IFS and Artificial Intelligence: Optimized Asset Reliability

Convert operational asset data into real-time asset management intelligence

IFS

The road from operational information into timely EAM business intelligence

Real-time asset data is imperative for successful enterprise asset management (EAM) strategies. However, businesses must analyze multiple data sources to understand and predict asset performance from all perspectives: historically, in the moment, and predictively.

Data volume is never a problem. Most businesses have vast amounts of data generated from IoT devices and other sources across the enterprise–data that helps inform what happened, what is happening, and what will happen. However, since operational data is often siloed, access is difficult, time-consuming, and rarely done in real-time.

Fortunately, artificial intelligence (AI) synthesizes structured and unstructured data to extract meaningful new insights and patterns.

In this eBook, we examine the different types of data that support asset reliability and how AI is central to converting operational information into timely EAM business intelligence that augments asset health and productivity.

Without data, there is no AI

With the rapid adoption of IoT connected devices, asset-rich industries have become data-rich. Growing from 8.6 billion in 2019, connected devices are forecast to reach **just under 30 billion by 2030**.

The result? Many enterprises are generating an unprecedented amount of data—more than ever before.

AI is essential for analyzing and converting these large data sets into actionable intelligence. With AI, the enterprise benefits from advanced analytics supported by machine learning, predictive forecasting, statistical modeling, anomaly detection, and pattern recognition.

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Business assets (humans, machines, everything) now generate massive amounts of data that needs to be captured, processed, analyzed, and transmitted in real-time if enterprise systems are to be productive, efficient, and robust."

Forbes

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8.6 billion
Connected devices in 2019

29.42 billion
Connected devices in 2030

Asset data from everything and everywhere

Asset and other operational data are omnipresent across the enterprise, generated by machines, components within the machines, IoT-connected systems, and human input. By leveraging AI to access and analyze these data, the operation optimizes processes and productivity while ensuring continuous improvement. The benefits of an ordered data house are significant, from day-to-day asset reliability through to achieving established industrial standards such as ISO 55000 certification.

Here are some examples of operational data that AI examines and considers to support the decision-making process:

- ✔ Production volumes
- ✔ Machine uptime and downtime
- ✔ Overall equipment effectiveness (OEE)
- ✔ First pass yield
- ✔ Mean time between failures (MTBF)
- ✔ Mean time down
- ✔ Energy cost per unit
- ✔ Carbon emissions

For example, asset performance metrics such as production volumes, uptime and downtime, and overall equipment effectiveness help to inform whether or not the operation should repair or replace a component, including whether it's best to slow production and wait for the next maintenance window or proceed with a fix immediately.
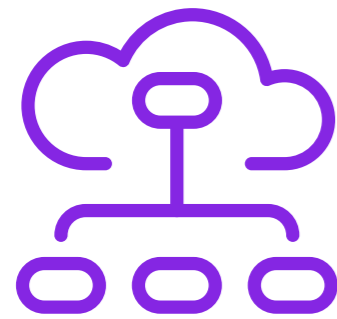
AI continually analyzes the data, flagging when conditions are suboptimal, but most importantly, detecting trends and anomalies to predict future states so the business can respond pre-emptively before disruptions occur.

How AI works with EAM

When AI is embedded within EAM technology, data exploration is accelerated—and most importantly—automated.

With data analytics optimized, the EAM solution easily accesses information from disparate sources, consolidating operational data and converting it into actionable intelligence.

AI also provides unprecedented scalability in analyzing and remedying maintenance issues, enabling what-if-scenario planning, remote monitoring, predictive maintenance, and precise data analytics, extending asset lifecycles and lowering maintenance costs.

Can you select the technologies that you think are going to positively impact your maintenance & business practices?

- ● Internet of Thing (IoT) sensors
- ● Predictive Modeling
- ● Artificial Intelligence (AI)
- ● Automation & Robotics
- ● Machine Learning
- ● Digital Twins
- ● Mixed Reality and Augmented Reality
- ● Contextual Intelligence
- ● None of the above

Source: EAM Trend Report

Compatibility

AI-powered EAM is cloud-based and integrates easily with adjacent systems to access data across the operation.
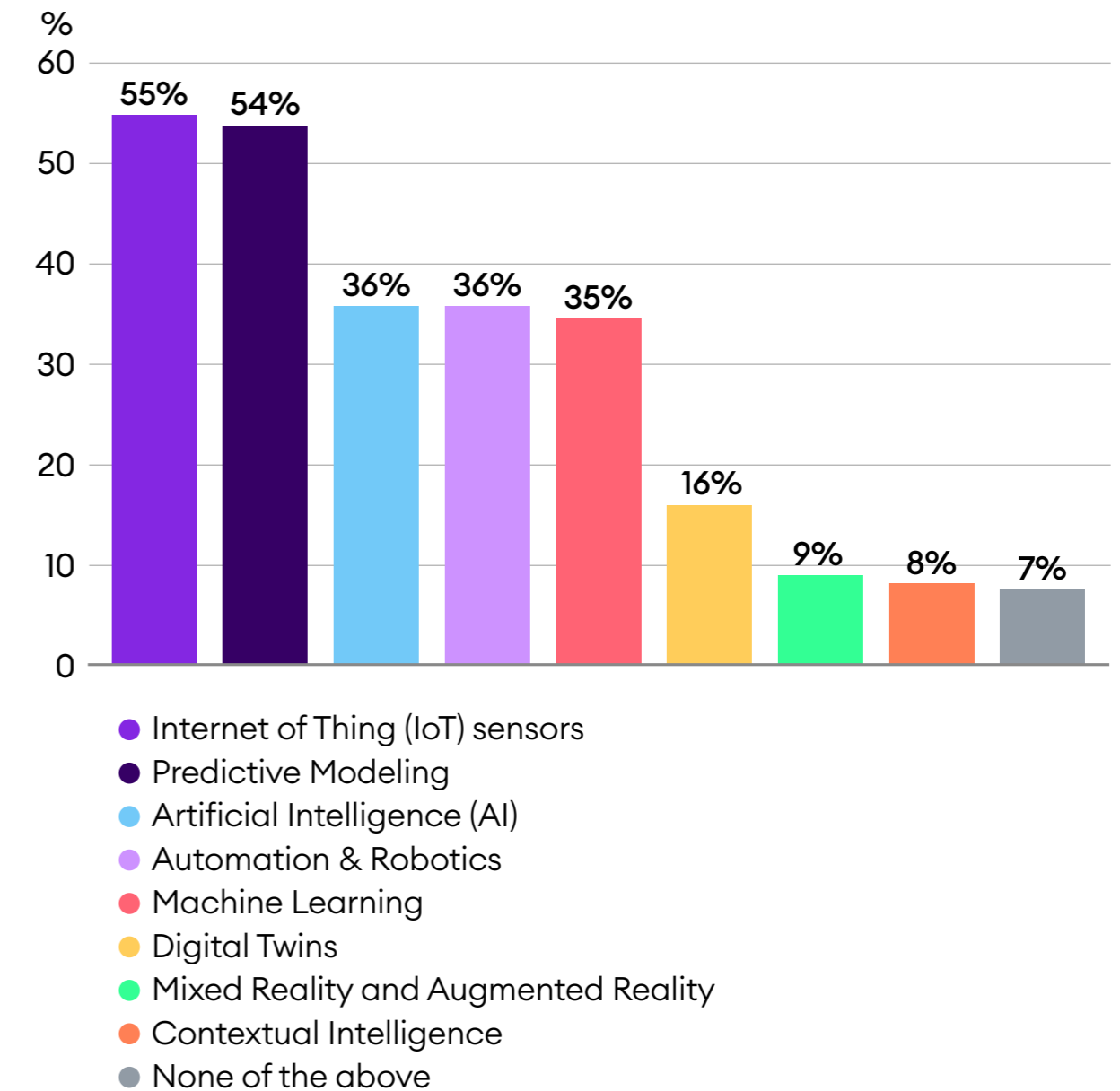
Planning & Scheduling

Maintenance plans and activities are optimized and carried out in real time, leveraging AI-generated insights and recommendations.

Asset Lifecycle Mangement

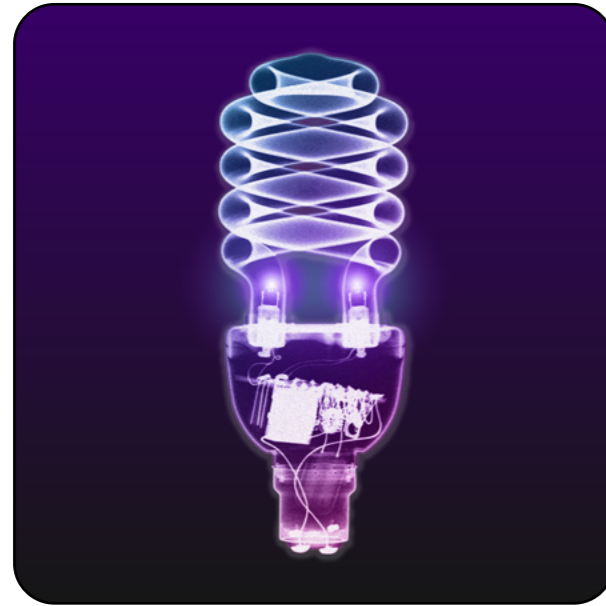With AI, data throughout the lifecycle of an asset is easily accessed and analyzed to inform business decisions.

Benefits of an AI-assisted EAM data model

Applying AI to EAM data provides unique advantages for asset-intensive organizations.

1. Real-time analysis of asset data

Whether performing regular oversight or responding to an emergency, understanding what is happening in the moment is critical to forming a response. With powerful AI algorithms identifying anomalies in real time, the operation responds in kind, determining the fastest path to remediation while minimizing disruptions to productivity.

2. Proactive and predictive (versus reactive) asset management

On average, unplanned downtime costs businesses over $100K per hour, incentivizing many to transition to predictive maintenance. This model leverages AI to extract operational data from assets and adjacent enterprise applications. Powerful algorithms detect patterns and anomalies that inform insights into the health and performance of equipment. Future outcomes are predicted based on historical and real-time data.

More cost-effective than routine or time-based maintenance, predictive maintenance eliminates unplanned downtime.

3. Unrivaled asset reliability

With maintenance and servicing plans for present-day and future requirements, asset reliability is enhanced and issues are resolved before productivity is impacted. Failure modes, effects, and criticality analysis (FMECA) and other industrial techniques are better enabled to accurately identify potential failures in systems and equipment, optimizing asset reliability.

AI data analytics also help inform supporting functions and activities, such as parts inventories, staffing, and scheduling, ensuring time and resources are used as efficiently as possible. With AI-powered EAM, the enterprise is well prepared for whatever lies ahead.

Convert your operational asset data into real-time asset intelligence with IFS

IFS Cloud EAM customers leverage AI that is embedded into the platform, allowing them to contextualize intelligence, simulate outcomes, automate production, and drive asset reliability and innovation. Powerful AI algorithms streamline the collection and analysis of asset data, enabling predictive maintenance, informing critical business decisions, and eliminating unplanned downtime.

For more information about IFS Cloud EAM, **visit our website** or **contact us**.

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> **IFS has strength in the breadth of service capabilities that incorporate AI, machine learning and IoT."**

Aly Pinder, Research VP
Aftermarket Services Strategies, IDC

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Read the Report ⟶

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 over 5,500 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.

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