

MEDIA STATEMENT

JUNIOR MINERS ARE UNIQUELY POSITIONED TO TAKE ADVANTAGE OF THE SHIFT TOWARDS 4IR, DIGITAL TRANSFORMATION AND MODERNISATION IN MINING

New technologies are dramatically changing accessibility and viability

Johannesburg, 4 November 2021. Modernisation and technology in mining is as critical for junior and emerging miners as it is for larger mining groups to ensure a safe and healthy work environment, while reducing costs, improving efficiencies and ultimately global competitiveness to unlock SA's mineral wealth.

The emergence of new technologies has ushered in a wave of global change that is being driven by fourth industrial revolution (4IR) innovations and thinking. Space-based technology and artificial intelligence (AI) are maturing rapidly into valuable tools in mining, particularly for exploration. The Minerals Council South Africa is at the forefront of work to promote and reinvigorate the country's moribund exploration, emerging and junior mining sector.

By deploying technology and modern mining methods, the cost and efficiencies of extracting ore bodies are improved, increasing the potential for the development of previously uneconomic deposits and new discoveries, creating jobs and wealth for South Africa.

Speaking at a Minerals Council's Junior and Emerging Miners Desk webinar on Modernisation and Technical Innovation for Junior Mining Companies, Sietse van der Woude, Senior Executive: Modernisation and Safety, said work undertaken by the Minerals Council in partnership with the Mandela Mining Precinct and RIIS, supports the development and rollout of such technologies.

Key initiatives of high interest to junior and emerging miners have been undertaken under the Mining Skills 4.0, Real Time Information Management Systems (RTIMS) and Advanced Orebody Knowledge programmes.

These programmes seek immediately implementable, cost-effective solutions and aim to establish mechanisms that enable industry-wide modernisation and digital transformation. The adoption of technology to find mineral deposits is essential if South Africa is to achieve its ambition of securing at least 5% of the global share of exploration expenditure in the future.

“Far from being science-fiction technologies are maturing rapidly into action-oriented business tools,” said RIIS Modernisation Programme Director Davis Cook.

“Not only is the cost of satellite data decreasing radically due to falling space-access costs, the resolution and availability of data is increasing. Further, new technologies are being developed that allow for completely new exploration processes, enabling significantly more accurate (and hence lower cost) exploration programmes.”

Cook added that the use of AI systems in ore body recognition is gaining traction around the world. AI is capable of re-analysing existing data sets to discover previously missed orebodies.

“This creates new efficiencies in optimising for initial search locations, though it does require detailed and updated minerals cadastres,” said Cook.

The US and the European Union have identified and revised lists of critical minerals and have developed action plans, which include improving international cooperation with other nations to secure a diversified and sustainable supply of these minerals.

This presents a significant opportunity for international partnerships and investments for South African mining. Many of these critical mineral deposits are mostly of modest size and on surface or at shallow depth, making them excellent opportunities for junior miners.

Dick Kruger, Strategic Technical Advisor at the Mandela Mining Precinct noted that junior mining companies have increased flexibility and willingness to explore innovation.

“Junior mining and exploration need modernisation and technology just as much as the large, established mining companies,” he said.

He encouraged junior and emerging mining companies to reach out to the precinct, to collaborate and share ways to further modernise junior mining and exploration.

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