

Automation is gaining momentum

By Deborah Spicer

While socioeconomic priorities, such as the provision of employment, have always limited the extent of the adoption of capital-intensive mining methods, there appears to be a swell of support for mechanisation, automation and robotics in the South African mining industry.

This is particularly apparent as a result of AngloGold Ashanti's announcement in January 2011 about its new proposed mining paradigm (particularly for mining at depths of below 5km below ground) which includes stopping all blasting, creating peopleless stopes, mining 24-hours a day 365-days a year, and refocusing on revenue.

Mechanised mining methods have been familiar, particularly in the platinum and chrome sectors in South Africa, but the announcement by AngloGold Ashanti has suggested that perhaps a step change will be occurring in the South African mining industry towards automation (which in its initial stages might be interpreted as allowing machinery to be tele-operated, or worked remotely by a person) or even perhaps robotics (which is a later stage of automation, where machines react to their environment).

Technology adoption is usually described as being characterised by an S-shaped curve, with early adopters, early majority adopters, late majority adopters and late adopters taking on an innovation at different times after it is introduced.

Announcements, such as the one by AngloGold Ashanti, suggest that the South African mining industry is progressing along various technology adoption curves, although it is probably further along in adopting mechanised mining methods and in the early stages of considering robotic mining. Announcements such as AngloGold Ashanti's may also suggest that South Africa will be able to bypass the mechanised era and move on to a tele-operated or, perhaps, robotic mining era.

For companies such as Venmyn it will be important to remain abreast of technological advances in mining methods. This is because several analysts are already suggesting that mineral resources and mineral reserves will be adjusted upwards in the event of these technologies being adopted; this is because the technologies that have been mooted might involve narrower stopes, increased depths, reduced pillar sizes in bord and pillar mining, and less waste rock being included in run-of-mine ore.

To find out more about AngloGold Ashanti's new mining paradigm, go to:-

<http://www.miningweekly.com/article/blast-free-continuous-automated-mining-on-way-to-unlock-100m-anglogold-oz-2011-01-26>

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