Mining technology updates

Every month *IM* posts around 100 news items to its website, mainly technology related. Here are some recent highlights

Poland's **Famur** recently signed the largest contract in its history with Kompania Weglowa, for almost ¤33 million. Kompania Weglowa remains state-owned but is Poland's and the EU's largest coal producer employing over 60,000 people across 15 mines. Famur has also just signed an important contract with NWR. The deal with Kompania Weglowa involves the sale of 82 Remag roadheaders; with Remag only having been taken over by Famur last year. The machines will work across all 15 Weglowa mines in roadway and longwall development with delivery to take place during 2012-2013.

The latest agreement with NWR covers the supply of Fazos mechanised longwall roof supports from Famur group to the NWR-owned OKD mining group in the Czech Republic, the subject of a major article in the January issue of ***IM*** by Editor Paul Moore, who recently visited the operations. Famur is providing 135 Fazos units, which will be used in the OKD CSM mine, located on the eastern part of the Karvina basin in the Moravian-Silesian region. ***IM*** has also visited the new NWR Debiensko mine in Poland, where the major first phase of underground access is due to be completed by March this year.

J.S. Redpath Holdings has acquired Deilmann-Haniel Shaft Sinking, explaining: "Deilmann-Haniel has a proud 120 year history of providing high quality specialty mining services to German and European mining. The company specialises in the application of ground freezing techniques as well as the design and installation of complex shaft linings having sunk over 500 mine shafts in its history." It is currently working, for instance, at Chelopech mine in Bulgaria, as reported in *International Mining*'s recent article on that particular mine expansion.

The acquisition of Deilmann-Haniel is of great strategic importance to Redpath, George Flumerfelt, President and CEO says. "It allows us to offer our services to our global mining clients throughout the world and provides a platform for growth in the European and Russian markets.

Outotec has developed a two-stage partial roasting process to remove impurities - such as arsenic, antimony and carbon - from copper and gold concentrates as a pre-treatment to actual extraction processes. It has also established a new continuous pilot plant at the company's research centre in Frankfurt, Germany to test customers' concentrates with the new process. During the tests it is possible to collect reliable and necessary data for industrial process scale-up. Depending on concentrate composition and plant capacity, the process can either be run in a stationary fluidised bed or in a circulating fluidised bed.

"We are currently building the world's largest arsenic-removing roasting furnace at Codelco's Mina Ministro Hales mine in Chile, where the new partial roasting process will be used. More than 90% of the arsenic contained in the concentrate can be removed to produce clean copper calcine," explained Outotec CEO Pertti Korhonen. The process for copper concentrates is single-stage roasting. The impurities are volatilised and the process produces calcine, which is rich in copper sulphide but has low impurity content. The calcine is mixed and can be further processed in copper smelters. The partial roasting process is also combined with post-combustion of process gas to convert all volatile compounds into oxides.

Rockmore International has a new drill bit designed for hard rock drilling and blasting operations in drifting intended to increase drilling efficiency and to reduce operating costs. It says "the new B6 design promises to prolong bit life and increase drilling penetration rates. Designed to reduce operating costs in drilling blasthole patterns in tunnelling operations, the B6 increases overall drilling productivity by incorporating enhancements in the bit face design and improvements in the configuration of cutting geometry. Offered in 45mm head diameter, the most popular blasthole dimension, the B6 is a button bit with six large tungsten carbide inserts on the periphery row for enhanced rock breaking characteristics. The robust carbide inserts are about 1mm larger in diameter compared to previous models, leading to longer bit life."

The B6 also incorporates many changes in flushing design, such as placement of grooves and flutes designed to effectively carry the rock cuttings away from the bit face. Multiple flutes are placed strategically between all button inserts in order to maximise the flow of the flushing medium, usually water, mixed with the displaced rock cuttings. Such enhancements in the bit face flushing design contribute greatly to increase penetration rates since the rock cuttings evacuate the drilled hole more efficiently.

Mine Site Technologies says the NS50 wireless network switch is the next generation of premier wireless components it has created. It supersedes the WNS (Wireless Network Switch) for application in hard rock mines. The NS50 leverages the proven and widely deployed WNS platform, and expands upon its functionality. Two years ago, MST introduced a revised composite cable and connector for its coal range of network products. This revised arrangement is more compact, is easier to deploy, easier to terminate, and more resistant to corrosion. The NS50 uses this revised system, allowing MST to standardise the composite cable and connector system across the entire Wireless Network Switch product line. Every connector cap, including the external Ethernet and antennae connectors, is now also secured with a lanyard. The NS50 enclosure borrows from MST's underground coal Wireless Network Switch (NS40), and provides a hermetically sealed and rugged environment for the unit's electronic components.

Atlas Copco is acquiring the underground business of **GIA Industri**. With the acquisition, Atlas Copco broadens its offering with products including electric mine trucks, utility vehicles and ventilation systems.

"The acquisition of GIA is a good strategic fit for Atlas Copco. We are entering new market segments and will be able to serve customers with an even broader product portfolio," said Bob Fassl, Business Area President for Atlas Copco Mining and Rock Excavation Technique. "We especially look forward to offering our customers the Kiruna electric haulage truck with its strong environmental profile, and see great opportunities in leveraging Atlas Copco's global sales network for this and GIA's other products." GIA's products also include locomotives and shuttle car systems for underground transportation, charging and service trucks, scaling and cable bolting equipment, digging arm loaders (Häggloader) and complete ventilation systems. GIA is mainly represented through distributors.

Xstrata Zinc is working with **MIPAC** on improving production at its George Fisher mine; an underground zinc/lead mine located about 20 km north of Mount Isa in north-west Queensland. The mine currently generates 3.5 Mt/y of ore; a P49 hoisting system accounts for 2.9 Mt/y of primary crushed ore, with remaining ore trucked to surface. "A feasibility study has found that the operation can be expanded to 4.5 Mt/y by increasing production at the north end of the mine," MIPAC managing director Eddie De Rivera says. "We are helping to achieve this increase by introducing a new materials handling system which includes underground crushing, conveying and storage, an L72 hoisting shaft, surface conveying and surface crushing facility. The facility is also required to alleviate current operational limitations within the existing secondary and tertiary crushing facilities."

To keep up with this news in detail, go to www.im-mining.com