Case Study: Optimisation of Drill & Blast

Industry

Coal Mining

Region

North America

Location

British Columbia Canada

Application

P&H 4100 electric rope shovel

Customer Profile

Truck and shovel open pit operations with 7 electric rope shovels

Situation

Managing loading equipment performance and mining cost are complicated, given the ever-changing complexity of the environment, performance of the equipment, and hundreds of people interactions. Mine was eager to reduce variability in shovel performance while reducing mining cost through optimizing drill and blast practices.

Solution

RIGIDprecision™ platform from RIGID ROBOTICS provided scalable real-time data from shovel which was sent to the cloud where an advanced Digging Condition Index was geospatially generated in near real-time from the data stream. Our application then provided D&B engineers with direct insight into D&B optimization sought.

Pilot Duration

3 months (October – January)

Availability

RIGIDprecision™ platform availability: 99.99% of shovel availability

Benefits:

- Enabling the adjustment of blast pattern designs for optimal results
- Allow to link drill and blast quality to shovel productivity and machine health
- Reducing use of explosives, blasting costs, and equipment wear
- Helping to maximize productivity of shovels
- Lessening impact on environment

Impact:

- 10-15% Powder Factor Reduction
- 10% reduction in dig time
- $0.5-5M p.a cost reduction based on varying baseline