

Smarter asset management key to boosting mining revenues

Faced with tight margins and dropping productivity, mining companies can look to smarter asset performance management to improve their bottom lines, says Bentley Systems.

By Frederik Verhoef, Solutions Director, Global Mining at Bentley Systems

According to Ernst & Young's report *Business risks facing mining and metals 2014-2015*, the mining sector has seen a serious productivity decline since 2007, with a labour productivity drop of 35% in South Africa's gold sector alone. EY said efforts to improve productivity in the sector have mainly focused on cost cutting.

An obvious area to target for cost cutting is maintenance, which can consume up to 50% of a mine's operational budget. However, because of the nature of mining, maintenance cost reductions should never compromise the safety or continuity of operations.

The availability of assets is critical to productivity. In the case of breakdowns with no spare parts on hand, operations could grind to a halt for days, or even weeks, while costs continue to climb and revenue generation stops once inventories are depleted. Some equipment may fail catastrophically, resulting in sudden work stoppages, severe negative economic impact, and possibly loss of life.

Many mines attempt to prevent such occurrences by scheduling regular preventative maintenance. But this, too, comes at a cost. Depending on the equipment and the environment in which it operates, scheduled maintenance and parts replacement may take place unnecessarily, or too soon—which runs counter to today's goal of "sweating these assets," or getting the most out of them.

The key to ensuring optimised asset management and maintenance is to service and maintain equipment only when it is necessary but before a breakdown, successfully balancing the trade-off between too much maintenance and too little. In this way, unnecessary costs are curbed and unforeseen breakdowns and resulting losses in productivity are avoided.

This new, smart approach to asset performance management depends on real-time and near real-time condition data analysis. This involves the integration of historic asset and maintenance data with real-time information from equipment sensors and condition readings taken by equipment operators or technicians. This empowers operations and maintenance teams to determine how each asset is performing, how long it will continue to perform at this level, and when proactive corrective actions will be needed. Smart asset performance management also allows mines to:

- _prioritise certain assets in line with their criticality,
- _determine risk factors associated with consequences of failure, and
- _create future maintenance policies and budgets accordingly.

By eliminating breakdowns, reducing unnecessary maintenance, and improving productivity, smart asset performance management can, according to an Ernst and Young report, reduce the maintenance

component of budgets from 50% to around 30% – a significant contribution to the company's bottom line.

Bentley Systems' asset performance management offering, AssetWise APM, an all-in-one analysis and information management software platform for asset reliability and asset integrity, was recently enhanced to advance process safety. AssetWise APM V7.3's new process safety features help users manage the integrity of safety systems and hazardous processes, thereby preventing failures and catastrophic incidents and keeping people, assets, and the environment safer