Harnessing AI to drive sustainability within the mining industry

As the world aims to achieve net zero emissions, governments, companies, and industries turn to technology to drive sustainability. And with the global mining industry recording an annual revenue of over $2 trillion, IBM said the sector remains one of the largest industries in the world.

Digital transformation is increasingly dominating the mining industry to boost output, simplify processes, lower costs, reduce supply chain complexity, and improve safety and efficiency.

Mining organisations can optimise their operations by identifying efficiencies across their entire value chain, utilising artificial intelligence (AI) to enhance performance, and planning ahead for carbon offsets, thereby enhancing their overall efficiency.

Warren Zietsman, Managing Director at IFS Australia and New Zealand, stated that while advanced technologies such as AI and machine learning help companies improve their operations and address everyday challenges within the industry, adopting AI-driven solutions can also enhance their ability to meet sustainability goals.

According to an insight released by IBM, over half of mining CEOs (53%) prioritise sustainability as their top priority over the next two to three years.

“We know AI can help organisations enhance their ability to meet sustainability goals, by being able to use data modelling to optimise operations and performance,” Zietsman said.

He stated that AI and machine learning can significantly enhance sustainability in the mining industry; however, it is up to mining companies to adopt innovation to future-proof their operations and meet sustainability and performance standards.

According to him, smarter data is key to driving sustainability in the mining industry.

“Asset management systems that capture real-time data from Internet of Things (IoT) sensors ensure that mining organisations have full oversight across their entire operations and deploy predictive maintenance programs. This visibility and predictability can help organisations achieve their sustainability goals in many ways,” he explained.

“Outside of assets, this same data infrastructure can be used to optimise the use of resources, such as water and energy, by constantly monitoring and consumption so real-time adjustments can be made,” he added.

Additionally, Zietsman highlighted AI's potential to drive Industry 4.0 skill evolution, promoting inclusivity and diversity, and breaking stereotypes in mining organisations by adapting to required skillsets.

He is hopeful that once adopting advanced technologies like AI reaches a critical mass, the company believes that mining organisations can shift from surviving to thriving.

“What this means is that by implementing AI across the entire value chain, mining organisations can go from using these tools to meet regulatory requirements, to using it to find efficiencies across their operations that benefit their sustainability and profitability,” Zietsman said.

IFS offers AI-based solutions for operational intelligence and efficiencies, helping mining organisations globally and in Australia digitally transform and future-proof themselves in the ever-evolving industry.

IFS has recently acquired Falkonry AI, enhancing its offering by enabling customers to identify efficiencies, speed up root cause analyses, detect asset events, and use machine learning for autonomous operations.