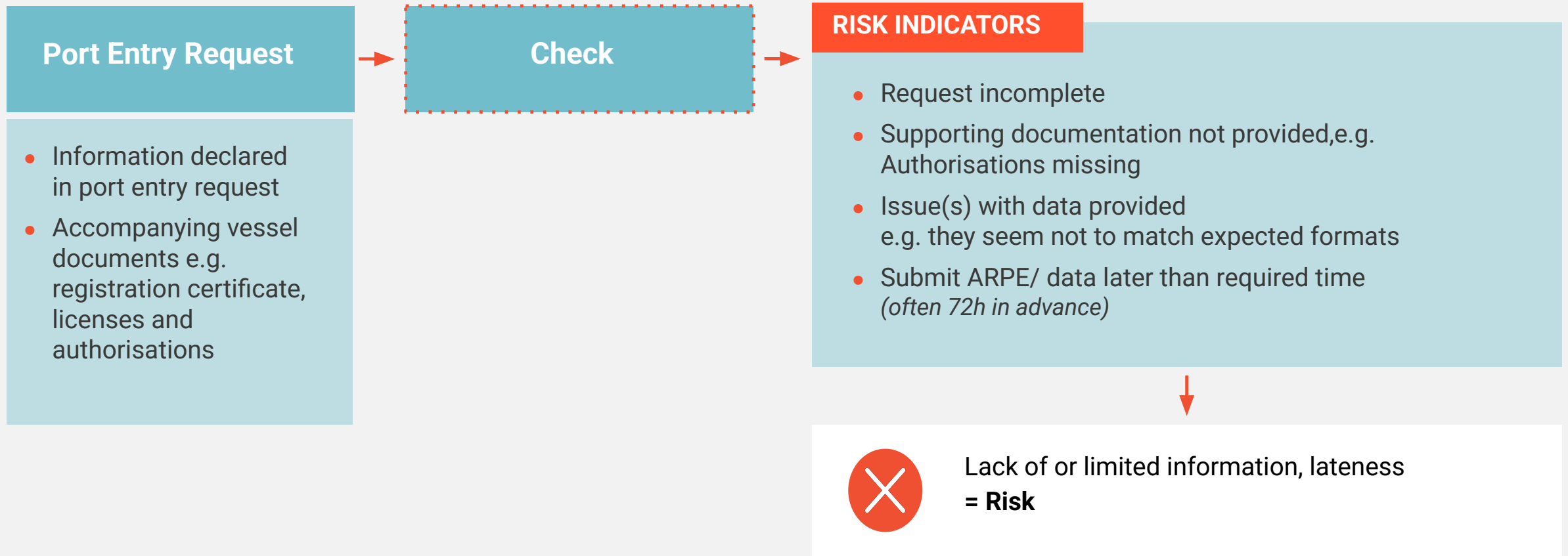
2. Verification/ cross-checking

3. Risk evaluation

Port Entry Request Assessment: 3-step process



Step 1: Initial Checks - Completeness, Consistency, Timeliness



2: Verifying Information Against Independent Sources

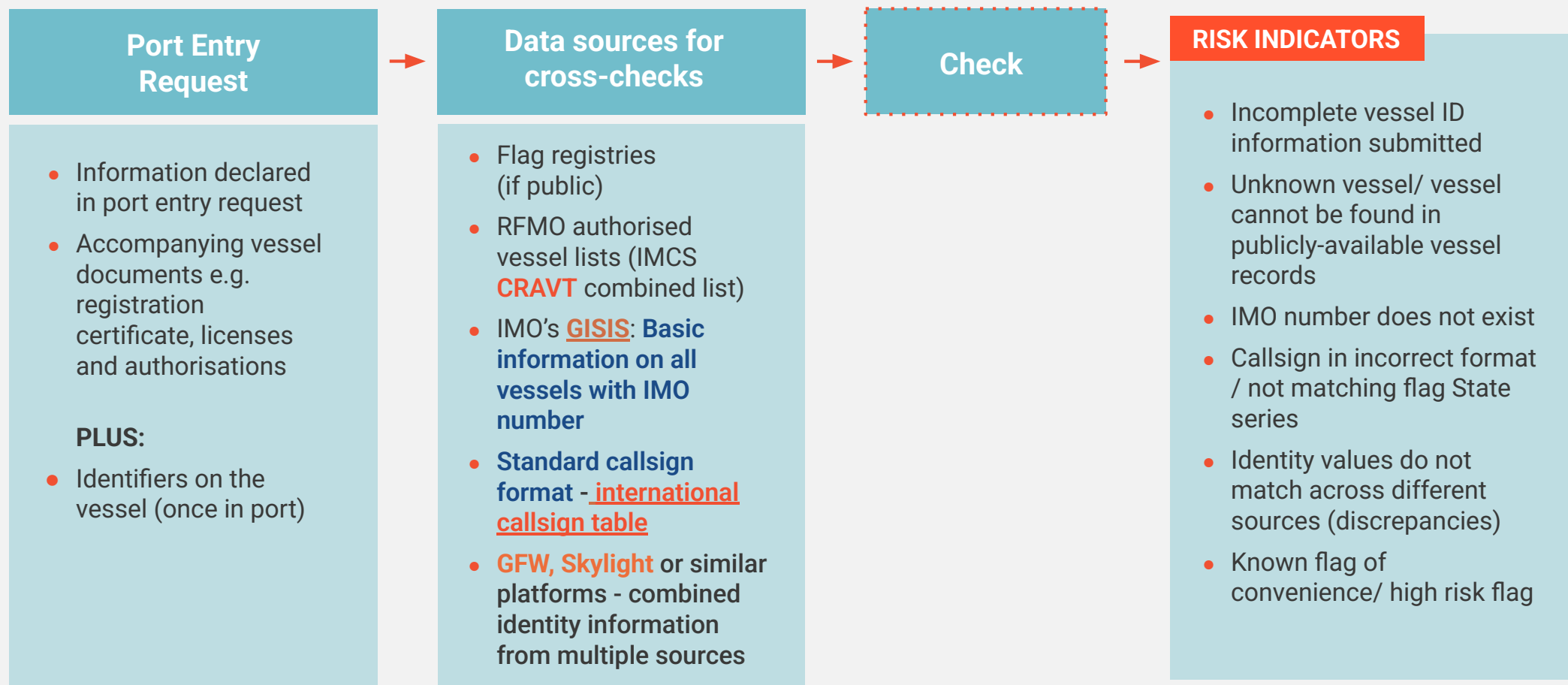
- This is an important step especially for unfamiliar vessels

Includes:

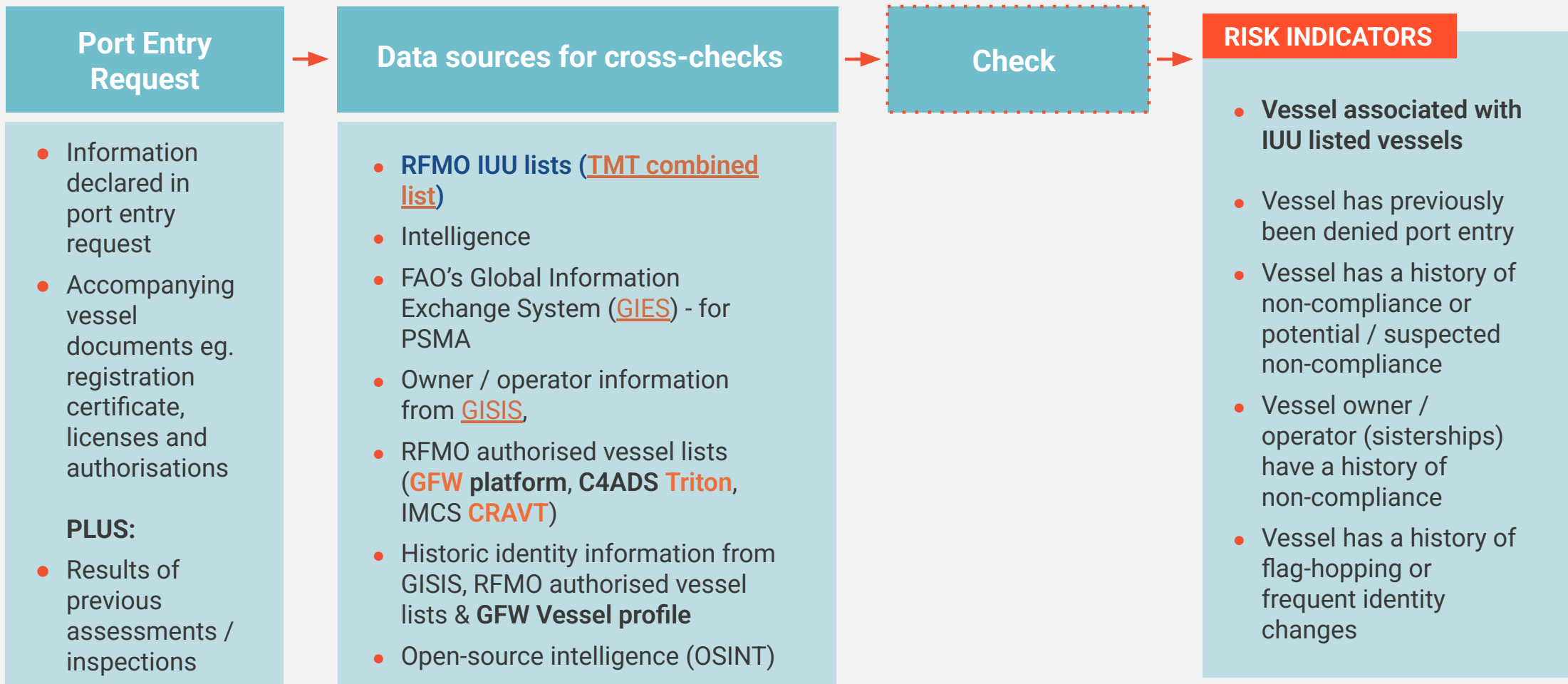
- a. Vessel identity cross-checks
(is the vessel's identity genuine?)
- b. Vessel background checks
- c. Vessel activity checks



Step 2a: Vessel identity details verified against public databases or platforms (is the vessel's identity genuine?)



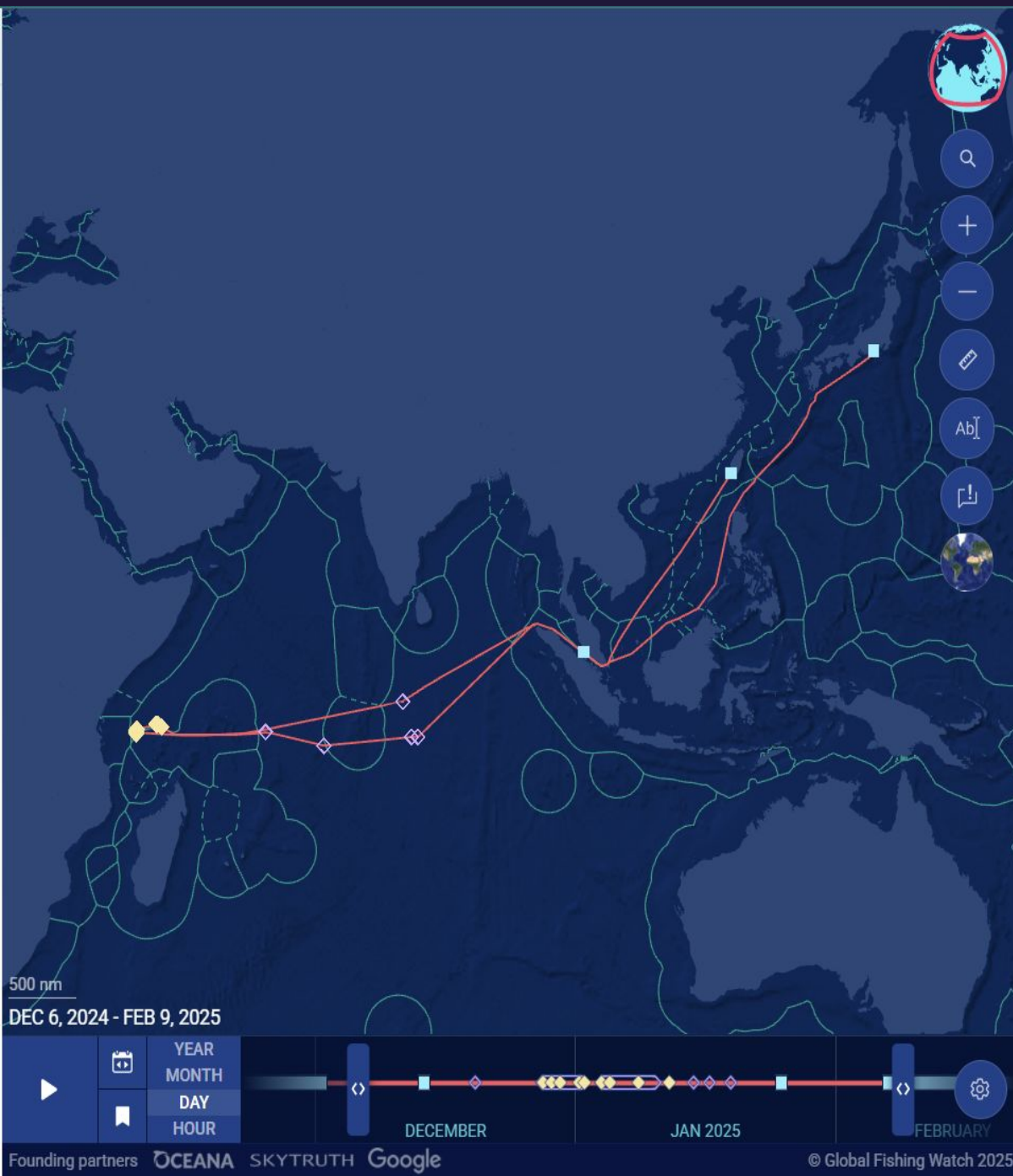
Step 2b: Vessel background checks.



2b: Vessel Background checks

- Check for RFMO IUU Listings
 - Check directly on RFMO IUU Lists, or
 - Combined TMT IUU List:
<https://www.iuu-vessels.org/Home/Search>
- Check past compliance history
 - FAO **GIES** database (for PSMA)
 - previous inspections of the same vessel
- Check ownership:
 - IUU history of another vessel under same ownership presents more risk than historic IUU by target vessel under (genuinely) different ownership
 - C4ADS maintain a tool for called **Triton** to analyse ownership and compliance records.
- Check open-source intelligence: e.g. news media





2c: Vessel Activity Checks

- Check for any indication of unexplained and/or IUU activities prior to port arrival, particularly since last port visit

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ANALYTICAL
CELL

IMCS
NETWORK

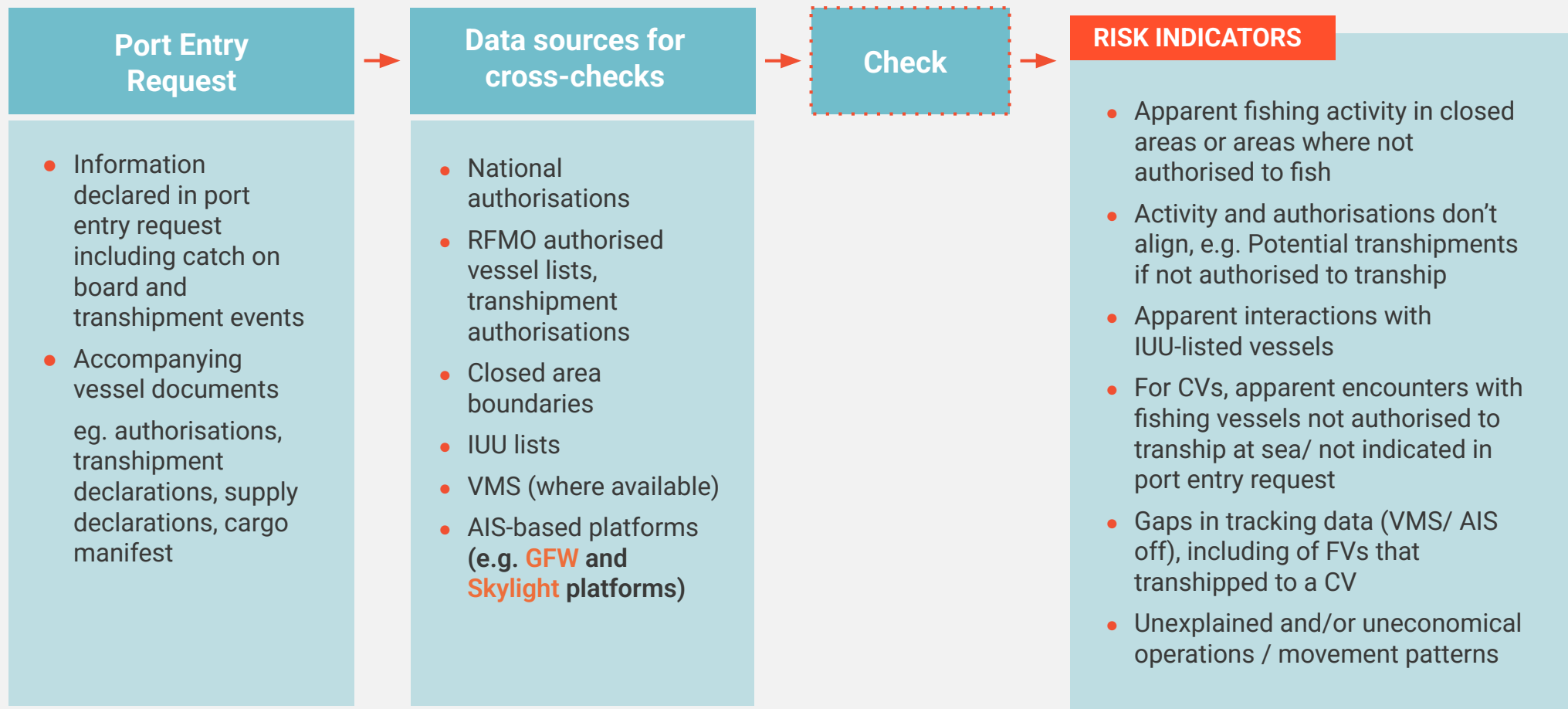
Global
Fishing
Watch

TMT

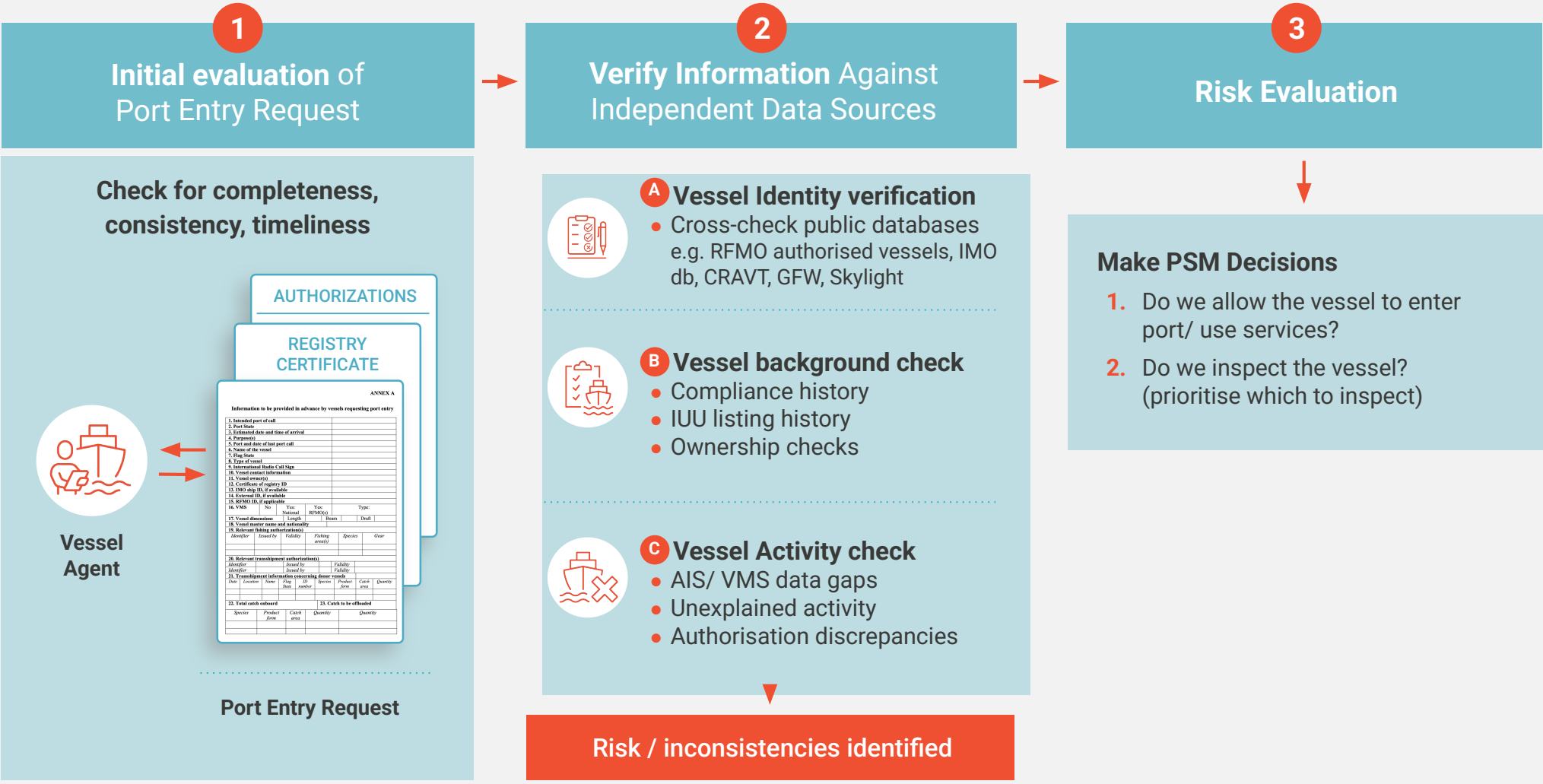
C4ADS

SKYLIGHT
A product of AI2

Step 2c: Vessel Activity Checks



Port Entry Request Assessment: 3-step process



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Risk Assessment Matrices

How can we identify vessels with a higher IUU Risk?

- By using a vessel-based risk matrix
- A risk matrix helps us objectively prioritise where to concentrate our investigations by giving us a way to score vessels
- The vessel(s) with the highest total risk scores are ones we want to investigate further e.g. through inspection

Example Vessel based risk assessment matrix (Northeast Atlantic Fisheries Commission)

RISK	5	4	3	2	1
Flag State	Flag State A	Flag State B	Flag State C	Flag State D	Flag State E
Species	Toothfish	BET YFT	Mackerels Albacore	Other tunas Other sharks	Other species
Fishing grounds	High Seas; RFMO Unknown	Coastal State X, Y RFMO 1	Coastal State Z RFMO 2	Coastal State A, B	Coastal State C, D RFMO 3, 4
Tracking equipment	No VMS No AIS	AIS/VMS but no data	AIS data	Limited VMS data	VMS data
Vessel information	No data or information available	Data from prev. insp. w/ infring.	Data from prev. insp. no infring.	Basic data from Flag State	Data from Flag State and prev. insp.; no infringements

	Vessel 1	Vessel 2	Vessel 3
Flag State	Flag State A	Flag State E	Flag State C
Species	Tooth fish	Other sharks	BFT
Fishing grounds	Unknown	Coastal State B	RFMO 2
Tracking equipment	No AIS/VMS	VMS data	AIS data
Vessel information	No data nor information	Basic data from the flag State	Prev. inspection; infringement found
Risk total			

Risk Matrix: First Step

First Step: Identify Risk Indicators

Based on your team's knowledge, identify the set of important risk items you're interested in as a port State - for example it could be:

1. IUU associations
2. Number of flag changes
3. Tracking Data - regularity of transmission/ movement patterns (AIS)
4. Past compliance history

Simple Risk Matrix - Example

We can put the 4 risk indicators into a risk matrix format:

- 1. IUU associations
- 2. Number of flag changes
- 3. Tracking Data - regularity of transmission/ movement patterns
- 4. Past compliance history

Risk	4 (highest concern)	3	2	1 (lowest concern)
IUU associations	These are example risk factors. Decide what factors are most relevant/ important to you			
Number of flag changes				
Tracking data (AIS focused)				
Past compliance history				

Simple Risk Matrix - Example

- Next fill out more detail about each risk indicator
- Describe the criteria required to give a high score (4 = high risk) down to a low score (1 = low risk)

Risk	4 (highest concern)	3	2	1 (lowest concern)
IUU associations	Has been IUU-listed (now or in past)	Encountered IUU-listed or IUU-linked vessels	Owner has other vessels with IUU history <i>(but vessel has no known past IUU listings/ IUU encounters)</i>	No linkages with IUU vessels
Number of flag changes	More than 2	2	1	None
Tracking data (AIS focused)				
Past compliance history				

Simple Risk Matrix - Example

- Next fill out more detail about each risk indicator
- Describe the criteria required to give a high score (4 = high risk) down to a low score (1 = low risk)

Risk	4 (highest concern)	3	2	1 (lowest concern)
IUU associations	Has been IUU-listed (now or in past)	Encountered IUU-listed or IUU-linked vessels	Owner has other vessels with IUU history <i>(but vessel has no known past IUU listings/ IUU encounters)</i>	No linkages with IUU vessels
Number of flag changes	> 2	2	1	None
Tracking data (AIS focused)	AIS unit on board; Numerous AIS gaps and data anomalies	AIS unit on board; Numerous long gaps over past 5 years	AIS unit on board; 1-2 gaps over past 5 years	Known to have VMS & AIS units on board; No AIS gaps in past 5 years
Past compliance history	Vessel/master/owner/ operator has been fined and licences revoked/ suspended in past	Infractions of a moderate impact detected but with no licence revocations or suspensions	Only simple administrative infractions recorded with low or no impact	No known compliance infractions

Simple Risk Matrix - Fill in Vessel Information for each Risk Indicator

- Here are 3 vessels of interest
- Information about each risk indicator category has been added for each

Risk	Vessel 1	Vessel 2	Vessel 3
IUU associations	No linkages with IUU vessels	Has been IUU listed (now or in past)	Had an encounter with a support vessel with IUU linkages
Number of flag changes	2	0	0
Tracking data (AIS focused)	AIS unit on board; 18 long gaps over past 5 years	AIS unit on board; 15 AIS gaps plus data anomalies	Known to have VMS & AIS units on board; no AIS gaps in past 5 years
Past compliance history	No known compliance infractions	Vessel master has been fined and suspended in past	Only simple administrative infractions recorded with low or no impact

Simple Risk Matrix - Look at Vessels

- Now we add in the risk scores (from 1 - 4) for each vessel using our matrix on the right
- Then add up to get the total **risk score in red**

Risk	Vessel 1	Vessel 2	Vessel 3
IUU associations	No linkages with IUU vessels (1)	Has been IUU listed (now or in past) (4)	Had an encounter with a support vessel with IUU linkages (3)
Number of flag changes	2 (3)	0 (1)	0 (1)
Tracking data (AIS focused)	AIS unit on board; 18 long gaps over past 5 years (3)	AIS unit on board; 15 AIS gaps and data anomalies (3)	Known to have VMS & AIS units on board; no AIS gaps in past 5 years (1)
Past compliance history	No known compliance infractions (1)	Vessel master has been fined and suspended in past (4)	Only simple administrative infractions recorded with low or no impact (2)
TOTAL RISK SCORE	8	12	7

Risk	4 (highest concern)	3	2	1 (lowest concern)
IUU associations	Has been IUU-listed (now or in past)	Encountered IUU-listed or IUU-linked vessels	Owner has other vessels with IUU history (but no known past IUU listings/ IUU encounters)	No linkages with IUU vessels
Number of flag changes	More than 2	2	1	None
Tracking data (AIS focused)	AIS unit on board; Numerous AIS gaps and data anomalies	AIS unit on board; Numerous long gaps over past 5 years	AIS unit on board; 1-2 gaps over past 5 years	Known to have VMS & AIS units on board; No AIS gaps in past 5 years
Past compliance history	Vessel/master/owner/ operator has been fined and licences revoked/ suspended in past	Infractions of a moderate impact detected but with no licence revocations or suspensions	Only simple administrative infractions recorded with low or no impact	No known compliance infractions

Vessel 2 has the highest risk score and is the priority to investigate further

Remember:

- Initial indicators of risk are just a **starting point**
- They are a sign that we need to investigate further
- They DO NOT mean the vessel was definitely involved in IUU activity (unless IUU listed)
- We need to find evidence to prove IUU activity

=> ongoing process -> risk investigated -> no further concerns

OR -> risk uncovers additional concerns -> investigate further

Exercise

In small groups, draw a risk matrix table and:

- Identify risk indicators your group views as important (between 4 - 10) and add them to the left hand side of the risk matrix like in the example below
- For 1 or more of your risk indicators, fill in details to describe what conditions would qualify as a level 4 (high), 3, 2 or 1 (low) risk

Risk	4 (highest concern)	3	2	1 (lowest concern)
Risk indicator 1				
Risk indicator 2				
Risk indicator 3				
Risk indicator 4				



Questions?

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About the Joint Analytical Cell:

The Joint Analytical Cell (JAC) is a unique collective of organizations that provides maritime authorities with high quality fisheries intelligence, technology, data analysis and capacity building to combat illegal, unreported and unregulated fishing (IUU). Together, the JAC members, IMCS Network, Global Fishing Watch, TMT, C4ADS and Skylight, harness innovative technology and complementary expertise to improve the effectiveness of fisheries monitoring control and surveillance, and foster cooperation to build insights and capacity that support and enhance fisheries management.

www.jointanalyticalcell.org

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