









FLEET FOR UNDERGROUND

ENHANCE SAFETY AND STAY IN TOUCH WITH ESSENTIAL **UNDERGROUND** INFORMATION IN RFAI TIMF

With Cat® Fleet for underground, miners will now have access to technologies similar to those surface operations have been using for the past several years. Thanks to our proprietary underground positioning technology, underground mines can now accurately track personnel and assets to sub-meter accuracy. This also allows access to critical cycle information so they can better understand machine usage and overall efficiency of operations. Realtime high-precision tracking and task management gives site personnel essential data that impacts productivity and helps them optimize their entire mining operation.

Cat MineStar Fleet for underground is delivered in partnership with industry leader Minetec.

BENEFITS

- Improves conformance to plan.
- Delay management boosts utilization of all assets.
- Improves safety and productivity through traffic management.
- Provides accurate and precise tracking of assets and personnel.
- Prevents operational constraints through real-time identification of bottleneck formation.
- Provides flexibility to change assignments and shift KPIs in real time.
- Optimizes the site for efficiency gains and performance benchmarking by providing continual data capture.
- In-cab displays allow operators to view assignment detail and enter site information (such as delays).
- Enhances data management through improved reporting.
- Easily integrates with other machine and software OEMs.

- Enables efficient operation through high-bandwidth and low-latency technology.
- Whole-mine visualization allows site managers to review operations and manage areas of critical importance and eliminate paper task management of shift plans and tasks.
- Automatically collects data on material grade, quantity and location, as well as performance by operator.
- Features intuitive installation and user-friendly configuration and maintenance.
- Partners with other Cat technologies for a comprehensive, one-source solution.
- Configurable reporting through cube-type database access allows customers to create reports within preferred query tool.
- Requires no separate wireless communications infrastructure.

DIFFERENTIATORS

- Proprietary underground tracking and positioning algorithms enabling 30 cm accuracy with full coverage.
- Caterpillar differentiation continues with deep integration with the base machines as well as site integration with the broader MineStar for underground solutions.
- Single provider removes the burden of point solution integration from multiple vendors.
- Wi-Fi operating range operates outside of the licensed spectrum unlike LTE or 4G (universally accepted).

SUCCESS STORIES

As a new offering for Caterpillar, customer success stories have not yet been captured. However, our partner Minetec has proven the technology in various mines around the world. For example, the company entered into a contract with an estimated value of \$9.5 million to provide an underground fleet management system to BHP's Olympic Dam mine in South Australia.

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