

CUSTOMER SUCCESS



CARNIVAL
CORPORATION & PLC.

Carnival Corporation & plc partners with LR OneOcean and leverages technology to improve environmental compliance.

Carnival partnered with LR OneOcean to develop a digital solution that would facilitate environmental compliance, improving situational awareness, and delivering passage planning efficiencies.

The challenge

Carnival is a leading international cruise company operating 95 vessels globally. These ships sail all over the world and as they transit through different regions, they are required to operate according to the regulations and laws governing each area. To reduce the operational burden of burgeoning environmental rules and regulations, the company decided to partner with LR OneOcean to develop a comprehensive and intuitive environmental management and compliance solution for use across its entire fleet and shore-based fleet operations centres.

Challenge 1: Updating and communicating environmental regulations effectively

Cruise ships operate in many jurisdictions where local, national, regional, and international environmental regulations apply and are regularly evolving.

Air emissions limitations, such as sulphur content, and discharge requirements relating to bilge water, grey water, black water, and ballast water, among others, can vary considerably depending on a vessel's location, onboard equipment, authorisations, age, and even its speed. Further, the regulations governing these discharges are constantly evolving.

Part of the Lloyds Register Group

The LR OneOcean portfolio fosters seamless connectivity among vessels, stakeholders, and the supply chain, improving communication, unifying ship and shore operations and boosting operational efficiency.

500,000+

Data points on environmentally regulated zones

28

Emissions and discharges monitored with a traffic light system

90+

Carnival Corporation ships using the solution

As regulations become more extensive and complex, staying up to date and correctly applying them to Carnival's operations had become increasingly arduous and time-consuming, creating error risk for cruise ship crews.

“Complying with environmental regulations is a top priority. Our legacy manual approach was becoming more burdensome and complex, with new environmental regulations being adopted with increasing frequency. We set out on a mission to identify a software solution that would automate and streamline the approach to help us solve this challenge.”

- John Haefflinger, Senior Vice President, Sustainability & Maritime Policy, Carnival Corporation

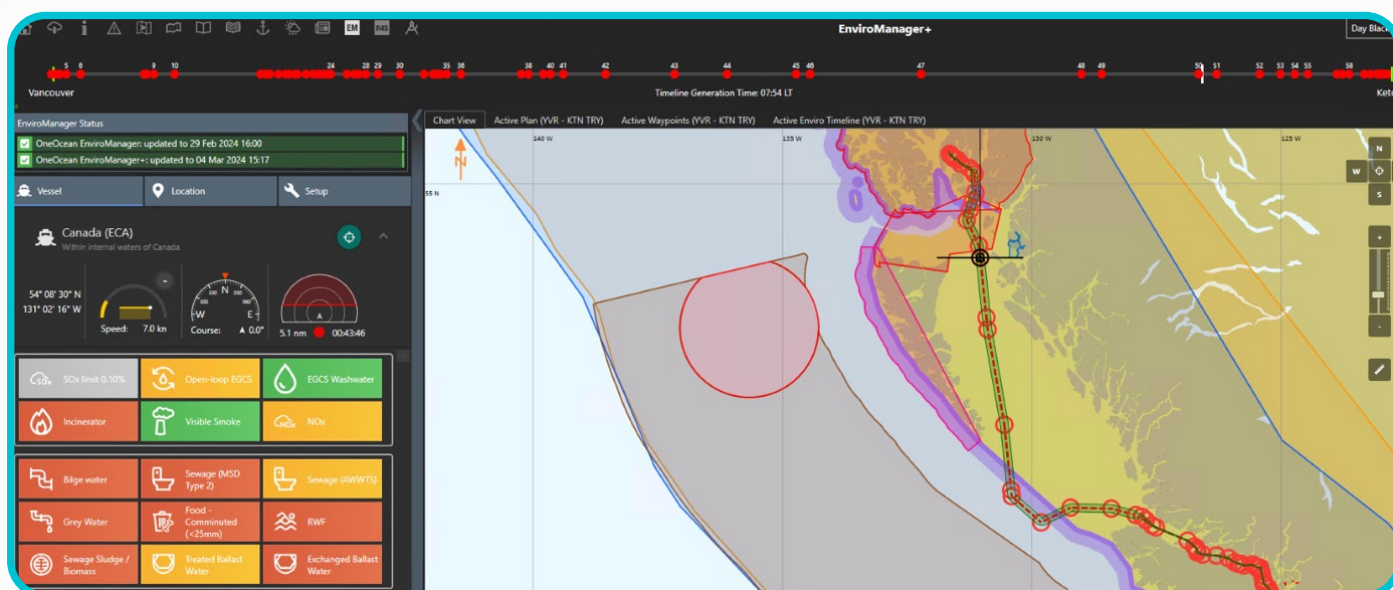
Challenge 2: Automating and streamlining environmental compliance

Carnival faced challenges in tracking environmental regulations and planning compliant operations when using Excel spreadsheets, leading to difficulties for both shoreside and shipboard personnel, especially when passage plans changed. A digital solution was needed to provide both comprehensive regulatory visibility and integrate stricter industry and company-specific environmental policies.

The solution

EnviroManager+ is part of the LR OneOcean digital Environmental Compliance solution that allows Carnival's teams aboard and onshore to view the precise boundaries of environmentally regulated zones around the world and directly access detailed information on the operations that are allowed, restricted and prohibited by zone, including the underlying regulations and regulatory text, via an intuitive, color-coded, user-friendly interface.

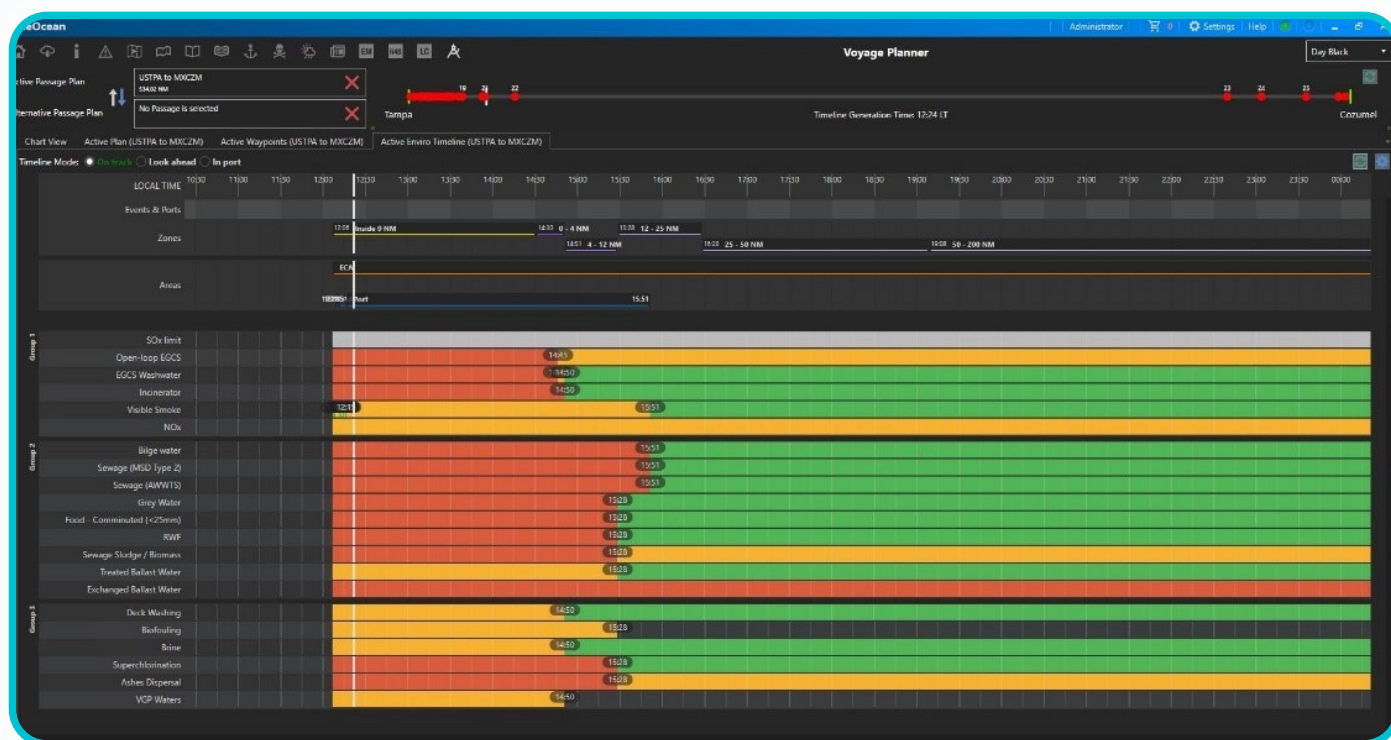
This solution, enhanced through collaboration with Carnival, incorporates over 500 environmental zones using geofencing to visualise and convey regulations and requirements.



An active passage plan in the OneOcean Platform, integrated with EnviroManager+

Powered by a robust environmental regulatory database and leveraging advanced algorithms, EnviroManager+ provides up-to-date, relevant information for both ship crews and shoreside personnel. It facilitates a specific view of environmental regulations for ships and a fleet-wide perspective via the FleetManager application, integrating Carnival's stringent internal and industry policies for superior compliance.

Updates on regulations and policies are efficiently distributed to the fleet, ensuring easy access for shipboard and shoreside teams. EnviroManager+ also enhances voyage and environmental planning, reducing risk and saving planning time by automating processes and providing a real-time, forward-looking regulatory timeline.



EnviroManager+'s forward-looking Environmental Timeline lists onboard operations along a visual voyage timeline, with colour coding indicating when an action is permitted, restricted, or prohibited.

“LR OneOcean gives the ship’s crew a real-time forward-looking view of what’s coming from an environmental management perspective, updating automatically based on the ship’s position and speed. This capability did not exist previously, other than an estimate made on paper. This technology is delivering significantly improved situational awareness and compliance risk reduction during voyage execution.”

- Nikki Rigl, Director, Environmental Regulatory Management & Operations, Carnival Corporation

Carnival partnered with LR OneOcean for this project due to its technology base and ability to integrate and automate voyage and environmental planning for complex operations in any ocean across the globe. After working side-by-side with the LR OneOcean project team for more than 4 years, the Carnival team is convinced that the EnviroManager+ and LR OneOcean products include the most comprehensive and complete maritime environmental regulatory database and integrated, automated passage plan solution for oceangoing vessels available on the market today.

EnviroManager+ features

- 1 Environmental timeline – shows vessel speed and voyage plan against the environmental regulation database for a live view of environmental compliance.
- 2 Environmental schedule – automatically generated by the platform to inform the voyage plan.
- 3 Environmental alerts – “pop-up” alerts appear on the screen at a specified interval prior to entering or leaving an environmental area.
- 4 Environmental data sets in the EnviroManager+ platform can be overlaid with other data sets such as ENCs (electronic nautical charts) to increase situational awareness.
- 5 Environmental requirements are directly linked to the underlying regulatory sources in Regs4ships.

The result

Local, national, regional and international environmental rules and regulations are now kept up to date by the LR OneOcean solution. Company and industry policies are overlaid and maintained by Carnival. All of this data is easily accessible to all personnel through the platform. Voyage and operational planning are streamlined, delivering significant time efficiencies and simplifying environmental compliance.

The LR OneOcean platform enables informed decision-making with enhanced situational awareness and monitoring of environmental requirements. Carnival benefits from more efficient planning and reduced environmental compliance risk.

Carnival Corporation & plc

Carnival Corporation & plc is the largest global cruise company, and among the largest leisure travel companies, with a portfolio of world-class cruise lines – AIDA Cruises, Carnival Cruise Line, Costa Cruises, Cunard, Holland America Line, P&O Cruises (Australia), P&O Cruises (UK), Princess Cruises, and Seabourn. Founded in 1972, Carnival encompasses nine cruise line brands that operate in virtually every market segment of the industry. Carnival's inherently complex global operations benefit from having automated access to environmental rules and regulations through LR OneOcean's comprehensive portfolio of tools.

LR OneOcean portfolio

This comprehensive environmental solution simplifies compliance for international vessel operators by ensuring easy, customisable access to regulatory data. Crews across operations are supported by automatic sourcing of up-to-date regulatory documentation depending on geolocation. Expedient voyage planning and regulatory compliance are ensured, and the risk of errors reduced.

Discover how your organisation can transform digitally with confidence. Contact our team today.

Get in touch