



SURFACE MANAGEMENT — OPTIMIZING THE AREAS WHERE MACHINES TRAVEL AND WORK

The objective of surface management is to measure, manage and ultimately optimize the attributes of all areas where machines and vehicles travel and work, including roads, dumps and load areas. Improved knowledge of surface design conformance will drive more responsive work instructions and assignments — allowing for optimal maintenance and excavation of surfaces and haul roads.

Cat® MineStar Edge™ Surface Management combines planning and material information created in the office with information provided by machines equipped with MineStar™ Guide to enable the precise execution of the mine plan.

Edge Surface Management automatically generates a fused digital model that incorporates multiple sources to provide a 3D visualization of virtual and augmented reality. The visualization includes benches, roads, dumps, berms and stockpiles and displays patterns, blocks in progress and as-built surfaces. This solution:

- Monitors progress and helps mines plan, execute and maintain site compliance to spatial — in real time
- Provides timeline advance and comparison reporting
- Enables the ability to swipe to previous or future
- Provides volume calculation
- Provides tonnes vs. survey reconciliation

Get detailed data on every machine

Surface Management is available on MineStar Edge — a cloud-based technology platform that delivers more connected, integrated, scalable and intuitive products that extend further up and down the value chain. It creates an operational ecosystem that gives you visibility to every aspect of your operation, allowing you to efficiently execute your mine plan and deliver optimal quality to the plant and to the surface. MineStar Edge delivers unprecedented data accuracy and near-real-time information. And because it's delivered as a cloud-based, subscription-managed application, it lowers costs and delivers a better user experience for mines of any size.



CAPABILITIES

Material management & operations excellence

Edge Surface Management provides supervisors and managers with vital information to ensure the plan is being met and that key efficiency targets are exceeded. It empowers operators to efficiently execute the plan.

This solution helps sites achieve operational excellence through the ability to:

- Ensure production is met (compliance) at the lowest cost (efficiency)
- View plan vs. actual along with progress
- Ensure efficient execution of plan through the entire shift
- Adapt to change through proactive management (planned tasks and exceptions)
- Review the actuals, which provides a complete story to evaluate the past and ensure the future

Surface Visualization & Tracking

This feature provides visibility to:

- As-built surfaces
- Roads, dumps, load areas and other destinations
- Grade blocks (in progress)
- Material advancement & comparison
- Previous or future
- Volume calculation
- Machine status and location

For more information, go to cat.com/minestaredge or contact your local dealer.