

# Acquisition helps improve mining digitalisation

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**D**igital reality solutions developer Hexagon acquired drilling technology provider Minnovare last month; its solutions improve the speed, cost and accuracy of underground drilling.

Hexagon Mining division CTO **Rob Daw** says this acquisition by Hexagon's mining portfolio is "welcome news" for any mine in North America looking to improve drilling accuracy and optimise blasting and production.

"Mines are increasingly mining deeper underground for minerals and metals. Underground is a global positioning system-denied environment, communication is challenging for locating assets and work progress can be difficult to follow."

He adds that the acquisition accelerates

and enhances Hexagon's underground development capabilities, as well as its "formidable" drill and blast portfolio, MineMeasure.

Similar to those of MineMeasure, Minnovare's systems focus on upstream processes that have a multiplier effect on mine efficiency. Minnovare helps customers to make sense of their data through a sophisticated analytics platform.

By applying Minnovare's expertise in systems that address deficiencies in

existing underground drilling processes across resource definition, development and production phases, Hexagon can help customers in North America and beyond, Daw adds.

"Globally, there are two certainties facing any mine. Firstly, small errors at any stage of the complex drill-and-blast cycle compound to create costly consequences later. Secondly, declining ore grades mean that mines are digging deeper, removing more earth for less ore. This means that Minnovare's and Hexagon's expertise in this area is not bound by North American geography."

Further, Hexagon will also release new and integrated technologies within MineMeasure later this year as a tailored portfolio for drilling and blasting that combines blast design software, high-precision drills, blast movement monitoring, fragmentation analysis and enterprise analytics.

"Imagine a drill-and-blast ecosystem with seamless data collection at every step, enabling machine learning and artificial intelligence to automate blast designs and optimise the blast outcome. From one platform, MineMeasure will ensure that the data does its best work and provides customers with powerful feedback to increase profits from every blast."

This portfolio provides a holistic pit-to-

plant approach that addresses small errors that can compound with costly consequences throughout a complex drill-and-blast cycle, in addition to enhancing the sustainability of resources.

“Both companies are committed to helping customers maximise value by putting data to work, applying accuracy and precision to mining’s every step, and delivering on the promise of integrated sensors, software, infield apps and cloudware.”

### Digital Solutions

Daw comments that mines in North America, and globally, are under increasing pressure to cut costs and increase productivity, while also becoming safer and more sustainable.

These expectations are also set against the backdrop of a global pandemic, a highly competitive landscape, volatile fuel and commodity prices, as well as greater scrutiny by authorities, shareholders and the public.

He adds that incremental digitalisation is helping North American mines become more efficient and productive.

Most mining operations in the region already have a significant amount of data that can be used to benefit mining operations, which presents the challenge of leveraging this data to its fullest extent, he says.

“This challenge increases in complexity when the data silos, and various operational roles are contracted throughout the mine. This, combined with job roles and responsibilities changing quicker than ever, makes data hard to assess.”

He argues that, as a result, partnering with a life-of-mine (LoM) technology provider can assist miners in assessing this data.

Hexagon’s focus on an autonomous connected ecosystem can support all mining companies, regardless of their operational maturity.

Daw cites Hexagon’s safety portfolio as an ideal example of this focus, as the company can assist mines with their manual operations to different degrees.

Firstly, Hexagon’s operator alertness system can combat fatigue and fatigue-related events.

Secondly, incidences can be reduced using Hexagon’s collision avoidance system.

The MineProtect Collision Avoidance System can be upgraded to at-level mine automated vehicle intervention, which can “take over the vehicle” when the driver does not react.

This can help mines introduce a fully autonomous solution, removing the “human element” through self-driving vehicles.

“The precursor to autonomy involves

identifying and processing the right data at the right time to make the right decision with the proper feedback, and this is where many North American mines are now. Hexagon provides clients with a vision of what their mine could be.”

Meanwhile, Hexagon introduced the Power of One at MINExpo in Las Vegas, in the US, in September last year.

The solution is a holistic, LoM smart solution that connects sensors and software, infield applications and cloudware to empower digital transformation.

Daw says the solution is “a first for the industry” in that one technology partner now connects the mine to the boardroom through one onboard ecosystem comprising a smart computer, antenna and display.

The solution provides a scalable, platform-agnostic answer for challenges previously addressed by point solutions and multiple vendors.

“These challenges include drill and blast, collision avoidance, operator alertness, fleet management, operator assistance, machine control, asset health and more. For the industry, it points the way to a safer, more productive and sustainable future. Our goal is to be our customers’ trusted partner in the short term, long term and LoM,” he concludes. ■

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