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Large coal company increases efficiency with Eka control systems and Plan Performance Application


In mining organizations, there is tremendous opportunity to improve efficiency by automating how material is moved, processed, and blended. Automation helps organizations optimize order fulfilment and maximize operations and contract margins. Combining advanced automation with integrated real-time analytics improves day-to-day operations even more.

Background

One of the largest coal ports in Australia was looking for ways to ensure accurate operational plans and optimize site production. It needed a system that would help improve output from current processes and provide flexibility to manage bottlenecks and material quality. The solution had to be easily scalable to grow seamlessly with the company's planned expansions.

Business challenge

To ensure operator safety, the company positioned machines quite far apart, which in turn decreased efficiency in planning. The company was also dealing with low and unpredictable throughput and inefficient cargo delivery. Frequent relocation disruptions further reduced efficiency and increased costs. Operator errors decreased throughput and efficiency. All these factors negatively impacted profitability.



With close to 100 customers worldwide, Eka is transforming the way commodity companies manage their business.

Business solution

The organization deployed Eka's Control Systems solution suite to model, measure, track, control, and analyze the end-to-end mining process. Through accurate 3D modelling and movement processes, Eka Control Systems creates a digital twin of the material life cycle. The organization uses the digital twin to apply advanced control techniques to stacking, reclaiming, conveyor interlocking, yard rate, blend rate control and logistics. Eka's solution accurately tracks the location of materials, improving quality tracking and traceability. Eka's solution applies advanced analytics to the production plans to facilitate real improvements.

In addition, Plan Performance App was deployed to identify instances when operations deviate from plan, analyze root causes for plan deviations, and provide efficiency metrics. The tool provides real-time feedback in the planning process and delivers deep insights into operational and plan performance, including recommendations for improvements.

Eka's solution is built using the latest Microsoft tools and leverages the latest iterations of control and connectivity standards such as ASM, ISA95, OPCUA and Web Services.

Business benefits

Eka's Control Systems and Plan Performance App support the organization in bulk stock management, process management, task execution, and business intelligence.

With Eka's bulk handling solution on Eka's CM platform, the company was able to operate its physical assets at maximum efficiency in the storage or movement of physical bulk commodities -- providing the most throughput for the least amount of downtime and cost.

The company shortened its loading times by automating task changes and backups when needed. The solution eliminates operator error, improves plan performance, and increases predictability of production plans. In addition, it allows machines to work closer and remain safe, while reducing downtime between operations.

Reclaimer efficiency improved with constant and higher average reclaim rates and reduced wear and tear. Stacking accuracy also improved, thereby maximizing stock yard space. The business can access up-to-the-minute status and inventory details.



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Eka Software Solutions is a global leader in providing digital solutions for Trading & Risk, Supply Chain Management and Financial Services driven by Cloud, Blockchain, Machine Learning and Analytics. The company's best-of-breed solutions serve the entire trading value chain across agriculture, energy, metals and mining and manufacturing markets.

Eka's Cloud Platform provides advanced analytics, one source of data and an automation engine, providing maximum flexibility and investment protection as business needs and market requirements change. Eka is committed to ensuring its 100+ clients can work from anywhere and collaborate across ecosystems within a secure and trusted environment.

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