Digitisation - revitalising mining operations and local communities

The technologies to make mining great again already exist, but are mining firms ready to adopt them?

Much has been spoken and written about technology's role in rescuing the mining industry, which continues to suffer volatile labour conditions and rising input costs, combined with soft commodity markets worldwide.

But, while the technology is available, A raft of highly-matured existing technologies are now, available to miners in their quest to transform their operations, enhance efficiency and productivity, improve safety levels, and revitalise a struggling mining industry, South African mining organisations are largely not ready to embrace it. The time has come for bold, visionary leadership, for new organisational processes and new cultures that will enable new technology to flourish.

Climbing down from the Ivory Tower

We believe that for digitisation to truly take hold within South African mining, we need to look beyond just technology gadgets and buzzwords. It's essential to understand the challenges and the needs of every member in the mining value chain – from the staff at the rock face, to the engineers, the managers, and all the way to the executives in the boardroom suite.

For mining organisations, this means having a strategic IT partner that progresses through various 'deep discovery' phases to architect a Digital Mining Canvas with a broad range of staff (rather than just rushing to implement the latest shiny technology). Through these consultations an authentic picture emerges – of where IT can be deployed to solve the most critical problems staff are facing which depending on the return of investment may be segmented into starter initiatives, leading or trendsetting in the industry.

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This is a far cry from the 'Ivory Tower' consulting that characterised IT projects in days past.

Having connected people, processes and technology, and having found ways to re-architect their operations where necessary, mining organisations can move onto the next step. This involves embedding new solutions into the organisation and any broader stakeholder groups. Again, the dominant theme is one of collaboration between different role players, different users of the technology solutions.

For instance, mineworkers and unions may initially baulk at the idea of sensor-based wearable technology, rebelling against this form of surveillance. But if the rules around data usage and privacy are crafted by multiple parties and agreed upfront, then that same technology takes on a different appearance. Now, it's transformed into a simpler way for miners to perform clock-ins and better ensure their safety.

The bigger picture

It's easy to get swept away by the new technology. From sensors and big data, to predictive maintenance, drones, wearables, robots, artificial intelligence systems, there is a vast trove of new tools and approaches.

But the bigger question is where all of this is leading us. The mining industry, for all its controversies, was traditionally the bedrock of South Africa's economic development. Communities and even entire towns grew up, and drew life from the local mine operations.

For mining firms, their responsibility extends well beyond their own business – into local economic development programmes, skills development, sustainable farming initiatives, tourism ventures, and other community endeavours.

By passing on some of the technology-enabled efficiency gains into the communities that are affected by new styles of mining, the net effect will be a positive one. Towns will reduce their dependence on mining, as the nation's economy at large modernises and diversifies.

Outcomes like this can become more than just an ideal. With the right incentives, and some visionary leadership, mining organisations can make the link the various elements of their digital journey in a way that all the role players can recognise and benefit from.

It will take the same visionary leadership to inspire workers and leaders on all levels to step up, keep themselves relevant and bring all of their essential knowledge and experience to the fore. This is the only way to ensure that this digital journey adds value to every stakeholder, and ultimately benefits the mine, and the mining industry in general.

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