

Measure, audit and improve drill and blast

A large South American copper mine has seen close to 60% increases in efficiency in key processes since adopting Maptek™ BlastLogic™

Maptek™ BlastLogic™ removes the divergence from drill and blast plans, leading to efficiency gains of 60% in key processes. Importantly it helps identify areas where money is wasted.

Drill and blast processes are typically one of the most expensive, but hardest to measure and audit activities for mine operations. Drilling route allocation, operational loss through rough estimations of drilling length, load design, reporting and control are frequent challenges for drill and blast teams.

Maptek developed BlastLogic to solve these challenges, creating a software solution linking blast designs directly with geological and geotechnical data, mine plans and field measurements to enhance blast precision. A significant feature is the ability to track drill and blast information, identify trends and learn from the data.

Recently, a large South American copper mine has reduced costs by streamlining blast design, overcoming the inherent complexities that changes in the technical mine landscape add to drill and blast processes.

Dramatic improvement

A Maptek team helped implement the system over a 12-week period. The site has improved operations by more than US\$100,000 per month in nominal over-drilling. Site safety was improved where it was dangerous to bring the rig back to re-drill.



BlastLogic provided control from hole to hole. Drillhole measurements were shared online with details of shifts, personnel, metres drilled and hole positions.

In the second month, data capture was implemented via the BlastLogic tablet. Better field data capture of drillhole quality assessment, integration with ground equipment, comments and explosive reports improved data quality control and strengthened connectivity to management.

Accurate online reporting, and availability of data as forms, reports, images and videos, enabled more informed operational decision making. Local site knowledge is now supported by auditable data.

Precision and quality

Precision and quality of drilling was improved through detection of failed holes and holes outside tolerance. Reconciliation of planned hole design against actual holes allowed more informed revision of designs and identification of trends. More user-friendly reporting improved communication.

BlastLogic development philosophy revolves around the Maptek customer-centric focus. Iterative feature rollout in close contact with various key customers has resulted in a powerful and efficient solution.

BlastLogic helps optimise total cost as it enables consideration of mine and plant costs together.

Implementation of BlastLogic led to identification of several areas of improvement, including a critical need to address the automatic depth gauge measurement on the drills. Wireless connectivity in the pit allowed capture of near-live data from drill rig systems to feed into the BlastLogic database.

Action has been taken to improve activities by operators who may have drilled random sequences based on their own judgement. BlastLogic was instrumental in decreasing loss by enabling drilling to happen at the right time, to see whether design plans were followed, and to identify how well the blast design was followed so that designs can be improved.

BlastLogic also enables more efficient feedback of field knowledge to designers in the office, and activity tracking allows for automatic communication to be sent to suppliers to streamline ordering of materials.

