AI for everyone

Artificial intelligence (AI) will transform Enterprise Asset Management (EAM). In this article, Harmjan Derksen, Chief Product Officer (CPO), IFS Ultimo, examines how AI will improve employee productivity and maximize asset performance.

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AI, in its many forms, is having a revolutionary effect across different industries and applications.

In industrial environments, sensor-based AI allows production line systems to learn from data and make predictions and decisions for process optimization. Meanwhile, AI can also analyze and interpret visual information from images or videos, enabling significant advances in areas like autonomous vehicles on the shop floor. And then there is generative AI, with natural language processing allowing computers to understand, interpret and create human language – radically enhancing how we interact with software.

AI, in short, is making a huge impact everywhere and anywhere across industrial operations.

Improved asset management

Asset Management is not exempt from this transformation. EAM, in particular, is an area where AI is set to have a significant impact. In recent years, EAM systems have proven a popular way of managing and maintaining physical 'things' such as buildings, plants, machinery, and vehicles. Such platforms are increasingly deployed by organizations in sectors such as chemicals, food, and logistics to improve reliability, streamline operations, and help ensure the highest levels of health and safety. More specifically, EAM can provide a comprehensive overview of the productivity and costs of assets and enable the optimization of uptime through ideally coordinated maintenance management.

But technology is moving fast. Now, integrating AI into EAM platforms could radically enhance capabilities, resulting in higher employee productivity and further maximizing asset performance, with all relevant data protection in place.

By leveraging AI, future EAM toolsets will be more intuitive, accessible and predictive, therefore driving unprecedented efficiency and effectiveness in asset management practices. That is the exciting potential, for sure, but getting there means some obstacles still need to be overcome.

AI sentiment in industrial environments

So, what is the AI-inspired future of EAM? Let us start by taking a step back and acknowledging that AI is only a means to an end. EAM users don't want to deploy AI for the sake of it–they want it to solve their business problems and make their lives easier. They also want complete control over its implementation and outcomes. AI is not a panacea; it is merely a toolset that can potentially deliver tremendous business advantages.

Indeed, the IFS 2023 EAM trend report shows that while maintenance specialists have a generally positive sentiment toward adopting new technologies, they take a pragmatic approach grounded in reality. For example, when asset managers were asked about the emerging technologies expected to have a positive impact on their maintenance and business practices, it was well-understood methodologies like the Internet of Things (IoT) sensors (55%) and Predictive Modelling at (54%) that came out top. AI, specifically, was lower down the rankings (36%), reflecting concerns around lack of expertise, cost of implementation and software integration complexity. So, AI does excite maintenance professionals – but they want practicality, usability and ease of adoption as a given.

IFS Ultimo understands this pragmatic mindset and only integrates AI into its EAM platform when there is a demonstrable business benefit for the customer and end user. To date, the AI development strategy has been to independently explore and create proof of concepts, while also tapping into expertise within the wider IFS group. There is also tremendous value derived from forming strategic partnerships with specialist companies such as pattern recognition and anomaly detection experts using Asset Performance Management (APM) to conceive and implement new ideas. The intention has been to implement AI that delivers genuine benefits and supports the work of operations, maintenance, and safety professionals. But this has to be achieved seamlessly and intuitively, significantly reducing friction in adoption. The aim, therefore, is to democratize AI and to present it as part of the user experience.

AI in practice

What does this mean in reality? How is AI being implemented as part of the IFS Ultimo product roadmap? And what will that mean to companies deploying the EAM software within their organization? Let us answer those questions by providing tangible examples of how it will make a difference.

The first area is advanced functionality at the intersection of maintenance and reliability. Teams in both of these areas depend on each other for safe and efficient working. They share the same objectives but often have different roles and responsibilities, and a lack of effective collaboration can cause operational challenges. For example, maintenance teams must record a lot of detailed data when closing out work orders, but short-term priorities often get in the way. The plan, then, is to enhance the EAM product with different modules and include AI for data structuring to close that gap, providing better insights to increase uptime and create a more reliable plant.

For example, in industrial environments assisted troubleshooting takes longer when experienced staff retires, and skilled replacements are hard to find. AI-based capability in EAM could provide technicians with well-structured troubleshooting based on intelligent search in failure history and knowledge base. This would ensure better knowledge retention and require less effort, knowledge and training to identify problems and find solutions.

There is also potential to deploy AI for faster diagnosis and lower mean time to repair (MTTR) through improved failure reports. These documents often contain too few details, frustrating technicians in setting diagnoses and resulting in more extended downtime. The plan is to use a large language model to automatically ask the right questions upfront, providing the maintenance team with complete and accurate information to quickly solve the problem and increase uptime. It is estimated that 80% of MTTR is spent on getting the right diagnosis. Imagine how much downtime could be reduced if this diagnosis was carried out faster.

Other maintenance and reliability enhancements are being conceived. Intelligent job ranking functionality could help maintenance departments struggling with an unstructured workload and help find a balance between fixing high-priority breakdowns, preventive maintenance, and modifications. An intelligent job ranking algorithm could automatically rank jobs based on predefined rules that all stakeholders agreed upon.

AI could also be used to structure asset libraries and classify data. A predefined, detailed, and industry-proven library would eliminate the need to maintain extensive master data sets for equipment classes, problems, failures, causes, and actions.

Better usability at your fingertips

But advances aren't just being made at the intersection of maintenance and reliability. AI could be used to enhance user experience on screens on any device. For photo-based meter reading, for example, it could be possible to use an optical character recognition reader to enter meter values with a photo and just check and submit the detected value, therefore streamlining the process.

Maintenance professionals could also ask an AI Assistant to perform tasks in EAM platforms using natural language rather than navigating screens and forms. AI could also perform repetitive tasks like requesting work by operators or processing jobs by technicians. In the future, it might also be used to extract data quickly and effortlessly from equipment manuals–rather like how generative AI platforms pull out important information from longer documents and present it clearly and concisely.

And finally, there is the internationalization of EAM platforms. Organizations with sites in different countries must maintain master data in several languages. The user who manages master data is often incapable of translating it to all languages, and it is cumbersome to maintain it, resulting in translations not being updated. AI-based automated translation of master data would make life much easier, meaning it is only necessary to verify the result.

Next stages of development

Multiple examples exist of how AI could transform the use of EAM in industrial environments. These product enhancements are currently under consideration and/or active development. In all cases, customers will validate any advances to ensure maximum benefit.

Looking at the broader picture, the increased adoption of AI – not only through EAM but numerous other technologies, too – sits comfortably with the next generation of tech-savvy workers brought up in the digital era. Its deployment could help mitigate skill shortages, streamline onboarding processes and enhance job satisfaction by automating repetitive tasks. That could be a big positive for retaining workers in industrial sectors.

Looking forward, IFS Ultimo's challenge, like any other organization, is to capitalize on AI's potential and ensure it seamlessly benefits customers. To that end, IFS Ultimo will continue to invest in AI skills to accelerate development.

In conclusion, these are exciting times in maintenance and asset management. AI could transform EAM in future-ready and efficient ways - empowering employees, improving asset performance, driving sustainability and reducing costs.

For more information, please contact us at info@ultimo.com. In a personal demonstration, we will happily convince you of the benefits of working with Ultimo for your organization.

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