



# A powerful tool to support the reduction of CO<sub>2</sub> emissions is born!



Proposal system for optimal specifications of antifouling paint on the bottom of vessels based on advanced analysis

## Paint Sommelier

Based on a database obtained from abundant track record, we propose the optimal coating specifications for each individual.

As part of efforts to decarbonize ship operations, IMO has adopted a range of regulations that are being implemented across the international shipping industry.

Particularly impactful is the Carbon Intensity Indicator (CII) for vessels on international voyages of 5,000 GT or more, which began in 2023.

This arrangement has a direct impact on the rating of the vessel and therefore cannot be ignored as well as the impact on the business. CII is a complex issue that involves many factors, and we think that many shipping companies are worried about how to maintain high environmental performance.

Kansai Paint Marine combines the biofouling database

of more than 2,000 vessels, service profile analysis data based on AIS information, and propulsion performance analysis data obtained from service logs to verify the optimal performance of paint specifications for each vessel. Based on this information, we have developed the "Paint Sommelier," a system for proposing optimal specifications for antifouling paint on the bottom of vessels, which derives the optimal coating specifications through specific simulations, as well as simple calculations on the desk.

By using this system, we can provide shipping companies with reliable criteria and optimal cost performance plans when selecting antifouling paint on the bottom of vessels.



**KANSAI PAINT MARINE CO.,LTD.**

Proposal system for optimal specifications of antifouling paint on the bottom of vessels based on advanced analysis

# Paint Sommelier



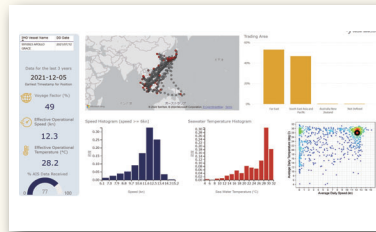
As a marine paint sommelier, Kansai Paint Marine listens to the needs of our customers and uses our extensive experience and the latest information technology to select the most suitable paint for each vessel. Just as a seasoned wine sommelier chooses the best bottle for climate, soil and grape variety, we have a deep understanding of the unique challenges and environment faced by your vessel to come up with the ideal solution.



## Service Menu

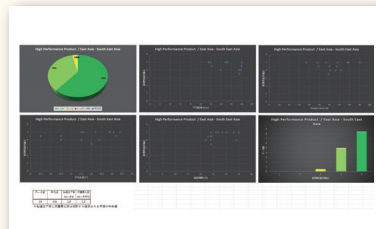
### Painting specification examination stage

#### Service Profile Analysis



We collect and analyze the detailed service profile of the vessel under consideration by collecting AIS information. Through analysis, characteristics such as service rate, average ship speed, average water temperature, and route are visualized.

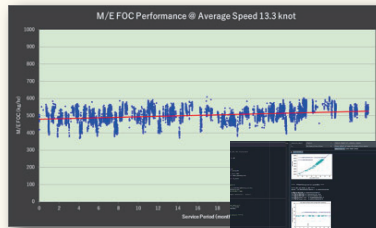
#### Data-driven analysis



Using the results of the service profile analysis, we perform a data-driven process in the biofouling database for each potential paint specification and compare the statistically expected biofouling score, the rate of reduction in ship speed, and the rate of deterioration in fuel consumption.

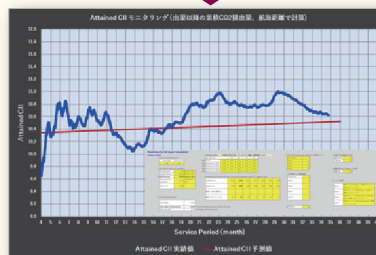
### Stage after docking

#### Propulsive performance analysis (KPM-PASS)



Upon request, we can perform propulsion performance analysis using past service logs and post-docking service logs. The results of this analysis can be used for CII simulations. In addition, performance monitoring in biofouling management can be performed.

#### CII Simulation & CII Monitoring



CII simulations are performed using the biofouling database, service profile analysis, and propulsion performance analysis results utilizing high frequency sampled service data. At the same time, CII monitoring is carried out from the actual fuel consumption and voyage distance, which is useful for understanding the status of CO<sub>2</sub> emissions.