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Modular approach about fast change

One of the leaders in mining technology development for nearly four decades says it has got the formula right with its new-generation products to meet the demands of a faster-changing mining market

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Modular Mining is developing products with eyes on current market conditions, and future mine needs

US-based Modular Mining Systems has revealed to *Mining Magazine* that the installation of the first of its new DISPATCH Underground 2015 fleet-management systems is well under way at a hard-rock mine in North America, while field trials of MineCare 3 are in progress in Australia and soon to start in North America.

After a three-year development effort, Modular's MineAlert collision-avoidance system (CAS) is also nearing the end of an 18-month field trial in North America. The first commercial CAS installation is expected to take place in South America, with "wider release anticipated in early 2016".

Meanwhile, Modular vice-president of innovation Michael Lewis says the company's MasterLink Enterprise Wireless Network product is also in varying stages of installation and implementation at customer sites. "Since being launched in May of this year, we have sold the MasterLink Enterprise solution into four of our major regions," he says.

Lewis explains that as capital rationing in the global mining industry enters its fourth year, investments that have been long delayed will soon need to be acted on as "they are impediments to improvement".

For example, he says, mine communication networks that are approaching or have reached their capacity limits will need to be updated, or in some cases, completely replaced. To avoid this situation in the future, mines will seek out options such as MasterLink Enterprise, which can meet mines' current capacity and coverage needs while retaining the flexibility and adaptability to satisfy changing demands down the road.

"Our customers realise that it is no longer enough for a wireless network to promise adequate coverage across the site," Lewis says.

"The demands of today's mines require a solution designed for performance, with enough capacity to support the high-bandwidth activities such as streaming video, equipment-health data collection and fleet management. Modular's MasterLink Enterprise solution delivers all this and more."

Lewis says the company's customers also benefit from the integration of Modular's industry-specific wireless expertise and mine-management know-how with communications giant Cisco Systems' network architecture. The result is a robust wireless offering able to handle the increasing bandwidth-intensive applications at mines, as well as enterprise-level security, while catering for data transfer speeds of up to 300MB/s.

Lewis says DISPATCH Underground 2015 represents "a whole new era in Modular's 25-year underground fleet-management history".

Re-engineered from the ground up, the underground system provides tools for inventory and material movement, crew management, equipment and location tracking, and active task management. It "provides visibility into underground operations ... [and] supports both development and production workflows and processes, providing an end-to-end solution that covers the entire project lifecycle".

"We made a number of key changes based on customer feedback, with a focus on alleviating customer pain points," says Lewis. "For example, we improved the functionality of the Store&Forward module,

which ensures that data integrity is maintained when equipment travels outside the wireless data network. We also added a new Active Task Management module, which automates any development or productions process or workflow, eliminating manual task assignments and undue waiting time, and synchronising sequential tasks. In addition, we transitioned from the Linux OS to Windows 8.1 Pro, which, among other things, allowed us to update the interface and provide a better user experience.”

Orders

Lewis says because Modular products are enabling mines to do more with less, “we continue to receive orders for new systems and system expansions, even as budget cuts prevent organisations from spending money elsewhere”.

Another example is the MineCare 3 maintenance-management system, which enables mines to extend the life of their existing mobile fleet through proactive, condition-based maintenance monitoring. It can save up to US\$100,000 per equipment unit per year, assisting users to reduce capital costs and increase the return on investment on existing equipment units.

A cloud-based deployment model also saves mines money by eliminating the need for expensive IT infrastructure modifications and repeated data-storage purchases. The software as a service (SaaS) configuration facilitates enterprise-wide asset optimisation, enabling equipment health monitoring of anything from a single piece of equipment up to 1,000s, from a central facility, remote office, or any location with an Internet connection.

MineCare 3 will be featured at Exposibram in Brazil and Minería México later this year.

Lewis says Modular’s new CAS draws on the company’s years of experience with safety products, including three prior generations of proximity-detection technology.

“We anticipate that capital and operational expenditure restrictions will continue through the current fiscal year and beyond,” he says.

“As such, mines are still seeking technologies that can help them reduce variable costs such as tyres, fuel, explosives and maintenance, while simultaneously enabling the mines to achieve step changes in productivity.

“Investment activity varies, however, with some commodities and regions maintaining robust investment in advanced technology. Regional legislation is one driving factor, as some locales place more emphasis in specific areas, such as operator safety, than others.”

