



Relieving Cognitive Load and Boosting Safety on Eastern Pacific Shipping's Vessels



May 2026

30+

Contracted vessels

130K+

Nautical miles sailed
with Orca AI

2K+

Navigational events
analyzed

48%

Reduction
in close-encounter events

10%

Fewer crossings
in congested sea lanes

The Customer

Eastern Pacific Shipping: Driving Digital Transformation in Global Maritime Transport

Eastern Pacific Shipping (EPS) is one of the world's leading vessel owners, operating a diverse fleet of over 350 vessels including bulk carriers, container ships, PCTCs, gas carriers, and oil tankers.

Headquartered in Singapore with a global workforce, EPS is known for operational excellence, innovation, and its strong safety culture. With global trade becoming increasingly complex, EPS is accelerating its digitalization program to safeguard crews, cargo, and the environment.

The Need

Addressing Fatigue and Risk in a High-Pressure Operational Environment

As the operator of a large and diverse fleet, EPS continuously evaluates how navigational risk is managed across vessels operating in high-density trade lanes and complex port environments. EPS identified several areas where additional support could strengthen consistency and decision-making under pressure.

- **Navigation in low-visibility conditions:** Night-time light backscatter in major ports, weather such as fog and heavy rain, and structural obstructions like wind rotor sails reduced situational awareness.
- **Cognitive workload and fatigue:** Extended watches, dense traffic, and back-to-back port operations placed continuous cognitive demands on bridge teams, particularly during night approaches and transits through the Malacca and Singapore Straits.
- **"Dark" and non-AIS targets:** Small wooden boats, fishing nets, and buoys can be difficult to detect consistently using conventional navigational systems alone, particularly in congested or cluttered environments.
- **Workforce shortages:** As navigational technologies continue to evolve, consistent training, knowledge transfer, and upskilling remain critical across multinational crews.

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At EPS, we believe that investing in technology is ultimately an investment in our people. Tools such as Orca AI are intended to support our bridge teams by reducing unnecessary workload, improving situational awareness, and giving crews greater confidence when operating in complex environments.

Sachin Saharawat, Technical Director, EPS

*Analysis of 5 vessels: 2 bulk carriers, 2 container vessels, and 1 tanker over Q1-Q2 2025.

The Solution for the Crew

A Digital Watchkeeper to Assist the Human Lookout

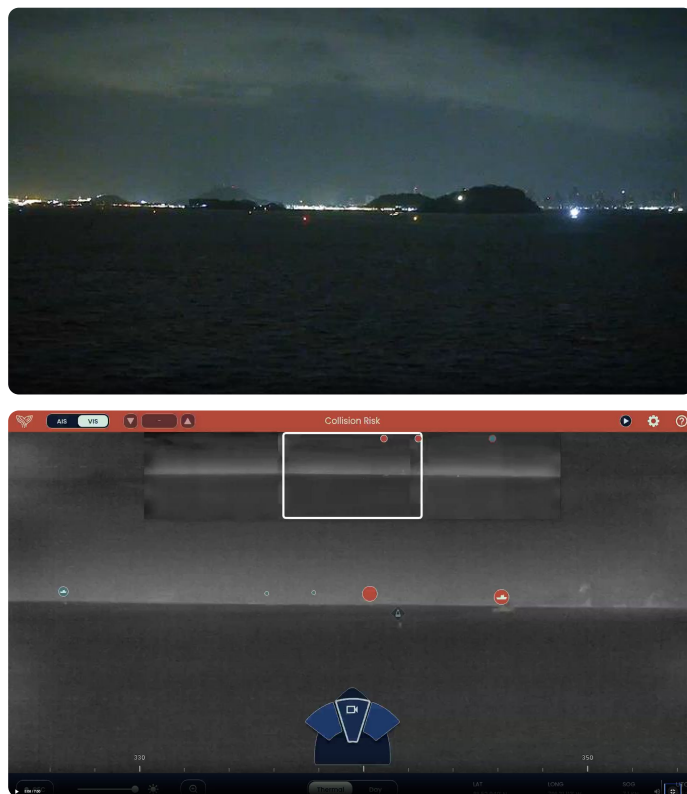
At the beginning of the partnership, EPS installed the Orca AI platform on 5 of their vessels: 2 bulk carriers, 2 container vessels, and 1 tanker.

The Orca AI digital watchkeeper, the SeaPod, was installed alongside Radar and ECDIS, providing a continuous visual reference that supports target prioritization in all traffic and visibility conditions by leveraging AI and computer vision.

Alongside established industry practices such as ARPA manual plotting and Radar trail management, it supports quicker assessment of developing encounters, particularly during night and backscatter in port approaches such as the Singapore Strait.

By focusing attention on high-risk targets, the EPS crew is able to make more informed decisions while navigating demanding environments.

This reduced the cognitive and visual load associated with sustained watchkeeping in congested and low-visibility conditions.



Coastal waters with heavy backscatter near the Singapore Strait. The standard view shows limited visual clarity, while Orca AI's thermal view supported automatic target acquisition, helping the bridge team identify and track surrounding targets in low-visibility conditions.

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During heavy traffic situations, Orca AI is really helpful because it translates the Radar and ECDIS into a visual image. It's also useful when we encounter targets like fishing boats and small buoys.”

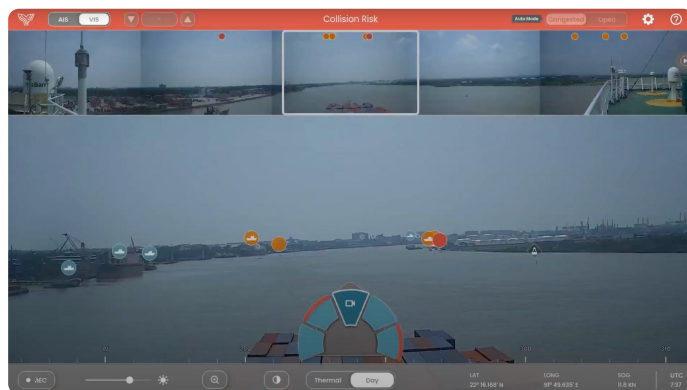
Captain Marius Cristian Stancu, CMA CGM Brazil, EPS

Managing AIS Blind Spots

EPS operates on routes where interactions with vessels that do not transmit AIS are common, particularly fishing vessels operating near traffic lanes and port approaches.

Orca AI's SeaPod presents non-AIS targets alongside AIS traffic using visual and thermal detection.

This allows bridge teams to assess proximity and movement of small or uncooperative vessels without relying on late visual contact or ambiguous Radar returns, particularly in congested waters and at night.



During entry to a port in the Bay of Bengal, Orca AI's SeaPod automatically acquired multiple non-AIS targets - including small vessels and floating objects - providing real-time visual awareness that Radar and ECDIS cannot replicate in constrained waterways.

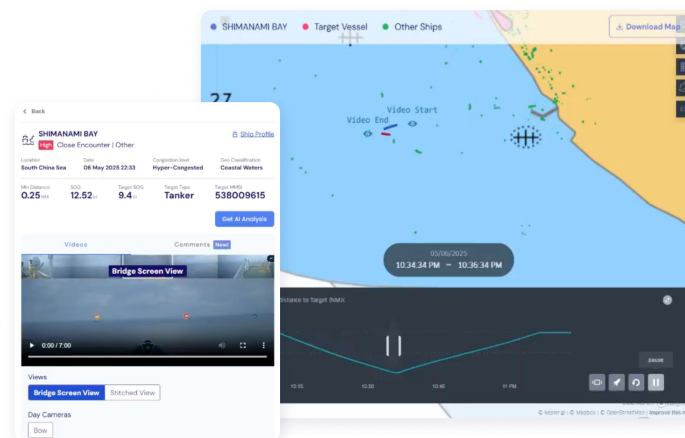
The Solution for the Office

Fleet-level Safety Performance Oversight

EPS office teams use Orca AI's shore-side platform, FleetView, to move from vessel-level reporting to a continuous, fleet-wide view of navigation.

Masters and teams ashore review real operations through a shared interface, including close encounters, COLREG compliance, and giving-way behavior across vessels and regions.

This allows EPS office personnel to observe how navigation was actually performed in congested areas such as the South China Sea and Singapore Strait, rather than relying on post-voyage reports.



FleetView event analysis from the Pacific Sentinel: a high-risk encounter with nearby fishing vessels reviewed through Orca AI. It identified an encounter with a fishing vessel at 0.25 NM CPA, giving the bridge team clear situational awareness of the developing situation.

Reviewing Navigational Behavior and Compliance at Scale

EPS uses FleetView to monitor compliance with navigational standards and investigate how crews responded in real situations. This includes reviewing giving-way behavior during encounters with external fishing vessels, particularly small or non-AIS targets.

To support this, EPS refined how events are captured, including adjustments such as Speed Over Ground thresholds to ensure relevant encounters are consistently identified, enabling consistent follow-up across vessels operating in ports such as Antwerp and Klang.

Managers correlate system alerts with vessel maneuvers and review time-stamped video to support audits, near-miss investigations, and external inspections such as TMSA.

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We regularly share our proactive approaches during TMSA audits. We showcase our testing systems that assist navigation, and auditors generally appreciate this proactive stance. As long as we identify, investigate, and address risks, the proactive use of AI is seen as a good practice.

Sachin Agarwal, Operations Superintendent, EPS

Building Crew Confidence and Adoption

EPS approached the rollout of Orca AI as a crew support initiative, positioning the platform as an additional aid designed to assist bridge teams, not replace their judgment.

EPS conducted 15 training sessions, combining CBT certification, QR-linked onboard learning resources, and sessions aligned with crew rotations. The program is also being integrated into the EPS Training Centre pre-boarding curriculum.

Training focused on showing officers how the platform can reduce workload during demanding navigation while keeping decision-making with the Officer on Watch.

EPS also uses FleetView to link training directly to real operations. Navigational events are reviewed ashore to identify patterns in crew behavior, such as repeated close encounters or delayed responses. This allows EPS to pinpoint specific training gaps and apply targeted follow-up at vessel level, rather than relying on generic training programs.



Onboard training session on an EPS vessel, supporting crew adoption of Orca AI during live operations

The Results

Operational Safety Improvements Across the Fleet

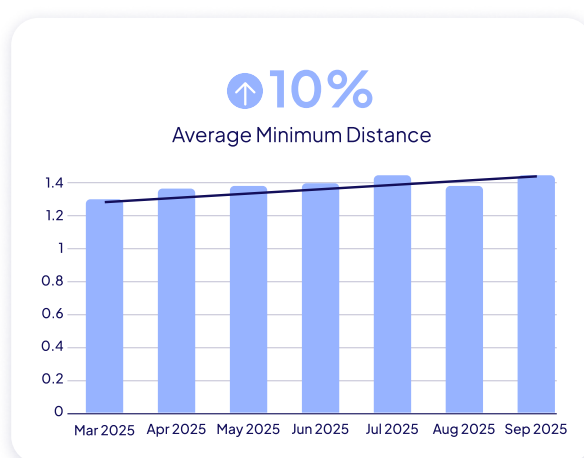
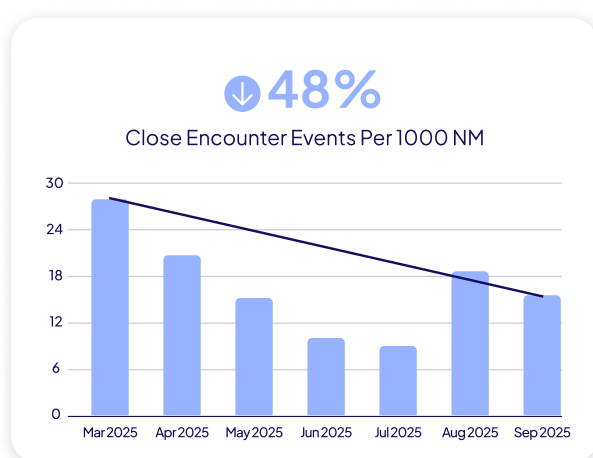
Across the five vessels, EPS observed that developing situations were identified earlier in the encounter lifecycle, giving bridge teams more time to act. Earlier assessment and clearer prioritization enabled officers to make small, timely course or speed adjustments rather than late corrective maneuvers. Passing margins became more consistent during congested transits and port approaches, particularly under sustained workload.

EPS reported an average Net Promoter Score of 9 out of 10, with several captains assigning a score of 10. Feedback from crews highlighted the platform's value during day-to-day watchkeeping, particularly in supporting target prioritization, reducing workload in congested traffic, and maintaining situational awareness in low-visibility conditions.

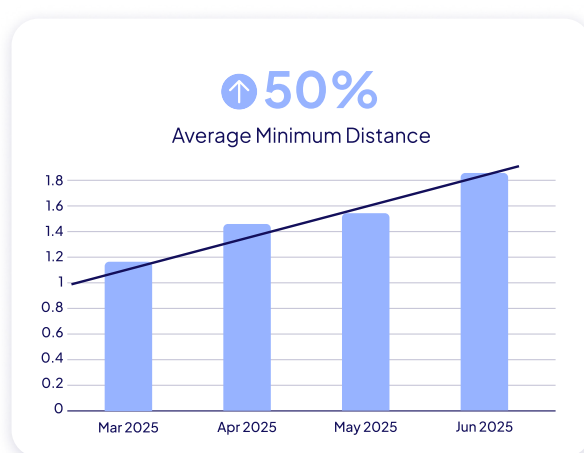
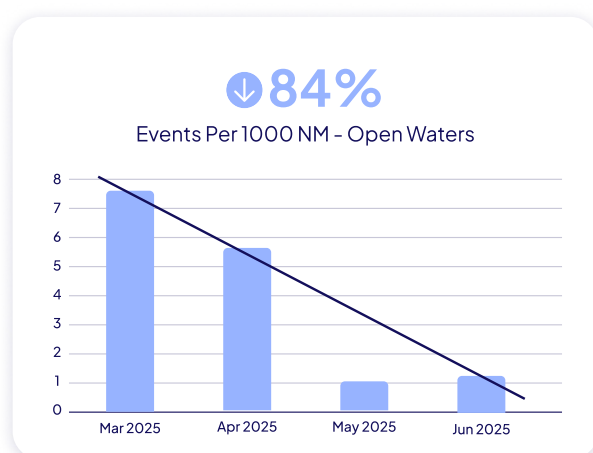
Based on these results, EPS decided to roll out the Orca AI platform across dozens of additional vessels.

Fewer Close Encounters in Open Waters

**Analysis of 5 vessels: 2 bulk carriers, 2 container vessels, and 1 tanker*



Consistent Trends on an Individual Vessel



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Officers spend long periods straining to identify targets. With Orca AI, they can just look at the screen – out of 50 ships, it points them straight to the two they need to look into.”

Captain Nabo Ghosh, Navigation Manager, EPS

ABOUT ORCA AI

Orca AI is the leading maritime operations platform utilizing artificial intelligence and computer vision to drive navigational safety and efficiency. The Orca AI platform enables crews to make data-driven decisions in congested waters or low-visibility conditions, while fleet managers gain insights into fleet performance.

Orca AI powered the world's first commercial autonomous voyage in 2022 in partnership with Designing the Future of Full Autonomous Ships (DFFAS) and The Nippon Foundation.

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