

THE MMP SHOWCASE DAY: 18th November 2024
INTEGRATING RESEARCH EXCELLENCE WITH MINING INNOVATION

Good morning, honourable ladies and gentlemen and a special greeting and acknowledgement to: -

- The DDG for Technology Innovation in the Dept of Science and Technology, Mr Mmboneni Muofhe
- The CEO of the CSIR, Dr Thulani Dlamini
- The CEO of the Mandela Mining Precinct, Ms Julie Courtnage
- The esteemed speakers and guests to the conference
- and all protocol observed

Thank you to the Mandela Mining Precinct (“the Precinct”) and Ms Julie Courtnage for the invitation and giving the Minerals Council the opportunity to address you on this Showcase Day. I have been looking forward to this day and based on the programme, anticipate a day of immersion in scientific and innovation research and possibilities for the mining and minerals industry.

The Mandela Mining Precinct (MMP) stands as a pioneering public-private partnership in South Africa’s mining sector, somewhat mirroring the historic tripartite structures that have long driven meaningful change. A good example being the Mine Health and Safety Council Tripartite, amongst labour, government and the industry, represented by the Minerals Council South Africa, and has driven significant improvements in the safety and health performance of the industry towards the goal of Zero Harm. The innovations that have been developed and adopted over the past years have delivered breakthroughs in safety and health performance, such as TB rates in the mining industry reaching a level below the national average and fatalities breaking through to less than 50 in 2022. As such we are convinced that Zero Harm is achievable through continued leadership and collaboration.

This conviction in collaboration has extended and manifested in the relationships and networks that the MMP has and continues to build.

But before I continue, let me briefly give you some background about the Minerals Council.

We are the primary advocate and representative of the South African Mining industry and represent over 70 members, both senior and junior exploration and mining, who generate more than 90% of South Africa’s mineral production by value from more than ten commodities ranging from precious metals, bulk commodities and industrial minerals.

Advocacy is what we do, in our pursuit of a purpose **to co-create an enabling environment for the mining industry to thrive. (A thriving and modern mining**

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industry that is growing through regular investment in exploration, research development and innovation and mine development, is operating safely with healthy operating conditions for its employees, creates opportunities for employment throughout the economy, collaborates with social partners to uplift the livelihoods of communities and demonstrates environmental stewardship, all for the social and economic benefit of the country). We are guided in our endeavour by our values of responsible citizenship, striving to earn the Trust of society, engaging with honesty and being accountable to our stakeholder, we conduct ourselves with respect towards others.

The Minerals Council has always had RD&I in its DNA, looking back at what was previously COMRO (Chamber of Mines Research Organisation). And so, the relationship between private and public sector in the form of the Minerals Council and CSIR and Department of Science and Technology, through the MMP, is deliberate and intentional. It will continue to be a collaborative relationship aimed at advancing the mining and minerals industry in South Africa, which is well positioned to grow, given ongoing efforts and successes by Operation Vulindlela 2.0 at revitalising our energy, water and logistics infrastructure and addressing crime and corruption, which will open investment opportunities for exploration and development of minerals that are critical to our and the global energy transition to a low carbon future. And we are witnessing shifts in citizen and market sentiment from the formation of the GNU which is reigniting constructive interest in the country.

So, this address provides an opportunity that I shall not pass, to brag about the importance and significance of the mining industry and why **MiningMatters**, hence emphasising the importance of research excellence and innovation in the industry, which is why we are gathered here today. It is an industry that has delivered enormously to the country and remains with equally enormous potential to catalyse the economy of South Africa and restore the dignity of our citizens.

- I describe the mining sector as one of the **magnificent seven** attributes of South Africa. **It is not** the sunset industry that it is at times mistakenly described as. In terms of mineral endowment, South Africa is ranked in the global top ten in 11 minerals including chrome, manganese, gold, the PGMs, vermiculite, zirconium, fluorspar, vanadium, titanium, phosphate rock, and uranium, minerals that are critical for the future. Further down the list includes copper, rare earths and iron ore. Given a conducive operating environment, such as, to name a few, reliable infrastructure in water, energy, telecommunications and logistics, favourable legislation and incentives, this sector can be the beneficiary of increased exploration leading to a diversity of mines being established with positive spinoffs for the South

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African economy, changing the social and economic fate of the country and the region, better than what it has achieved in the past.

- The Johannesburg Stock Exchange (JSE), founded in 1887 during the gold rush, was created to facilitate the flow of capital to mining ventures, fuelling the sector that shaped both the city of gold, Johannesburg and the industrialization of South Africa's economy.
- Exports of minerals and mineral related products account for more than 50% of total South African merchandise exports.
- The industry is still at the centre of the country's catalyst for economic growth and contribution to macroeconomic stability, at 6.3% of GDP and plays an important role in supporting lives and livelihoods.

The Precinct's value lies in its tangible deliverables, such as advanced tools and innovative technologies, however, its true strength comes from the network relationships it fosters among diverse partners. Currently, the Precinct has three active Memorandums of Understanding (MoUs) with key organizations notably MINTEK, MQA, and the Organised Labour Consultation Forum, with discussions underway with Coaltech, the Human Sciences Research Council, and other entities.

This is testament to the perspective that innovation thrives through collaboration, and the Mandela Mining Precinct plays an essential role in cultivating a network of partners that drive South African mining research and innovation forward. This network formally includes 64 companies and institutions, with the Precinct directly engaging 31 of them. Both the Minerals Council South Africa and Department of Science and Technology have to date contributed significantly to the work of the Precinct, with the Minerals Council's share being more than R176 million. Government has helped to build a robust foundation that supports MMP's new growth strategy, which was approved in October 2024. This holistic approach of the new strategy aims to move beyond isolated solutions toward larger-scale innovations for the entire mining ecosystem.

Whilst we are on the topic of funding, it worth echoing a note that I shared at the recent Mintek 90th birthday celebration summit regarding the challenges of funding for Research, Development and Innovation.

Looking at RD&I expenditure through the imperfect lens GDP as a measure of economic performance, South Africa spends approximately 0.8% of GDP on research and development. This is too low to foster long-term sustainable economic growth that can deliver increased employment opportunities and improve skills levels, unshackle structural poverty and reduce inequality for many millions of South Africans and restore the dignity of the nation. An internationally recognised benchmark to enable

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long-term sustainable economic growth is an average of 3% or more. A doubling of our R&DI expenditure to 1.6% and inching towards 2% of GDP should shift the dial on our economic growth, harnessing the human skills and generating a higher youth dividend for the country. The highest average recording of R&DI to GDP for South Africa was 1% from **1994 to 2008**, a period where South Africa experienced the highest real average annual economic growth of 3.7%.

- ✓ The governments of South Korea and Israel (two leading countries in innovation and technology) contribute an average of 25% to their country's total RD&I expenditure. The South African government on the other hand contributes around 10% annually. There is clearly a need for government to increase its share, especially to institutions that are connected to the mining sector, which can serve to catalyse long term sustainable economic growth.
- ✓ Skills: Attracting and retaining highly qualified and competent skills is critical to the effective functioning and operation of research institutions such as MMP. A skilled workforce is at the centre of RD&I institutions delivering high quality research and innovations that address the challenges and opportunities of society and industry. MMP should continue to attract and retain these skills, which is also a function of adequate funding.

Despite these constraints, the MMP has produced an impressive portfolio of results, including 23 tools and technology packages, 21 technology demonstrators, 24 academic papers, 17 industry guidelines, and 11 training modules. One successful pilot project involved creating a remotely operated scraper winch with proximity-based shut-down features, successfully trialled at two mines. The Advanced Orebody Knowledge programme has similarly conducted trials at over 30 mining sites. In addition, the Precinct collaborates directly with 17 mining companies, some of which are on multi-year research projects, with 14 Minerals Council members actively guiding research through the Technical Steering Committees (TSCs), which collectively involve nearly 50 industry representatives.

Further, the Mandela Mining Precinct invests in future talent, with 8 interns and 3 project administrators in place and supporting postgraduates at the SAMERDI Research Centres. With an average of 21 students per year in Masters, Doctorates, and postdoctoral studies, the MMP is contributing to a workforce ready to lead South African mining into a sustainable, innovation-driven future. This achievement is a testament to the power of partnership, underscoring the transformative impact of collaborative research and development in mining, an endeavour that will remain close to the heart of the Minerals Council.

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Finally, to sustain this momentum, the Minerals Council welcomes the MMP's aim to remain a neutral, trusted, research and innovation partner for the mining sector, with ambitions to extend its impact internationally. Recognizing the importance of industry support, the Precinct depends on the dedication of its partners to champion its initiatives. The MMP also recognises the need to measure the broader impact of its work and is planning to implement appropriate mechanisms across all research and strategic initiatives. The Minerals Council remains pleased to have partnered with the Department of Science and Technology, and the CSIR through the MMP and we look forward to continuing this collaboration for the benefit of the mining industry, South Africa and the world.

Thank you.