

MINE TECH

“The Virtual Reality (VR) bolter is one of those tools that are causing hype on the market”

The New Dawn Of Mining



Innovation bred by the search for cost – cutting measures and the need to improve productivity has been a disruptive factor in the mining industry and has seen a rise in mining technologies ranging from hardware to software. Below is a cursory glance at some of the technologies making hype within the mining sector globally.

BlockChain Technology for Metal and Mining Industry

Downstream customers, such as automotive manufacturers and technology giants, are demanding ethically-sourced minerals and this is putting unprecedented pressure on mining companies to create a more transparent interface with their customers and driving the adoption of technologies such as blockchain to enhance the traceability of commodities.

Continuously Regenerating Trap (CRT) Technology (01-05-19)

The Continuously Regenerating Trap (CRT) is a technology used by underground miners to have access to clean air. They are the first technologies proven to control both diesel particulate matter and harmful NO₂ emissions from diesel underground mining equipment by controlling emissions from diesel underground mining equipment. This enables healthier work environments against a background of the problems arising from emissions in confined spaces.

According to a research by National Health and Medical Research Council (Australia), diesel exhaust could be causing fatal lung cancer in underground miners (including underground production workers, including diesel loader operators and shotcreters) at a rate up to 38 times the accepted occupational risk. The CRT was developed by Johnson Matthey, a British multinational specialty chemicals and sustainable technologies company

Tramp metal detection system (28-02-19)

Developed by Mine3 and Weir Esco (from Australia) the Tramp metal detection system serves to protect mining workers from tramp metal such as bucket teeth, drill bits, tool among others that would have remained when an area was being mined. The detection system incorporates a pulse induction metal detector fitted inside the bucket of a digging machine. Any tramp metal objects entering the bucket at the commencement of the dig/dump cycle will trigger an alarm to the cab operator.

The operators will be alerted in real-time giving room for action to be taken so as to not damage the crushers, so that the operators can divert the uncrushable materials towards dumping. According to IM international mining (2019) successful site trials have led the project to integrate with larger and more technical machinery. Current prototypes are installed on Komatsu WA1200, Cat 992K, 993K and 994K machines operating on run-of-mine stockpiles in iron ore, gold and copper mines across the globe.

VR tech (27-04-19)

The Virtual Reality (VR) bolter is one of those tools that are causing hype on the market as a result of being one product that can be used by any and all individuals to create a virtual reality. Miners can use it for training purposes especially where realistic training systems with real-world scenarios has not always been possible. It can as well be used as a way of showing both the surface and underground of a mine without having to walk through the whole mine or having to go underground.

This produces better trained and well equipped miners as well as enabling individuals to stand clear of mining operations if need be for a site thus the VR can simply be used, which is cost saving as no human capital will be channelled as tour guides. The Bolter Vr is portable when it comes to transportation; it is also easily accessible and engaging at the same time as it in 3D as well. It was developed by MaClean engineering.