RIGHTSHIP

Port and Terminal Services for Zero Harm in Maritime Industry

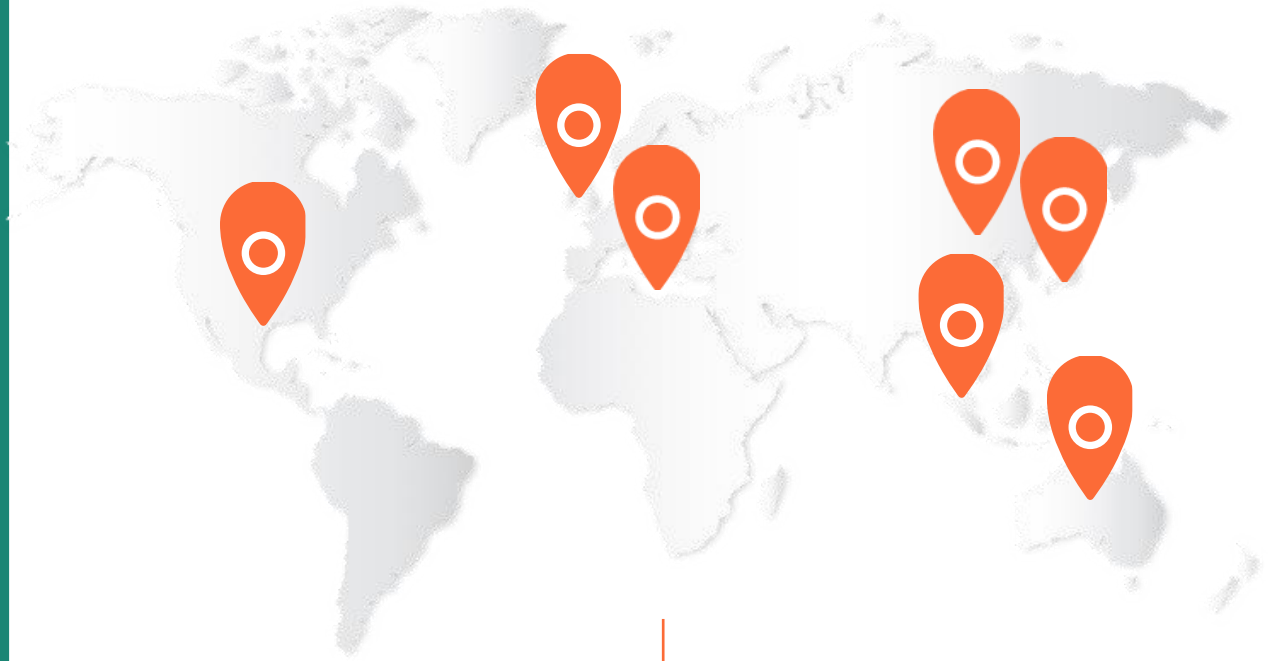
ISPO – Cork 22

Who is RightShip?

RightShip is the world's leading third party maritime due diligence organisation, providing expertise in global safety, sustainability and social responsibility best practises.

We bring together years of industry expertise with the output from analytics and large data sets to provide our safety and environmental scoring systems, recommendations and consultancy services.

By working with RightShip, clients are supported in making decisions in an environment that is a constant state of flux, protecting their business from risk.



RightShip has

more than 150 colleagues

in Australia, UK, US, Singapore, Malta, China and Japan.

Addressing global issues

RIGHTSHIP

Environmental, Social and Governance solutions are in demand from stakeholders

Cleaner air, heathier communities

Crew who are cared and looked after

Safer ships

RightShip's ESG credentials

- **Pursuing our vision of zero harm maritime industry, RightShip focus on Environmental, Social and Governance elements.**
- **What does this mean in practice?**

We're steering the maritime industry towards a sustainable future. When you use our sustainability solutions, you're protecting our natural environment, developing a competitive advantage and improving your bottom line.

Environmental solutions
include:

- GHG rating
- Carbon Accounting
- Maritime Emissions Portal

A critical element of the shipping industry's social responsibility journey, improving seafarers' rights provides added benefits such as reducing risks of incidents and undesirable ship cultures that could undermine productivity and staff retention.

Social solutions
include:

- Crew welfare

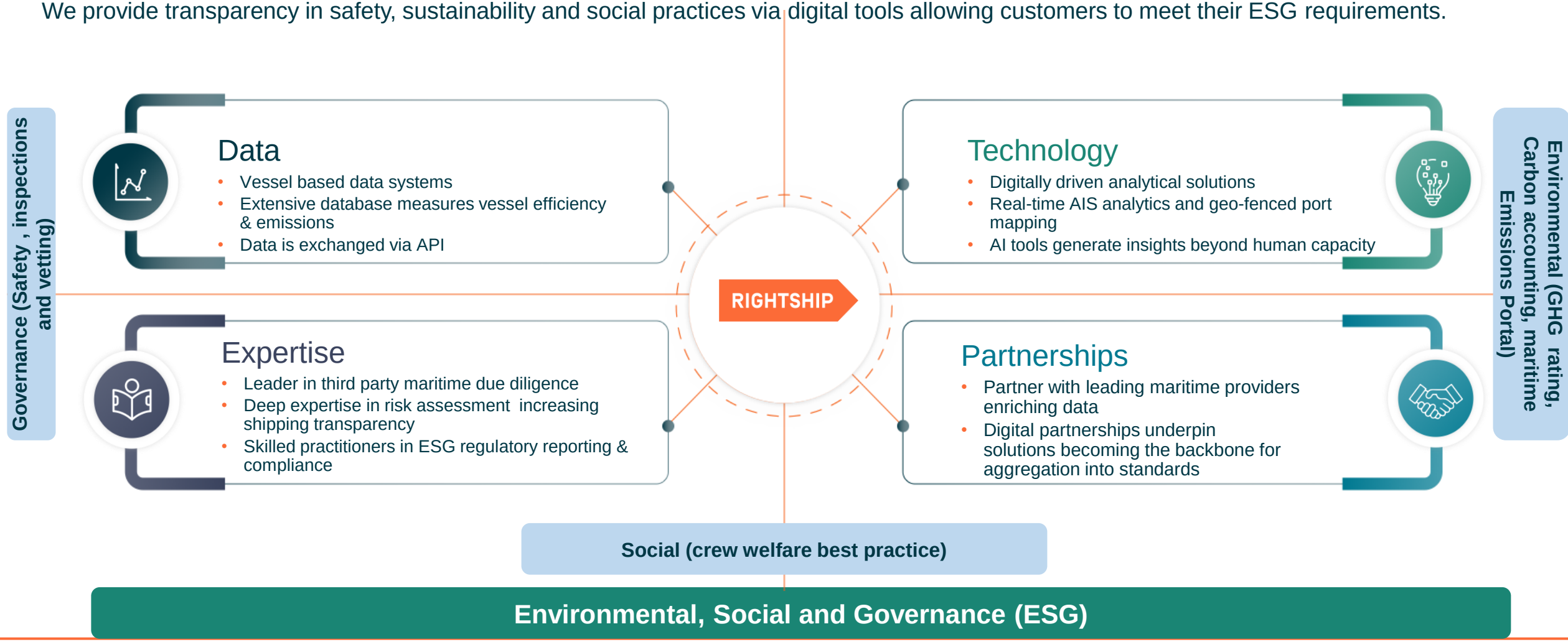
The risks that all vessels face during the course of operations can ultimately be managed, evaluated and improved beyond the compliance baseline. Through the use of our safety solutions, you're able to set new benchmarks in safety.

Governance solutions
include:

- Safety Score
- Vessel Vetting
- Vessel Inspections

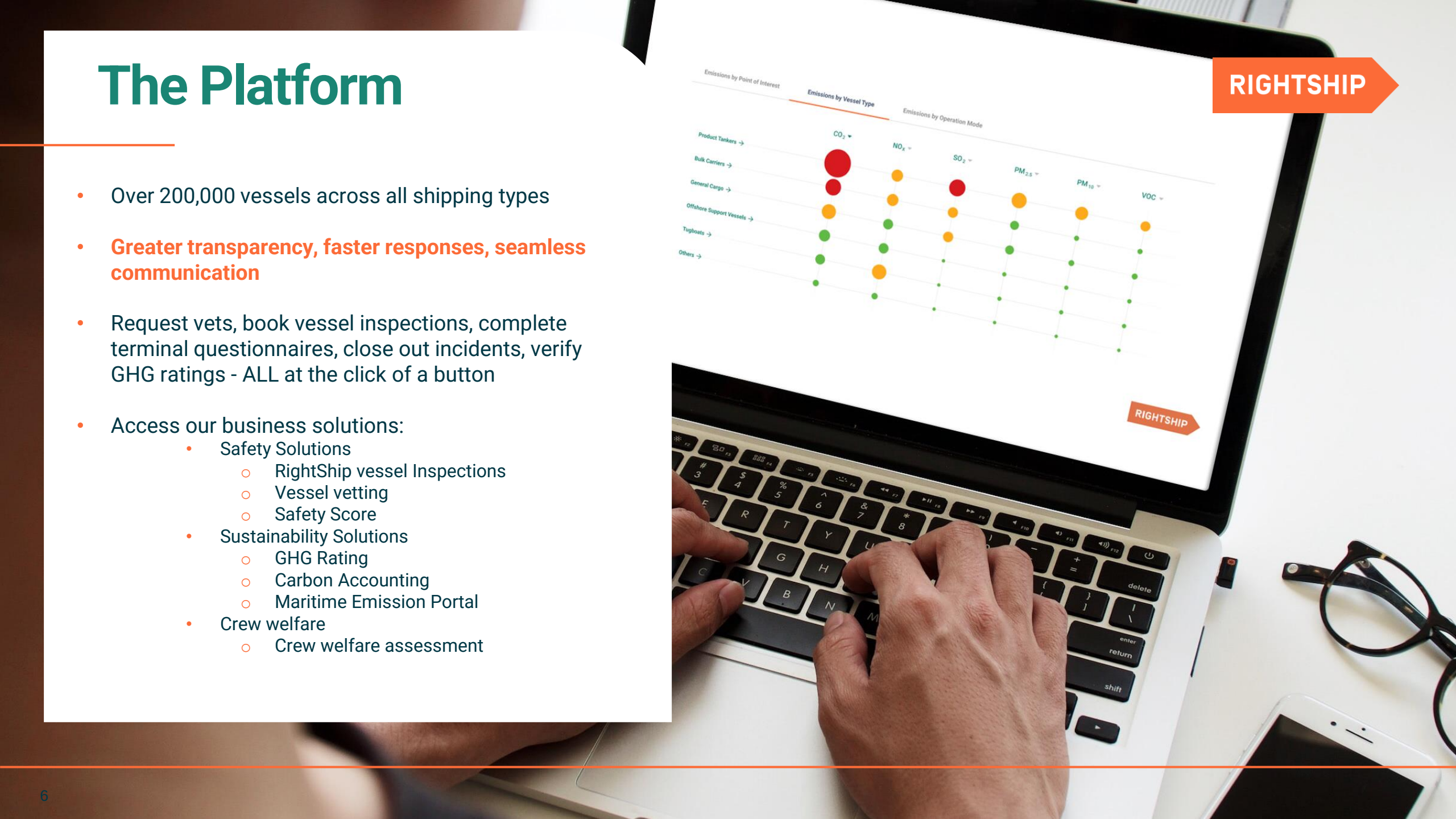
A Maritime Digital Platform

Our vision - A maritime industry that causes zero harm
We provide transparency in safety, sustainability and social practices via digital tools allowing customers to meet their ESG requirements.



The Platform

- Over 200,000 vessels across all shipping types
- **Greater transparency, faster responses, seamless communication**
- Request vets, book vessel inspections, complete terminal questionnaires, close out incidents, verify GHG ratings - ALL at the click of a button
- Access our business solutions:
  - Safety Solutions
    - RightShip vessel Inspections
    - Vessel vetting
    - Safety Score
  - Sustainability Solutions
    - GHG Rating
    - Carbon Accounting
    - Maritime Emission Portal
  - Crew welfare
    - Crew welfare assessment



Our focus, core customers and users

RIGHTSHIP

We are an ESG focused digital maritime platform

- **Ports**
- **Terminals**
- **Refineries**

Charterer
Cargo Trader

Shipowner

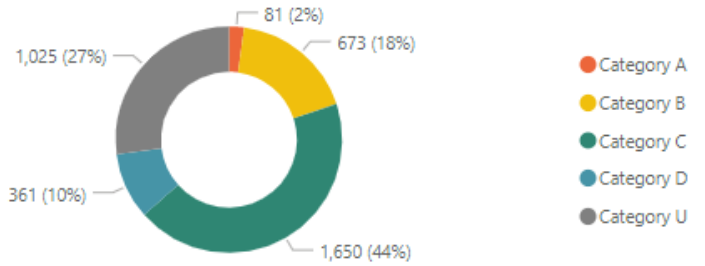
Insurance

Finance
Flag State
Class Society
NGOs

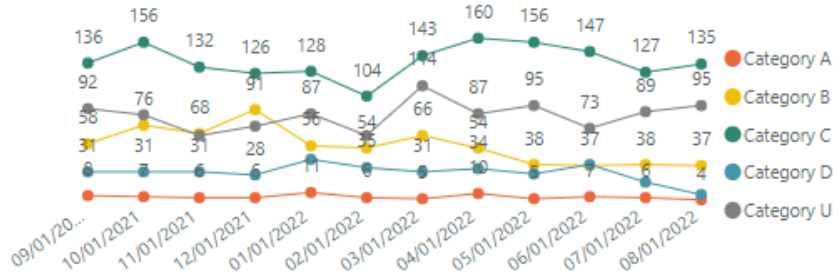
Incidents Summary Last 12 months

RIGHTSHIP

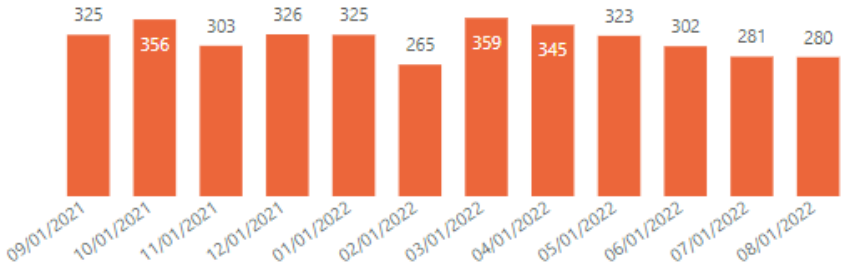
Incidents by category



Incidents by month and category



Incidents by month



3,790	173	80	42
Incidents count	Number Killed	Number Missing	Serious Injuries

Incident Zones

Incident zone	Incidents count	% of total
Not Available	1,564	41.27%
E.Mediterranean & Black Sea	343	9.05%
Br.Isles, N.Sea,E.Chnl,Biscay	263	6.94%
China, Japan & Korea	210	5.54%
South China & East Indies	201	5.30%
Australasia	123	3.25%
W.Mediterranean	105	2.77%
Gulf of Mexico	103	2.72%
Great Lakes	79	2.08%
North America Pacific Coast	68	1.79%
S.Atlantic, E.Coast S.America	59	1.56%
U.S. Eastern Sea Board	59	1.56%
Newfoundland	56	1.48%
North Atlantic	55	1.45%
Baltic	54	1.42%
Persian Gulf	53	1.40%
West Africa Coast	48	1.27%
Iceland	40	1.06%
Indian Ocean & Antarctic	36	0.95%
Unknown	36	0.95%
Bay of Bengal	27	0.71%
Total	**3,790**	**100.00%**

Incidents Summary - Pilot On Board

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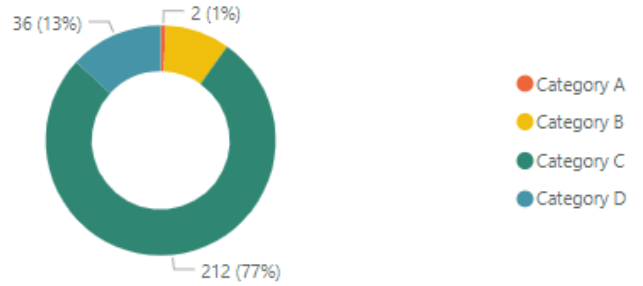
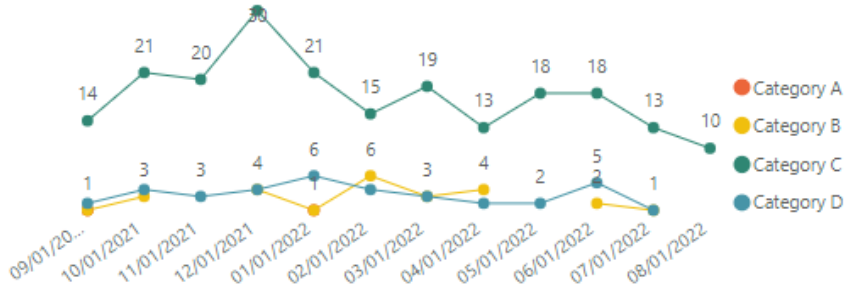
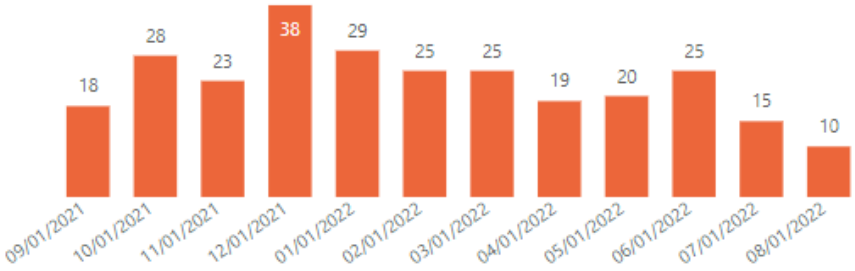
Incidents by category



Incidents by month and category



Incidents by month



275	1	0	2
Incidents count	Number Killed	Number Missing	Serious Injuries

Incident Zones

Incident zone	Incidents count	% of total
Gulf of Mexico	49	17.82%
Australasia	43	15.64%
U.S. Eastern Sea Board	25	9.09%
Br.Isles, N.Sea,E.Chnl,Biscay	21	7.64%
China, Japan & Korea	18	6.55%
North America Pacific Coast	17	6.18%
S.Atlantic, E.Coast S.America	15	5.45%
North Atlantic	13	4.73%
E.Mediterranean & Black Sea	10	3.64%
South China & East Indies	10	3.64%
W.Mediterranean	7	2.55%
Suez Canal	6	2.18%
Great Lakes	5	1.82%
Indian Ocean & Antarctic	5	1.82%
Panama Canal	4	1.45%
West Africa Coast	4	1.45%
Baltic	3	1.09%
Kiel Canal	3	1.09%
North Pacific	3	1.09%
South Pacific	3	1.09%
Caribbean Sea	2	0.73%
Total	**275**	**100.00%**

Incidents Summary - Pilot On Board

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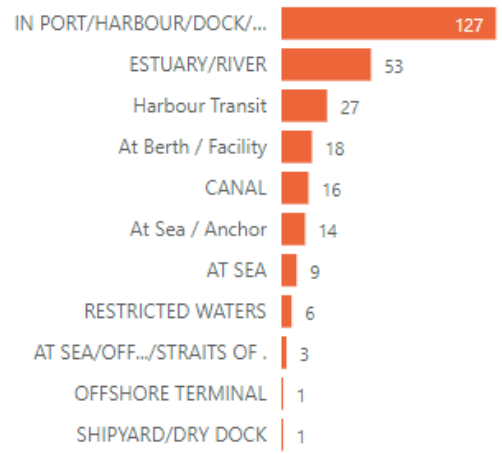
Category change

Category Original	Category Current	Incidents count
Category C	Category A	2
Category C	Category B	25
Category C	Category C	211
Category C	Category D	21
Category D	Category C	1
Category D	Category D	15
Total		**275**

Incidents by Vessel Type and DWT Group

Vessel Type	<1K	1-4K	5-24K	25-39K	40-59K	60-99K	100-199K	>=200K
Bulk Carrier			1	28	22	71	31	21
Chemical Tanker		1	16	4	19	1		
Container			1				1	
Crude & Products Tanker					2	3	14	
General Cargo		3	14	6	1			
LNG Tanker						1		
LPG Tanker			9		3			
Other / Non-Cargo Carrying	1							
Ro-Ro Cargo			1					

Incidents by Location



Incidents by Vessel Type and Age Group

Vessel Type	0-9	10-13	14-24	25-39	40-59
Bulk Carrier	81	65	25	1	2
Chemical Tanker	16	12	13		
Container		2			
Crude & Products Tanker	8	6	5		
General Cargo	5	9	9	1	
LNG Tanker	1				
LPG Tanker	6	2	4		
Other / Non-Cargo Carrying	1				
Ro-Ro Cargo		1			

Incidents, Accidents and Risk Events

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International Standard
for
maritime Pilot Organizations

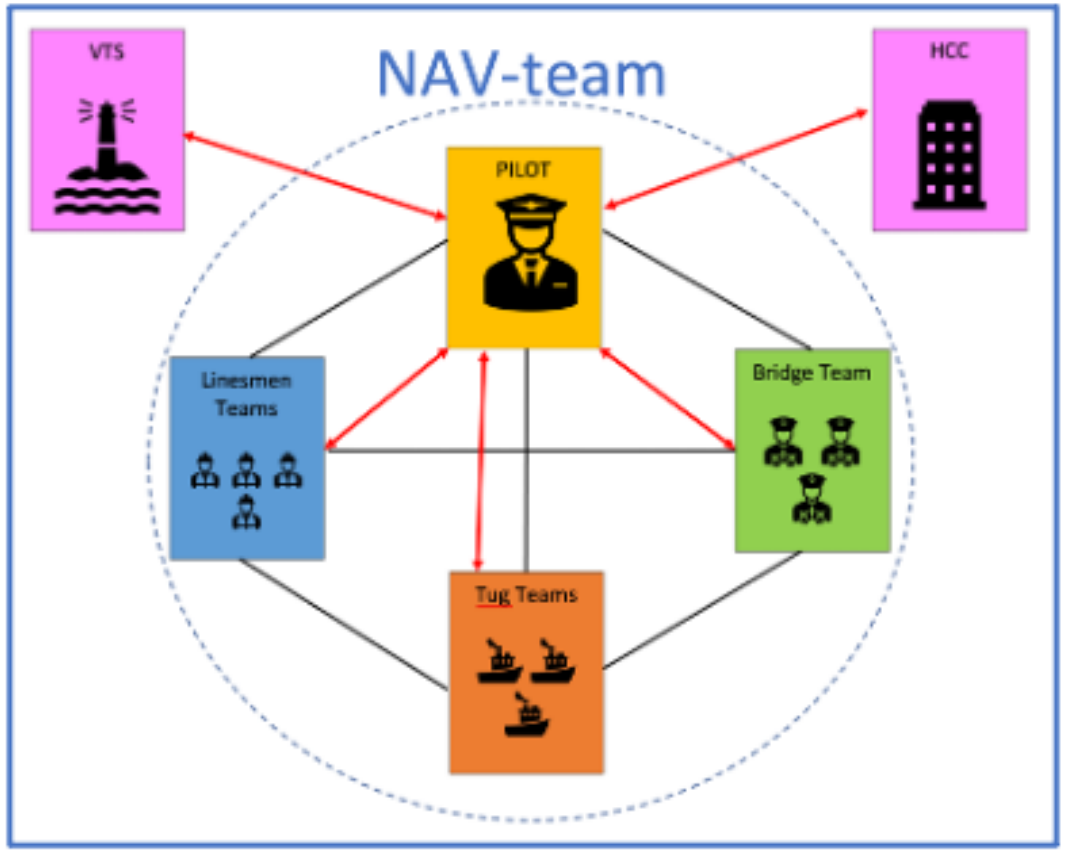
The Code

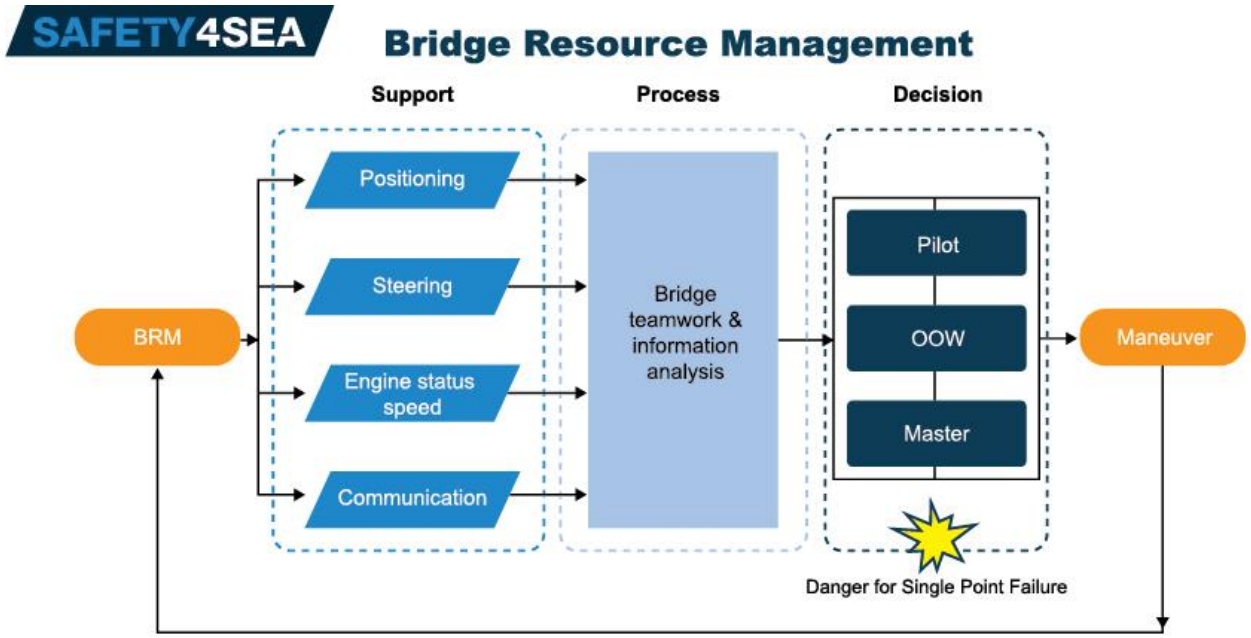
11.3.1 The pilot organization maintains a documented system to ensure that incidents, accidents and risk events are reported, analysed and investigated. Risk treatments and/or corrective actions are implemented whenever necessary and practicable. The process should improve safety margins and reduce risk of reoccurrence.

11.3.2 Investigations have to identify the root cause of an incident, accident or risk event.

11.3.3 Risk treatments and/or corrective actions are communicated and their effectiveness reviewed.

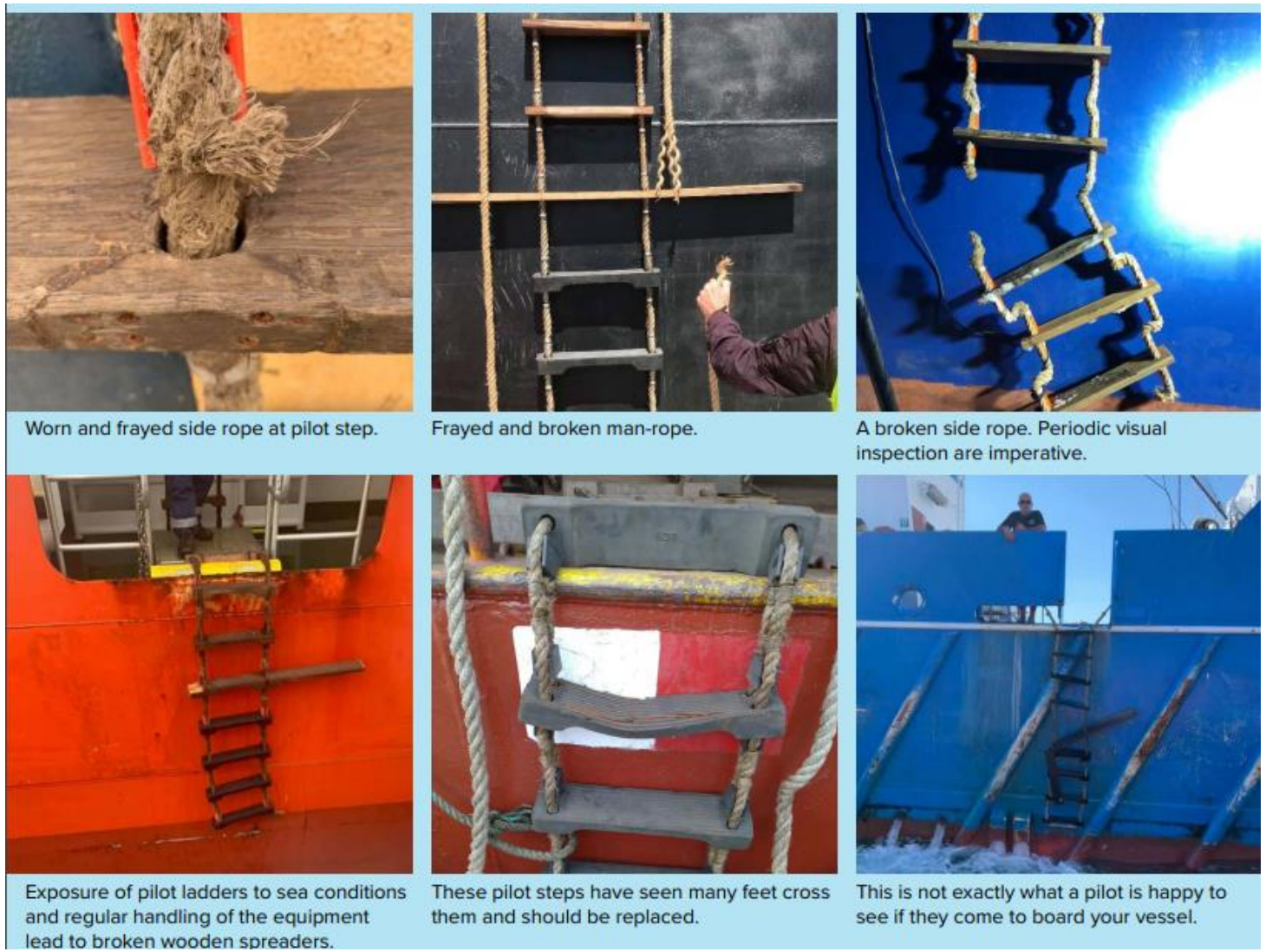
Root Cause of the Bridge Team Failure





Pictures are taken from Maritime-Pilots.com and Safety4sea.com

RC of Defective / Poor Pilot Transfer Arrangement



Worn and frayed side rope at pilot step.

Frayed and broken man-rope.

A broken side rope. Periodic visual inspection are imperative.

Exposure of pilot ladders to sea conditions and regular handling of the equipment lead to broken wooden spreaders.

These pilot steps have seen many feet cross them and should be replaced.

This is not exactly what a pilot is happy to see if they come to board your vessel.

Pictures are taken from https://safety4sea.com/lessons-learned-check-pilot-ladder-condition-before-every-use/

Do current campaigns work ?

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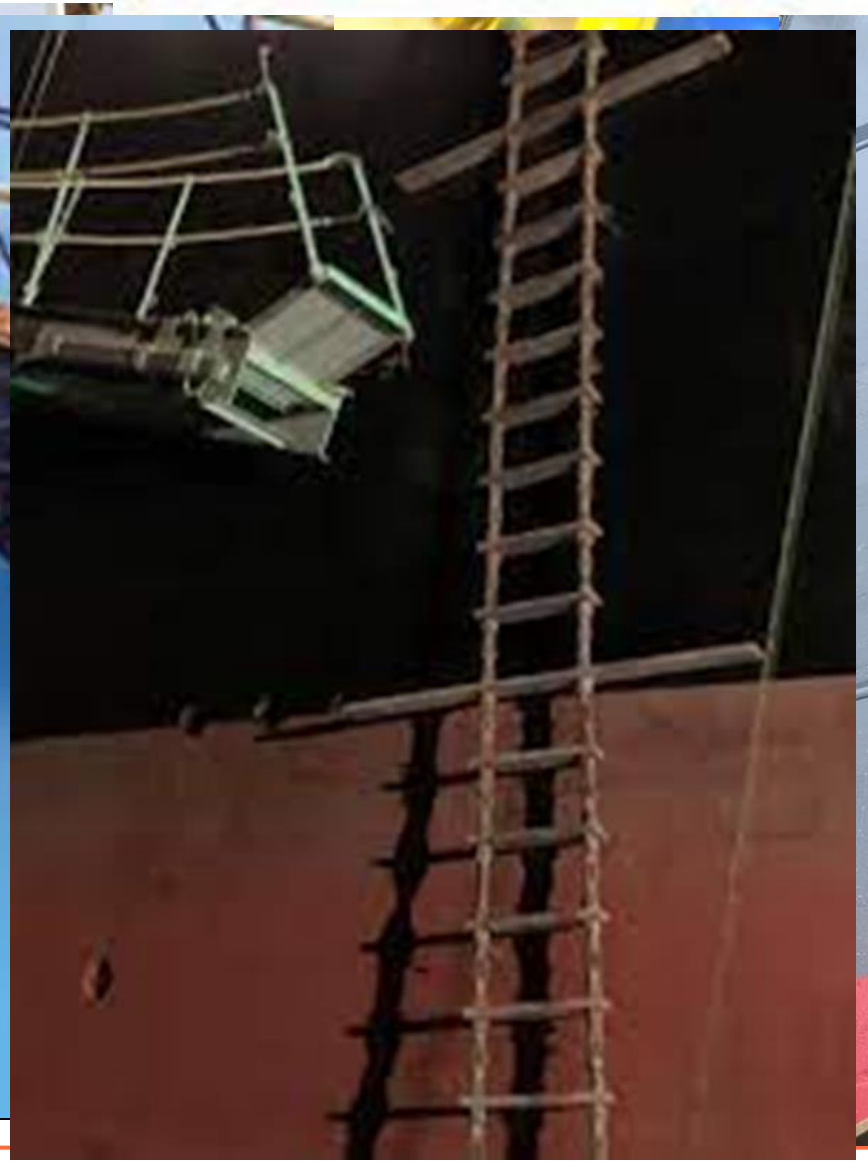

Pictures are taken from https://www.bccoastpilots.com/boarding-safety-and-pilot-ladders/,

Defining the Challenge

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- Maritime industry is dynamic, consists of many siloes across the value chain and lacks uniformity.
- Inconsistencies exist across international, and national jurisdictions, between shipping sectors, between companies operating in each sector, between organisations responsible for enforcing regulations.
- This introduces elevated risks.
- Most focus is around compliance with regulation and seldom considers operational standards/ risks.
- **Regulatory Compliance vs Beyond Compliance**

Terminals and Ports – Questions to ask?

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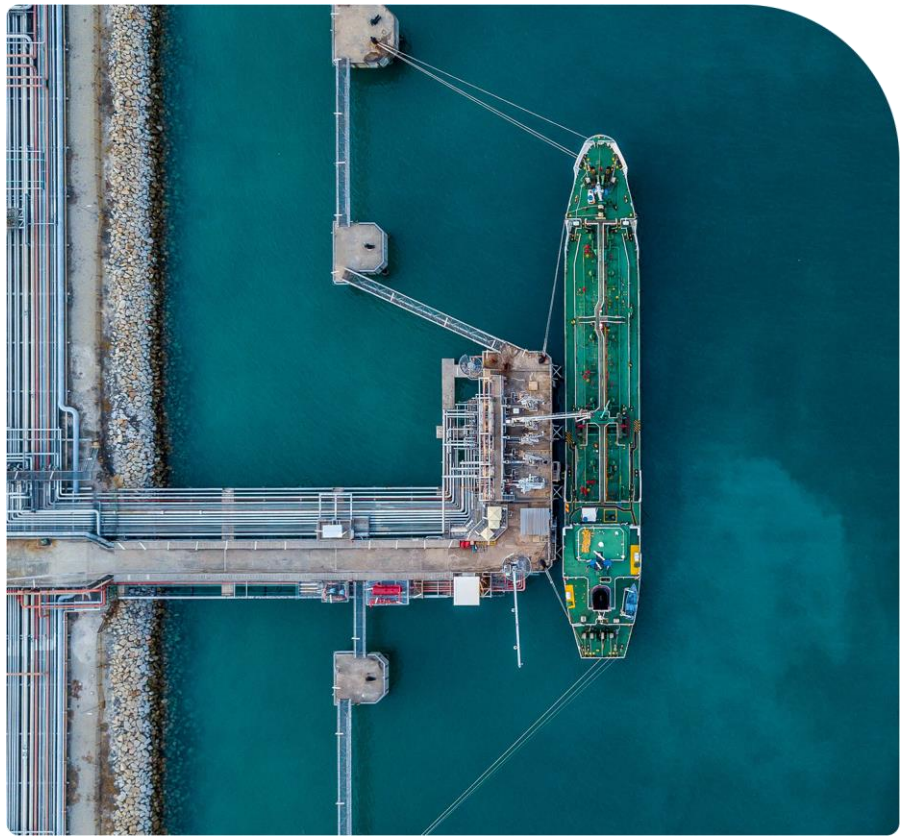
- How do you verify the quality of the vessels using your terminal facility or interface?
- How do you safeguard against potential safety incidents, stoppage, delay, environmental incident, operational disruption?
- Do you have visibility beyond compliance?
- What can you do to gain assurance/ have greater insight?
- How can you do to help elevate the quality of vessels around Safety, Environment and Social Standards in the industry?



Supply Chain Perspective and the Role of Vetting

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Vessel → **Terminal/ Port** → **Ongoing Supply Chain**

Vessel	Terminal/ Port
✓ Flagged ✓ Insured ✓ Classed	✓ Vessel accepted for berthing

Limited visibility

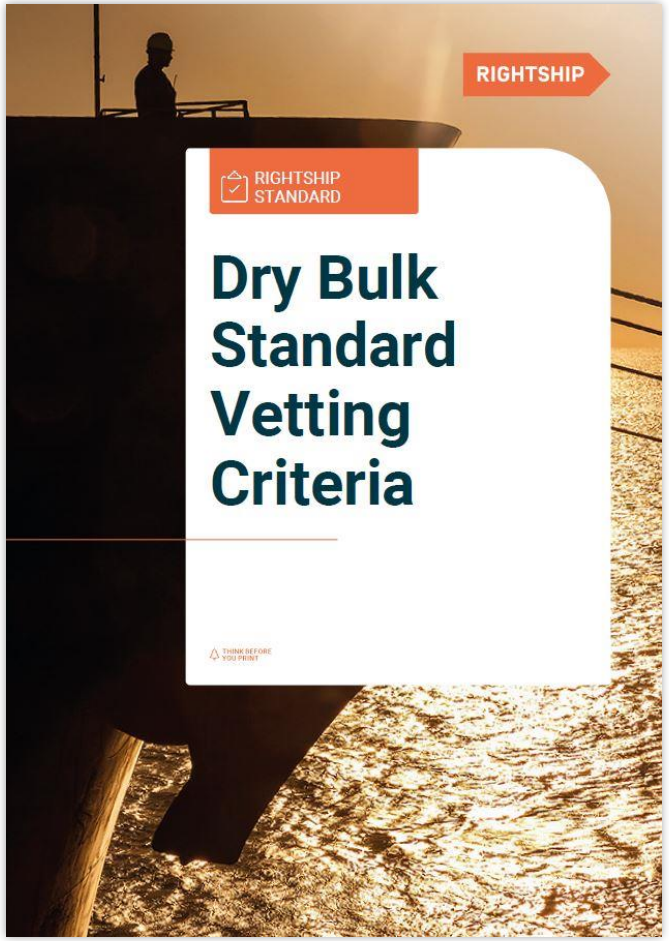
Insights from Vetting process	*Potential impacts to Terminal*
• Vessel detained frequently	• Higher risk of PSC detention/ delay
• Recent incident at last terminal facility resulting in injury	• Increased safety risk for terminal infrastructure and personnel
• Called sanctioned ports/ traded sanctioned cargo recently	• Sanctions impacts potentially transferrable to terminal
• Flag is on Paris MOU watch list	• Weak enforcement of standards on vessel; increased operational risk
• Owners in financial difficulty – maintenance budget was cut back	• Higher risk or equipment failure and operational disruption
• Beneficial Owner has open ILO case and has not paid crew for 2 months	• Potential for Master/ crew to exercise a lien & suspend ops'
• Vessel has a substantially poor environmental rating	• Increased environmental impact for terminal

All of these examples introduce a higher level of operational risk for terminals and could result in harm to people, environment or infrastructure and cause disruption to operations, or ongoing supply chain.

Such items are identified as part of a structured vetting process providing visibility to enable proactive data driven decisions to safeguard against operational risks

Scope of Vetting

- Port State Control History of the vessel and DOC
- Incidents of the vessel and DOC
- Age, CAP & Inspection
- Flag, Class & Regulatory Compliance
- Human Rights
- Sanctions
- Structures, Machinery & Operations
- P & I
- Environment
- Management of Change
- Financial Stability
- RightShip & Customer Restrictions
- Operator & Vessel Overall Performance



Terminal Questionnaires (TQs)

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Questionnaires designed for individual terminals that focus on physical attributes

Designed bespoke for each terminal/ facility based on:

- Terminal physical attributes
- Type of vessels calling
- Areas of focus required

Included in the vetting process enabling upfront evaluation around critical elements that could compromise safety.

Scope of Items

- **Vessel Details:** LOA, DWT, Beam
- **Mooring:** Winch locations, number of lines, rope strength, winch brake testing
- **Pilot Transfer Arrangements:** Specific Requirements
- **Gangway:** Position, length
- **Loading/ Deballasting:** load/ de-ballast rates, simultaneous loading capability
- **Hatches:** # of hatches, distance between holds, cargo history, cranage
- **Crew Experience matrix:** senior offices time and experience

Terminal Questionnaires allow terminals to evaluate critical elements of compatibility of vessels nominated for or scheduled to call at their interfaces.

The Role of Feedback Reports (FBRs)

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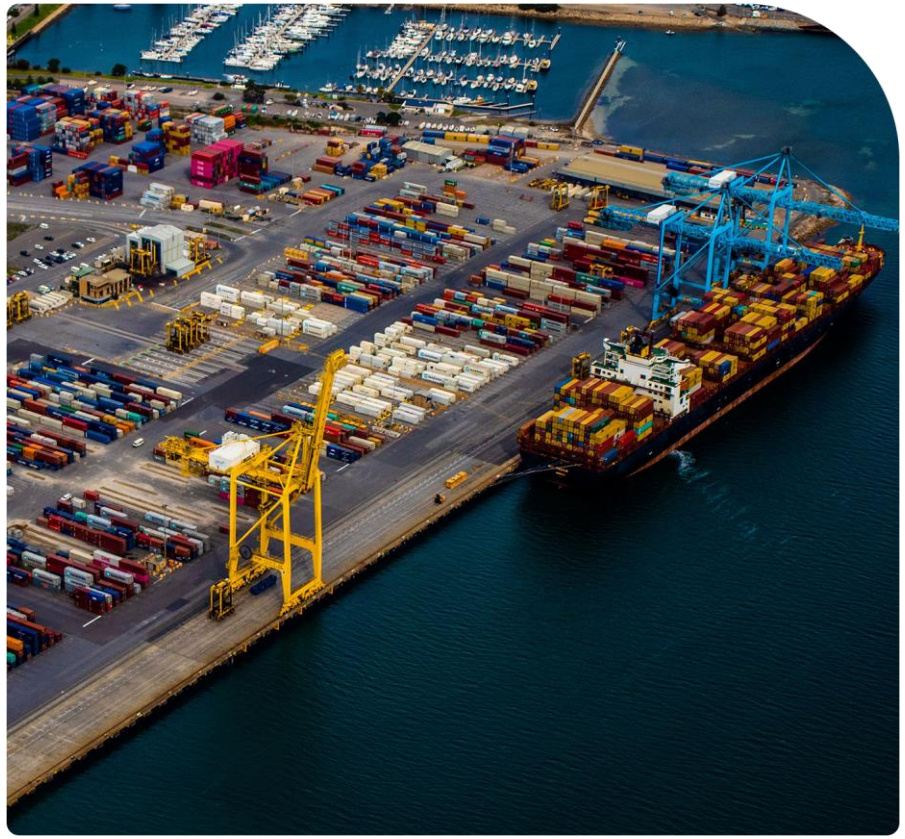
- Used by a number of Ports/ terminal facilities
- Effective Tool for capturing Operational Performance of vessels during a port call
- Tailored to meet Terminal/ Port specific Feedback points around
- *Safety/ operational readiness and performance,*
- *Equipment readiness, condition and performance,*
- *Environment and social aspects of vessel*
- Completed following a Vessel's Port Call
- Provides historic indicator and record of performance
- Used to Log 'Open Items' that would require close out before vessel is accepted back at your facility

Common Feedback Areas

1. Mooring shortcomings/failures.
2. Ballasting/Deballasting problems.
3. Emergency Preparedness - pilotage/at berth.
4. Communication difficulties.
5. Propulsion failures.
6. Steering failures.
7. Air pollution.
8. Noise.
9. Unsafe acts.
10. Poor condition
11. Poor crew
12. Poor crew welfare
13. Detention Risk
14. Defective equipment (various).

Benefits



- Vetting ships by Terminals provides an essential element of focus on vessels operating to your facility beyond statutory and regulatory compliance.

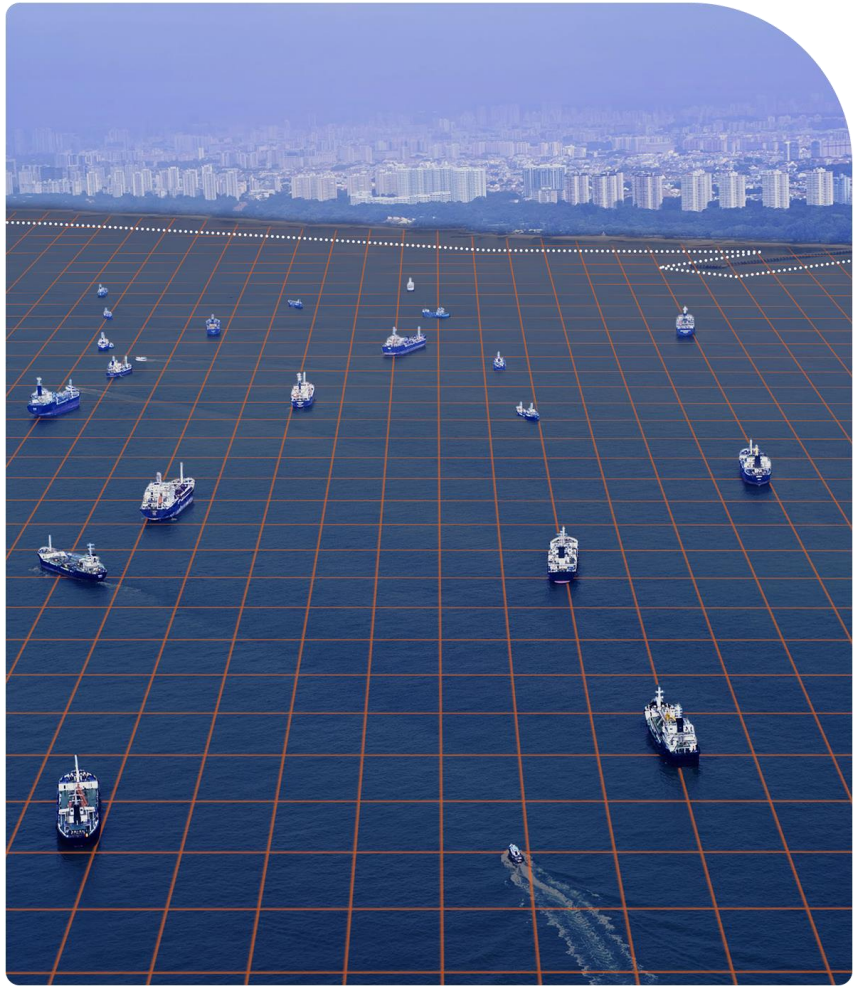
- This can assist to:

  - Provide you with insight to make proactive data driven risk based decisions around vessels entering your facility
  - Reduce the potential of incidents, injuries, pollution or operational disruption
  - Safeguard the interests of your stakeholders
  - Safeguard your interests as a terminal/ port
  - Provide comfort on the quality of the tonnage you are permitting within your ports
  - Drive improvement across Safety, Sustainability and Social Standards in the industry

Maritime Emissions Portal - MEP

Counting the cost of shipping air emissions

MEP – What it is



- MEP is a modern, dynamic, effective and efficient industry leading digital emissions tool hosted on the RightShip Platform to help ports develop clean air action and decarbonisation strategies.
- MEP combines the RightShip's proprietary 200,000 vessel database with real-time AIS vessel movement data to deliver readily, reliable emissions inventory data and insights by using emissions heatmap within the defined port boundaries.
- MEP provides the ship emissions inventory/modelling services based on an energy-based modelling approach as defined by Climate Change Information Kit (UNEP and UNFCCC).
- MEP is reviewed by independent third-party industry experts from the California Air Resources Board (USA); Ricardo Energy & Environment (UK) and the University of Delaware (USA) for the:
  - data source and assumptions made,
  - robust analytical methods,
  - consistency of the modelling inputs and
  - portal's overall methodology.

How it works

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1

Draw a boundary around areas of vessel activity within a port, terminal or berth.

2

We track the vessels which are entering into these port boundaries using AIS data.

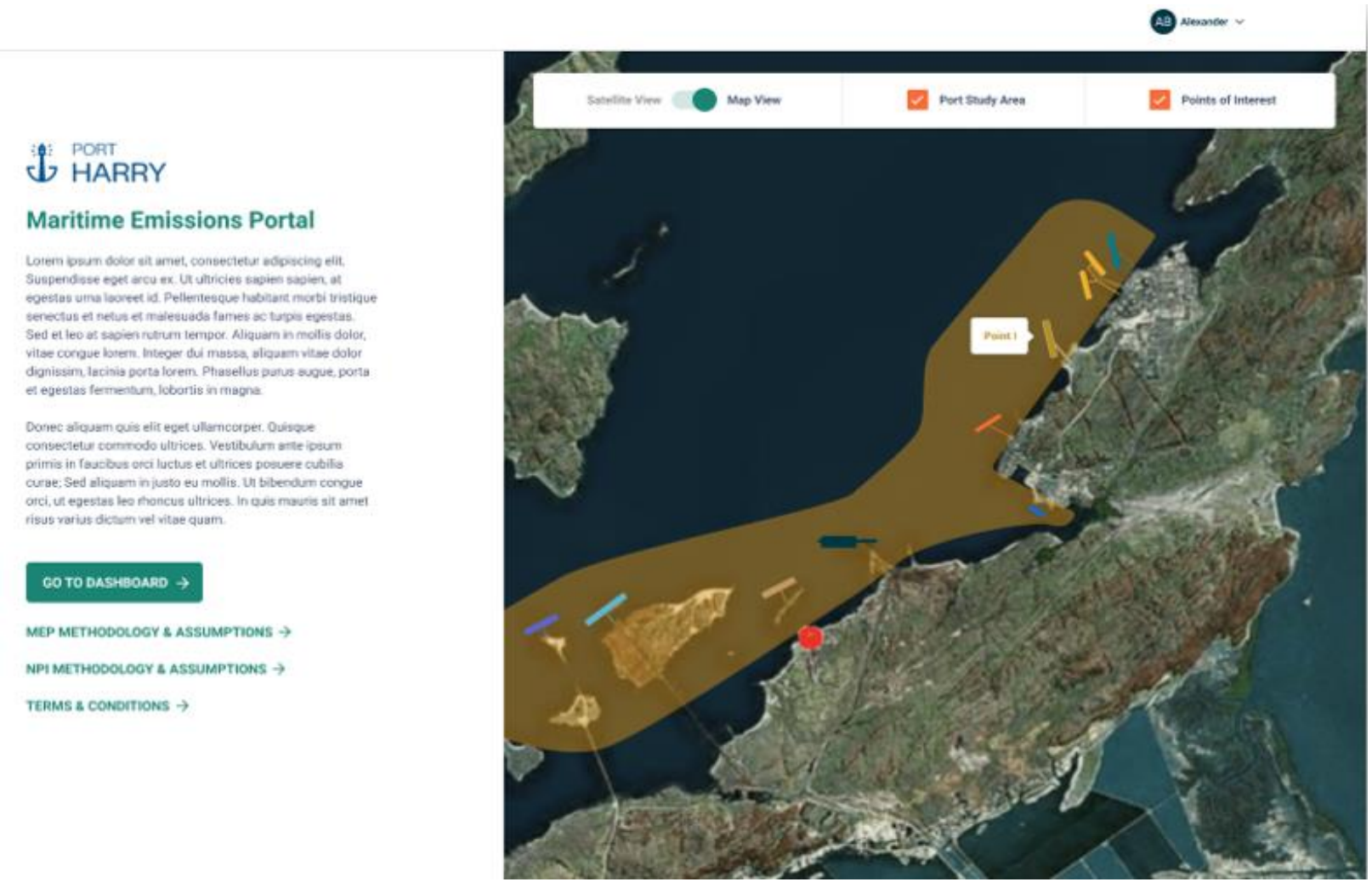
3

Using our unique database of vessel details, we generate a detailed emissions inventory across eight main pollutants.

4

Customers use the MEP dashboards to analyse reporting data by vessel type, operation mode, terminals in the ports or by emission type.

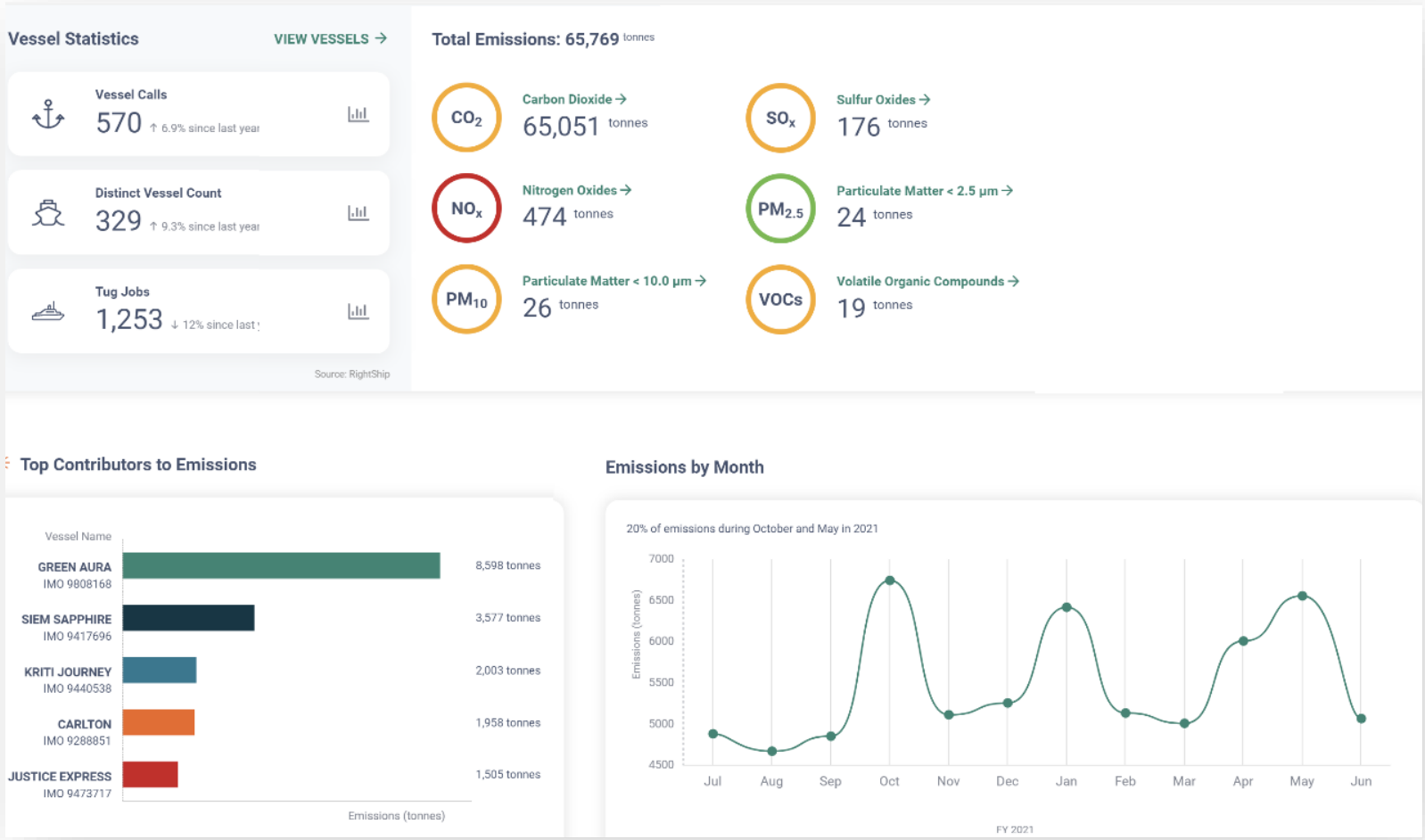
Port Mapping



This page shows a map of your port, highlighting:

- **Port study area:** A 'geofenced' port area showing where vessel-sourced emissions are measured. This ensures the port boundary is developed specifically for the particular port.
- **Points of interest:** Locations of berths, terminals, anchorages, etc. are identified by the port as points of interest. These are identified at the start of a project between the RightShip Team and the Port Teams.

Dashboard



MEP's interactive dashboard enables you to measure and report on vessel-sourced emissions in all operation modes in your port, during a specified date range.

Heatmap

Vessel modes used

- Anchorage: anchored within port
- Transiting: transiting ship channel
- Manoeuvring: approaching berth
- Alongside: loading / unloading cargo

Heatmaps are used to show emission hotspots by **Point of Interest** on **Dashboard**, making it easy to identify and drill down on a problem area within a port, berth or terminal facility.

Emissions by Vessel Type

The **Emissions by Vessel Type** chart on the **Dashboard** shows the contribution of each vessel type to emissions at the port, making it easy to identify and clarify an issue.

Interactive dashboard

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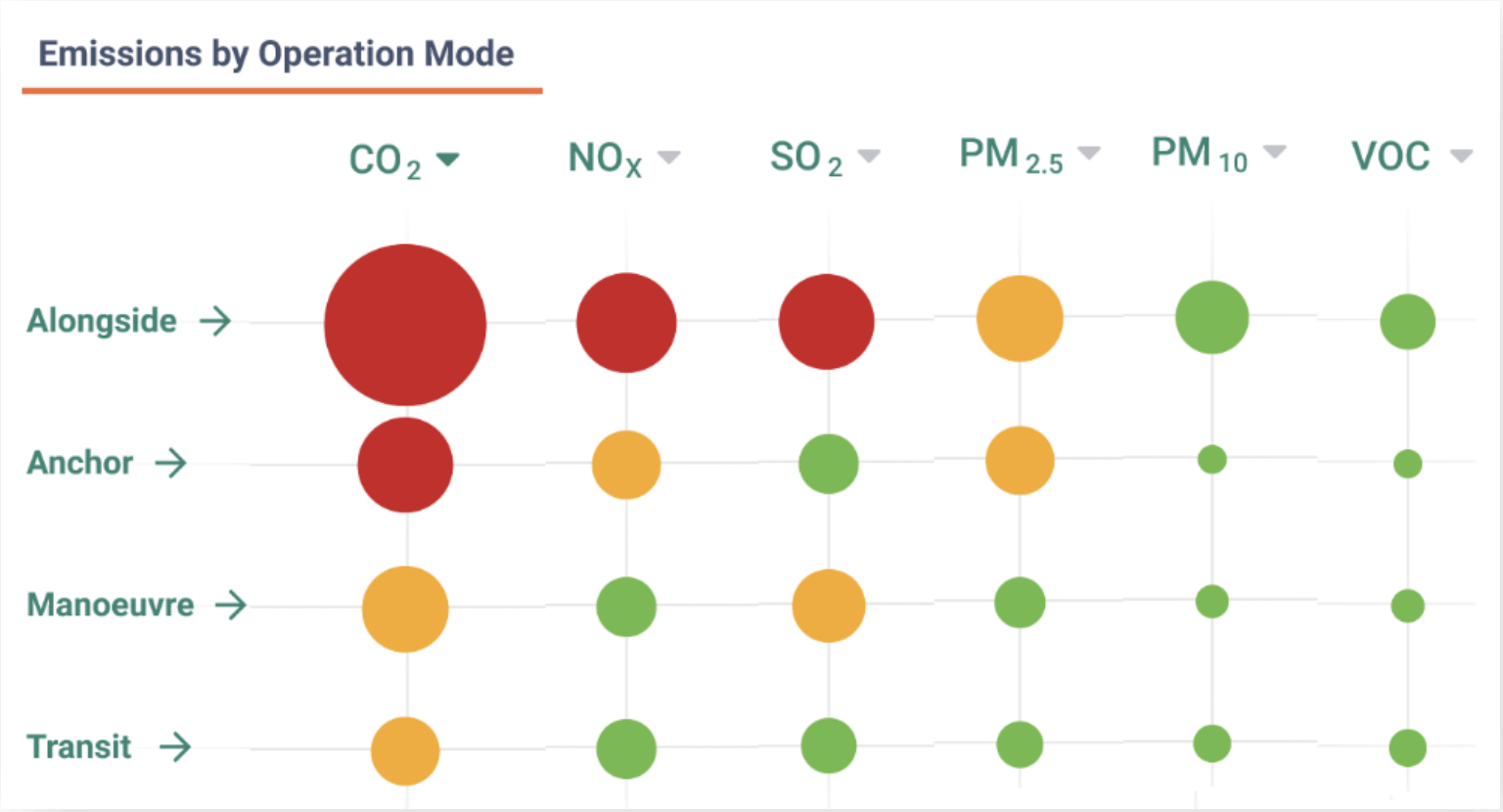

Total Emissions dashboard

= Indicates emissions have not exceeded targets.

= Indicates targets have been exceeded by up to 15%.

= Indicates targets have been exceeded the 15% threshold.

MEP's interactive dashboard enables you to measure and report on vessel-sourced emissions in all operation modes in your port, during a specified date range. The **Emissions by Operation Mode** chart on the **Dashboard** shows the distribution of emissions across a vessel's four operation modes.

Insights: Highest/Smallest Emissions Contributors

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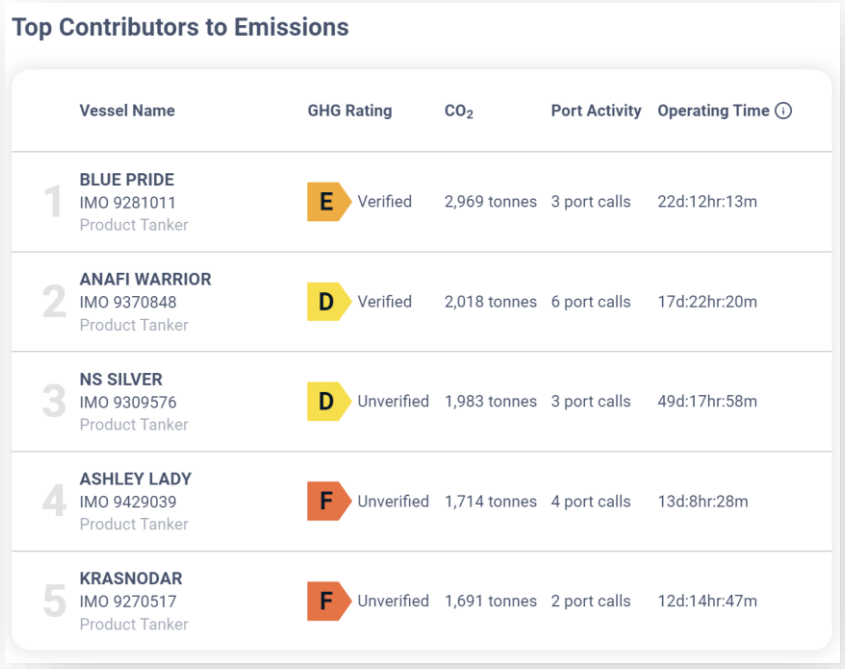
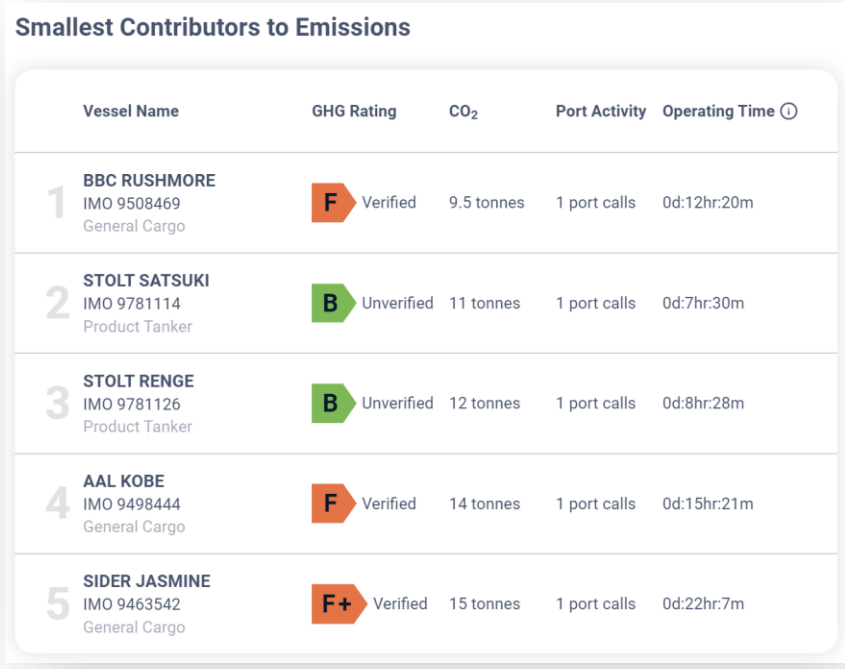
The **Insights** page shows a list of five highest/smallest contributors to emissions in the port.



Top Contributors to Emissions

	Vessel Name	GHG Rating	CO_2	Port Activity	Operating Time
1	BLUE PRIDE IMO 9281011 Product Tanker	E Verified	2,969 tonnes	3 port calls	22d:12hr:13m
2	ANAFI WARRIOR IMO 9370848 Product Tanker	D Verified	2,018 tonnes	6 port calls	17d:22hr:20m
3	NS SILVER IMO 9309576 Product Tanker	D Unverified	1,983 tonnes	3 port calls	49d:17hr:58m
4	ASHLEY LADY IMO 9429039 Product Tanker	F Unverified	1,714 tonnes	4 port calls	13d:8hr:28m
5	KRASNODAR IMO 9270517 Product Tanker	F Unverified	1,691 tonnes	2 port calls	12d:14hr:47m



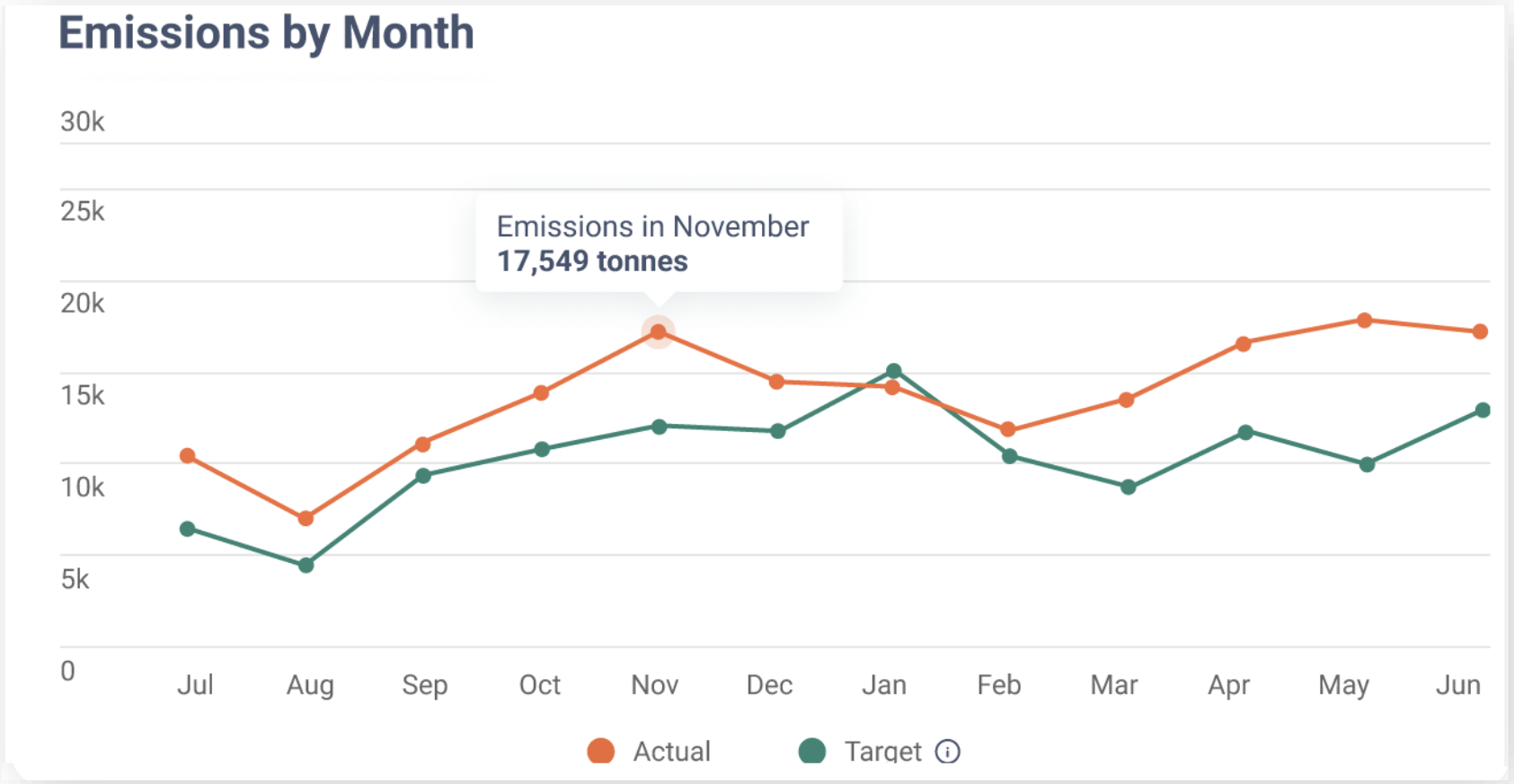
Smallest Contributors to Emissions

	Vessel Name	GHG Rating	CO_2	Port Activity	Operating Time
1	BBC RUSHMORE IMO 9508469 General Cargo	F Verified	9.5 tonnes	1 port calls	0d:12hr:20m
2	STOLT SATSUKI IMO 9781114 Product Tanker	B Unverified	11 tonnes	1 port calls	0d:7hr:30m
3	STOLT RENGE IMO 9781126 Product Tanker	B Unverified	12 tonnes	1 port calls	0d:8hr:28m
4	AAL KOBE IMO 9498444 General Cargo	F Verified	14 tonnes	1 port calls	0d:15hr:21m
5	SIDER JASMINE IMO 9463542 General Cargo	F+ Verified	15 tonnes	1 port calls	0d:22hr:7m

To understand the factors that may contribute to the total emissions by a vessel, MEP highlights the following data points for each vessel in the list:

- GHG rating
- Total port activity
- Total operating time

Insights: Emissions Target by month



The **Emissions by Month** chart on the Insights page shows, month by month, the actual emissions vs. the target emissions set by the port for the specified reporting period.

Insights: Year-over-Year (YoY) Analysis

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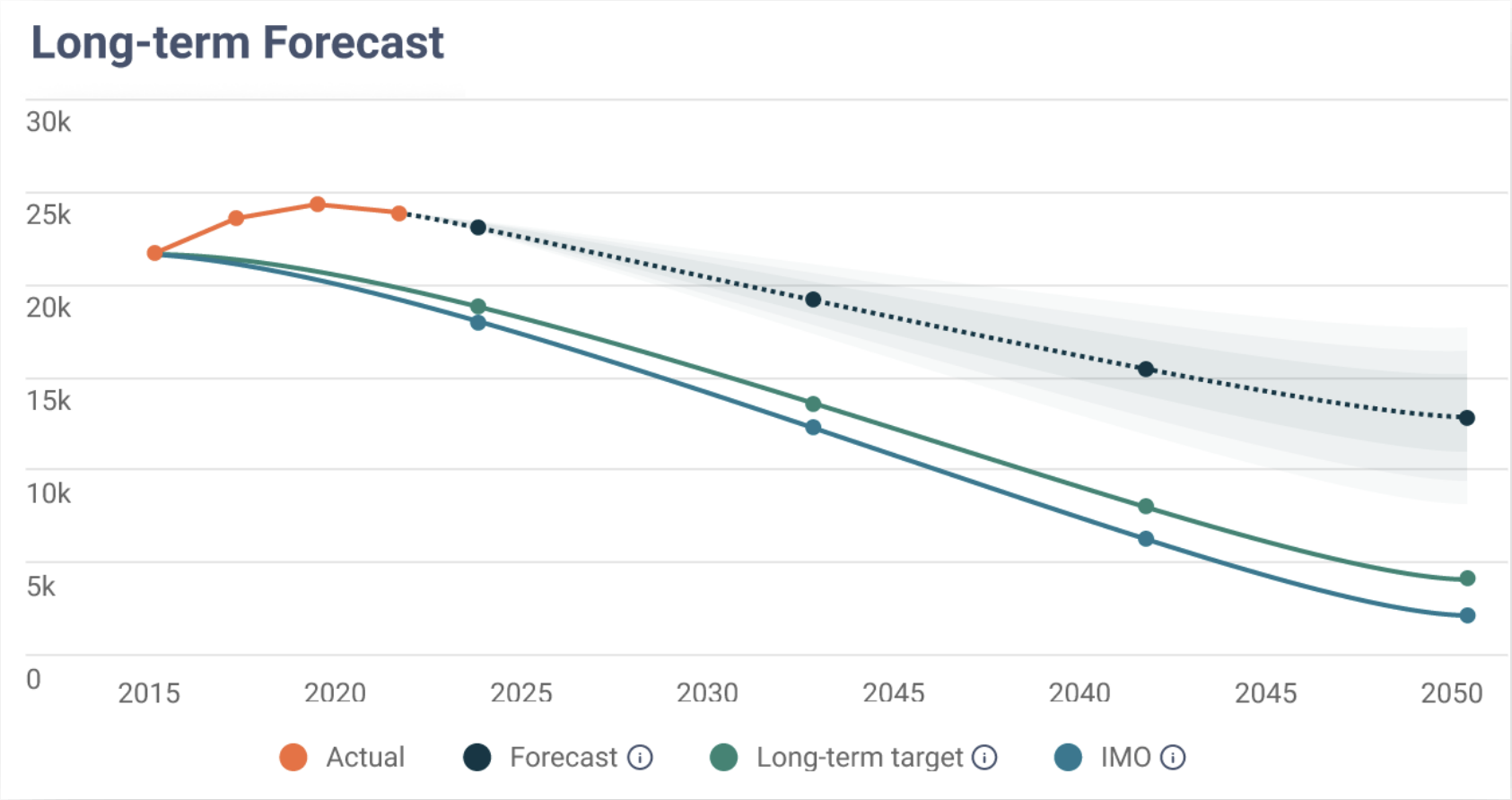

The **Long-term Forecast** chart on the **Insights** page keeps you on track by visualising your performance against your short-term and long-term targets and the IMO 2050 decarbonisation trajectory.

Solving ports challenges – benefits of MEP

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- Measures and tracks port shipping air emissions
- Meets reporting standards of regulations & initiatives - transparently
- Gives robust, reliable & flexible data
- Addresses environmental concerns allowing engagement with local communities on air quality
- Enables port emission reduction strategy design
- Attracts sustainable financing

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Q&A