

Navigating
Excellence

WHITE PAPER
SERIES
PART THREE



NAVIGATING EXCELLENCE

PART THREE:

Empowering Maritime Operations with
Data-Driven Solutions

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An industry undergoing deep change

The maritime industry is undergoing a transformative period of digitalisation, reshaping every aspect of its operations, from vessel management and maintenance to safety, compliance and commercial transactions. As one of the world's oldest and most essential industries, shipping has traditionally relied on manual processes and legacy systems.

The growing demands for efficiency, sustainability, and transparency are driving a rapid adoption of digital technologies across the sector. This whitepaper explores Idwal's data-driven technologies, highlighting their benefits and what they mean for the industry at large.



The key drivers

Operational Efficiency

The need to optimise vessel performance, reduce fuel consumption, and minimise downtime has spurred the adoption of digital tools.

Regulatory Compliance

Stringent international regulations mean data has become a major player in the sector.

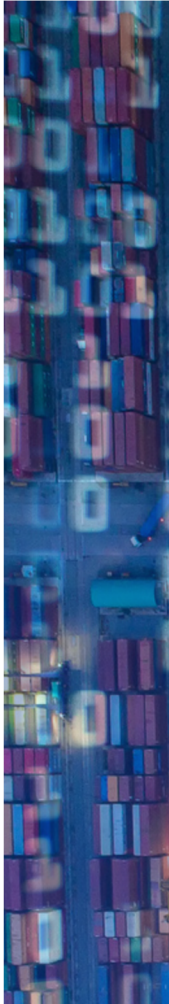
Sustainability Initiatives

Increased scrutiny on the environmental impact of shipping resulting in new IMO guidelines have been helped along with technology.

Transparency and Security

Complex supply chains, international events, and the requirement for transparency has led to a surge in the use of new technologies fleet-wide.

The growing risks of not embracing digital



As industry leaders forge ahead with digital transformation, those maintaining traditional approaches face mounting challenges. The competitive gap continues to widen as early adopters leverage data-driven insights to optimise their operations and decision-making processes and this divergence in capabilities becomes more every more pronounced.

Fleet condition management without proper data analytics leads to the steady accumulation of inefficiencies and potential defects across vessels. Without systematic tracking and analysis, minor issues can develop into major problems, resulting in costly repairs and unnecessary downtime.

Companies also face increased exposure to compliance and safety risks in an increasingly regulated industry. Without robust data-driven monitoring systems, maintaining compliance becomes more complex and resource-intensive, putting vessels at risk of detention or operating restrictions.

Perhaps most critically, organisations lose valuable operational data that could inform strategic decision-making. Every day without proper data collection and analysis represents a permanent loss of insights that could drive improved performance and competitive advantage.

Leadership through innovation

At Idwal, we've physically inspected over 15% of the global fleet since 2019, accumulating more than 10 million data points, inspection photos, and documents. What sets us apart is our unique combination of 'boots on the ground' expertise, advanced technology, and data analytics. We've developed the Idwal Grade® as the industry's standard measure of independent asset integrity. Our approach is solutions-driven and partner-focused, allowing us to collaborate with you to develop services that suit your specific needs.



>15%

More than 15% of the global fleet physically inspected since 2019



>100

More than 100 countries where an inspection has taken place



>10m

More than 10m data points, inspection photos & documents

Digital framework

Both extensive and dedicated software development teams are now a familiar sight within industry offices and Idwal is no different. Since our inception in 2012, we have hosted an in-house software development team that is deeply integrated with our maritime experts. This team is not only adept at leveraging the latest technologies but also intimately familiar with the specific needs and intricacies of the maritime sector.

This combination allows us to create tailored software solutions that address the evolving demands of the industry, from enhancing fleet maintenance to improving data analytics and ESG compliance.



"From the beginning, our in-house development team has been closely aligned with our maritime experts, allowing us to design software that truly understands and meets the sector's unique challenges. This integration enables us to deliver solutions that not only leverage the latest technologies but are also finely tuned to market requirements."

Nick Owens, CEO

The data behind the Idwal Grade

The Idwal Grade is a game-changing metric that provides an immediate clear, comprehensive understanding of your fleet's condition.



What is the Idwal Grade?

The Idwal Grade is comprised from a complex set of algorithms calculated from over 500 individual data points relating to the vessel being inspected. It is applied to all 3,000+ vessels that we inspect every year and has become a pivotal asset in the maritime industry, with many ship owners, ship managers, financiers and charterers relying on it for an objective and consistent view of a vessel or fleet's integrity.

The Idwal Grade isn't just a surface-level assessment; it delves into all crucial areas of a vessel. Each of these areas is meticulously examined, considering both structural integrity and cosmetic condition, as well as the operational status of equipment and machinery. Beyond the physical, the Idwal Grade also represents areas covering management and performance.

The future is here

Through a combination of independent inspections and AI modelling, Idwal can also provide an indication of the condition of all 60,000+ vessels within the global commercial fleet.



AI-estimated grades

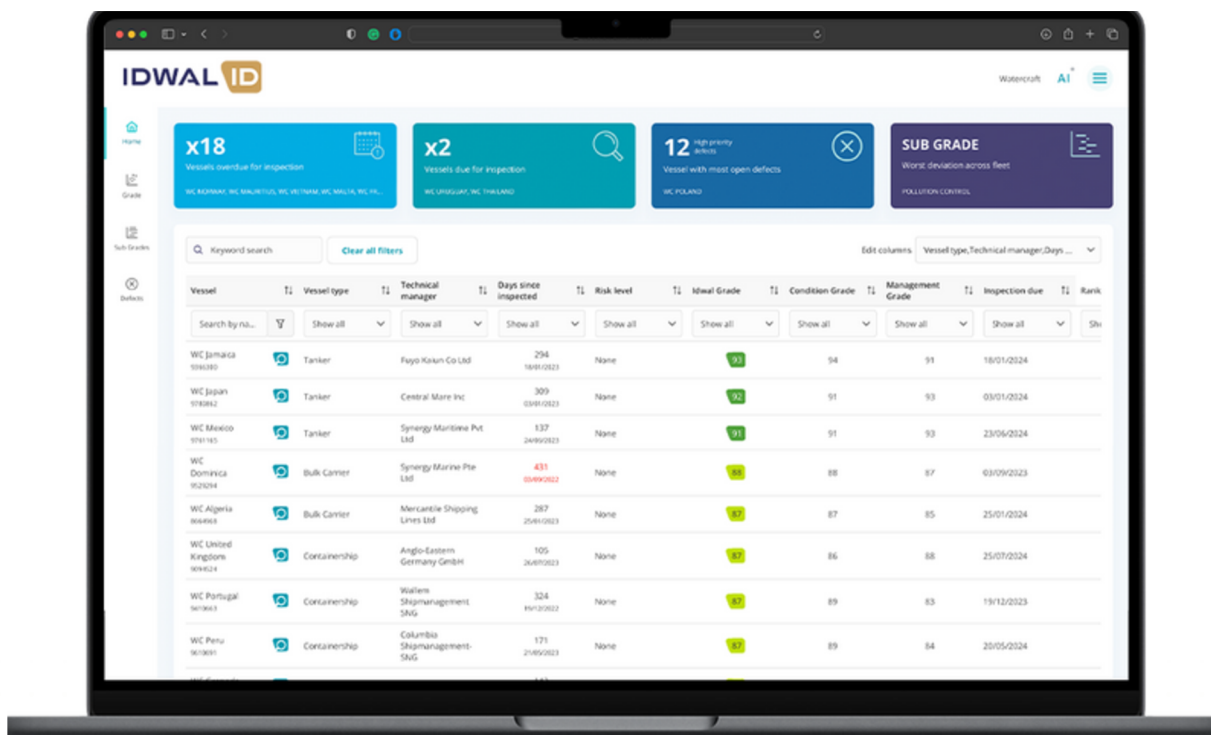
When a physical inspection is impossible, an estimated Idwal Grade can be provided. This grade is generated by a supervised AI model trained on data from over 12,000 inspected vessels, using factors like vessel type, age, manager, Class, Flag, design, and build country. The model is enhanced by maritime expertise, degradation profiles, and third-party data like PSC performance. Grades are updated daily to reflect recent changes, and the AI model is regularly retrained to improve accuracy. The estimated grade is shown as a number range, reflecting model accuracy for the specific vessel.

The power of Idwal ID

Idwal ID is a condition improvement programme that uses data from inspections to drive high fleet integrity.

We conduct regular inspections across your fleet using our experienced, carefully selected surveyors and all inspection reports are delivered through a 24/7 online platform that provides:

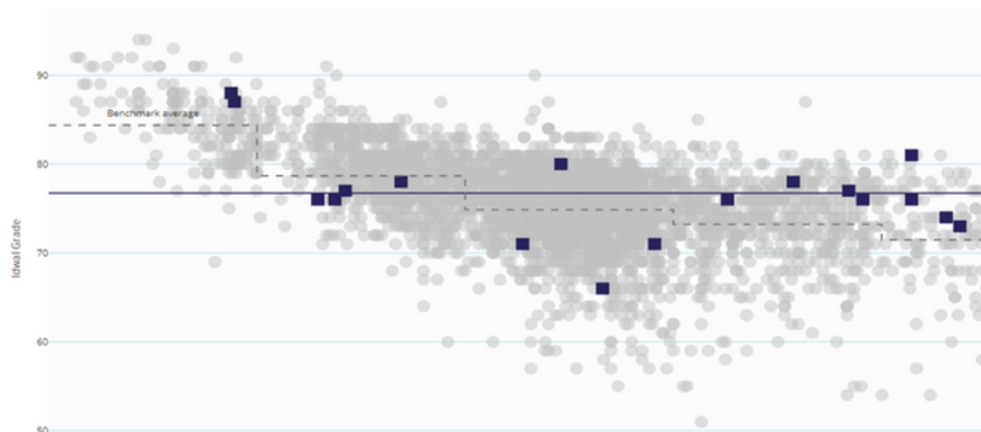
- Rapid access to all inspection information in one secure place
- Fleet and asset-level trending & benchmarking
- Aggregated defect management



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Data-enabled vessel and fleet benchmarking

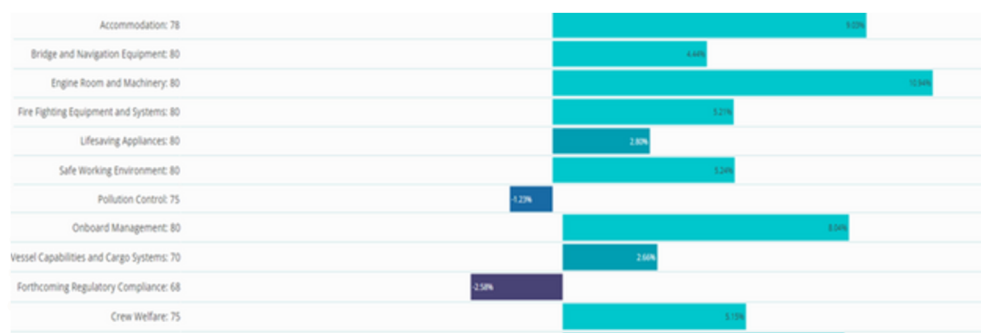
- Filter data to benchmark within your own fleet or against the Idwal-inspected backdrop (15% of the world fleet)
- View by vessel type, age and dwt/teu, as well as by country of build, technical manager etc.
- You can only see the data on your ships, the grey dots are anonymised.



This graph is comparing average grades across vessels' age range. The dark squares belong to a specific fleet and the grey dots are other anonymised vessels across the grade and age range.

Data-enabled sub-grade benchmarking

- Performance can be viewed across the 21 sub-grade areas
- Comparisons can be viewed within your own fleet or against the Idwal-inspected backdrop (15% of the world fleet)
- Filter by vessel type, age and dwt, as well as by country of build, technical manager etc.



This graph shows how a vessel's sub-grade averages deviate from the world fleet's average. Those to the right are better than average and those to the left are below the average.

Learn more about Idwal ID

Idwal ID gives us clarity on **where we need to invest better**, and **our commercial image** gets a significant boost out of it.

Manoj Pandalanghat:
Director & Head of Technical,
Cobelfret

Idwal ID helps protect our **licence to operate** and enables us **identify opportunities for improvement**

Martin Krafft:
VP, Fleet Management,
Fednav



Idwal ID offers a comprehensive solution for commercial and technical directors seeking to optimise their fleet condition management. By combining rigorous inspections, advanced analytics, and a deep understanding of industry needs, we provide the tools and insights necessary to drive excellence across your fleet.

Ready to unlock the power of data-driven fleet management?

Contact us today for a full demo and to discuss how we can create a customised condition improvement program for your fleet.

enquiries@idwalmarine.com



**CONTACT US FOR
FURTHER ENQUIRIES**

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