

FOR IMMEDIATE RELEASE

Ongoing Evolution Keeps Booyco Pds As Fit For Purpose

In line with the Mine Health and Safety Act's regulations on machinery and equipment, the onus is on mines to ensure that their proximity detection systems (PDSs) are 'fit for purpose' when it comes to preventing collisions between trackless mobile machines (TMMs) and pedestrians.

In terms of the 2015 gazetted regulations, the employer must take "reasonably practicable measures" to ensure that pedestrians are prevented from being injured as a result of these collisions. The regulations also stipulate certain requirements regarding warning systems to pedestrians and TMM operators, and automatic means of retarding speed and braking on TMMs.

This focus on compliance has kept Booyco Electronics at the forefront of technology development, innovating increasingly effective products to enhance safety and asset management on opencast and underground mines. As a pioneer in proximity detection, the company produces a range of solutions including interventions in vehicle operation to help prevent accidents and injury.

The Booyco Electronics' PDS warns the pedestrians of an approaching vehicle and alerts the TMM operator that a pedestrian is within dangerous proximity of the vehicle. Using very low frequency (VLF) technology to generate a magnetic field around a vehicle proved to be a breakthrough in underground safety, as the VLF signal could propagate through the underground rock to identify hazards even before they were visible to the pedestrian or operator. Both the pedestrians and drivers carry a personal communication tag which is activated when entering a warning zone around moving machinery.

As the mining regulations have raised the bar in terms of fit for purpose requirements, so Booyco Electronics has evolved its PDS systems to provide feedback into TMM control systems. This is done through the creation of 'zones' within the magnetic field which trigger specific actions.

The proven accuracy of the technology can define these zones very precisely. A first zone of safety, for instance, may be 20 metres from the moving vehicle, and is accurate to within 10 centimetres. A receiver and buzzer unit carried by the miner alerts them if they enter a dangerous area, even when

out of sight of the vehicle operator, who is then warned if the pedestrian enters a second zone, closer to the vehicle.

A third zone can also be defined, in which the pedestrian's presence will automatically trigger an electrical or mechanical intervention that reduces the vehicle's speed to a crawl and even to a complete stop.

Further enhancing the fit for purpose status of these technologies is the Booyco Controller Interface to integrate all the deployed sensing systems; the company also has a range of test equipment for the systems and their applications, ensuring optimal uptime and safety impact.

PDS PIC 01 : Using VLF technology underground, the Booyco PDS has proved its reliability.

PDS PIC 02 : The Booyco PDS is robustly constructed ensuring its durability under operational conditions.

PDS PIC 03 : The Booyco PDS is robustly constructed ensuring its durability under operational conditions.

PDS PIC 04 : When a miner enters a zone, the system sends a warning through a flashing light and buzzing sound to alert them that they are entering a dangerous area.

ENDS ... OCTOBER 2018

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