



FLEET MANAGEMENT

**MINING
SOLUTIONS**

OSIRIS
TECHNICAL SYSTEMS



Powering Every Haul: RFID Transforms Mining Fleet Management - from Pit to Profit.

Deep in the earth, where fortunes are carved from stone and every second costs money, there's a rhythm that determines success or failure. It's not the rumble of engines or the crack of excavators - it's something quieter, more precise. It's the heartbeat of commerce itself: the RFID tag.

Every vehicle. Every piece of equipment. Every critical asset pulsing with invisible intelligence, creating a living map of your operation that breathes, adapts, and reveals truths you never knew you needed.

What Really Happens When Your Mine Gets a Heartbeat

Proximity-Based Collision Avoidance

Haul trucks navigate blind corners in underground tunnels where GPS signals fail. RFID proximity detection creates safety envelopes around moving equipment, alerting operators when vehicles approach intersections in zero-visibility conditions.

The system provides the spatial awareness that prevents incidents before they occur.

Impact: Eliminate blind-spot incidents in restricted-access zones and underground operations.



Predictive Maintenance Intelligence

RFID-enabled condition monitoring captures the operational biography of every machine: hours under load, environmental exposure, usage patterns that indicate wear.

Maintenance shifts from calendar-based schedules to data-driven interventions, performed exactly when needed - not too early, never too late.

Impact: Reduce catastrophic equipment failures, lower emergency repair costs, and recover production hours lost to unplanned downtime.

Operator Certification & Pre-Start Compliance

Equipment authorization becomes automatic. Machines only start when certified operators scan in and complete mandatory pre-operational checks.

Digital enforcement replaces clipboard procedures, creating an unbreakable chain of accountability without adding administrative burden.

Impact: Enforce safety protocols systematically and maintain certification compliance across all shifts.

Fuel Management & Theft Prevention

RFID-controlled fuel dispensing links every liter to a specific vehicle, operator, and timestamp. Consumption patterns become visible. Anomalies become obvious. Unauthorized use becomes impossible.

Impact: Recover 8-15% of fuel costs through elimination of theft, waste reduction, and consumption optimization.

Geofenced Safety Zones

High-risk areas - blast zones, excavation perimeters, maintenance areas - become intelligent boundaries. Personnel tracking provides real-time location awareness. Automated alerts prevent dangerous operations when anyone remains inside restricted zones.

Impact: Achieve zero-harm outcomes through real-time personnel location awareness in high-risk operations.

Intelligent Parts & Inventory Management

Smart shelving and automated tracking transform parts management. Components are located instantly. Critical spares trigger automatic reordering when they reach minimum thresholds. Maintenance teams spend time repairing, not searching.

Impact: Reduce parts-retrieval time by 80%, eliminate stockouts of critical components, optimize inventory investment.

Automated Shift Reporting & Continuity

Equipment status, incidents, and operational notes are captured automatically. Information survives shift changes intact. The next operator inherits complete situational awareness without relying on verbal handovers or incomplete documentation.

Impact: Eliminate information loss at shift boundaries and maintain operational continuity.

Continuous Compliance Documentation

Every inspection, certification check, and safety compliance moment is recorded automatically. Regulatory audits become straightforward presentations of systematic records rather than stressful searches for scattered documentation.

Impact: Transform audits into confident demonstrations of operational excellence.





The Living Operation

This isn't about tags and readers. It's about creating a central nervous system for your mine - one that senses, responds, learns, and protects.

Your operation becomes:

- Self-aware: Knowing where every asset is, what it's doing, and what it needs
- Self-protecting: Preventing accidents through automated safety protocols
- Self-optimizing: Learning patterns and improving efficiency based on operational data
- Self-documenting: Creating permanent, auditable records of all critical activities

Operational Returns

- 31% reduction in equipment idle time
- 43% decrease in safety incidents in tracked zones
- \$2.7M average annual savings in medium-scale operations (500+ equipment units)
- ROI achieved in 11-16 months for comprehensive deployments

The Question Isn't Whether You'll Track

GPS can't penetrate rock. Clipboards can't enforce compliance. Verbal handovers can't survive shift changes. The question is whether you'll continue managing with incomplete information, or give your operation the intelligent infrastructure it needs.

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