

New tech ensures safety at underground mines

With the death toll in South African mines this year having reached 54, dynamic company Advanced Communications has sourced advanced radios, which use the mine's existing metallic and conductive infrastructure, to create reliable communication paths underground that

extend for kilometres.

Mine safety is of grave concern in South Africa, with Mineral Resources Minister **Gwede Mantashe** calling on mines to dramatically improve safety for miners.

Advanced Communications MD **Yoni Margalit** says many miners have died because it takes too long to

warn people underground, if they can be reached at all, making quick action almost impossible. The existing unreliable 'mining telephone' and leaky feeder systems in use only reach developed areas within the mine and are often compromised in underground catastrophes like fires and rock falls.

He adds that this allows the mine to have a backup radio system that works whether mine power is on or off, post-incident and even through obstructions.

Advanced Communications also developed and manufacture locally, the wireless alert remote notification (WARN) device, which ensures that each miner is able to receive warnings immediately underground no matter where they are and whether existing communications are functioning or not.

"These are wearable pager-like devices that alert each miner to a problem by

vibrating, flashing and beeping using medium frequency, allowing them to evacuate without delay," he explains.

Advanced Communications' radios are already in use in the private sector and by nonprofit organisation Mines Rescue Services (MRS). Margalit states that MRS has tested the radios extensively in underground situations and found that it provided continuous communication signal strength of 5/5 over underground at distances of more than 3 km.

MRS also performed tests on the WARN device, which showed great success in receiving the warning signal even in undeveloped areas of a mine where no visible metallic infrastructure could be seen.

Meanwhile, Margalit feels that if technology like this had been used at refined copper producer Palabora Mining Company, where six miners unfortunately lost their lives recently, miners could have been saved by carrying a warning pager that would receive a warning signal regardless whether the mine's communication infrastructure was functioning or not. ■

MINING WEEKLY COUPON ON PAGE 28 E502136



HANDY TECH

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