Asset Lifecycle Management

# Build Resilient Oil & Gas Operations

Modernizing through integrated asset lifecycle management

IFS

# Executive Summary

The oil and gas industry stands at a critical juncture. As operators manage increasingly complex portfolios of aging assets under mounting pressure to maintain safety, optimize costs, and meet stringent environmental standards, the imperative for operational resilience has never been more acute. Traditional approaches to asset management–characterized by fragmented systems, reactive maintenance strategies, and siloed data–are no longer sufficient to address the multifaceted challenges facing the industry today.

True operational excellence in **oil and gas** is achieved only when decisions are optimized across the entire lifecycle, from design to decommissioning. This requires a fundamental shift toward integrated, data-centric Asset Lifecycle Management (ALM) that provides seamless digital continuity from asset creation through operations to end-of-life replacement, ensuring every decision is data-driven and value-optimized.

This white paper examines the critical challenges confronting oil and gas organizations and explores how an end-to-end project and asset lifecycle management solution powered by Industrial AI delivers control, agility, and insight across the entire oil and gas value chain.

# Critical Challenges to Overcome

Modern oil and gas operators confront five mission-critical challenges that threaten operational resilience and financial performance:

### 1. Maintaining Mechanical Integrity

As assets corrode, degrade, and operate under high pressure, they create constant risk of failure and require intensive inspection and monitoring.

### 2. Preventing Unplanned Shutdowns

Unplanned shutdowns and cost escalation remain persistent challenges as aging equipment and unpredictable failures drive production losses and rising operational expenditures.

### 3. Managing Data Quality and System Integration

Keeping asset information consistent across engineering, operations, and maintenance is challenging, leading to outdated drawings, incomplete registers, and compliance gaps. Poor data, legacy systems and weak integration undermine asset reliability, blocking standardized asset records, accurate condition insight, automated processes and effective maintenance decisions. This data and compliance complexity creates gaps that hinder lifecycle cost control.

### 4. Executing Safe Maintenance

Hazardous equipment demands strict Permit-to-Work (PtW) protocols, isolations/LOTO procedures, and contractor control to avoid incidents. The complexity of executing maintenance safely in high-risk environments cannot be overstated.

### 5. Demonstrating Regulatory Compliance

Mechanical integrity programs require extensive, traceable inspection data aligned with API/OSHA standards, making regulatory compliance demonstration burdensome.

# The Case for Integrated Asset Lifecycle Management

## Beyond Traditional Asset Management

The convergence of these challenges demands a holistic approach that transcends traditional, siloed asset management practices. The oil and gas industry requires a unified, **data-centric solution** that spans the entire asset lifecycle on a single platform.

This approach must act as the central hub for all asset data, seamlessly connecting Asset Investment Planning (AIP), Project & Portfolio Management (PPM), Enterprise Asset Management (EAM), and mobile work execution.

**True resilience in oil and gas operations requires three fundamental capabilities:**

1. **End-to-End Process Integration**

   A unified ALM process must connect investment planning, EPC handover, commissioning, maintenance, operations, and asset performance management, providing seamless digital continuity from asset creation through operations to end-of-life replacement.

2. **Data-Driven Decision Making**

   Every decision must be supported by accurate, timely data that flows seamlessly across the organization. This requires breaking down information silos and creating a single source of truth for onshore and offshore operations.

3. **Value Optimization Across the Lifecycle**

   Asset lifecycle management must protect margins and reduce lifecycle costs by improving asset up time, minimizing integrity-related risk, and optimizing CAPEX/TOTEX decisions - enabling safer, cleaner, and more efficient operations across the hydrocarbon value chain.

# IFS Asset Lifecycle Management: **A Comprehensive Solution**

## The Unified Platform Advantage

IFS Cloud provides one of the market's most comprehensive ALM platforms, layered on top of existing enterprise systems through certified connectors, open APIs, and integration accelerators. This enables organizations to adopt a composable model that increases capability, not complexity.

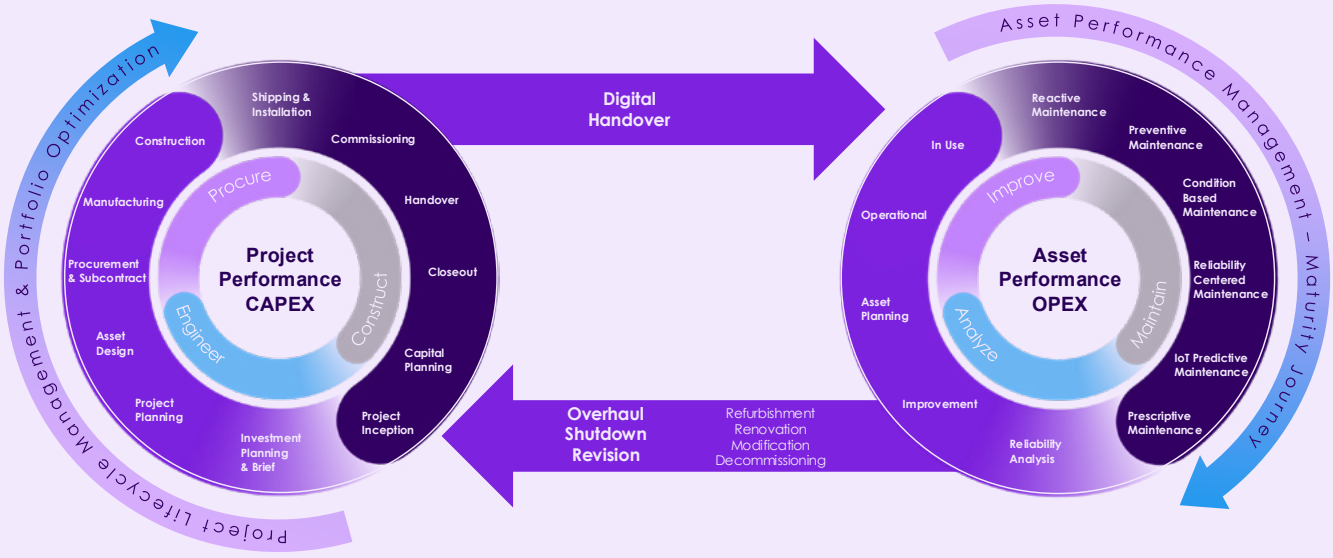
ALM is not an application, it's rather a strategic cross-functional operating model. With the right technologies enabling this model effectively, organizations can maximize asset value, move confidently toward predictive operations, and align capital decisions with long-term business outcomes.

**A mature ALM model delivers:**

- Higher asset availability and productivity
- Data-driven optimization of capital and OPEX decisions
- Predictive, condition-based work execution
- Extended asset life with improved cost control
- Reliable compliance with HSE and regulatory standards

**Learn more**

## A Single Platform Delivering Measurable Value



# **IFS Cloud:** A fully comprehensive, composable ALM Capability Suite

### Enterprise Asset Management

Delivers unified asset maintenance, supply chain, compliance, and cost tracking.

- Improves asset reliability
- Extend **asset life** across global operations
- Gain real time visibility for enhanced operational efficiency

### Asset Investment Planning

Supports strategic capital allocation, ensuring investment decisions balance risk, performance, and long term value.

- Advanced **investment optimization**
- Scenario-based planning
- Value and risk heat mapping
- Strategic alignment across portfolios
- Seamless transition to project execution

### Workforce Management

Optimizes resource utilization across complex field environments.

- Advanced AI scheduling → Best in class scheduling engine
- Mobile execution for distributed teams
- Inventory and spares optimization
- Integrated procurement and materials control

### Project Management

Drives disciplined **planning, execution, and governance** from engineering through commissioning.

- Engineering and asset design
- Project and portfolio management
- Budget and cost control
- Formal handover into operations

### End of Life and Renewal Management

Enables structured and efficient asset transition, renewal, or decommissioning.

- Decommissioning planning
- Replacements and upgrades
- Refurbishment programs
- Asset repurposing aligned to sustainability goals

### Industrial AI and Predictive Intelligence

Enables intelligent operations, predictive insights, and continuous improvement.

- Transform operations from reactive to predictive
- Enhance operational agility
- Enable smarter decision-making

### Sustainability and ESG Integration

Helps organizations measure, manage, and improve environmental performance with embedded sustainability and ESG modules.

- Meet stakeholder expectations and regulatory demands
- Support the transition to more sustainable operations

### Onshore-Offshore Data Replication

Creates a single source of truth for onshore and offshore business operations through inbuilt data replication engine. This ensures:

- Seamless operations
- Improved oversight across geographically dispersed assets

# A Single Platform Delivering Measurable Value

By integrating investment planning, project delivery, maintenance execution, workforce management, and supply chain within a single composable platform, IFS Cloud enables:

- **Higher reliability and availability**
- **Lower maintenance and lifecycle cost**
- **Stronger compliance and ESG performance**
- **More resilient long term asset strategies**

Organizations adopting IFS Cloud ALM capabilities typically achieve:

**30%** higher uptime

**25%** lower maintenance cost

**20%** longer asset life

**20%** improved OPEX efficiency

**30%** optimized spares inventory

**15%** improved safety and energy efficiency

# Proven Results in the Field

## Real-World Success Stories

Leading energy organizations worldwide have partnered with IFS across the entire value chain–from upstream exploration and production through midstream transportation to downstream refining and distribution:

Borr Drilling

**Borr Drilling** relies on IFS to support mission-critical business processes, including onshore-offshore data replication, supply chain management, and global financials. This enables seamless operations and improved oversight across geographically dispersed assets.

interwell

**Interwell** has achieved full operational integration by implementing IFS, getting all operational, purchasing, finance and sales activity into one integrated system.

BW OFFSHORE

**BW Offshore** has gained greater visibility and better control of its projects through IFS enterprise software.

# Conclusion: **Building Resilient Operations for the Future**

The path to resilient operations begins with recognizing that asset lifecycle management is not simply about maintaining equipment, it is about creating an integrated ecosystem where data flows seamlessly, decisions are informed by predictive intelligence, and every action is aligned with strategic objectives. Organizations that embrace this comprehensive approach will be better positioned to navigate the challenges of today while building the foundation for sustainable success tomorrow.

To explore how IFS Asset Lifecycle Management can transform your operations, contact us to schedule a consultation with our oil and gas industry experts.

**Book a Demo**