



telecoms
our solutions. your success

SST PROVIDES MINING GROUP WITH VEHICLE-TO-OFFICE CONNECTIVITY

One of the major issues faced by a large coal and heavy minerals mining company in South Africa was the inability to maintain consistent and reliable communication on its widespread operations. The organisation required a communications solution that would address the shortcomings of its existing network as well as provide robust and reliable communication between the main administration/management hub and its onsite mining vehicles.

Anriko Opperman, Enterprise Divisional Manager at SS Telecoms (SST), an Elvey Group Company (part of the Hudaco Group) says that SST was approached by the mine's management and has spent the past two years rolling out a mine-wide wireless digital connectivity networking solution that interconnects the various employee mobile devices to monitoring systems on vehicles, mining equipment and conveyor belts throughout the mine. The goal was to help increase productivity, ensure employee safety and streamline the health & safety reporting process.

Once the network was installed, SST was tasked with deploying a mobile communications solution that would enable complete connectivity with the 100-plus mine vehicles. "We determined

that the Billion M120N high-performance all-in-one fixed wireless communications platform would best fulfil the role by providing a hub for the different onboard vehicle systems to plug into and relay data back to the mine's central network," says Opperman.

The Billion M120N is designed for in-vehicle applications that require LTE wireless connections with high availability. It offers LTE broadband connectivity, dual-WAN failover/failback and GPS for real-time location tracking.

The compact, ruggedised steel enclosure design of the Billion M120N integrates dual SIMs, four-port Gigabit switch, Wi-Fi access point, embedded multi-GNSS receiver for GPS or GLONASS, and ignition sensing for in-vehicle applications. It can be operated at a wide temperature range of -40°C ~ 60°C as well as humidity levels of between 20 and 95% (non-condensing), making it highly suited to operation in the mining sector, where harsh and demanding conditions are common.

Opperman says that the Billion router is used as a mobile hotspot, allowing uninterrupted communication between the vehicles' operators and the mine offices.



The system provides regular feedback that includes engine monitoring for maximised uptime as well as data from a Proximity Detection System (PDS), that ensures the safety of on-site employees and vehicles.

“Mine vehicles are typically very large and the ability to see a pedestrian is severely compromised. The use of the PDS, together with cameras installed at various points on the outside of the vehicles, provides for excellent operator visibility of the surrounding environment. The vehicle operator is alerted to the proximity of pedestrians via a ruggedised tablet located in the cabin,” says Opperman.

In the event of a connectivity failure of the primary WAN interface, traffic is automatically redirected to the secondary

WAN interface, and it will perform failback when the primary interface connection is restored. The M120N also supports dual SIMs for a redundancy between various carrier networks and features four Gigabit Ethernet ports, a RS-232 Serial port and 802.11n AP to enable LTE data connectivity.

Security of communication is provided with a Virtual Private Network (VPN), built-in Network Address Translation (NAT) firewall, password protection for system management and the system’s ability to prevent DoS attacks including Land Attack and Ping of Death.

Opperman says that great interest has been exhibited by other mining operations who have seen the success of the Billion deployment on the coal mine’s vehicles.

For more information, contact James Peters at SS Telecoms, +27 (0) 12 664 4644 | james@sstelecoms.com | www.sstelecoms.com