Digital explosives inventory management

Proper tracking and handling of explosives is crucial to mine safety and efficiency, and going digital is key to ensuring operational improvement.

Maptek™ BlastLogic™ tablet-based explosives inventory management takes this important process into the digital sphere – allowing engineers, blast crews, IT teams and mine management to benefit from data-driven decision making.

Stock levels can be updated dynamically in the field using the wireless BlastLogic tablet, removing the need for potentially confusing paper-based record keeping and minimising the chance of manual calculation errors.

Tablet data is synchronised with the BlastLogic desktop application and central server, and reports can be created and printed for regulatory sign-offs. Live dashboards give a real-time view of inventory, and allow flagging of data discrepancies needing further investigation.

Digital record keeping is neater, provides greater clarity and aligns with the industry trend of moving towards paperless operations.

A security PIN allocated to users improves accountability and data confidence. Information can be filtered by blast name, product name or operational crew member.

If no network is available the tablet still functions offline. Once the network connection is available, data can be synchronised and the BlastLogic system will automatically merge it with data from other tablets.

Maptek Specialist Mining Engineer, Rahul Suhane has been working with the digital tool, and considers it would make a great impact on drill and blast operations.

'You can have multiple tablets collecting data at the same time and it is all merged into the central server at the end of the day,' Suhane said.

> Digital inventory has huge potential to improve the industry through better explosives oversight.

The tablet-based process removes the need to deal with reams of paper and all the manual work is completed in a simple, efficient workflow.

Engineers can make more informed plans by being able to easily view product availability and make proactive decisions about ordering stock.

'The tablet-based tool and Power BI dashboards enable you to view inventory levels dynamically and make quick decisions without having to sift through paper,' Suhane said.

Management can better track and audit product usage and costs, and the blast crew can use real-time data to inform their work practices.

Before travelling to a magazine to get required stocks, blast crews can check stock levels in advance, potentially saving a trip of 30 km or more to an understocked magazine.

IT teams have traditionally been reluctant to install network and electric power in magazines, which has constrained digitalisation. BlastLogic overcomes this challenge, as the tablet can function out of network in the nearest permitted area to the magazine.

A digital workflow helps with easy reconciliation of important explosive stock. It saves double handling and time spent on reconciliation, speeding up the blast process.

'The crew becomes more efficient and more productive as they can spend more time loading and less time on paperwork. Engineers also have more time for data analysis rather than data capture,' concluded Suhane.

BlastLogic tablets can integrate with a handheld Bluetooth barcode reader to gather scanned data. This gives mines the ability to scan inventory barcodes, store on the system against the transaction and further enhance digital stock management.

Digital inventory management feeds into the single source of truth that BlastLogic provides.