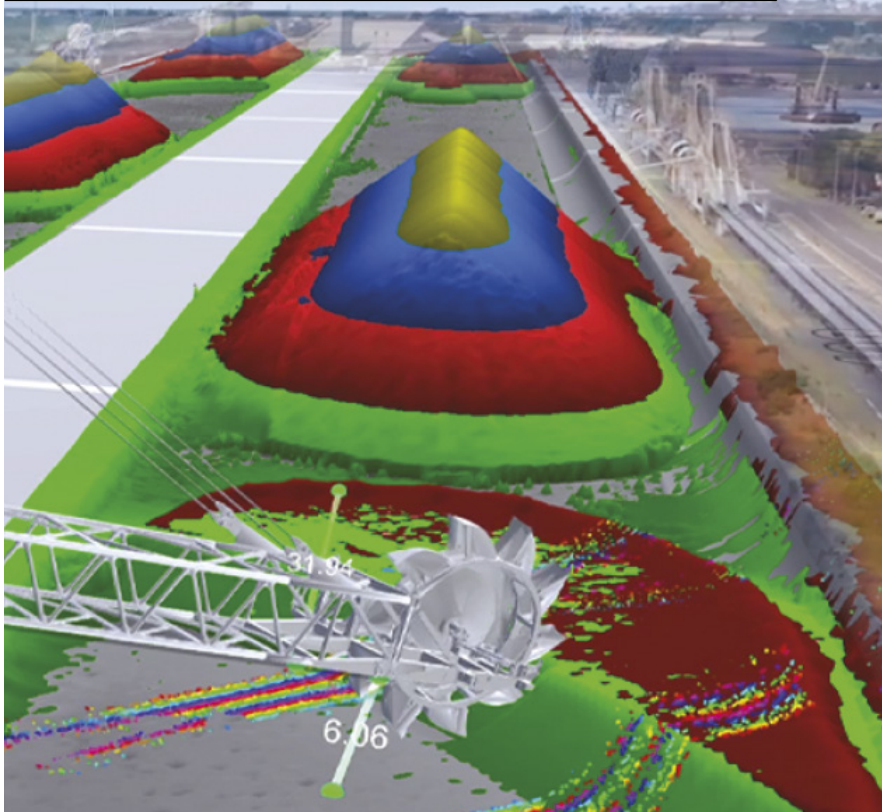


Metso

Bulk material handling and port solutions

Stockyard automation with Axo33



Application

Helps operators transform stockyards into connected, intelligent operations.

Effective stockyard management is essential for moving more material and ensuring safe operations. Axo33 STOCKYARDS™ gives operators the tools to achieve both.

Axo33 STOCKYARDS™ transforms stockyards through real-time visibility, optimization and automation, helping operators improve efficiency and get more from existing infrastructure.

Understand your stockyard

Real-time visibility of stockpiles, material movements and machine activity is essential in bulk material handling operations. Axo33 STOCKYARDS™ combines advanced modelling, automation and visualization technologies in a single platform that delivers a complete view of the stockyard. The system continuously tracks stockpile locations, material volumes, machine positions and operational activities, creating a dynamic digital twin that supports both daily operations and long-term planning.

What is a digital twin?

A real-time digital twin provides operators with a 3D view of material and equipment movements, helping them understand inventory status, stockpile development and reclaim progress at any moment. Historical playback capabilities also support performance reviews, troubleshooting and operational analysis.

Maximize throughput and utilization

Stockyard productivity depends on efficient machine utilization and optimized reclaiming. Axo33 STOCKYARDS™ uses advanced optimization tools to improve machine performance while reducing equipment stress.

The system continuously evaluates reclaim conditions and guides the machine on optimal reclaim positions, turnaround points and operating parameters. Improved cut-face visibility helps increase throughput, maintain consistent material flow and reduce operational disruptions.

By minimizing overload events and mechanical fatigue, Axo33 extends equipment life while enabling machines to operate closer to their designed capacity. Proven deployments have delivered higher throughput and significantly reduced machine stress events.

Enhance safety and reliability

Stockyard operations often involve complex interactions between mobile equipment, material inventories and production schedules. Axo33 STOCKYARDS™ improves safety by reducing reliance on manual intervention and supporting semi-automated or fully automated operation.

The platform assists in managing equipment movements, minimizing operational conflicts and supporting collision avoidance strategies. Automation functions reduce operator exposure to hazardous environments while delivering more consistent and repeatable machine performance.

Built around a resilient architecture, the system can integrate with existing control environments while allowing sites to maintain operational flexibility and high availability.

Enable smarter planning

Axo33 STOCKYARDS™ extends beyond operational control to support planning and inventory management. Using stockpile-centric planning tools, operators can evaluate future stacking and reclaiming activities, forecast yard utilization and assess operational scenarios before execution. The system models material movements, equipment activities and stockyard utilization to support capacity planning and decision-making. Scenario analysis helps improve scheduling, reduce bottlenecks and optimize performance.

Manage quality throughout the stockyard

Maintaining product quality is as important as managing inventory. Axo33 STOCKYARDS™ integrates quality data from laboratory systems and online analyzers, providing visibility of material characteristics within each stockpile. Material properties such as elemental properties, age and moisture can be tracked throughout the stockyard, enabling more effective blending strategies and improved reclaim predictions. Operators can evaluate future reclaim outcomes and make informed decisions to meet production and customer requirements.

Tailored for your operation

Every stockyard has unique operational requirements. Axo33 STOCKYARDS™ integrates with existing machine controls, scanning technologies and operational processes while supporting a wide range of machine types and bulk commodities. It's modular architecture enables progressive implementation, from digital twin visualization and reclaim optimization to automation, planning and advanced quality management.



Enhanced operations

Real-time visibility

Increased safety

Improved reliability

Benefits

- Real-time stockyard visibility
- Digital twin technology
- Increased throughput
- Predictive planning
- Improved safety
- Reduced equipment stress
- Better material control
- Quality and blend management