



Navigating Maritime Complexity

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Maritime operators—from LNG carriers and chemical tankers to offshore support vessels—face a **perfect storm of operational challenges**. High-value assets must run reliably under tight cost constraints and tough regulations. Every hour of vessel downtime means lost revenue, and every missed inspection can jeopardize compliance. Yet many shipping companies still rely on patchwork of standalone systems and spreadsheets for maintenance, procurement, inventory, crew, and finance. This fragmentation creates blind spots and inefficiencies: maintenance is often reactive, reporting is slow, and audits are cumbersome.



IFS Cloud offers a smarter path forward. It is a unified, cloud-based platform purpose-built for asset-intensive industries like maritime. By integrating maintenance, asset management, procurement, finance, and compliance processes—with seamless hooks into specialized crew management systems—IFS Cloud replaces fragmentation with **a single source of truth**. Organizations gain real-time visibility across fleet operations and enterprise finances, enabling data-driven decisions.

Embedded artificial intelligence (AI) capabilities (from predictive maintenance to autonomous digital assistants) further help owners and operators move from reactive firefighting to proactive fleet management. And with modern satellite connectivity (e.g. new LEO networks) and optional offline replication, IFS Cloud keeps ship and shore in sync, delivering real-time information even when connectivity is intermittent.

Key Challenges for Vessel Operators

Maritime executives today grapple with several interrelated challenges that IFS Cloud is designed to address:

- **Asset Reliability:** Unplanned equipment failures (e.g., propulsion, pumps, cargo systems) create costly off-hire periods and emergency repairs. Time-based maintenance still used by many fleets can miss early warning signs or result in unnecessary over-servicing.
- **Class & Regulatory Compliance:** Operators face continuous inspections, surveys, and statutory certificates. Tracking these across spreadsheets and siloed tools increases the risk of missed surveys, non-compliance, detentions, or audit findings.
- **Cost Control & Operational Efficiency:** OPEX across maintenance, spares, fuel, crew, and port fees needs to be tightly managed. Fragmented systems prevent real-time visibility, causing budget issues to surface only at month-end—too late for corrective action.
- **Global Supply Chain Complexity:** Spares, consumables, and critical components must be sourced, shipped, and delivered across a global network of ports, agents, and warehouses. Fragmented procurement and inventory systems lead to delays, incorrect parts, higher logistics costs, and situations where maintenance is blocked simply because the parts are in the wrong location.
- **Drydock & Major Maintenance Events:** Dockings remain one of the largest, most unpredictable cost centers for operators. Poorly integrated planning (across maintenance, procurement, class tasks, and contractor work scopes) results in scope creep, delays, rework, and budget overruns. When systems are disconnected, operators lack early visibility of required tasks and materials – driving unnecessary time in dock.
- **Disconnected Systems:** Maintenance software not linked to procurement, compliance tracked in spreadsheets outside the maintenance system, financials in a separate ERP—these silos waste time and hide problems. A recurring technical issue spanning ships might go unnoticed if data is scattered. Fragmentation blinds decision-makers right when agility is needed most.
- **Meeting evolving ESG and emissions compliance requirements:** Operators must comply with increasingly complex environmental regulations (e.g., IMO CII, EEXI, EU ETS) and demonstrate progress toward sustainability goals. Without integrated systems, tracking emissions, aligning maintenance with fuel efficiency, and reporting ESG metrics becomes fragmented and reactive—putting compliance, charter eligibility, and reputation at risk.
- **Connectivity Constraints:** Historically, limited shipboard internet meant vessels ran local databases and synced infrequently. Today, new satellite services (e.g. Starlink) allow ships to stay reliably connected to cloud systems. **IFS Cloud is cloud-first**, eliminating the need for complex replication in normal operations. For remote situations or backup, an offline mode can synchronize data when a connection becomes available—giving the best of both worlds.
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Unified Solution: IFS Cloud Platform

IFS Cloud is an integrated enterprise platform that covers the full spectrum of vessel operations in one system. Rather than multiple modules bolted together, it shares a common data model and interface across all functions:

- **All Core Operational Processes in One Platform:** Maintenance, asset management, procurement, inventory, and compliance work together seamlessly in a single maritime-ready system.

When a maintenance task is completed, spare parts are automatically deducted from inventory, and the system updates vessel records, component history, class-related evidence, and materials usage –without manual re-entry.

A purchase order for a critical spare immediately links to the maintenance task, updates expected arrival at the next port, and aligns with docking or voyage planning.

Everyone—from the chief engineer onboard to the technical superintendent onshore –works from the same live operational data, ensuring consistent decisions and faster execution.

- **Maritime-Built Functionality Out of the Box:** IFS Cloud supports the full maintenance model used by vessel operators, including calendar-based, usage-based, and condition-based maintenance, with an equipment registry down to component level. Class inspections, statutory certificates, and survey tasks are centrally tracked, with automatic alerts long before due dates—ensuring predictable compliance and eliminating spreadsheet-based oversight risks.

The system integrates seamlessly with common maritime solutions such as crew management platforms, IoT-based condition monitoring systems, and electronic logbooks.

This ensures operators can unify maintenance, parts readiness, compliance, and operational data without disrupting existing vessel routines.

- **Supporting ESG Goals and Emissions Compliance:** As maritime regulations evolve from IMO's CII and EEXI to regional carbon pricing schemes—vessel operators face growing pressure to monitor, report, and reduce emissions. IFS Cloud supports this shift with built-in sustainability tracking and integration with emissions data sources. Through IFS Zero, organizations can embed ESG metrics into operational workflows, track carbon intensity per voyage or vessel, and align maintenance and fuel efficiency initiatives with decarbonization targets. This enables proactive compliance, transparent reporting, and data-driven decisions that support both regulatory readiness and corporate ESG commitments.
- **Modern Cloud Architecture:** As a **cloud service**, IFS manages the infrastructure, security, and regular updates. Fleet data from all vessels and offices is consolidated in the cloud, ensuring one version of the truth. Users onboard and onshore access the same environment through a web or mobile app. Improved connectivity at sea means operators can use the cloud in real time, but if required a replicated environment is still an option. This flexibility guarantees data consistency without forcing a one-size-fits-all approach to connectivity.
- **Unified User Experience:** Every department uses the same intuitive interface. Operations, technical, and finance staff share dashboards and KPIs drawn from the same live data. There is no need to manually reconcile spreadsheets from different systems—for example, an operations manager and a finance controller looking at a maintenance cost report are seeing the exact same numbers and details. This builds trust in the data and speeds up cross-functional collaboration significantly.

In short, IFS Cloud breaks down silos. Instead of juggling disparate tools, maritime teams get a single integrated platform that streamlines workflows and provides end-to-end visibility. Maintenance planners, port engineers, buyers, compliance officers, and accountants are all connected, which reduces errors, saves time, and increases control.

Intelligent Operations with Embedded AI

IFS Cloud not only integrates processes; it also makes them smarter through built-in AI and automation:

- **Predictive Maintenance:** The system analyzes sensor readings and historical trends to predict equipment failures before they happen. For example, if a ship's vibration data suggests a bearing is likely to fail, IFS Cloud will alert the team to replace it at the next port call. This helps move from routine or reactive maintenance to **condition-based maintenance**, improving asset uptime and reducing maintenance costs.
- **FMECA Copilot:** A reliability AI assistant examines patterns in failures and maintenance records. It highlights which failure modes occur most often or have the biggest impact, helping prioritize preventative actions. For instance, it might reveal that a certain pump model across the fleet shows early wear signs in tropical conditions—enabling you to adjust maintenance or inventory for those pumps proactively.
- **Intelligent Scheduling:** The AI engine optimizes maintenance planning. It looks at vessel schedules, technician availability, and even port facility windows to recommend the best time and place for each task. If a voyage is extended or a task runs long, it can dynamically reschedule other jobs and coordinate parts deliveries to minimize disruptions. The result is higher on-time completion of maintenance and more efficient use of crew and resources.
- **IFS Loops (Digital Workers):** IFS Cloud includes **agentic AI assistants** that automate high-volume routine tasks. These “digital workers” operate under your rules to handle things like:
 - **Inventory Replenishment:** Monitoring stock levels fleet-wide and placing orders or transfers when thresholds are reached. They follow procurement rules and ensure parts arrive where needed without human follow-up.

All these AI capabilities are natively integrated and **user-friendly**. The philosophy is that AI should amplify your team's productivity and foresight, not complicate it. By automating drudge work and providing predictive insights, IFS Cloud **elevates your operational maturity** without adding complexity.

Business Benefits at a Glance

Beyond these headline benefits, vessel operators using IFS Cloud report **higher workforce productivity** (because teams spend less time on data entry and firefighting), improved knowledge retention as best practices are embedded in the system, and a future-ready foundation that can easily adapt to new technologies or business models. All core metrics—from maintenance backlog and HSEQ findings to operating margin and on-time delivery—trend in the right direction when operations are unified and intelligent.

Conclusion: One Maritime Platform for Operational Excellence

In an industry undergoing rapid transformation—from digitalization to decarbonization—relying on fragmented legacy systems is increasingly a liability. **IFS Cloud offers vessel owners and operators a proven path forward:** a single, unified platform that brings all critical processes together, enhanced with AI-driven tools and accessible securely via the cloud. The result is **higher asset uptime, lower risk, tighter cost control, and greater agility**—translating directly into competitive advantage for your business.

Adopting a unified platform may sound like a bold change, but IFS and its partners have deep maritime expertise to ensure a smooth transition. Many operators start with a focused deployment (e.g. maintenance and inventory) and expand step-by-step, capturing quick wins and building confidence along the way. The journey can be phased and risk-managed—but the important thing is to begin.

Learn More—Take the Next Step: If you're ready to explore how IFS Cloud can transform your fleet operations, our maritime specialists are here to help. We can assess your specific challenges, demo the platform's capabilities, and share success stories from shipping companies like yours.

Empower your fleet with a unified, intelligent platform—and set sail for a safer, more efficient, and profitable future. **Safe seas and smart operations await with IFS Cloud.**

About IFS

IFS is the world's leading provider of Industrial AI and enterprise software for hardcore businesses that make, service, and power our planet. Our technology enables businesses which manufacture goods, maintain complex assets, and manage service-focused operations to unlock the transformative power of Industrial AI™ to enhance productivity, efficiency, and sustainability.

IFS Cloud is a fully composable AI-powered platform, designed for ultimate flexibility and adaptability to our customers' specific requirements and business evolution. It spans the needs of Enterprise Resource Planning (ERP), Enterprise Asset Management (EAM), Supply Chain Management (SCM), and Field Service Management (FSM). IFS technology leverages AI, machine learning, real-time data and analytics to empower our customers to make informed strategic decisions and excel at their Moment of Service™.

IFS was founded in 1983 by five university friends who pitched a tent outside our first customer's site to ensure they would be available 24/7 and the needs of the customer would come first. Since then, IFS has grown into a global leader with over 7,000 employees in 80 countries. Driven by those foundational values of agility, customer-centricity, and trust, IFS is recognized worldwide for delivering value and supporting strategic transformations. We are the most recommended supplier in our sector. Visit ifs.com to learn why.

