# A Resilient Enterprise with IFS Cloud EAM

The strategic advantage of asset management technology

# Introduction

As we've learned over the past few years, resilience to change is essential to the health and success of the enterprise. This principle extends across all business areas, including the assets we rely upon to keep the company running.

How we manage and maintain our enterprise assets directly impacts the company's performance. Often overlooked and taken for granted, these components are essential building blocks to a successful business. Without them, there is no business.

Today, with technological advances, enterprise assets contribute beyond operational productivity, providing us with critical data-based insights that inform business decisions. These data serve more than just the bottom line, helping us develop a safer, greener, more sustainable operation.

This IFS paper examines advances in enterprise asset management (EAM) technology and how organizations are evolving their EAM strategies to become more efficient, profitable, and resilient in the face of change.

# The High Cost of Non-performant Assets

### Profitability

Most businesses rely on assets of some sort. These can include fixed assets such as pumps, drills, and assembly lines; or movable assets such as IT equipment, computing systems, sensors, vehicles, ships, and other components.

An enterprise asset is usually a capital investment where negotiations occur at the point of purchase, with less consideration of the costs (hard and environmental) the company must pay once the asset is up and running.

In reality, the initial spend is dwarfed by subsequent operational expenses including maintenance, energy, and other costs. Some experts estimate that 95% of the total cost of an asset is attributed to the energy it consumes and related maintenance costs (parts, manpower, etc.). This means that over the course of 10+ years, only a small percentage of the total cost of ownership is attributable to acquisition of the asset.

These ongoing expenses add up, creating even more of a drain on the bottom line, especially when an asset is non-performant.

Costs related to equipment failure and downtime are significant. For example, the average manufacturer encounters 8,800 hours of equipment downtime each year. When this happens and production stops, costs quickly add up, with unplanned downtime costing industrial manufacturers as much as $50 billion a year.

**$50 billion**

Annual cost of unplanned downtime for industrial manufacturers

Another example is the oil and gas sector, where companies lose an average of 32 hours of productivity each month to unplanned downtime, at a cost of $220,000 per hour. This rounds up annually to $84 million per facility. For companies with aging equipment, operational and maintenance costs are even higher.

**$220,000**
Cost per hour of unplanned downtime in oil & gas

Network downtime–when IT equipment and other technical infrastructure fails–is painful across industries. And it continues to increase year over year. For example, in 2014 Gartner assessed the cost of downtime at $5,600 per minute for an hourly average of over $300K.

In 2022 this skyrocketed, with ITIC research reporting that a single hour of downtime could cost over $1M.

## Sustainability

There are other costs–perhaps less tangible to the immediate bottom line but even more impactful. Today many organizations, especially those managed with regulatory oversight or motivated by good corporate citizenry, are striving towards a greener, more sustainable operation.

In particular, energy, utility, and resource companies are duty-bound to achieve sustainability goals such as reduced or net zero carbon emissions. The management and maintenance of operational assets contribute to these outcomes.

EAM technology plays a critical role in achieving a cleaner operation. For example, IFS customer LKAB, a mining and minerals group that produces 80% of the iron ore in Europe, wants to achieve carbon dioxide-free production by 2045. With IFS, the company benefits from transparent processes, consolidation, and the harmonization of workflows and data. The result? High-quality business insights that help LKAB track and attain its sustainability goals.

> “To lead the industry toward more responsible, resource-efficient mining practices, we need the very best technology to make sure our people and assets are working efficiently and safely."
>
> **Markus Petäjäniemi, Senior Vice President, Market and Technology**

LKAB

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On the flip side, asset failure can be devastating to sustainability and safety efforts. For example, if an electric utility's transformer fails in the field, the event could trigger massive fires, damaging the environment, destroying property, and even resulting in death.

Effective asset management with real-time monitoring, combined with optimized workforce planning and scheduling, will drastically reduce–and even eliminate–these worst-case scenarios.

# The Strategic Role of Enterprise Asset Management

While operational efficiencies remain a critical benchmark, the strategic role of enterprise assets has become an important business differentiator.

EAM technology provides an enterprise-wide view of company assets and processes for unparalleled visibility and control, enabling organizations to:

- Set consistent business objectives across sites and geographies, then monitor in real-time to quickly detect and resolve anomalies
- Standardize best practices and productivity metrics across the company
- Better manage aging infrastructure for greater control of operational risk
- Consistently achieve multiple objectives aligned with productivity, sustainability, and regulatory oversight

For example, BW Energy, a global oil and gas exploration and production company, implemented IFS to support lower development costs, faster project delivery, and reduced carbon emissions.

> “IFS’ ability to support multiple business activities, together with the ERP and EAM capabilities, helps us to meet our multiple goals quickly and efficiently while giving us the agility we need to navigate a rapidly changing market and regulatory environment."
>
> **Knut R. Sæthre, CFO**

BW ENERGY

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# The Evolution of Asset Maintenance

With advances in technology, maintenance practices continue to evolve:

| Maintenance 1.0 | Maintenance 2.0 | Maintenance 3.0 | Maintenance 4.0 | What's next? |
|---|---|---|---|---|
| Managed visually and reactively. Assets run until they fail, then a fix is applied. | Preventive maintenance at pre-scheduled and fixed intervals. | Condition-based maintenance with sensors to monitor assets in real-time and send alerts. | Predictive maintenance to proactively improve asset performance. | Asset performance is actively managed for real-time optimization. |

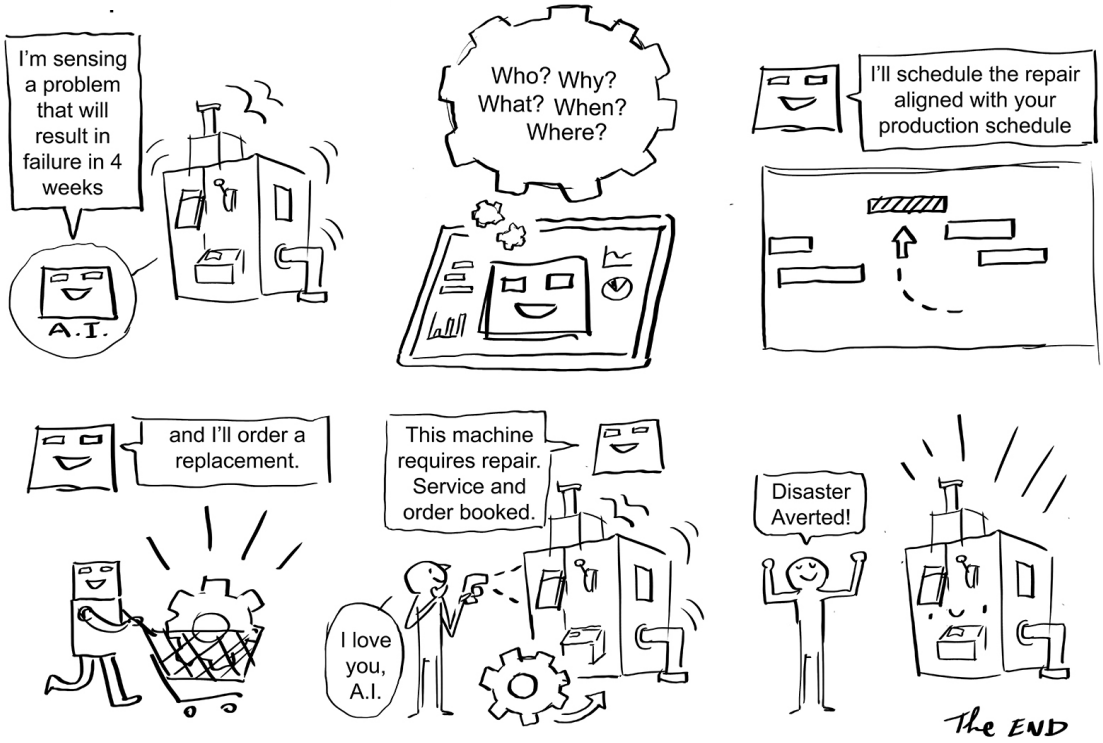
While this maintenance maturity roadmap is displayed linearly, the reality is that most organizations use a combination of practices across their operation.

## What's next: Maintenance 5.0?

IFS customers aspire to exceed Maintenance 4.0 practices, building towards what many in the industry call Maintenance 5.0: a resilient, human-centric, and sustainable operation that detects and preemptively responds to potential issues.

Regardless of the maintenance practices in place, IFS supports the entire EAM cycle, from detection, logistics, scheduling (optimized and real-time), parts ordering, and tool allocation, ensuring technicians attend and resolve maintenance issues before downtime can occur:

Unlike traditional EAM solutions, IFS provides our customers with a key differentiator: Resource Optimization. By automating the complicated and time-consuming workflows that support EAM, our clients gain additional efficiencies. For example, the performance of maintenance activities, production schedule alignment, and workforce scheduling–delivering the very best outcome every time.



# Contemporary Enterprise Asset Management

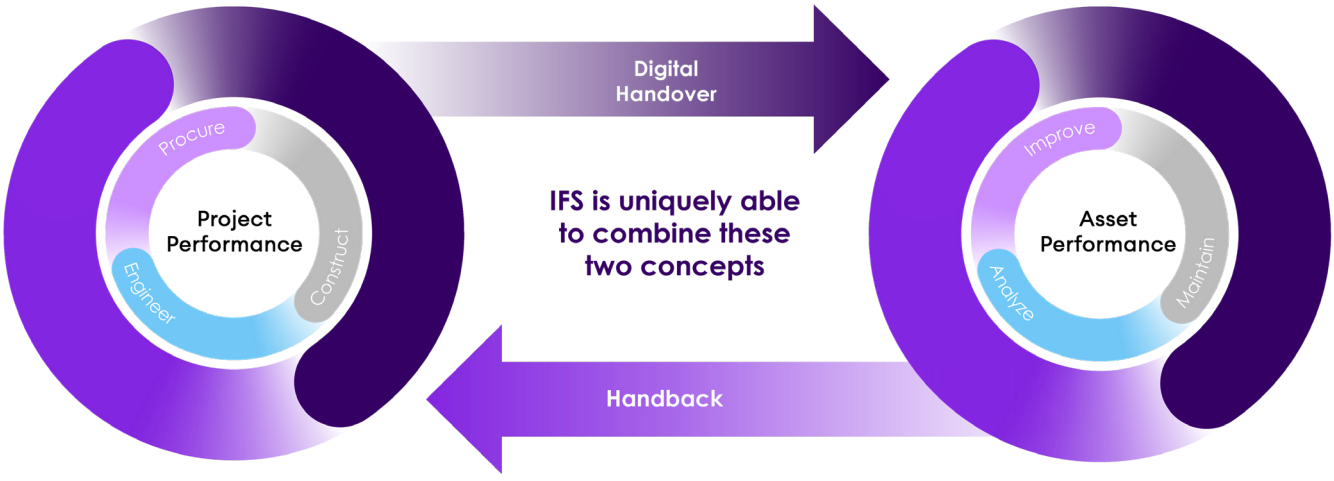
IFS incorporates an Asset Performance Management (APM) approach to EAM. Serving as more than just maintenance, the technology prioritizes business objectives while managing the more traditional aspects of EAM, including asset reliability and availability goals.

IFS uniquely supports the interrelation between Project Performance and Asset Performance. This continuous cycle manages the asset from initial design through to build, commission, operate and maintain, optimize, and decommission–ensuring each asset's availability across its entire lifecycle.

## Alignment with business strategy

With asset management tightly aligned with business strategy, performance is enhanced, allowing the enterprise to:

- **Improve revenue:** Asset utilization is optimized for better reliability and availability
- **Increase margin**: Cost management is enhanced and increased efficiencies support a leaner operation with streamlined processes
- **Lower CapEx:** Asset investment plans deliver better results, inventories are optimized, and project lifecycles are extended
- **Achieve sustainability goals:** Monitor asset performance in support of sustainability goals. Adjust in real-time to achieve targets and ensure regulatory compliance.
- **Increase productivity:** Leverage new technologies to reduce manual and time-consuming tasks, increase operational efficiencies



## Resource optimization

Real-time data is essential. Enterprises must be able to compare performance metrics with existing business benchmarks to ensure productivity and other objectives are on track.

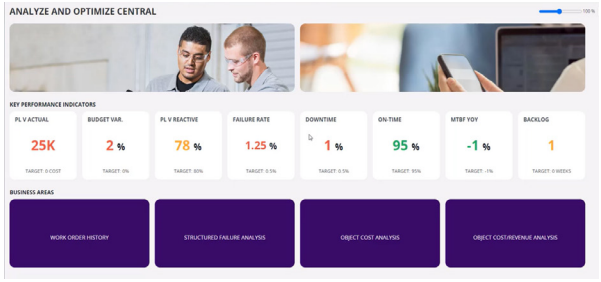



Figure 1: Interactive IFS dashboard with real-time data

These data-rich visuals are personalized for specific work groups and individuals. For example, Holmen operates five sawmills, two paper mills, and three paperboard production facilities. The company focuses on uptime using data-driven maintenance of its plants and machines, relying on IFS to provide customized views of operational data by employee.

> “Our managers and technicians now have instant, direct access to dashboards personalized to their role or task."

**David Lyrén, Technical Manager, Holmen Paper, Hallsta Mill**

HOLMEN

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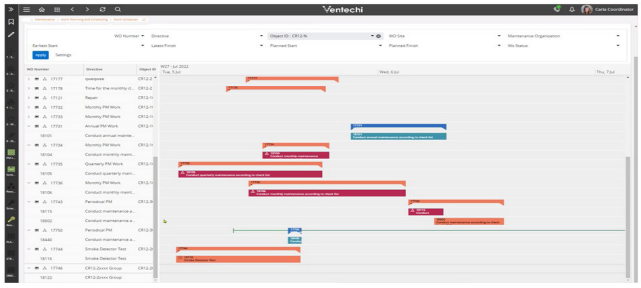
## IFS key differentiators

Resource optimization extends beyond asset performance to include maintenance planning and scheduling, resource allocation and monitoring, and dynamic scheduling.

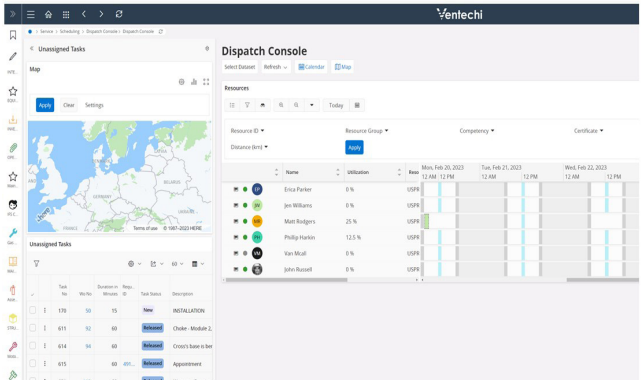
### Maintenance Planning & Scheduling

Site-based, planned work, activity-driven planning, and allocation.



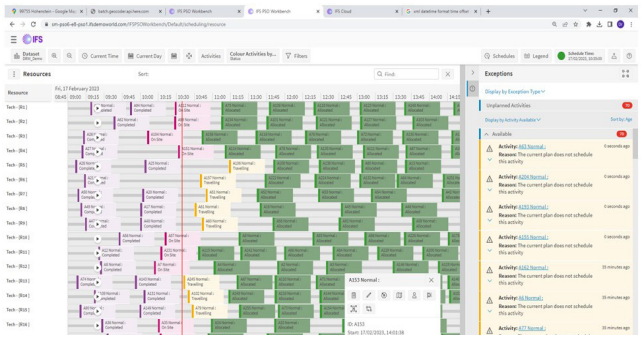

### Resource Allocation & Monitoring

Manual allocation of planned and reactive work, resource allocation, monitoring, and follow-up work.




### Dynamic Scheduling

Geographically dispersed, high volume, appointment booking, in-day dynamic optimization.



# Future-proof your operation

IFS enables the rapid adoption of edge technologies such as artificial intelligence (AI), machine learning (ML), and other innovations to ensure a resilient and agile enterprise that is always prepared and able to handle whatever the world throws at it.

Here are some examples of contemporary technologies that enable resiliency:

- **Digital twins:** Create virtual models of existing processes, products, or the entire organization. Study different what-if scenarios to understand the impacts on the business (positive and negative). Make informed decisions.
- **Contextual intelligence:** Adapt and apply what has been learned (skills, knowledge, etc.) to incorporate context within different business scenarios. Visualize outcomes in 2D and 3D to fully understand the potential impact on the enterprise. Select the path that delivers the best result.
- **Simulation & optimization:** Visualize and manage the workforce in real-time with an AI-powered scheduling engine that dynamically shifts all worker commitments to free up required resources. Factor in previously scheduled work to ensure all new and existing obligations are met. Consistently meet and exceed service level agreements (SLAs).
- **Augmented/mixed reality:** Enable connected worker and remote assistance capabilities. Align master technicians with less experienced workers to share knowledge in the moment. Optimize response times and ensure a first-time fix every time.
- **Automation/robotics:** Eliminate manual, time-consuming tasks with automated workflows supported by AI and ML for a consistent result. Redirect human workers to focus on higher-value tasks.
- **Internet of Things:** Collect real-time data from dispersed assets in the field. Eliminate data silos and respond rapidly when productivity is sub-optimal due to asset performance.

Although these advances are evolving how enterprises do business, most companies must manage a mix of traditional and contemporary technologies. IFS includes strong integration and analytics capabilities to support any business incumbent ecosystem already in place.

# Why IFS?

IFS is defining the next generation of asset management technology, empowering our customers to achieve their goals and be leaders in their own right.

Our industry focus—especially within the energy, construction, engineering, aerospace, defense, manufacturing, and service management segments—allows us to work collaboratively with our customers, helping them build resilient and sustainable EAM strategies today and into the future.

**For the full story,**
watch the IFS Asset Lifecycle Management webinar with our EAM evangelist Bas Beemsterboer, or contact us.

## About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations. Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers – at the Moment of Service™.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our global team of 5,000 employees every day live our values of agility, trustworthiness and collaboration in how we support thousands of customers.

Learn more about how our enterprise software solutions can help your business today at ifs.com.

**#MomentOfService**



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