Time & Attendance

Leveraging real-time location data to improve productivity and safety

Key to improving safety and productivity is the information of where personnel are and how they spend their time.

Operation Challenge

In order to understand the hours that each worker spent in the mine, an Australian underground hard rock mine would record when workers entered and left the mine. As a manual system it was open to manipulation by workers and more importantly it could not show the actual productive hours spent in the ore body.

Solution

MST's underground Wi-Fi network and RFID tags provided the mine with the real-time location of personnel. The RFID tags were embedded in the miners' cap lamps, minimising the likelihood of manipulation, and ensuring that miners were tagged at all times. Any attempt to tamper with the tag appeared as an alarm in the system, and so data integrity and reporting accuracy were preserved.

Results

Whilst the safety benefits derived from knowing the location of personnel during an emergency were immediately apparent to the mine, it was the visibility of personnel's movements that continued to uncover opportunities for improvements in managing and utilising personnel.

Figure 1 shows the number of miners in the ore body during a 12 hour shift. It shows high levels of activity in the morning when most workers are in the ore body, a drop during lunch breaks, and gradual decline as the miners left the ore body.

BUSINESS BENEFITS

Productivity

- Continual improvement of worker productivity
- Automated time & attendance recording
- Visibility of the movement of personnel

Safety

- Superior emergency mustering and search and rescue
- Reliable and tamperproof equipment
- Integrated into standard safety equipment

The analysis of one 45 man crew showed that they averaged 9.5 hours in the ore body in a 12-hour shift. By making small changes to their schedules, their time in the ore body was increased by just 30 minutes. This yielded an extra 554.3 tonnes per shift, which equated to $73.2K per shift, and $53.4M per year.

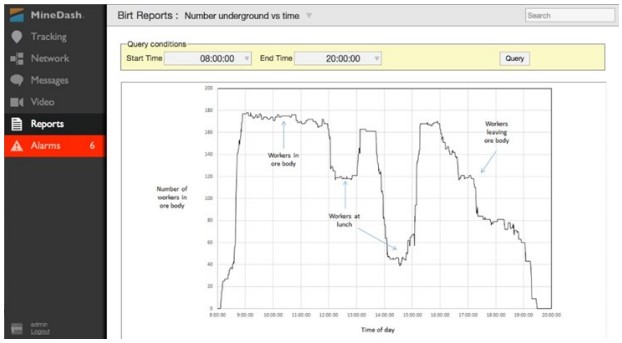

Fig 1 - Trend of number of people in the ore body, highlighting periods and levels of activity.

For more information, contact us by email on enquiries@mstglobal.com
or visit our website at www.mstglobal.com