



Smart Solutions

Case study: Extending equipment life and saving money by optimizing processes

Application: *underground salt*

Location: *Compass Minerals, UK*

Products featured: *12HM36 continuous miners*

Challenge: Extend equipment life

To help extend equipment life and eliminate unnecessary maintenance and energy costs

Customer purchased smart enabled 12HM36 Continuous Miners to improve machine reliability, lower costs, and keep safety a top priority.

Contributing factors:

- New equipment needed constant observation
- Mine crew was in search of opportunities for process improvement
- Cutter jams were causing significant downtime that could be avoided (each jam required a restart)
- Excessive wear on cutter motors and gears causing an increased electricity consumption due to restarts.



Engagement process: Working toward a solution

By analyzing manual and online data sources and comparing the results with those of the machine benchmarks, our team was able to identify several cutter jam causes.

Machine data revealed different operators were using different patterns, causing machines to jam when patterns were switched.



Solution: Identify source of delays and remedy

Our experts engaged teams to work together on implementing a plan to standardize cutting patterns and train mine staff on proper equipment operation.

Implementation of the plan was monitored and discussed to ensure all members of the team were comfortable with the changes. Smart Solutions teams provided guidance and coaching directly to mine operators and craftsmen.



Results:

Standardizing cutting patterns saved up to \$4,390 per machine, per shift.

Reducing jams saved an additional \$5,160 per machine, per year.

The savings in CEP costs alone for six motors and two gear cases totals \$690,140.

