Inventory 360: Real Time Inventory Optimisation

Daniel Lane | 24 Feb 2025 | ID451

Idea of the Month Competition Nominees

Closed with success by Daniel Lane

Approver: Daniel Lane
Implementation coordinator: Daniel Lane
Plan: Quick Wins
Classes: Commercial + Efficiency + Health & Safety

Problem, context, environment, status

Managing inventory for critical wear parts in quarry operations has always been a challenge. Traditional inventory management methods rely on manual stock checks, periodic audits, and reactive ordering, which often lead to:

1. Unplanned Downtime Due to Stock Shortages

Essential wear parts may be out of stock when needed, leading to unexpected equipment failures and production stoppages.

Without real time tracking, operators only discover shortages during scheduled inventory checks or at the point of need, causing delays.

2. Excessive Inventory & Tied Up Capital

To avoid shortages, many sites overstock spare parts, leading to excessive capital being tied up in unused inventory.

Without accurate demand forecasting, the business often hold unnecessary stock, increasing storage costs and waste.

3. Inefficient Manual Tracking & Reporting

Traditional inventory tracking relies on periodic manual checks, which are time consuming, prone to human error, and often outdated by the time they are reviewed.

Operators may not have clear visibility of stock levels across multiple locations, leading to redundant purchases or emergency orders.

4. High Procurement & Logistics Costs

Without real time data, management teams often place last-minute orders, incurring higher costs due to rush shipping and inefficient bulk ordering.

Poor forecasting leads to frequent urgent orders, which cost significantly more than planned purchases.

5. Lack of Data for Strategic Decision Making

Without real time usage tracking, maintenance and management teams lack visibility into trends, wear rates, and stock usage patterns.

This leads to poor decision making, increased waste, and inefficient maintenance planning.

The Need for a Smarter Solution

A real time, proactive inventory management system is essential to eliminate these inefficiencies, reduce costs, and ensure uninterrupted operations. By implementing a live inventory update system, we aim to

transform inventory tracking from a reactive process into a strategic advantage.

Description of the initiative

Inventory 360 is a real-time inventory management system designed to eliminate inefficiencies in tracking, monitoring, and replenishing critical wear parts. By integrating Checkproof's odometer functionality, this initiative replaces outdated manual inventory checks with a live, automated tracking system that enhances accuracy, reduces downtime, and optimises procurement processes.

Key Features & Implementation

1. Live Inventory Updates – Operators log stock usage in real-time as parts are used, ensuring the inventory is always accurate and up to date.

2. Automated Alerts & Defect Reporting – If stock levels drop below or exceed predefined thresholds, Checkproof automatically triggers a defect report and notifies management for immediate action.

3. Data-Driven Insights – Real-time inventory data allows management teams to track trends, forecast demand, and optimise stock levels.

4. Proactive Maintenance Planning – Lifecycle tracking ensures wear parts are replaced before failures occur, minimising unexpected breakdowns.

5. Optimised Procurement & Cost Savings – Automated tracking enables bulk purchasing, reducing emergency orders and unlocking working capital from overstocked inventory.

6. Seamless Integration with Operations – User friendly tools and mobile accessibility make it easy for teams to log, track, and manage stock without disrupting workflow.

Resources: Spigot Rod End, Ball Valves

Spigot Rod End

Ball Valves

Expected benefits

Implementing Inventory 360 will deliver significant operational and financial advantages, improving efficiency, reducing costs, and enhancing decision-making.

1. Reduced Downtime & Improved Operational Efficiency

Eliminates Stock Shortages – Real time tracking ensures that critical wear parts are available when needed, preventing equipment downtime.

Minimises Maintenance Delays – Proactive lifecycle tracking allows for scheduled replacements, reducing unexpected failures.

Ensures Uninterrupted Production – Maintaining optimal stock levels keeps operations running smoothly.

2. Improved Stock Accuracy & Optimisation

Live Inventory Updates – Operators log stock usage as it happens, ensuring real-time accuracy.

No More Overstocking or Understocking – Automated alerts maintain optimal stock levels, freeing up capital.

Better Forecasting – Usage data helps predict future demand, reducing over-ordering.

3. Cost Savings from Smarter Procurement & Logistics

Lower Procurement Costs – Bulk ordering based on data insights reduces emergency purchases and rush-order fees.

Minimised Transport & Handling Expenses – Fewer last-minute orders mean more efficient supply chain management.

Less Waste & Surplus Stock – Optimised procurement reduces obsolete inventory.

4. Proactive Maintenance & Extended Equipment Life

Wear Part Lifecycle Tracking – Ensures timely replacements before failures cause secondary damage.

Reduced Risk of Major Equipment Breakdowns – Proper maintenance extends machine life.

Increased Reliability & Safety – Reduces the risk of unexpected failures affecting operations.

5. Increased Labour Productivity & Efficiency

Eliminates Time-Consuming Manual Checks – Real-time updates remove the need for periodic stocktakes.

Faster Decision-Making – Live dashboards provide instant visibility, reducing reliance on reports.

Empowered Teams – Operators, maintenance crews, and procurement teams work more efficiently with real-time insights.