

February 28<sup>th</sup>, 2025

## “Paint Sommelier - QUANTUM PASS” has received Innovation Endorsement by ClassNK (Nippon Kaiji Kyokai)

Kansai Paint Marine Co., Ltd. (President : Hiroshi Oka) has received “Innovation Endorsement(\*1)” for Product and Solution Certification from ClassNK, for its “Paint Sommelier - QUANTUM PASS” (hereinafter, “Paint Sommelier”), CO2 emission reduction support system based on biofouling data from ships in service.



February 17<sup>th</sup>, 2025 Photo of Certificate Award

Left: Mr. Junichi Kawakami, General Manager of Technical Solution Department, ClassNK

Right: Mr. Keizo Kita, Managing Director of Sales Division

In the international shipping industry, regulations aimed at reducing CO2 emissions are becoming increasingly stringent. In addition to International Maritime Organization's (IMO) EEDI/EEXI (Energy Efficiency Design Index) and CII (Carbon Intensity Indicator), European Union is set to implement EU Emissions Trading Scheme (EU-ETS) and FUEL-EU Maritime, which aims to promote the decarbonization of fuels. These regulations are expected to have a significant impact on the business operations of shipping companies.

### CO<sub>2</sub> emission reduction support with the motto of utilizing real data

Mutually linked system utilizing bio-fouling data of vessels in service collected by Kansai Paint Marine, analysis of service profiles based on AIS information, and a propulsion performance analysis program created from the perspective of paint manufacturers.

#### - Data-driven approach

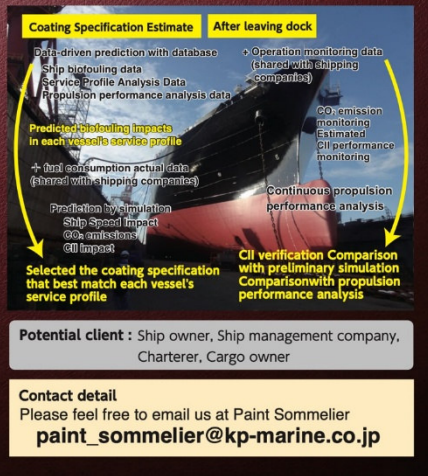
Analyze the service profile of the target vessel by using AIS information, biofouling performance is predicted for each candidate paint specification by cross-referencing with the biofouling database of vessels in service.

#### - CO<sub>2</sub> Emission Simulation

At the coating specification estimation stage, annual fuel oil consumption, actual voyage distance, data-driven biofouling performance predictions, and power curve information are input, and CII calculations are performed based on up to four cases of coating specifications and route setting conditions etc.

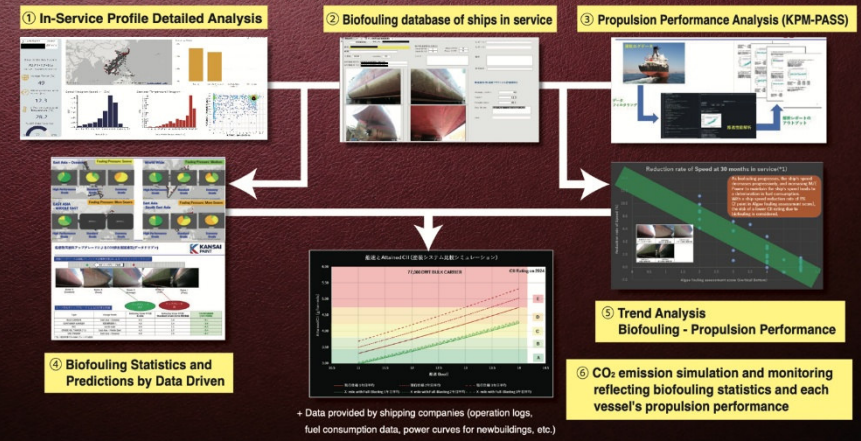
#### - CO<sub>2</sub> Emissions Monitoring

After leaving the dock, we will share the in-service data upon request, monitor estimated CII performances, compare them with the preliminary simulation results, and verify the impact of biofouling through propulsive performance analysis.



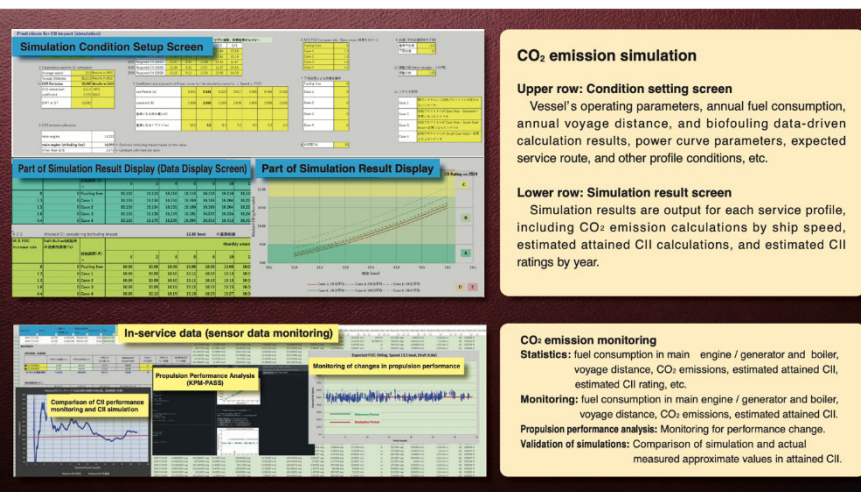
Biofouling (marine biofouling) is a major factor that increases frictional drag on a vessel's hull, reducing fuel efficiency. Increased fuel consumption leads to higher CO<sub>2</sub> emissions and a greater environmental impact. Since biofouling has a direct effect on CO<sub>2</sub> emissions management, proper monitoring and countermeasures are essential.

### Paint CO<sub>2</sub> emission reduction support with the motto of utilizing real data



"Paint Sommelier - QUANTUM PASS" is an integrated platform that combines:

- + Biofouling database built from extensive vessel data collected over years of service,
- + Service profile analysis software utilizing AIS (Automatic Identification System) data and oceanographic information,
- + Propulsion performance analysis system that evaluates vessel operation data.



**CO<sub>2</sub> emission simulation**

**Upper row: Condition setting screen**  
Vessel's operating parameters, annual fuel consumption, annual voyage distance, and biofouling data-driven calculation results, power curve parameters, expected service route, and other profile conditions, etc.

**Lower row: Simulation result screen**  
Simulation results are output for each service profile, including CO<sub>2</sub> emission calculations by ship speed, estimated attained CII calculations, and estimated CII ratings by year.

**CO<sub>2</sub> emission monitoring**

**Statistics:** fuel consumption in main engine / generator and boiler, voyage distance, CO<sub>2</sub> emissions, estimated attained CII, estimated CII rating, etc.

**Monitoring:** fuel consumption in main engine / generator and boiler, voyage distance, CO<sub>2</sub> emissions, estimated attained CII.

**Propulsion performance analysis:** Monitoring for performance change.

**Validation of simulations:** Comparison of simulation and actual measured approximate values in attained CII.

This system enables biofouling prediction, CO<sub>2</sub> reduction impact estimation, and CII verification through advanced simulations and real-time monitoring. The underlying biofouling database currently includes data from over 2,000 vessels as of December 2024.

By leveraging deep insights into the unique operational challenges and environments of each ship, "Paint Sommelier" delivers tailored solutions to optimize CO<sub>2</sub> reduction strategies. Through this initiative, Kansai Paint Marine is committed to marine environmental conservation and a sustainable future in collaboration with the shipping industry.

1 : ClassNK Innovation Endorsement : Third-party certification of innovative technologies and initiatives in the maritime industry by the Nippon Kaiji Kyokai. The certification covers ships, products and solutions, and providers.

<https://www.classnk.or.jp/hp/en/activities/techservices/dgd2030/iea/index.html>

#### ■Corporate Data

Company name: Kansai Paint Marine Co.,Ltd

Head office: 2-16-2, Konan, Minato-ku, Tokyo 108-0075, Japan

Representative: Hiroshi Oka (President)

Foundation: October, 2001

Activities: Development, manufacturing and sales of various types of marine paint.

Development, manufacturing and sales of antifouling paint for fish nets and other marine products.

Development, manufacturing and sales of antifouling paint for sluice gates in power plants etc.

Homepage: <https://www.kp-marine.co.jp/en/>

Inquiries regarding this press release

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